CENTER for BIOLOGICAL DIVERSITY Because life is good.

VIA USPS and Electronic Mail

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December 12, 2019

Re: 60 Day Notice of Intent to Sue for Violations of Section 9 of the Endangered Species Act

Dear Governor Newsom, Secretary Blumenfeld, and Director Dolcini:

We are writing to request that you take immediate action to remedy the California Department of Pesticide Regulation's ("DPR's") ongoing violations of the Endangered Species Act ("ESA") resulting from the take of protected species arising out of DPR's pesticide registration programs. Specifically, registration and approval of second generation anticoagulant rodenticides ("SGAR")–brodifacoum, bromadiolone, difethialone, and difenacoum–results in the harassment, harm, wounding, and killing of a range of ESA listed species including, but not limited to, the San Joaquin kit fox (*Vulpes macrotis mutica*) ("kit fox"), Pacific fisher (*Pekania pennant*), northern spotted owl (*Strix occidentalis caurina*), California condor (*Gymnogyps californianus*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), giant kangaroo rat (*Dipodomys ingens*), Stephen's kangaroo rat (*Dipodomys stephensi*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), Point Arena mountain beaver (*Aplodontia rufa nigra*), the Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*), and San Clemente loggerhead shrike (*Lanius ludovicianus mearnsi*).

This letter also serves as an official 60-day notice under the ESA's citizen suit provision, 16 U.S.C. § 1540(g), of our intent to file suit in federal court to enforce the ESA if you do not act within the next 60 days to remedy the on-going violations of the prohibition against "take" of threatened and endangered species under section 9 of the ESA. *Id.* § 1538(a)(1). This notice is submitted on behalf of the Center for Biological Diversity ("Center")— a national, nonprofit

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conservation organization with more than 1.6 million members and online activists dedicated to the protection of endangered species and wild places.

The Center appreciates the work by DPR to regulate SGARs as restricted materials.[1] However, since those regulations went into effect in July of 2014 further death, injury, harm, harassment, and disturbance of legally protected species has occurred.[2] As DPR has recognized, "reported rates of non-target wildlife exposure to SGARs have not decreased" since the restricted use regulations on SGARs went into effect.[3] DPR's own analysis of anticoagulant rodenticide data rates showed that over 87% of animals tested between 2014-2018 had been exposed to SGARs.[4] DPR's investigation of data surrounding SGAR exposure to non-target wildlife "found evidence of possible population-level impacts among non-target wildlife in California due to statistically significant associations with SGAR exposure and sublethal impacts."[5] These widespread impacts are of grave concern for ESA listed species because, as DPR has noted when referencing analysis by the U.S. Fish and Wildlife Service, SGARs "can cause take, including mortality, which could have 'substantial population level effects' on an endangered species that is 'in danger of extinction.'"[6]

Take and population level impacts on endangered species is particularly concerning for the San Joaquin kit fox because at least five San Joaquin kit fox deaths have been attributed to SGARs by official necropsy reports from the California Department of Fish and Wildlife.[7] These official reports certainly undercount the actual deaths, most of which go unfound, unanalyzed, and unreported. Immediate and robust controls are necessary to fully address the problem of deaths and poisoning of non-target protected species.

Regulation of SGARs as restricted use materials allows continued use by licensed applicators and a large percentage of use of those products. Use by licensed applicators also allows SGARs to be consumed by non-target organisms and allows bio-accumulation in the food chain. DPR is liable for death, injury, harm, harassment and disturbance of protected species because there are no controls on the direct consumption or secondary consumption of SGAR

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1 DPR 13-002 Designating Brodifacoum, Bromadiolone, Difenacoum, and Difethialone (Second Generation Anticoagulant Rodenticide Products) as Restricted Materials, http://www.cdpr.ca.gov/docs/legbills/rulepkgs/13-002/13-002.htm

2 *E.g.* CDFW 2017, Endangered Foxes Poisoned By Rodenticides (November 17, 2017) https://cdfgnews.wordpress.com/2017/11/17/endangered-foxes-poisoned-by-rodenticides/

3 DPR 2019, California Notice 2019-03: Notice of Final Decision to Begin Reevaluation of Second-Generation Anticoagulant Rodenticides (March 12, 2019).

4 DPR 2018, An Investigation of Anticoagulant Rodenticide Data Submitted to the Department of Pesticide Regulation (Nov. 16, 2018)

5 DPR 2019, California Notice 2019-03: Notice of Final Decision to Begin Reevaluation of Second-Generation Anticoagulant Rodenticides (March 12, 2019).

6 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).

7 Department of Fish and Game 2007, Pesticide Laboratory Report, Lab. No: P-2386, E.P. No: L-200-04; Department of Fish and Wildlife 2013, Lab. No. P-2721, Necropsy No. N13-210; Department of Fish and Wildlife 2014, Lab. No. P-2740, Necropsy No. N13-241; Department of Fish and Wildlife 2014, Lab. No. P-2736, CAHFS D1315042; Department of Fish and Wildlife 2017, Lab. No. P-3165, Necropsy No. Z16-1082; CDFW 2017, Endangered Foxes Poisoned By Rodenticides (November 17, 2017) https://cdfgnews.wordpress.com/2017/11/17/endangered-foxes-poisoned-by-rodenticides/.

poisoned rodents by upper level predators that would then succumb to rodenticide poisoning themselves. For this reason, more strict controls on the use of SGARs in California are necessary to avoid violations of the ESA.

I. FACTUAL BACKGROUND

A. Rodenticides and Second Generation Anticoagulants

Rodenticides are designed to kill mammals through the interference with blood clotting mechanisms and their effects on humans and non-target mammals are qualitatively the same as their effects on target pests. Poisoning occurs by ingestion of bait, or via consumption of poisoned animals. Rodenticides can be divided into three broad classes in terms of their effects: first generation anticoagulants, second generation anticoagulants, and nonanticoagulants. SGARs pose the greatest ongoing threat to wildlife.

The first- and second generation anticoagulants interfere with blood clotting and death results from hemorrhage. For both first generation and second generation anticoagulants, primary manifestations include nosebleeds, bleeding gums, hematuria, melena, and extensive ecchymoses (bruises). Animals may also have symptoms of anemia, including fatigue and difficulty breathing on exertion. If the poisoning is severe, the animal may progress to shock and death.

SGARs, which include brodifacoum, bromadiolone, difenacoum, and difethialone, are acutely toxic and have a high risk of severe unintended poisoning for children, pets, and other non-target wildlife. This is due to the fact that second-generation anticoagulants remain in the body longer than first generation anticoagulants, with half-lives of up to 350 days, and may also accumulate in an animal's body when consumed during multiple feedings. As a result, predatory birds and mammals that feed on dead poisoned rodents or live rodents that have received a sub lethal dose are especially vulnerable to secondary poisoning from SGARs.

B. Second Generation Anticoagulants Lead to Direct Mortality of Non Target Wildlife

SGARs contribute to deaths of significant numbers of non target wildlife because the physiological effects of anticoagulants are not limited to the target animal or the animal that originally ingests the anticoagulant. SGAR's greater acute toxicity increases the potential for primary poisoning amongst non-target species, meaning that the non-target species may be killed after only one feeding of rodenticide bait.[8] In addition, the longer tissue half-lives of SGARs enhance the potential for bioaccumulation in non-target predators in particular and increase the risk of secondary poisoning.[9]

8 Thomas et al. 2011, Second generation anticoagulant rodenticides in predatory birds: probabilistic characterization of toxic liver concentrations and implications for predatory bird populations in Canada. Environment International 37:914–920.
9 *Id*.

Non target wildlife deaths due to the exposure to SGARs are well documented in the scientific literature.[10] Studies of upper level predators have shown anticoagulant rodenticide toxicosis in raptors.[11] A study conducted on bobcats and mountain lions discovered a highly significant correlation between anticoagulant rodenticides and death from notoedric mange.[12] In the study, 31/39 bobcats had detectable levels of brodifacoum.[13] One bobcat died directly due to brodifacoum toxicity, and 4/4 mountain lions had detectable levels of brodifacoum – with two of the lions dying from direct exposure to anticoagulant rodenticides.[14]

Wildlife mortality incident poisoning reports and necropsies have also indicated the persistent problem of mortality to non target organisms from anticoagulant rodenticides. Recent studies in California by DPR found that brodifacoum was likely involved in 13% of reported animal mortalities and bromadiolone was likely involved in approximately 3% of reported animal mortalities.[15] Nationwide wildlife mortality incident reports compiled by the U.S. Environmental Protection Agency ("EPA") demonstrate poisoning and deaths to non-target wildlife for several decades.[16]

In July 2004, EPA published a report that concluded second-generation anticoagulants – and brodifacoum in particular – present the highest potential overall primary and secondary risks to birds and nontarget mammals.[17] Two years later EPA confirmed that "several monitoring programs have found that a major portion of some animal populations are being exposed to second-generation anticoagulant rodenticides."[18]

C. Sublethal Effects of Second Generation Anticoagulants Contribute to Wildlife Deaths

Even if exposed wildlife survive after anticoagulant rodenticide intoxication, the animal still may suffer possible disruptions in vital physiological processes. Damage to the heart muscle has been shown in both birds and mammals following brodifacoum exposure.[19] Liver damage, disruptions of physiological processes leading to osteoporosis, or calcium remobilization and deposition in the circulatory system are all possible because of the impact upon vitamin K

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10 Eason et al 2002. Assessment of Risks of Brodifacoum to Non-target Birds and Mammals in New Zealand, Ecotoxicology, 11, 35-48 2002.
11 Murray 2011. Anticoagulant rodenticide exposure and toxicosis in four species of birds of prey presented to a wildlife clinic in Massachusetts, 2006-2010. J Zoo Wildl Med. 2011 Mar;42(1):88-97.
12 Riley S.P.D. et al. (2007) Anticoagulant Exposure and Notoedric Mange in Bobcats and Mountain Lions in Urban Southern California. J. Wildlife Management 71(6) 1874–1884.
13 *Id*.
14 *Id*.
15 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).
16 EPA 2013, Compilation of Rodenticide Wildlife Mortality Incident Reports Between 1971-2012 (January 29, 2013).
17 EPA 2004, Potential Risks of Nine Rodenticides to Birds and Nontarget Mammals: a Comparative Approach, (July 2004).
18 EPA 2006, Memorandum: Rodenticide Incidents Update (November 15, 2006).
19 Rahmy 1993, Myocardial alterations in animals intoxicated with an anticoagulant rodenticide. J. Egypt. Ger. Soc. Zool. 12C: 87-98.

biochemistry.[20] Unusual ranging behavior in bobcats was positively associated with increased levels of antocuagulant rodenticides. The presence of anticoagulants is also associated with other diseases and may act synergistically with natural environmental stressors to increase susceptibility to naturally occurring lethal diseases.[21] Multiple studies have shown that even sub-lethal doses can impact blood clotting, and result in biochemical abnormalities (including glucose and liver function markers), and physiological abnormalities (including statistically significant decreased body weight, increased liver size, increased heart size, and increased kidney size), which could or did cause mortality in the laboratory setting.[22]

Other sub lethal effects at dose levels orders of magnitude below lethal levels have been reported.[23] Sub-lethal doses of brodifacoum caused abortions and reduced lambing rates in sheep.[24] Several studies also indicate that sub-lethal concentrations of second generation anticoagulants may cause mortality to embryos.[25] The increased sensitivity of exposed wildlife following a re-exposure is expected given the cumulative mode of action demonstrated with all the anticoagulant rodenticides.

The majority of some raptor species like red tailed hawks and great horned owls in proximity to the human population now carry multiple rodenticide residues, primarily second generation anticoagulants.[26] This extensive pre-exposure in wildlife populations can lead to a general increase in susceptibility to anticoagulation and hemorrhaging resulting from consumption of anticoagulant rodenticides. Current rodenticide assessments are carried out on individual compounds and fail to acknowledge that the second-generation anticoagulants (as well as some of the first generation anticoagulants) act on the same receptors as they bioaccumulate in the animal making their impact additive.

A particularly worrisome research finding has been the report of brodifacoum toxicosis in neo-natal dogs following a past sub-lethal exposure in the mother.[27] The risk of trans-placental transfer is of obvious concern given the high proportion of mammals found carrying residues, including endangered species such as the San Joaquin kit fox.

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20 Knopper et al 2007, Bone Density and breaking strength in UK raptors exposed to second generation anticoagulant rodenticides. Bull Environ Contam Toxicol 78:249–251.
21 Riley et al. 2007, Anticoagulant Exposure and Notoedric Mange in Bobcats and Mountain Lions in Urban Southern California, J. Wildlife Management 71(6) 1874–1884.
22 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).
23 USEPA 1998, Reregistration Eligibility Decision (RED) Rodenticide Cluster, EPA738-R-98-007; USEPA 2004, Potential Risks of Nine Rodenticides to Birds and Nontarget Mammals: a Comparative Approach (July 2004).
24 Godfrey 1985, Non-target and secondary poisoning hazards of "second generation" anticoagulants. Acta zoologica fennica 173: 209-212.
25 Laas et al. 1985, Retention of brodifacoum in sheep tissues and excretion in faeces, New Zealand J. Agric. Res. 28:357-359; Godfrey et al. 1989, Preliminary dosing trials of a new anticoagulant, brodifacoum, as a toxicant for the rabbit, *Oryctolagus cimiculus* (L.). New Zealand J. Exper.Agric. 8:1-5; Munday et al 2003, Brodifacoum toxicosis in two neonatal puppies. Vet Pathol. 40:216.
26 Thomas et al. 2011, Second-generation anticoagulant rodenticides in predatory birds: Probabilistic characterisation of toxic liver concentrations and implications for predatory bird populations in Canada. Environment International 37:914–920.
27 Munday et al. 2003, Brodifacoum toxicosis in two neonatal puppies. Veterinary Pathology 40:216.

D. Wildlife is Broadly Exposed to Second Generation Anticoagulants

Second-generation anticoagulant rodenticides have long been of concern for wildlife.[28] In 1999, the California Department of Fish and Wildlife was sufficiently concerned about one of the second-generation anticoagulants – brodifacoum – that it requested DPR to reevaluate all rodenticides containing that active ingredient.[29] Between 1994 and 2000 in California, second-generation anticoagulants were detected in 70% of mammals and 68% of birds examined; signs of intoxication were seen in 43% of exposed wildlife.[30] In 2000, the list of potentially affected mammals was already extensive including coyote, red and gray fox, raccoon, bobcat, mountain lion as well as the endangered San Joaquin kit fox. As for raptors, golden eagles and barn owls were showing the highest exposure levels.

EPA found that incident reports have identified many taxa of non-target animals exposed to rodenticides, including strict carnivores such as mountain lions, bobcats, hawks and owls; omnivores such as coyotes, foxes, skunks and raccoons; and granivores and herbivores such as squirrels and deer. EPA's ecological incident report documents anticoagulant residues in 27 avian species and 17 mammalian species.[31]

In May 2008, EPA published its risk-mitigation decision for rodenticide bait products containing the second-generation anticoagulants brodifacoum, bromadiolone, difenacoum, and difethialone. Therein, EPA described in detail the evidence that second-generation anticoagulants are having a significant adverse impact on non-target wildlife, and the agency concluded that "widespread exposures to second-generation anticoagulants are occurring wherever those rodenticides are being used."[32] The U.S. Fish & Wildlife Service determined that "second-generation rodenticides have proven to be a greater threat to nontarget wildlife due to their high toxicity and ability to bioaccumulate in tissue."[33]

Between 1995 and 2011, approximately 73% of animals tested in California had residues of at least one SGAR.[34] Difethialone residues were found in approximately 8% of the animals analyzed.[35] Bromadiolone residues were found in approximately 37% of the animals analyzed, and bromadiolone was likely involved in approximately 3% of animal mortalities.[36]

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28 Alterio 1996, Secondary poisoning of stoats (*Mustela erminea*), feral ferrets (*Mustela furo*), and feral house cats (*Felis catus*) by the anticoagulant poison, brodifacoum, New Zealand Journal of Zoology, 1996, Vol. 23: 331-338.
29 DPR 1999, Notice of proposed reevaluation of pesticide products, California Notice 99-7 (December 30, 1999).
30 Hosea 2000, Exposure of non-target wildlife to anticoagulant rodenticides in California. In: Salmon, T.P. and A.C. Crabb, (eds.) Proceedings of the Nineteenth Vertebrate Pest Conference. University of California, Davis, CA. 236-244.
31 EPA 2008, Risk Mitigation Decision for Ten Rodenticides (May 28, 2008).
32 *Id*.
33 US Fish and Wildlife Service 2005, Comments on EPA's Potential Risks of Nine Rodenticides to Birds and Nontarget Mammals: A Comparative Approach (February 28, 2005).
34 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).
35 *Id*.
36 *Id*.

Brodifacoum was the most widespread and lethal SGAR. Brodifacoum residues were found in approximately 69% of the 492 animals tested by DPR, and brodifacoum was likely involved in 13% of animal mortalities.[37] The 2011 Scientific Advisory Panel convened by the United States Environmental Protection Agency also concluded that terrestrial food chains were widely contaminated with brodifacoum, the most studied SGAR to date.

Birds of prey are especially subject to secondary poisoning from brodifacoum via ingestion of contaminated animals.[38] Data from Canada indicates that it is becoming difficult to find uncontaminated great horned owls or red tailed hawks, and that the majority of birds in proximity to the human population now carry multiple rodenticide residues, primarily second generation anticoagulants.[39] California's large percentage of wildlife within close proximity of the wildlife-urban interface create similarly negative correlations between populated centers and rodenticide poisonings. A spatial analysis of raptor incidents in San Diego, Fresno, Kern and Madera counties in California suggested a higher number of rodenticide detections in urban areas with higher population density.[40] Similarly, a study of bobcats and mountain lions in the Santa Monica area showed exposure rates to SGARs near urbanized areas of southern California pervasive.[41] The prevalence of rodenticide poisoning and exposure is also indicated in wildlife mortality incident reports compiled by the EPA demonstrating poisoning and deaths to non target wildlife for several decades.[42]

E. ESA Listed Species Are Frequently Poisoned and Killed by SGARs

The pervasive nature of SGARs in the environment and food chain lead to lethal and sub-lethal harm to endangered species. Comprehensive data from EPA, DPR, and scientific literature document poisonings and deaths of ESA listed species.[43] The EPA has determined that the use of rodenticides containing brodifacoum,[44] bromadiolone,[45] difethialone,[46] and difenacoum[47] are

37 *Id*.
38 Thomas 2011, Second generation anticoagulant rodenticides in predatory birds: probabilistic characterization of toxic liver concentrations and implications for predatory bird populations in Canada. Environment International 37:914–920.
39 *Id*.
40 Lima et al. 2010. Assessing some potential environmental impacts from agricultural anticoagulant uses. Proc. 24th Vertebr. Pest Conf. (R.M. Timm and K.A. Fagerstone, Eds.) University of California; Earthjustice 2012, Comments on Notice of Proposed Decision to Renew Pesticide Product Registrations for 2013, Director's Findings and Public Report, California Notice 2012-14 (December 7, 2012).
41 Riley 2007, Anticoagulant Exposure and Notoedric Mange in Bobcats and Mountain Lions in Urban Southern California. J. Wildlife Management 71(6) 1874–1884.
42 EPA 2013, Compilation of Rodenticide Wildlife Mortality Incident Reports Between 1971-2012 (January 29, 2013).
43 *Id*.; DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).
44 EPA 2012, Letter from S. Bradbury (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for brodifacoum (March 30, 2012).
45 EPA 2011, Letter from A. Pease (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for bromadiolone (September 30, 2011).
46 EPA 2011, Letter from A. Pease (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for difethialone (September 30, 2011).
47 EPA 2012, Letter from S. Bradbury (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation

likely to adversely affect several ESA listed species in California, including the Alameda whipsnake (*Masticophis lateralis euryxanthus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Joaquin kit fox (*Vulpes macrotis mutica*), Giant kangaroo rat (*Dipodomys ingens*), Stephen's kangaroo rat (*Dipodomys stephensi*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and Point Arena mountain beaver (*Aplodontia rufa nigra*).[48]

EPA has further determined that brodifacoum, difethialone, and bromadialone are likely to jeopardize the continued existence of at least four ESA listed species--the Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*), Salt marsh harvest mouse (*Reithrodontomys raviventris*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), and San Clemente loggerhead shrike (*Lanius ludovicianus mearnsi*).[49] The EPA and wildlife experts have also noted incidents of SGAR exposure, poisoning, and death of the federally listed northern spotted owl (*Strix occidentalis caurina*)[50] and Pacific fisher (*Pekania pennant*)[51], including incidents in California. There have also been reported deaths of California condors associated with SGARs.[52]

While data and analysis from government agencies and scientific literature demonstrate harm to numerous species the data regarding harm to certain wildlife species is overwhelming. In one study 87% of kit foxes in Bakersfield had been exposed to anticoagulant rodenticides from commensal rodents.[53] Data through 2011 from the California Department of Fish and Wildlife reports approximately 50 kit fox individuals in Kern County alone with detectible levels of brodifacoum, ranging from 0.007 to 11 ppm.[54] This level of exposure to SGARs poses a high risk of sublethal and lethal impacts on endangered kit foxes.[55]

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for difenacoum (March 30, 2012).

48 EPA 2004, Potential Risks of Nine Rodenticides to Birds and Nontarget Mammals: a Comparative Approach, Attachment E (July 2004).

49 *Id*.

50 EPA 2008, Risk Mitigation Decision for Ten Rodenticides (May 28, 2008); Gabriel 2017, 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. https://doi.org/10.5751/ACE-01134-130102; Weins 2019, Anticoagulant rodenticides in *Strix* owls indicate widespread exposure in west coast forests, Biological Conservation 238 (2019) 108238.

51 Gabriel 2012, Anticoagulant Rodenticides on our Public and Community Lands: Spatial Distribution of Exposure and Poisoning of a Rare Forest Carnivore. PLoS ONE 7(7): e40163. doi:10.1371/journal.pone.0040163

52 FWS 2017, 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; NPS, Condor Memorial (Updated Sept. 24, 2019) https://www.nps.gov/pinn/learn/nature/condormemorial.htm

53 McMillan 2008, Anticoagulant Rodenticide Exposure in an Urban Population of the Joaquin Kit Fox. Proc. 23rd Vertebr. Pest Conf.

54 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013); McMillan et al. (2008) Anticoagulant Rodenticide Exposure in an Urban Population of the Joaquin Kit Fox. Proc. 23rd Vertebr. Pest Conf.

55 EPA (2012) Risks of brodifacoum use to the federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and San Joaquin kit fox (*Vulpes macrotis mutica*). March 30 2012.

EPA reported in an endangered species assessment that exposure of the endangered kit fox to the second generation anticoagulant brodifacoum is extensive.[56] EPA further determined that the use of rodenticides containing the second generation anticoagulants brodifacoum,[57] bromadiolone,[58] difethialone,[59] and difenacoum[60] are likely to adversely affect several ESA listed species species including the kit fox. The EPA has determined that there is such a high risk of kit foxes consuming poisoned rodents that use of rodenticides in the range of the kit fox will almost certainly lead to mortality.[61] Pesticide laboratory reports conducted by the California Department of Fish and Wildlife have validated this analysis. Necropsy reports demonstrate high levels of brodifacoum coupled with internal hemorrhaging indicating that kit foxes were killed in California due to lethal doses of second generation anticoagulants.[62] But for DPR's registration of brodifacoum, these endangered kit foxes would not have been killed.

II. LEGAL BACKGROUND

A. Registration of Pesticides by DPR

DPR engages in several distinct and ongoing actions related to SGARs including registration, evaluation, and renewal. Before a new pesticide may be offered for sale in California, it must first be registered both by the EPA and by DPR. *See* 7 U.S.C. § 136a; Food & Agr. Code § 12811. Once that pesticide is approved, California law directs DPR to "develop an orderly program for the continuous evaluation of all pesticides actually registered." Food & Agr. Code § 12824.

Upon receipt of a registration application, DPR must conduct a "thorough and timely evaluation." Food & Agr. Code § 12824. DPR has broad discretion to refuse to register a pesticide. For example, DPR may, after a hearing, refuse to register a pesticide:

(a) That has demonstrated serious uncontrollable adverse effects either within or outside the agricultural environment.

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56 EPA 2012, Risks of brodifacoum use to the federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and San Joaquin kit fox (*Vulpes macrotis mutica*). March 30 2012. Appendix D.

57 EPA. (March 30, 2012) Letter from S. Bradbury (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for brodifacoum.

58 EPA. (September 30, 2011) Letter from A. Pease (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for bromadiolone.

59 EPA. (September 30, 2011) Letter from A. Pease (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for difethialone.

60 EPA. (March 30, 2012) Letter from S. Bradbury (EPA) to G. Frazier (FWS) regarding Endangered Species Act consultation for difenacoum.

61 EPA (2012) Risks of brodifacoum use to the federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) and San Joaquin kit fox (*Vulpes macrotis mutica*). March 30 2012.

62 Department of Fish and Game 2007, Pesticide Laboratory Report, Lab. No: P-2386, E.P. No: L-200-04; Department of Fish and Wildlife 2013, Lab. No. P-2721, Necropsy No. N13-210; Department of Fish and Wildlife 2014, Lab. No. P-2740, Necropsy No. N13-241; Department of Fish and Wildlife 2014, Lab. No. P-2736, CAHFS D1315042; Department of Fish and Wildlife 2017, Lab. No. P-3165, Necropsy No. Z16-1082.; CDFW 2017, Endangered Foxes Poisoned By Rodenticides (November 17, 2017) https://cdfgnews.wordpress.com/2017/11/17/endangered-foxes-poisoned-by-rodenticides/

(b) The use of which is of less public value or greater detriment to the environment than the benefit received by its use.
(c) For which there is a reasonable, effective, and practicable alternate material or procedure that is demonstrably less destructive to the environment.
(d) That, when properly used, is detrimental to vegetation, except weeds, to domestic animals, or to the public health and safety.

Food & Agr. Code § 12825. During the registration process, DPR must also give "special attention" to a number of factors set forth in the agency's implementing regulations, including the "[p]otential for environmental damage," and "[t]he availability of feasible alternatives." Cal. Code Regs. § 6158. "If any of these factors are anticipated to result in significant adverse impacts which cannot be avoided or adequately mitigated," the regulations provide that "registration will not be granted unless [DPR] makes a written finding that the anticipated benefits of registration clearly outweigh the risks." Cal. Code Regs. § 6158.

B. Reevaluation of Pesticides by DPR

California law directs DPR to "develop an orderly program for the continuous evaluation of all pesticides actually registered." Food & Agr. Code § 12824. To facilitate that evaluation DPR's regulations related to the evaluation of pesticides directs the agency to "investigate all reported episodes and information received by the [DPR] that indicate a pesticide may have caused, or is likely to cause, a significant adverse impact, or that indicate there is an alternative that may significantly reduce an adverse environmental impact." 3 Cal. Code Regs. § 6220.

"If [DPR] finds from the investigation that a significant adverse impact has occurred or is likely to occur or that such an alternative is available," the regulations provide that "the pesticide involved shall be reevaluated." *Id.* In addition, a pesticide must be reevaluated "when certain factors have been found," including "environmental contamination," "fish or wildlife hazard," and availability of an effective alternative "which is demonstrably less destructive to the environment." 3 Cal. Code Regs. § 6221.

Once DPR places a pesticide into reevaluation, the registrant must submit to the agency "all data required for registration of a new pesticide by the U.S. EPA and by [DPR] which is relevant to the focus of the reevaluation and has not previously been submitted to the department. 3 Cal. Code Regs. § 6222(a). DPR may "allow a reasonable time for the development and submission of such data, not to exceed a period of two years." 3 Cal. Code Regs. § 6222(a). But "[n]otwithstanding the lack of such data [DPR] shall act expeditiously to protect against risks to human health and the environment." 3 Cal. Code Regs. § 6222(a).

In response to significant information submitted on DPR's proposed decision to renew pesticide registrations, DPR is required to consult with trustee agencies such as Fish and Game and the Regional Water Quality Control Boards with jurisdiction over affected resources, (3 Cal. Code Reg. Section 6252), investigate that significant information and review available, related information (3 Cal. Code Reg. Section 6220) and respond to the public comments received in light of the information considered as part of DPR's ultimate determination. 3 Cal. Code Reg. Sections 6253-6254.

At the conclusion of reevaluation, DPR must "determine if the pesticide [under reevaluation] should be classified as a restricted material. . . and if additional restrictions on use are necessary, or if action [to suspend or cancel registration] should be taken." 3 Cal. Code Regs. § 6224.

C. Renewal of Pesticides by DPR

Pesticides must also be renewed annually. "Every [pesticide] registration expires on December 31st of each year, except when renewal is applied for within one month thereafter . . ." Food & Agr. Code § 12817. As when a pesticide is registered for the first time, the law provides that "[a]ll pesticides for which renewal of registration is sought also shall be evaluated." Food & Agr. Code § 12824.

By regulation, "renewal shall be issued within 60 days after [DPR] receives an accurate and complete renewal application," unless the agency initiates proceedings to cancel the registration. 3 Cal. Code Regs. § 6215(b). If DPR renews registration "without a reevaluation," the regulations direct DPR to "make a written finding that [it] has not received sufficient information necessitating reevaluation . . ." 3 Cal. Code Regs. § 6215(c).

Renewal is subject to the same evaluation criteria used for initial registration. Food & Ag. Code § 12824. Thus, the renewal evaluation is a discretionary decision by DPR as to whether a pesticide registration should be renewed for a year period based on the factors set forth in sections 12824 and 12825.

D. DPR's Discretionary Determinations During Reevaluation and Renewal

DPR's regulations provide that the agency "shall not approve an activity which would cause a significant adverse environmental impact if there is a feasible alternative or feasible mitigation measure available which would substantially lessen any significant adverse impact which implementation of the proposal may reasonably be expected to have on the environment." 3 Cal. Code Regs. § 6254(a). Moreover, if at any time DPR "has reason to believe" that a pesticide "has demonstrated serious uncontrollable adverse effects either within or outside the agricultural environment," and that "the use or continued use of that pesticide constitutes an immediate substantial danger to persons or to the environment," DPR is empowered to "suspend the registration of that pesticide pending a hearing and final decision." Food & Agr. Code §§ 12825, 12826.

Section 6215 of title 3 of the California Code of Regulations states in pertinent part: "Each renewal shall be issued within 60 days after the director receives an accurate and complete renewal application, unless the director takes action pursuant to Sections 12816, 12825, or 12827 of the Food and Agricultural Code." As the language of Section 6215 indicates, the Director has the discretion to take action pursuant to Section 12816, 12825, or 12827 of the Food and Agricultural Code.

Under these statutory and regulatory sections, the Director has the discretion to cancel the registration of or refuse to register a product.

III. PROCEDURAL BACKGROUND

DPR has known of the significant dangers to wildlife and the environment from SGARs for several decades. In 1999, DPR placed pesticide products containing the SGAR active ingredient brodifacoum into reevaluation based on exposure and adverse impacts to non-target wildlife at the request of the California Department of Fish and Wildlife ("CDFW").

In late 2005, DPR proposed that brodifacoum-based rodenticides be restricted to indoor structural use only and recommended a number of additional mitigation measures. However, DPR withdrew its proposal following opposition from the pest-control industry.

In July 2011, CDFW once again requested that DPR restrict the availability and use of second generation anticoagulants in order to mitigate the harm of exposure and poisonings in non-target organisms. CDFW expressed concern that the mitigation decisions by the federal Environmental Protection Agency on SGARs still permited the sale of large volumes of second generation anticoagulants to the public at farm stores.

In 2014, DPR closed the reevaluation after adopting regulations to designate the SGAR active ingredients brodifacoum, bromadiolone, difenacoum, and difethialone as California restricted materials and to add use restrictions, in an attempt to change the use patterns of these pesticides. As a result, rodenticides containing these four active ingredients can only be sold by licensed dealers, and can only be purchased and used by certified applicators. After implementing these regulations, DPR continued to receive reports that SGARs were causing significant adverse impacts to non-target wildlife.

In November 2018, DPR prepared an investigatory report on potential significant adverse impacts reportedly caused by anticoagulant rodenticides.

> The investigation found that while the 2014 regulations changed SGAR use patterns by restricting their purchase, sale, and use, reported rates of non-target wildlife exposure to SGARs have not decreased. Additionally, the investigation found evidence of possible population-level impacts among non-target wildlife in California due to statistically significant associations with SGAR exposure and sublethal impacts. The investigation indicated that non-target wildlife exposure to SGARs might be significant due to the chemical characteristics of SGARs, which are known to have properties of high toxicity, persistence, and bioaccumulation. The investigation also noted that brodifacoum has relatively higher rates of exposure among nontarget wildlife as compared to other SGARs.[63]

As a result DPR issued the Notice of Proposed Decision to Begin Reevaluation of SGARs and Public Report (California Notice 2018-22). In March of 2016, DPR provided Notice of a Final

63 DPR 2019, California Notice 2019-03: Notice of Final Decision to Begin Reevaluation of Second-Generation Anticoagulant Rodenticides (March 12, 2019).

Decision to Begin Reevaluation of SGARs (California Notice 2019-03). That process is ongoing.

IV. LEGAL VIOLATIONS

A. Endangered Species Act

The ESA has a broad citizen suit provision. Under it, "any person may commence a civil suit on his own behalf to enjoin any person, including…any… governmental instrumentality or agency…who is alleged to be in violation of any provision of [the ESA]." 16 U.S.C. § 1540(g). Citizens can seek to enjoin both present activities that constitute an ongoing take and future activities that are reasonably likely to result in take. *See National Wildlife Federation v. Burlington Northern Railroad*, 23 F.3d 1508, 1511 (9th Cir. 1994); *Marbled Murrelet v. Babbitt*, 83 F.3d 1060, 1069 (9th Cir. 1996). The ESA's citizen suit provision also provides for the award of costs of litigation, including reasonable attorney and expert witness' fees. 16 U.S.C. § 1540(g)(4).

Under section 9 of the ESA, it is unlawful for any person to "take" an endangered species. 16 U.S.C. § 1538(a)(1)(B). To "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. 16 U.S.C. § 1532(19). The FWS has further defined "harass" to include "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering." 50 C.F.R. § 17.3. In addition, "harm" is defined as an act "which actually kills or injures wildlife" and may "include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." *Id*. "Take" includes direct as well as indirect harm and need not be purposeful. *See Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 704 (1995). In fact, a take may even be the result of an accident. *See Burlington Northern Railroad*, 23 F.3d at 1512.

Congress created a narrow exception to the prohibition against take: when "such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." 16 U.S.C. § 1539(a)(1)(B). Federal actions that have the potential to lead to take of ESA listed species, such as the registration of pesticides, must receive a valid Incidental Take Statement ("ITS") from the U.S. Fish and Wildlife Service of National Marine Fisheries Service ("Federal Wildlife Agencies") in order to qualify for the exception from take liability. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(g)(7), (i). The amount of take set by the ITS creates a "'trigger' that, when reached, results in an unacceptable level of incidental take." *Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife, Bureau of Land Mgmt*., 273 F.3d 1229, 1249 (9th Cir. 2001).

Pursuant to Endangered Species Act § 7, federal agencies must ensure that "any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of[64] any endangered species or threatened species or result in the destruction or adverse

64 "Jeopardize the continued existence of means to engage in an action that reasonably would be expected, directly

modification of habitat of such species." 16 U.S.C. § 1536(a)(2). To satisfy this requirement, federal agencies must formally consult with Federal Wildlife Agencies when an action "may affect listed species or critical habitat." 50 C.F.R. § 402.14(a). Federal Wildlife Agencies provide a written statement (called a Biological Opinion) explaining "how the proposed action will affect the species or its habitat." *Bennett*, 520 U.S. at 158; see 16 U.S.C. § 1536(b)(3). If the Federal Wildlife Agencies conclude that the action will adversely affect ESA listed species but "will not result in jeopardy or adverse habitat modification," then it must provide an ITS authorizing the anticipated incidental take and specifying the "impact of such incidental taking on the species." 16 U.S.C. § 1536(b)(4); see Bennett, 520 U.S. at 158.

The ESA also provides mechanisms for non-federal entities to avoid ESA liability. Under section 10 of the ESA, a non-federal entity can apply for and obtain an incidental take permit ("ITP"). 16 U.S.C. § 1539(a)(1)(B). In exchange for permission to "take" a listed species pursuant to an ITP, the permit applicant must commit to implement a plan that "conserv[es]" – *i.e.*, facilitates the recovery of – the species. *Id*. §§ 1539(a)(1)(B), (a)(2)(A); *see also Sierra Club v. U.S. Fish and Wildlife Serv.*, 245 F.3d 434, 441-42 (5th Cir. 2001) ("'[c]onservation' is a much broader concept than mere survival" because the "ESA's definition of 'conservation' speaks to the recovery of a threatened or endangered species" (emphasis added)). This plan is called a Habitat Conservation Plan ("HCP") and it must delineate "the impact which will likely result from such taking" and the "steps the applicant will take to minimize and mitigate such impacts . . . ." 16 U.S.C. § 1539(a)(2)(A).

i. DPR's Endangered Species Act Violations

DPR is violating section 9 of the ESA by causing illegal, ongoing takes of ESA listed species through its registration, reevaluation, and renewal of second generation anticoagulant rodenticides that "take" ESA listed species via harassment, harm, wounding, and killing.

Poisoning an endangered or threatened animal satisfies the statutory and regulatory definitions of prohibited "take" for myriad reasons. "Take is defined in the broadest possible manner to include every conceivable way in which a person can 'take' or attempt to 'take' any fish or wildlife." *Defenders of Wildlife v. Administrator, EPA*, 882 F.2d 1294, 1300 (8th Cir. 1989). As discussed, the SGARs at issue here—brodifacoum, bromadiolone, difethialone, and difenacoum—in fact "wound" or "kill" members of listed species. 16 U.S.C. § 1532(19). In addition, the adverse effects the rodenticides fall within the terms of "harm" and "harass," *id*., as well as within their regulatory definitions. While "harm" flows from "an act which actually kills or injures wildlife," including adverse habitat modification, an endangered or threatened animal is "harassed" by any "intentional or negligent act or omission which creates the likelihood of injury…by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering." 50 C.F.R. § 17.3 (emphasis added). Primary or secondary consumption of SGARs leads to injury, harm, and harassment from lethal and non-lethal doses due to the documented physiological harm to wildlife from exposure to SGARs.

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or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02.

DPR has noted that SGARs lead to direct mortality and population level impacts because they "can cause take, including mortality, which could have 'substantial population level effects' on an endangered species that is 'in danger of extinction'"[65] and there are "possible population-level impacts among non-target wildlife in California due to statistically significant associations with SGAR exposure and sublethal impacts."[66] Sublethal impacts from SGARs can also significantly disrupt normal behavioral patterns, which leads to take of ESA listed species. SGARs lead to breeding abnormalities such as reductions in reproduction, and mortality of embryos.[67] SGARs have also been associated with organ damage, and disruptions of physiological processes, such as those in the skeletal and circulatory systems.[68] The presence of anticoagulants is also associated with other diseases and may act synergistically with natural environmental stressors to increase susceptibility to naturally occurring lethal diseases.[69] Multiple studies have shown that even sub-lethal doses can impact blood clotting, and physiological abnormalities (including statistically significant decreased body weight, increased liver size, increased heart size, and increased kidney size), which could or did cause mortality in the laboratory setting.[70]

It is unlawful for any person to "cause [an ESA violation] to be committed." 16 U.S.C. § 1538(g) (emphasis added). The term "person" includes "any officer, employee, agent, department, or instrumentality…of any State, municipality, or political subdivision of a State…[or] any State, municipality, or political subdivision of a State…" *Id.* § 1532(13). The ESA "not only prohibits the acts of those parties that directly exact the taking, but also bans those acts of a third party that bring about the acts exacting a taking. [A] governmental third party pursuant to whose authority an actor directly exacts a taking…may be deemed to have violated the provisions of the ESA." *Strahan v. Coxe*, 127 F.3d 155, 163 (1st Cir.1997) (holding that by issuing licenses and permits authorizing gillnet and lobster pot fishing, activities known to incidentally injury Northern right whales, Massachusetts officials had exacted a taking).[71]

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65 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).

66 DPR 2019, California Notice 2019-03: Notice of Final Decision to Begin Reevaluation of Second-Generation Anticoagulant Rodenticides (March 12, 2019).

67 Godfrey 1985, Non-target and secondary poisoning hazards of "second generation" anticoagulants. Acta zoologica fennica 173: 209-212; Laas et al. 1985, Retention of brodifacoum in sheep tissues and excretion in faeces, New Zealand J. Agric. Res. 28:357-359; Godfrey et al. 1989, Preliminary dosing trials of a new anticoagulant, brodifacoum, as a toxicant for the rabbit, *Oryctolagus cimiculus* (L.). New Zealand J. Exper.Agric. 8:1-5; Munday et al 2003, Brodifacoum toxicosis in two neonatal puppies. Vet Pathol. 40:216.

68 Rahmy 1993, Myocardial alterations in animals intoxicated with an anticoagulant rodenticide. J. Egypt. Ger. Soc. Zool. 12C: 87-98; Knopper et al 2007, Bone Density and breaking strength in UK raptors exposed to second generation anticoagulant rodenticides. Bull Environ Contam Toxicol 78:249–251.

69 Riley et al. 2007, Anticoagulant Exposure and Notoedric Mange in Bobcats and Mountain Lions in Urban Southern California, J. Wildlife Management 71(6) 1874–1884.

70 DPR 2013, Memorandum: Second Generation Anticoagulant Rodenticide Assessment, Deborah Daniels, DVM, Senior Environmental Scientist (June 27, 2013).

71 See also *Sierra Club v. Lyng*, 694 F.Supp. 1260 (E.D.Tex. 1988), aff'd by *Sierra Club v. Yeutter*, 926 F.2d 429 (5th Cir.1991) (holding the U.S. Forest Service liable for take because its even-aged management plan allowed private companies to harvest timber in a way that degraded the habitat of the endangered red-cockaded woodpecker); *U.S. v. Town of Plymouth*, Mass., 6 F.Supp.2d 81 (D.Mass. 1998) (holding the Town of Plymouth liable for the take of endangered piping plovers that had either been run over or isolated from their food source by

A government agency's approval of pesticides that result in take by a third party also results in liability for the government agency approving the use of that product. *Defenders of Wildlife v. Administrator, EPA*, 688 F.Supp. 1334 (D. Minn. 1988), *aff'd by Defenders of Wildlife v. Administrator, EPA*, 882 F.3d 1294 (8th Cir. 1989) (holding the EPA liable for take associated with the registration of strychnine even though the administration of the pesticide, which was known to poison endangered species, was actually carried out by third parties). An agency's approval of activity that poisons prey for endangered species leading to take of the upper level predator also can constitute take by the approving agency. *National Wildlife Federation v. Hodel*, 1985 U.S. Dist. LEXIS 16490, *12-13, 1985 WL 186671 (E.D. Cal. 1985) (enjoining the use of lead shot in areas where the formerly endangered bald eagle preyed on carcasses with lead shot because of lead poisoning in bald eagles).

The fact that DPR or individuals applicators did not specifically intend for ESA listed species to be injured by their otherwise legal rodenticide applications is inconsequential. Actual knowledge that the species being taken is a listed species is not required. The critical issue is whether the rodenticide was set knowingly and whether take of listed species is reasonably foreseeable, not whether the person intended to capture a non-target species. *See Animal Prot. Inst. v. Holsten*, 541 F. Supp. 2d 1073, 1079 (D. Minn. 2008) (holding state officials liable for take under the ESA by allowing trapping of other species within the range of threatened lynx. The court found that in order to trap "one must obtain a license and follow all governmental regulations governing trapping activities" and the state's "licensure and regulation of trapping is the 'stimulus' for the trappers conduct that results in incidental takings" of threatened lynx.); *Defenders of Wildlife v. Administrator, EPA*, 882 F.2d 1294, 1301 (8th Cir. 1989) (Finding EPA officials liable for take where "endangered species have eaten the strychnine bait, either directly or indirectly" that the agency registered "and as a result,[the species] have died").

If DPR fails to alter the California rodenticide regulations further violations of ESA section 9 will occur through harm, harassment, injury, or death of ESA listed animals. To minimize future take, DPR can develop new regulations that are much more restrictive of SGAR use in California. These regulations must at minimum foreclose the use of SGARs within the known habitat of ESA listed species and prohibit the sale of SGARs in California where the rodenticides could potentially affect ESA listed species. *See e.g., Defenders Of Wildlife,* 668 F.Supp. at 1356-1357, *aff'd by DOW,* 882 F.2d 1294 (enjoining the EPA from continuing its registration of strychnine until it could do so without illegally taking protected species of wildlife).[72]

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off-road vehicles, which were allowed on the beach under the Town's policies); *Pac. Rivers Council v. Brown*, No. 02-243-BR, 2002 U.S. Dist. LEXIS 28121, 2002 WL 32356431 (D. Or. Dec. 23, 2002) (Oregon State Forester may be held liable under the ESA for approving logging operations on private lands by private timber companies); *Loggerhead Turtle v. County Council of Volusia County*, 896 F. Supp. 1170, 1180–81 (M.D. Fla. 1995) (county's authorization of vehicular beach access during turtle mating season led to take of the turtles); *Seattle Audubon Soc'y. v. Sutherland*, No. 06-1608MJP, 2007 U.S. Dist. LEXIS 31880, 2007 WL 1300964 (W.D. Wash. May 1, 2007) ("the [ESA] not only prohibits a party from directly causing take, but also prohibits a party, including state officials, from bringing about the acts of another party that exact a taking").

72 *See also Sierra Club*, 926 F.2d at 433 (enjoined even-aged lumbering in the Texas national forests within 1,200 meters of active woodpecker colonies); *Palila v. Hawaii Dep't of Land and Natural Resources,* 639 F.2d 495 (9th

DPR cannot presently avail itself of any incidental take coverage to avoid ESA liability. DPR cannot rely on the 1993 biological opinion "Effects of 16 Vertebrate Control Agents On Threatened and Endangered Species" issued to EPA for several reasons. First, the 1993 biological opinion fails to cover all SGARs, such as difethialone and difenacoum, registered by DPR that are leading to take of ESA species. Second, EPA, FWS, and DPR are failing to implement the reasonable and prudent measures ("RPMs") and reasonable and prudent alternatives ("RPAs") to avoid and minimize take. The 1993 biological opinion required EPA to adopt a monitoring/enforcement program as a reasonable and prudent measure to minimize take.[73] However, EPA is failing to implement the RPMs and RPAs required in the 1993 Biological Opinion, including monitoring/enforcement program. As EPA recently admitted

> After searching the files and records and our initial discussions with the subject matter experts, no records concerning a monitoring or enforcement program have been located. The subject matter experts I spoke with were not aware of a monitoring or enforcement program for the 15 rodenticides referenced in "Effects of 16 Vertebrate Control Agency on Threatened and Endangered Species".[74]

The 1993 biological opinion further required that when "even one dead specimen is discovered whose death is attributable to the legal use of pesticides, then use of that pesticide must cease in all occupied habitat of the species and consultation on that chemical for that species must be reinitiated."[75] For species such as the San Joaquin kit fox that the 1993 biological opinion listed as suffering an unquantifiable level of incidental take and has suffered deaths attributable to SGARs, EPA has failed to implement the requirements of the biological opinion. Because of EPA's failure to implement the Biological Opinion neither DPR nor any other "person" as defined by the ESA can avail themselves of the exception from liability for causing take. 16 U.S.C. § 1540(g) (person includes "any other governmental instrumentality").

Furthermore, both EPA and DPR are failing to implement important geographic limitations related to the use of SGARs. For example, the Biological Opinion prohibited the use of certain SGARs within the range of occupied habitat for a range of species in California including the Fresno kangaroo rat, giant kangaroo rat, Morro Bay kangaroo rat, Point Arena Mountain Beaver, salt marsh harvest mouse, San Joaquin kangaroo rat, Stephen's kangaroo rat, Tipton kangaroo rat, and San Clemente loggerhead shrike.[76] EPA and DPR have failed to make

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Cir.1981) (holding that the state's feral sheep and goats must be removed from the endangered palila's habitat because they degraded the bird's habitat, thereby imposing an injury); *Town of Plymouth*, 6 F.Supp.2d at 91 (enjoining any further off-road vehicle driving on the beach that was inconsistent with the protection of piping plovers).

73 U.S. Fish and Wildlife Service, Biological Opinion, March, 1993, Effects of 16 Vertebrate Control Agents On Threatened and Endangered Species, at I-5.

74 EPA 2019, Letter from Earl Ingram (EPA) to Ann Brown (Center) re: Freedom of Information Act - EPA-HQ-2019-008635/Initial Response (Oct. 7, 2019); Likewise FWS has no records related to EPA's monitoring/enforcement program, RPAs, or RPMs. FWS 2019, Letter from Cathy Willis (FWS) to Ann Brown (Center) re: Freedom of Information Act request FWS-2019-01120 (Sept. 24, 2019).

75 U.S. Fish and Wildlife Service, Biological Opinion, March, 1993, Effects of 16 Vertebrate Control Agents On Threatened and Endangered Species, at I-4.

76 U.S. Fish and Wildlife Service, Biological Opinion, March, 1993, Effects of 16 Vertebrate Control Agents On

explicit label requirements or information resources available to users and registrants regarding those geographic limitations on use.

Finally take coverage under that biological opinion is not valid because the incidental take limit has been exceeded, and additional species have been listed that are being taken by SGARs.

B. California Protected Species Laws

DPR's continued registration and renewal of SGARs results in ongoing violations of state laws protecting wildlife. As a state agency DPR has an ongoing obligation to protect public trust resources, such as wildlife. *Ctr. for Biological Diversity, Inc. v. FPL Grp., Inc*., 166 Cal. App. 4th 1349, 1363-64 (2008) (common law and statutory obligations "to perpetuate all species of wildlife for their intrinsic and ecological values, as well as for their direct benefits to all persons"). DPR's failure to breach of the public trust by failing to protect wildlife resources subjects the agency to liability from enforcement by the public. *Ctr. for Biological Diversity, Inc. v. FPL Grp., Inc.*, 166 Cal. App. 4th 1349, 1364-1368, 83 Cal. Rptr. 3d 588, 600 (2008), citing *Environmental Defense Fund, Inc. v. East Bay Mun. Utility Dist.* (1980) 26 Cal.3d 183.

Take of species such as the San Joaquin kit fox and Pacific fisher runs contrary to the California Endangered Species Act ("CESA"). Fish and Game Code § 2080. DPR's registration of SGARs results in injury and death for numerous species contrary to California's "fully protected" species laws, including the golden eagle (*Aquila chrysaetos*), salt marsh harvest mouse (*Reithrodontomys raviventris*), southern bald eagle (*Haliaeetus leucocephalus leucocephalus*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), American peregrine falcon (*Falco peregrinus anatum*), white tailed kite (*Elanus leucurus*), Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*), ring tailed cat (*Bassariscus astutus*), and wolverine (*Gulo gulo*). Fish and Game Code §§ 3511, 4700, 5050. DPR's registration of SGARs also results in injury and death for mountain lions (*Puma concolor*) contrary to the California Wildlife Protection Act of 1990. Fish and Game Code § 4800 *et seq*.

V. CONCLUSION

Due to the overwhelming harm to non-target wildlife species, we urge DPR to cancel brodifacoum, bromadiolone, difethialone, and difenacoum registrations in California, or make these products restricted use materials that are *only* available under rare circumstances for conservation purposes on island habitats or in the event of a true public health emergency. Simply regulating SGARs as restricted use materials, which permits continued use by licensed applicators, still allows a large percentage of use of those products to be applied, allows SGARs to be consumed by non-target organisms, and allows bio-accumulation in the food chain—all resulting in take of ESA protected species. Therefore, should DPR continue to allow the use of these rodenticides under existing regulations or more restrictive regulations that still allow wide-spread use of SGARs, we intend to file suit in federal district court. We will further seek an

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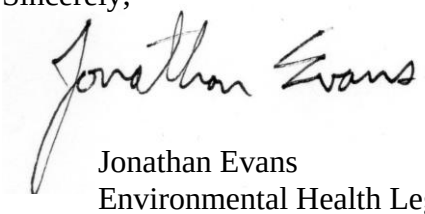
Threatened and Endangered Species.

award for any costs and fees associated with the litigation, including reasonable attorney and expert fees.

We hope to resolve this matter short of litigation. Please do not hesitate to contact us should you wish to discuss this matter and opportunities to address DPR's legal violations outside of litigation.

Sincerely,



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