



**Friends of Griffith Park**

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[friendsofgriffithpark.org](http://friendsofgriffithpark.org)

March 29, 2019

To: RULES, ELECTIONS, AND INTERGOVERNMENTAL RELATIONS COMMITTEE:

Re: 19-0002-S45 Resolution - California Ecosystems Protection Act

Honorable Committee Members,

Friends of Griffith Park supports this resolution and AB 1788. As advocates for urban wildlife and Griffith Park, one of the largest and richest urban habitats in the country, we have seen firsthand the toll potent anticoagulants have taken on non-targeted species.

Friends of Griffith Park has funded many toxicology tests on dead animals from the area, with most results returned as positive for second generation anticoagulants. While second generation agents have been removed from the store shelves, there is no logical reason why pest control companies should continue to use them, except in very special, approved situations (per the legislation).

Besides unintentional lethal poisoning, there is evidence of compromised and disrupted immune systems in exposed wildlife, making them more susceptible to disease. Further, studies have confirmed gene expression changes in bobcats, the same kind of genetic change which caused the mild anticoagulant, warfarin, to become less effective as a rodenticide in earlier decades! (See Fraser/Serieys, 2018, abstract below)

There is little doubt Griffith Park wildlife is adversely affected by the unnecessary use of rodenticides. One of the most graphic examples is that of Griffith Park mountain lion P-22, who luckily survived after being treated for anticoagulant poisoning in 2014. P-22's mange symptom was spotted in wildlife camera photos, and NPS quickly recaptured and successfully treated him. Park bobcats have also suffered mange outbreaks during past periods likely due to immunodeficiency.

In addition to wildlife, rodenticides leave pets at unreasonable risk for poisoning and death. Children also are regularly exposed to anticoagulants and require treatment. Compounding risks to children and pets, we see no universal enforcement of bait box

labeling and tethering regulations by the pest control companies, in either park or residential settings.

AB 1788 sets down strong control of second generation agents, but provides critical exceptions. California also sets a strong example to its people and the entire nation, by restricting use of all anticoagulants on State lands. The broader emphasis should be on primary control through better sanitation practices and removal of rodent resources such as their food and habitat types. Rodent populations quickly rebound to the level that their environment can support.

The use of anticoagulants unintentionally kills our natural predators whose population and breeding dynamics are hugely different than rodents. We are now on the brink of finally learning that the balance of nature is being thrown off with the use of anticoagulants, and ironically this loss of natural predators may be causing even more troublesome rodent issues.

Friends of Griffith Park strongly urges your support of the California Ecosystems Protection Act to reduce non-target lethal and non-lethal toxicity of wildlife. AB 1788 also protects entire ecosystems.

Sincerely,



Gerry Hans  
Vice President, Science and Conservation



Marian Dodge  
President

*Friends of Griffith Park promotes the enlightened stewardship of Griffith Park so it can survive and thrive well beyond the 21st century. Through advocacy, support, education and service, Friends of Griffith Park works to preserve Griffith Park as L.A.'s signature green and open space, place of free recreation, and linchpin in the survival of Southern California's native ecosystems.*

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Article type : Original Article

Genome-wide expression reveals multiple systemic effects associated with detection of anticoagulant poisons in bobcats (*Lynx rufus*)

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#### Abstract

Anticoagulant rodenticides (ARs) are indiscriminate toxicants that threaten non-target predatory and scavenger species through secondary poisoning. Accumulating evidence suggests that AR exposure may have disruptive sublethal consequences on individuals that can affect fitness. We evaluated AR-related effects on genome wide expression patterns in a population of bobcats in southern California. We identify differential expression of genes involved in xenobiotic metabolism, endoplasmic reticulum stress response, epithelial integrity, and both adaptive and innate immune function. Further, we find that differential expression of immune related genes may be attributable to AR-related effects on leukocyte differentiation. Collectively, our results provide an unprecedented understanding of the sublethal effects of AR exposure on a wild carnivore. These findings highlight potential detrimental effects of ARs on a wide variety of species worldwide that may consume poisoned rodents and indicate the need to investigate gene expression effects of other toxicants added to natural environments by humans.

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