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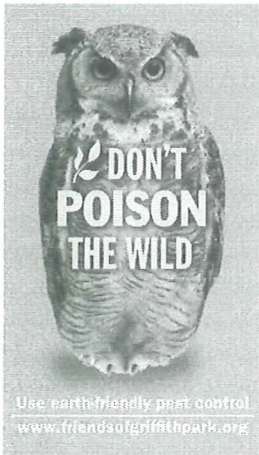
## Preventing a 'Silent Spring'

How Griffith Park neighbors can help put an end to the pesticide poisoning of wildlife



Rachel Carson's *Silent Spring* imagined a polluted world devoid of birdsong and natural sounds.

Concerned residents  
can break the cycle of  
poisons creeping into  
the Park's food chain



The 50th Anniversary of *Silent Spring* is a good time to take a look at the role pesticides play in the health and survival of Griffith Park wildlife. The publication of Rachel Carson's 1962 bestseller helped kick-start the environmental movement. *Silent Spring* revealed pesticides' toxic effect on the wild and only four years after it appeared, DDT was banned. Species whose populations were in decline rebounded. In California, the comeback of the coastal pelican was a stunning success.

Living on the fringes of urban neighborhoods, Griffith Park's wildlife is affected by human practices. Scientific studies tell us that rat poisons are a leading cause of death among the Park's carnivores. After reviewing the findings, Friends of Griffith Park has launched "*Don't Poison the Wild*," an initiative to educate neighbors about the dangers these toxins pose and to suggest viable alternatives.

### The killer: anticoagulant rodenticides

The household pesticide most commonly used, anticoagulant rodenticide, is indiscriminate. It kills the targeted species (rats and mice) as well as non-targeted species—such as hawks, owls, bobcats and coyotes. Ironically, the animals unintentionally poisoned provide a natural check on pest populations. They consume quantities of rodents without the environmental risks poisons pose.

Anticoagulant rodenticides trigger internal hemorrhaging, a slow, agonizing death that can take up to two weeks. A rodent dying from rodenticide poisoning is lethargic and tempting prey. When a predator consumes it, it also absorbs the pesticide. This persistence of poisons in animal tissue is called *bioaccumulation*. Its transfer to the carnivore is called *secondary poisoning*, which can be just as deadly.

Rats can mutate to develop immunity to poisons. Their resistance to first-generation anticoagulants has ushered in a more deadly second-generation that can kill in 1 to 3 days and is even harder for wildlife to combat. Children and pets are also at risk of ingestion. Annually, the American Association of Poison Control Centers receives between 12,000 and 15,000 reports of exposure of children under the age of six to rodenticides. Unintended and accidental consumption is not surprising. These products masquerade as food: they are called "bait" for good reason.

In 2008, after protracted review, the US Environmental Protection Agency determined that these high-volume poisons posed an "unreasonable risk" to children, pets, and the environment. Under federal law, pesticides that pose an "unreasonable risk" should not be legal for sale. The EPA gave manufacturers three years to remove them from the market. The deadline was June 4, 2011. Instead, the makers challenged the EPA's ruling and now the agency must follow a lengthier cancellation process that could keep the products on the shelves for years.

### Change begins at home

With federal regulations on hold, the issue has moved to the local level. So far, grassroots concern has prompted the Marin Municipal Water District, Contra Costa County, City of Santa Monica and Ventura County to take action against anticoagulant rodenticides. Moves range from aborting their use on public property to limiting their retail sale—or at least consumer acceptance. Undoubtedly, more jurisdictions will follow suit, but there is no reason to wait for an official ban to stop using these poisons at home. The clock is ticking and wildlife needs us now. Read on to learn about safe ways to deal with pests and prevent a silent spring in Griffith Park.

Carol Brusha, Gerry Hans, Laura Howe, Bernadette Soter and Richard Stanley contributed research and writing to this story.





*This healthy bobcat tagged in Griffith Park was later found weak and dying from notoedric mange contracted as a result of eating prey that had consumed anticoagulant rodenticide. Photos: Laurel Klein*

## Some sobering findings on rodenticide exposure and wildlife mortality

This analysis of the impacts of commonly used rodenticides on wildlife was compiled by Friends of Griffith Park from reliable scientific sources. It demonstrates that anticoagulant rodenticides are a leading cause of death in species common to Griffith Park. These poisons suppress animals' immune systems, making them more susceptible to severe infections.

**Coyotes.** A 5 year study in Santa Monica Mountains found:

- 83% of coyotes were exposed to rodenticides.
- Rodenticide poisoning was the second leading cause of coyote death.
- Death was by bleeding, a direct effect of the anticoagulant. It has been said that canines are 100x more sensitive to anticoagulants' direct effect than felines.

**Bobcats.** Since 1996, data from studies in the Los Angeles area indicate:

- 95% of bobcats tested have been exposed to anticoagulant rodenticides.
- There is a statistical relationship between exposure to anticoagulant rodenticides and notoedric mange.

**Mountain lions.** Two collared mountain lions in Santa Monica Mountains, P-3 and P-4, died a bleeding death. Second generation anticoagulant compounds were found to be at high levels in both. Location plotting in the month preceding their deaths showed the cats living in highly urban areas where their diet was probably raccoons, opossums, and other small

animals as opposed to deer. The high levels of anticoagulants in their systems can be explained by the switch to a non-deer diet alternative. The two mountain lions also showed signs of mange.

Ten Santa Monica Mountains area mountain lions have been tested, and nine show exposure to rodenticides, some at very high levels. Statewide, 96 mountain lions have been tested in the last seven years, with 74% displaying exposure.

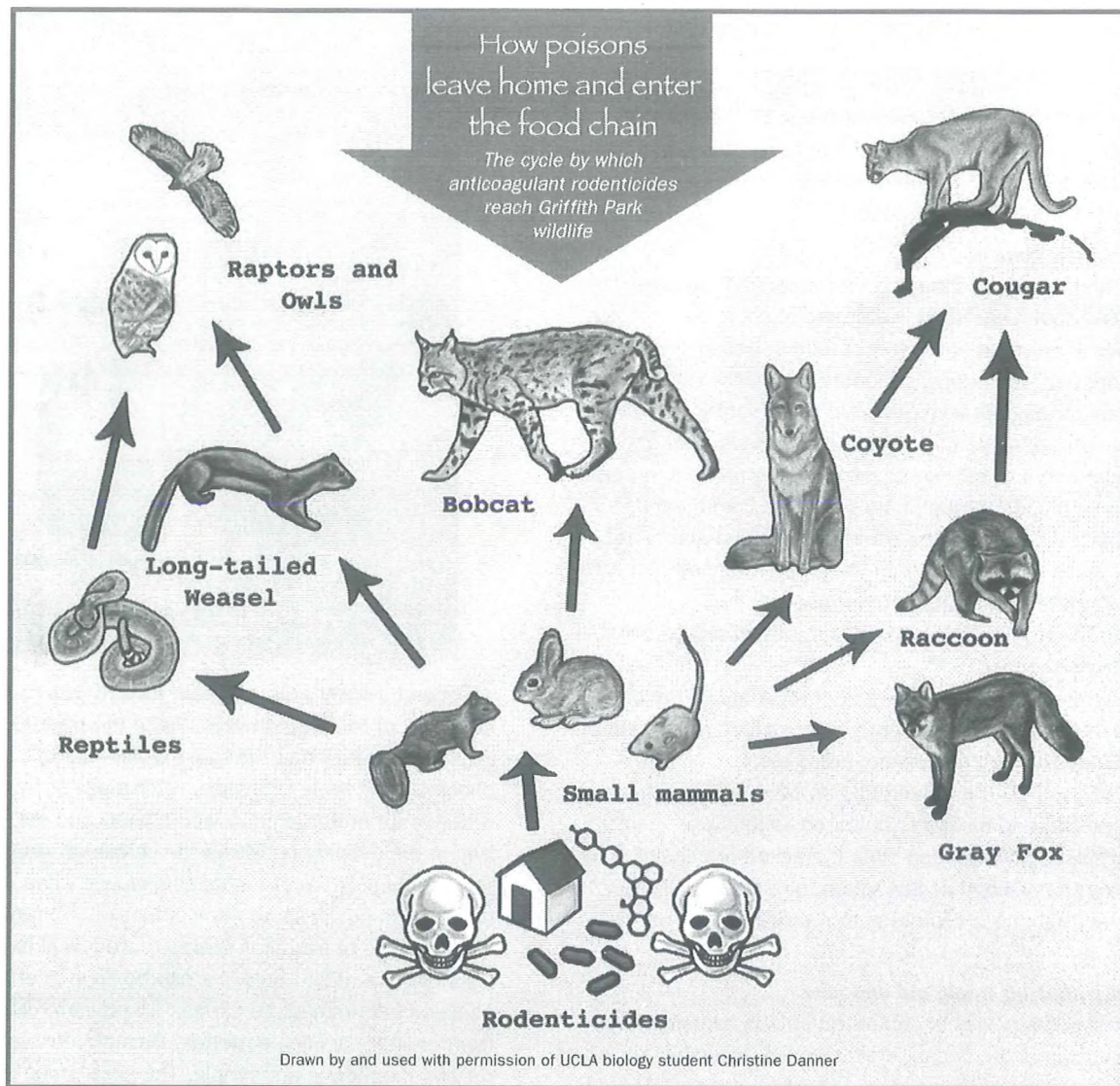
**Other wildlife.** Birds have been identified to have rodenticide exposure, especially owls, hawks, eagles, and crows. Although data is very limited, exposure has been documented also in squirrels, raccoons and other mammals.

### **The threat of notoedric mange**

Anticoagulants weaken bobcats' immune systems, making them susceptible to mange. The skin-burrowing mite, *Notoedres cati*, is found worldwide, but until now there has never been documented notoedric mange causing a population decline. Every bobcat found in the L.A. area study that died of mange had been exposed to anticoagulants.

A healthy animal should be able to control this infection, but Santa Monica Mountain bobcats are dying gruesome deaths. Uncontrolled mange causes itchy and infected skin, followed by patchy fur loss. Eventually the animal becomes emaciated and weak, ultimately succumbing to infection, starvation, hypothermia or a variety of other complications.





Since time immemorial, Griffith Park's predators have subsisted on mice, rats and ground squirrels. The difference today is that their prey may be laced with lethal poisons. Mammals at risk are (left to right): bobcats, coyotes and grey fox. Carnivorous birds like owls and hawks are also susceptible, as are prey-eating aquatic species like the Great Blue Heron that patrol for gophers in picnic areas near the river.



Photos: Bobcat and coyote, Griffith Park Wildlife Connectivity Study; Grey fox, Laurel Klein; all others Friends of Griffith Park.



## Advice from an expert: pest control methods that are safe bets for wildlife

Friends of Griffith Park sat down with Paul Yamaguchi of Yamaguchi Pest Control and asked him to recommend earth-friendly ways to combat household pests. These primary and secondary means were suggested:

### **Primary rodent control**

Fundamental to rodent control is discouraging their presence by removing sources of food, water and shelter:

- Don't leave pet food and water outdoors, especially overnight. Store pet food supplies indoors in sealed containers.
- Seal gaps around air vents to building sub-areas and attics and any other openings that penetrate exteriors. Use sweep seals under doors. A rat can squeeze through a hole the size of quarter; a mouse through a hole smaller than a dime.
- Don't plant ivy—it provides shelter and a food source for rodents: snails and slugs. Ivy on walls can form "rat ladders" to windows, attics and other interior spaces.
- Keep compost piles as far away from structures as possible.
- Keep grass trimmed.
- If you have a bird feeder, use a squirrel guard at the base to keep rodents away. Keep the ground area clean of bird seed.
- Keep outdoor grills and cooking areas clean.
- Keep firewood off the ground and as far away from structures as possible to mitigate shelter opportunities.
- Use city-issue plastic trash bins. If cracked or missing a lid, contact the Department of Sanitation for a free replacement.
- Clean up trash in garden areas to remove shelter for rodents.

### **Secondary control: traps, old and new**

The best secondary way to control rodents is by using traps.

- The best trap is the cheap, old-fashioned, wood-based "snap trap." From human experience we know that death by rodenticide is particularly painful and can infer that an animal's death is also agonizing—some would say, needlessly cruel. Using a snap trap is more humane: it kills instantly in most cases by breaking the rodent's neck. Don't put the trap right outside a



suspected rodent hole. Instead, look for rub marks along walls as a sign of rodent pathways. Place the trap 90 degrees to the wall. Don't set or bait the trap initially—let the rodents become used to its presence. After a day or two, bait the trap with peanut butter (chunky works best) and set. Setting the trap in the evening mitigates the chance of trapping "non-target" animals. Wear disposable gloves when emptying the traps so as not to come into contact with rodent urine.

- A new type of trap that seems to work well is the electronic trap. Here, a rodent enters a bait box and is effectively shocked into immediate cardiac arrest with high voltage drawn from ordinary dry-cell batteries. Baiting, removal of the dead rat and monitoring are simple. The cost is not cheap, however. Most units run from \$30 to \$50. Check buyer reviews online.
- Glue traps are not effective for rats and other larger rodents that can pull free of the glue. Glue traps work well for mice, but mice will urinate while struggling. Human exposure to rodent urine is a health hazard.
- Live traps (cages) are not worth the risk of exposure to the myriad health hazards involved in handling a live rodent.

### **When in doubt, call a professional.**

If these hands-on pest control methods do not appeal to you, by all means call a professional. Just be sure to stipulate that the method of eradication used does not involve anticoagulant rodenticides and is otherwise safe for pets, children, wildlife and the environment.

### **Dispose of leftover poisons responsibly.**

If you have been using anticoagulant rodenticides and have decided to stop, bring any leftover products to your local toxic waste center where they will be disposed of responsibly.

