


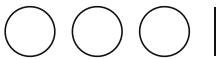
BAY AREA

San Francisco is one of the ‘rattiest cities in America.’ Will rat birth control help?



Guy Wathen / The Chronicle

 **CAROLYN SAID**
April 28, 2022



Rats have plagued humans for centuries. They spread diseases; contaminate food; chew through pipes, electrical wires, gas lines and building materials — and then there’s the “ick” factor.

Controlling infestations is a challenge, especially in California, the first state to ban super-toxic rat poisons because they also kill hawks, eagles, mountain lions and other species that feed on poisoned rats.

Now there’s a new tool to battle vermin: rat birth control.

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“Call it reproductive management; birth control makes it sound like tiny condoms or something,” said Tamara Barak Aparton, spokeswoman for the San Francisco Recreation and Park Department, which deploys the rodent contraceptive ContraPest in city parks as an adjunct to traditional methods such as snap traps and pumping carbon monoxide into rat burrows.

San Francisco won the dubious distinction of ranking No. 5 on pest-control company Orkin’s annual list of the [50 Rattiest Cities in America](#) in 2021, for the second year in a row. Making matters worse, the pandemic exacerbated rat issues nationwide. Restaurant closures prompted mass migrations of rats to residential areas.

Video at top: A motion-activated camera captures rats in San Francisco's Portsmouth Square investigating a bait box containing oral contraceptives. Photos above: Zach Goetschi sets up the new contraceptive bait at KidsPower Park, top, and installs it in a rat trap at In Chan Kaajal Park, above. Photos by Felix Uribe / Special to The Chronicle

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“Killing rats is only half the equation,” said Ken Siegel, SenesTech CEO. “The critical factor that drives rodent populations is the birth rate. You cannot kill them fast enough or sustainably enough.”

Most commonly encountered domestic rodents in the Bay Area:

The San Francisco parks department has used ContraPest since 2019, said Zachary Goetschi, a pest-management specialist.

The milkshake is served in two bottles inside the same type of rat bait stations used for traps or poison. Slightly larger than a shoebox, a bait station typically has two small holes for rodent access and is locked to keep the contents secure from children and pets.

The biggest issue, Goetschi said, is luring rats to bait boxes when they already have abundant food sources. His strategy is to get trash picked up more often and to “pre-bait” boxes with peanut butter.


But rats do seem to drink ContraPest, he said, and it’s made a difference.

In Chinatown's Portsmouth Square Park, for instance, his team counted 60 burrows, each of which might house four rats. Within two months they had it down to 16 using ContraPest alongside conventional methods.

Contraception can be less labor intensive. With traps, exterminators have to visit often to dispose of carcasses. With the contraceptive, they can "set it and forget it," he said, checking back after a month.

"There is no one strategy that is most effective for rat abatement," Aparton said. "It is everything together — getting rid of food waste, vegetation management, trapping, birth control, etc. It's sort of like whack-a-mole, to mix my rodent metaphors."

Differences between Norway rats and roof rats



Loretta Mayer, 72, and her wife, Cheryl Dyer, 70, who have doctorates in biology and pharmacology/physiology, respectively, invented ContraPest by accident.

After a close friend died of a heart attack, they learned there is a dearth of studies of heart disease in post-menopausal women because lab rats and mice don't experience menopause unless their ovaries are removed. The couple developed a product called Mouseopause to induce menopause in mice — and then realized its power for pest control.

"Everyone's got the awful story of a dog who got into the rat poison and died," said Mayer, who personally tasted every batch in the early days to make sure the chemicals' bitter flavors were masked.


They founded SenesTech in 2003, but left the company three years ago and have no financial relationship with it.

Mayer and Dyer still work on contraception for wildlife through their nonprofit [FYXX Foundation](#).

Their top priority is developing birth control for invasive mice brought by 19th century sailors to the Farallon Islands. This would be an alternative to the [controversial plan](#) approved late last year by the [California Coastal Commission](#) to drop 3,000 pounds of poisoned bait from helicopters. The poison drop for the wildlife refuge 27 miles offshore from San Francisco would be implemented in fall 2023 at the earliest.

The mouse contraceptive compound is basically an herbal supplement, which means it would not need years of a government approval process. But it needs to be solid so it could be delivered by drone drops.

"I would be the happiest little scientist in the world" if the supplement could be deployed instead of poison, Mayer said. "The mice have been there since 1850; why can't we wait for a new technology?"



**In the wild, rats have an
average life span of ...**



1 year

A Cooper's Hawk bleeding to death on a Berkeley sidewalk a decade ago spurred Lisa Owens Viani to start [Raptors Are The Solution \(RATS\)](#), a project of Earth Island Institute seeking to end use of rodenticides that also kill birds of prey feeding on rats. Around the same time, her neighbor found fledgling Cooper's Hawks dead in a kiddie pool. She had all the birds tested at UC Davis and discovered they had ingested rat poison, presumably by eating poisoned rats.

The group got California to pass [AB1788](#), which bans super-deadly rodenticides, although they can still be used in agriculture, and less toxic ones remain available.

She's a fan of environmentally friendly solutions for rat control, noting that these also include preventative measures homeowners can take, such as cutting tree branches, sealing openings in a house and removing food sources.

ContraPest "seems promising, definitely an important part of the tool kit to help curtail rats," Owens Viani said.

Her group is working on a [pilot project](#) in Seattle to test ContraPest at a building slated to be razed. Ordinarily, developers deploy poison before a building is demolished, she said, because otherwise all the rats living under it come scurrying out. RATS' project is using ContraPest to try to rein in the rats in advance.

"In 27 weeks, we've seen a 91% decrease in rat population," she said. "It's very encouraging."

However, she, like others interviewed, thinks the product's biggest limitation is that it costs much more than poison or traps. A single tank is about \$28, but a big area such as a commercial barn might require about \$600 a month, Siegel said, an amount that would decline as the rat population declined. By contrast, a dozen snap traps costs about \$20, Goetschi said.

Currently, ContraPest is sold only to exterminators and commercial facilities. The company is working to get it on hardware store shelves.

Each litter of rats produces ...

5 to 10 rat pups

While the only studies of ContraPest's effectiveness come from the company itself, anecdotally, there are stories of it working — as well as stories of rats turning up their noses at the milkshake.

Luis Agurto is CEO of Pestec, a pest-management company that's contracted with San Francisco since 1998 to rein in everything from mosquitoes to rats.

"In theory we love it," he said of rat contraception. But there's a big "however."

"We spent some time exploring (ContraPest) in a few places and have had a tough time getting rats to eat it," he said. "We tried in four different places for months at a time. I do want to give it a fair shot, so we need to keep trying."

He said he employs techniques such as "pre-baiting" with enticing foods to get rats interested and will continue to do so.

One rat averages ...



3 to 6 litters per year

On the other end of the spectrum, [Little Hill Sanctuary](#) said it had spectacular success with ContraPest.

Helbard Alkhassadeh and his wife, Camilla, care for about 100 rescued animals — goats, sheep, turkeys, chickens, miniature horses and pigs — at the Royal Oaks (Monterey County) sanctuary.

They soon discovered rats feasting on their stored animal feed.

“We had created an environment for them that was luxurious — like a five-star hotel with a buffet,” Alkhassadeh said ruefully.

As vegans who wanted to practice compassion toward all animals, they felt it would be wrong to kill one species of animal while they were rescuing others. So they bought live traps to capture rats and release them on public land.

“I went into the barn, set a live trap, and the next day there were 12 rats in it,” he said. “The next day I caught 20 rats. In five days, I caught 70 rats in just one small building. I told my wife, ‘I don’t know if this is going to end; they’re everywhere.’”

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He found out about ContraPest and set out its bait traps about six months ago in the four different locations where the sanctuary stores feed. The cost was about \$250 a month initially, he said, but can taper down over time.

“Within the first six weeks, I noticed something was different,” he said. “You could tell there wasn’t the same type of traffic from the rats in any of the buildings. By the third month, I stopped seeing rats, they were just gone.”

He thought maybe they were hiding so he put out his live traps again. No rats.

“I tried everything, no rats, no signs of rat droppings or chewed wood,” he said. “We don’t see any rats; they’re gone. It eliminated them.”

In San Francisco where Recreation and Park oversees 225 parks covering some 4,100 acres, five full-time staffers worked on pest management, as did outside vendors.

“There is no one strategy that is most effective for rat abatement,” Aparton said. “It is everything together — getting rid of food waste, vegetation management, trapping, birth control, etc. In a lot of parks, especially big parks, raptors get a lot of our rats, which is the advantage of being Parks and Rec instead of managing an SRO where everything’s inside.”

15,000

Number of rats potentially produced in a year
by one couple and their descendants.

However, predators, drought, cold, food scarcity
and overcrowding can reduce that number.

Carolyn Said is a San Francisco Chronicle staff writer. Email: csaid@sfgate.com Twitter: [@csaid](https://twitter.com/csaid)

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Written By
Carolyn Said

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Carolyn Said, an enterprise reporter for The San Francisco Chronicle, covers transformation: how society, business, culture, education and other institutions are changing. Her stories shed light on the human impact of sweeping trends. As a reporter at The Chronicle since 1997, she has also covered the on-demand industry, the foreclosure crisis, the dot-com rise and fall, the California energy crisis and the fallout from economic downturns.

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