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PRESERVING ECOSYSTEM HARMONY

A Case Study in Rat Birth Control
for Sustainable Pest Management &
Safeguarding Non-Target Pets, Wildlife & Children

About RATS

Who We Are

Raptors Are the Solution (RATS) educates the public about the dangers of rat and rodent poisons in the food web. We inform people about the ecological role of wild birds of prey, and work to eliminate toxic rodenticides to prevent further poisonings of wildlife, children, and pets. We envision a healthy, functioning food web in which every organism remains poison free. Rodent poisons undermine a critical piece of this system: the predator/prey relationship. RATS is a fiscally-sponsored project of Earth Island Institute, rated a Four Star Charity by Charity Navigator. We partner with environmental nonprofits, agencies, scientists, cities, and others to work toward eliminating toxic rodenticides from the food web.



RATS IS A RESOURCE

Ways We Help

Educate

Advocate

**Co-led CA
moratoriums
on AR
poisons**

Aggregate

Lead

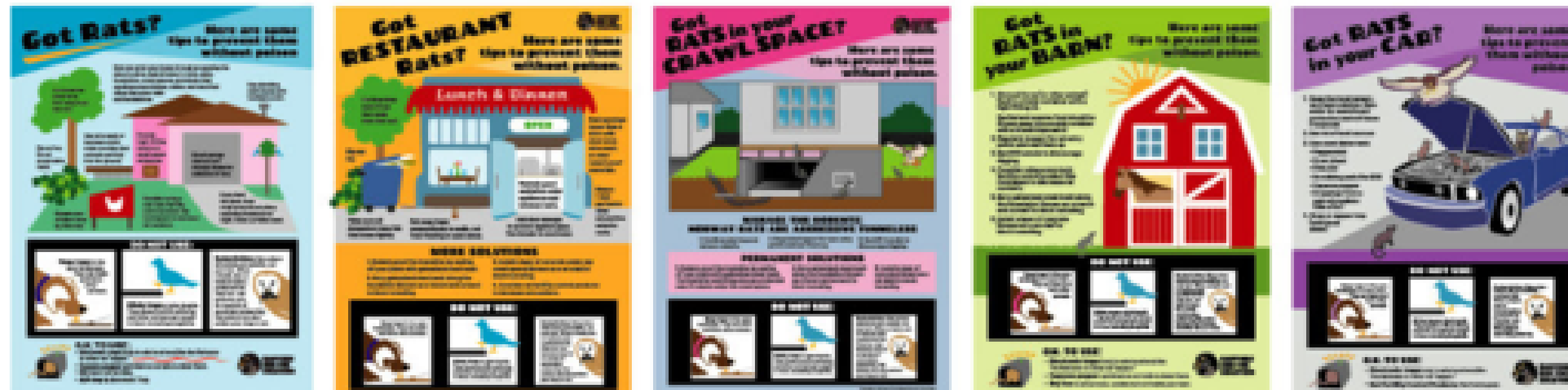


Rat poison kills more than just rats



The Human Factor: Sanitation & Exclusion

Got Rats? Posters



Our **Got Rats?** posters, created with the help of experts including a pest control company, highlight numerous ways to keep rodents away without using poison and other harmful methods. Click links to share, download, or print!

Source: raptorsarethesolution.org/free-outreach-materials/



**Rat Poison
VS
Rat Birth Control**

Rat Birth Control: A simple next step!

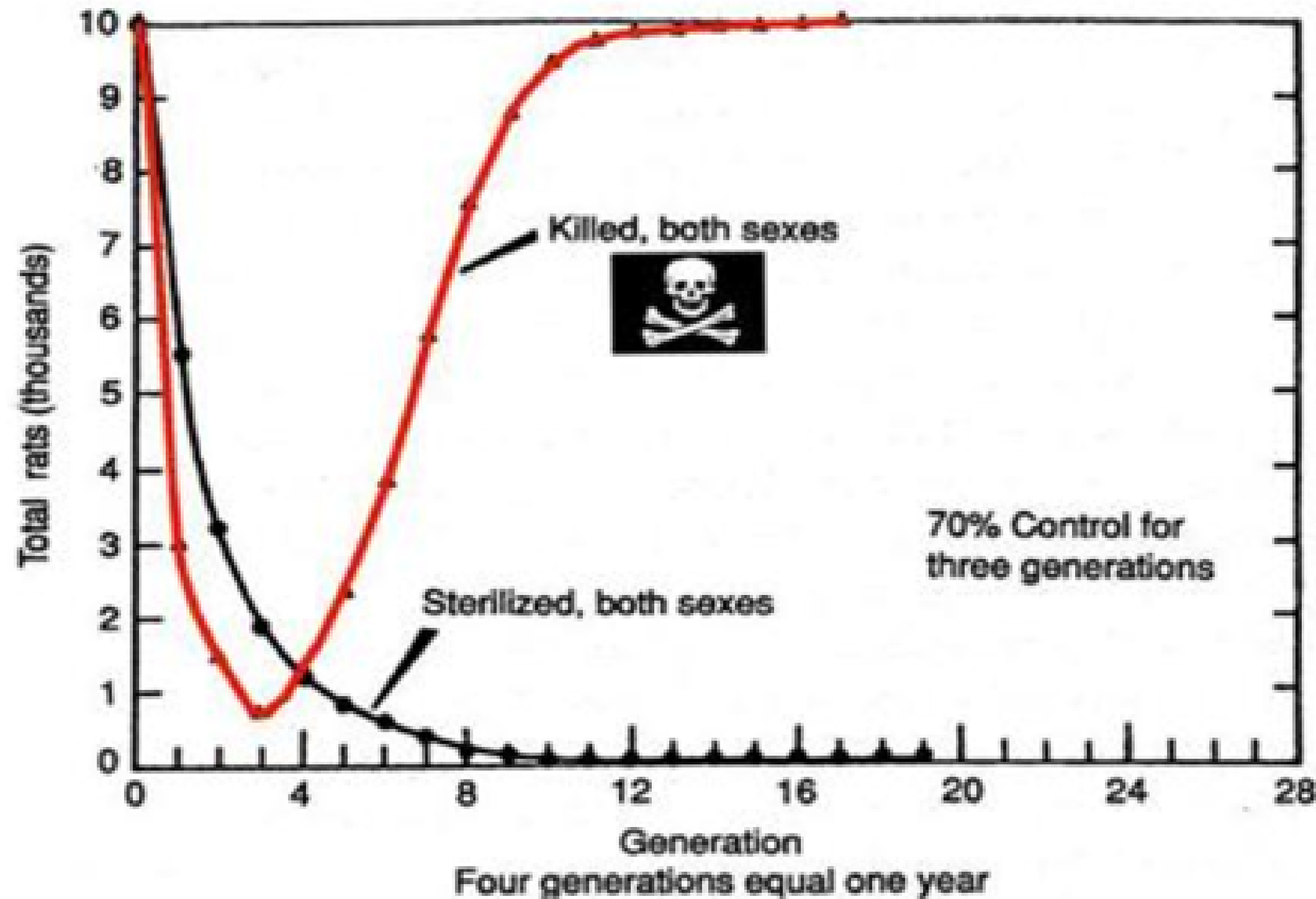
While working on a rodent model of heart disease in menopausal women, infertile rats were the result. Drs. Mayer and Dyer built on observations to real world application: rat birth control!



Thunder God Vine, *tripterygium wilfordii*



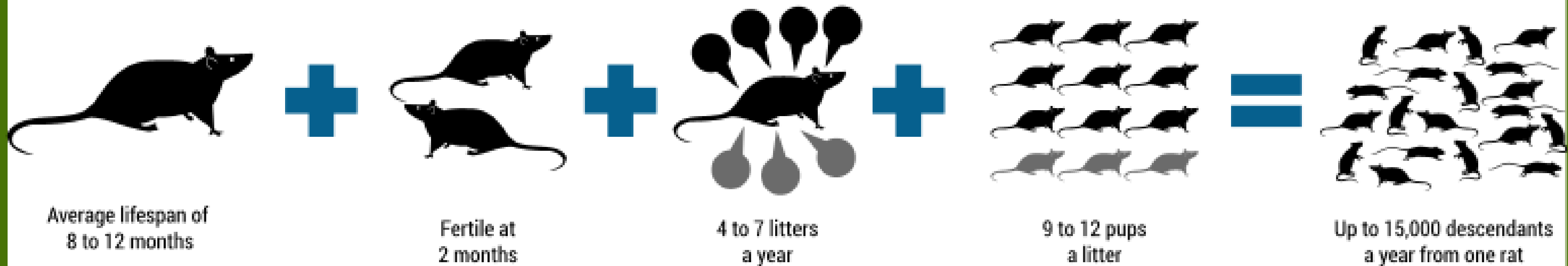
Fertility control is a permanent change



- Traditional poison
- Fertility control

Fig. 8.2 Impact on a rat population of two alternative treatments; either use of a poison with a 70% kill rate for three generations, or use of an irreversible male and female chemosterilant with a 70% effectiveness rate for three generations. The former has only a transitory effect; the latter results in extermination. (From Kaipling and McGuire 1972.)

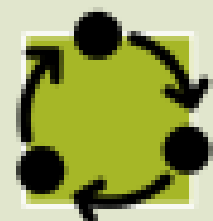
Rat Math



Chicagomag.com 2015; National Geographic. *How two rats become 15,000 in one year.* [Video file]. (2013). Retrieved February 15, 2018, from https://www.youtube.com/watch?v=RJA4IW_gkao

*ContraPest is registered federally as a General Use Product when used as directed. However, in some states, due to applicator expertise, it is a Restricted Use Product. Please check with your local state regulatory agency to determine restriction status. Read and follow all label instructions for target species Norway and roof rats.

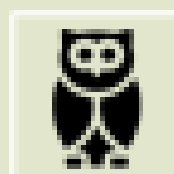
How fertility control works



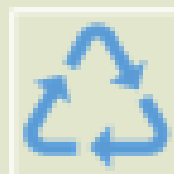
Rodents consume attractive bait that stops reproduction in males and females



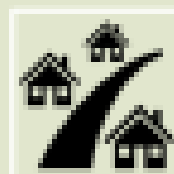
As they free feed, reproduction is stopped



Active ingredients metabolized within minutes and pose no threat to other species



Bait does not bioaccumulate in soil and water



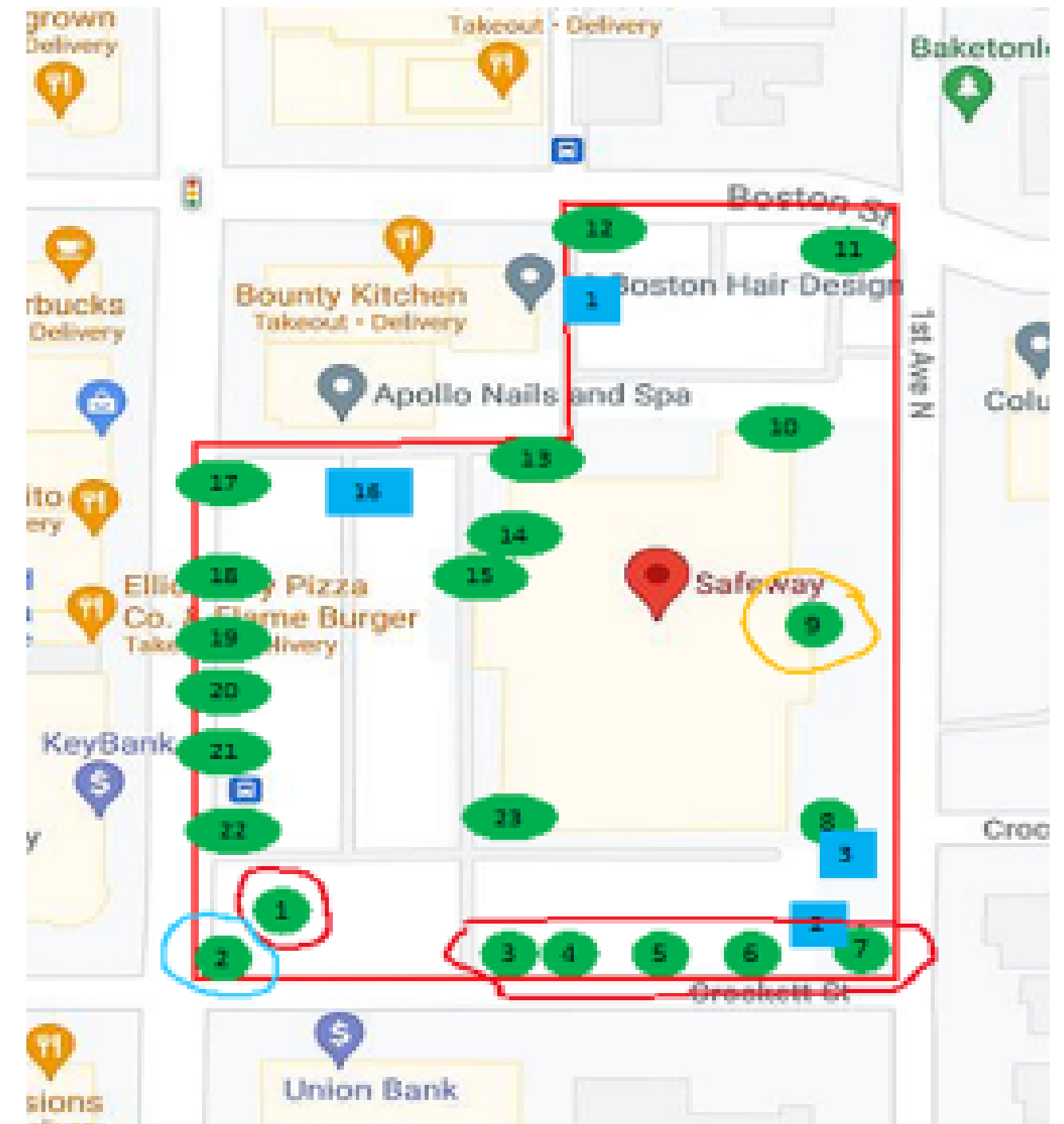
Product monitored and used in diminishing volumes until expected population reduction is achieved



Queen Anne Demo Permit Demonstration Case Study

Case Study: Queen Anne Safeway / Twenty-One Boston Apartments

- City requires a “rodent abatement” before demolition
- First poison free demo permit abatement ever!
- Dense urban core with known rodent population
- Achieved 91% reduction of rat population by demolition
- Contractor reported not seeing a single rat in the vacant Safeway prior to demo; leading to happy nearby neighbors



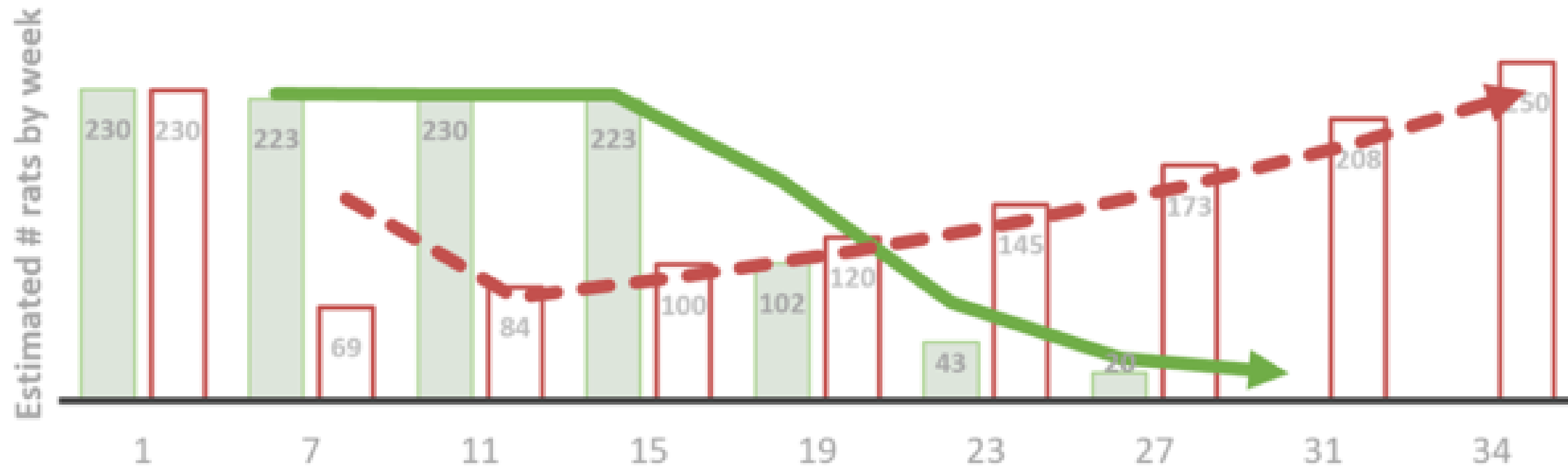
Safeway / TWENTY-ONE BOSTON Challenges

- Bait shyness
- Encampment in bushes, steady flow of litter
- Ample food sources



Rodent Control That Lasts

Fertility control outperforms poison
at Seattle's 21 Boston rat abatement site



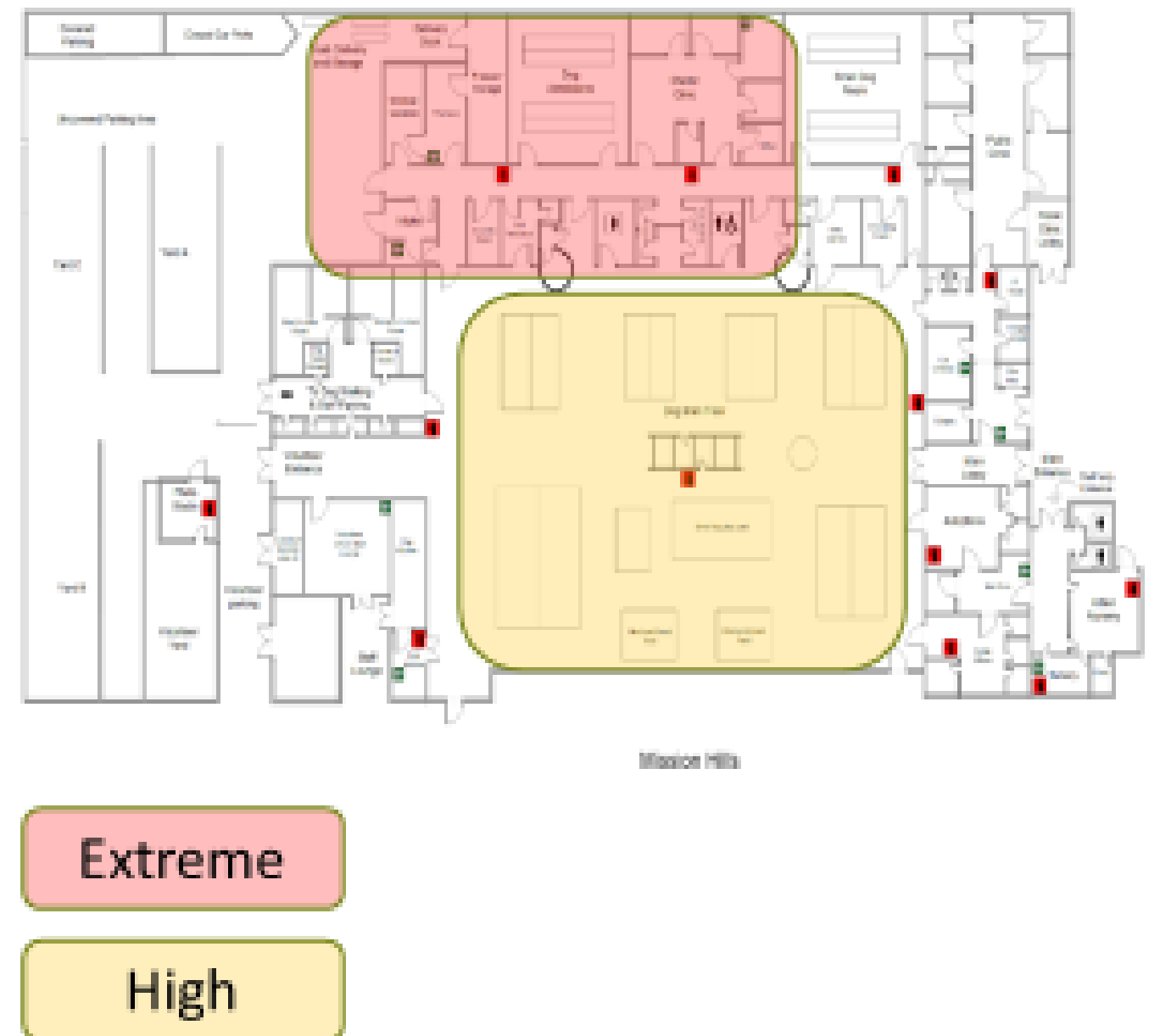
- ➔ Avg # rats using actual fertility control data
- - ➔ Avg # rats expected using traditional poison model

Source: FYXX Foundation

Approach Based on Peer-Reviewed Methodology Published Study of L.A. Animal Facility

- Early testing site for real-world application of fertility control
- Required strict scientific protocols
- Weekly monitoring
- Demographic tracking of the feeding rats
- Aggressive trap placement, including ceilings
- Field cameras for population demographics and behavioral observation

Mapping rodent populations



Counting Rats?

Tagging and counting rats isn't practical. So how do we measure success?

$$\begin{array}{ccc} \text{Product} & & \text{Activity on} \\ \text{consumed by} & + & \text{cameras} \\ \text{station} & & \text{correlated to} \\ & & \text{stations} \\ & = & \\ & & \text{Estimated rodent} \\ & & \text{population per} \\ & & \text{station} \end{array}$$

Engeman RM. Indexing principles and a widely applicable paradigm for indexing animal populations. *Wildlife Research*. 2005;32: 203-210.



Take Action

San Francisco Can Lead the Way



01

Municipal Pest Mgmt

Require pest control operators to offer poison-free options in pest management bids

02

Demo Permits

Use rat birth control for more effective & humane population management for demolition permits

03

Waste Management

Incorporate animal-proof garbage cans into waste management processing

04

Leverage RATS

Use our free outreach materials to educate the public.

Rat Birth Control Products

Evolving Technology Coming Online



Good Bites

wisdomgoodworks.org

Patent-Pending Plant-Based Pellets

From the Galapagos Islands to grain production in the SW U.S. their goal is to have a profound impact on saving endangered species, ensuring more food security, and **humanely** controlling animal overpopulation around the world.



Primal Rat Control

primalratcontrol.com

Liquid Contrapest & Pheromone-Based Lure

Long-time pest control operator Randy Witten designed a specialized bait station that uses sunflower seeds and is ideal for gardens.

Useful Youtube Video Channel
[@RandysPrimalRatControl](https://www.youtube.com/@RandysPrimalRatControl)



The Future

Additional Solid Bait Products

In development. Stay tuned.

raptorsarethesolution.org/preferred-pest-control-products/

Connect With Us

Contact Information



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To report poison violations:
Agriculture Commissioner
Cree Morgan 415-252-3830



raptorsarethesolution.org



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Thank you!

