

The background features abstract, overlapping green geometric shapes in various shades, including light lime green, medium green, and dark forest green, creating a modern, layered effect.

Integrated Pest Management at PVR and elsewhere

Miriam Sachs Martin, Portola Valley Ranch Land Manager

Portola Valley Ranch banned the use of all rodenticides in November of 2015

- ▶ The use or application of rodenticides, animal poison, or “rat bait,” whether by a resident or by a professional pest control operator, is not permitted on Private Property or on Association Land at Portola Valley Ranch. Prohibited chemicals include but are not limited to: brodifacoum, bromadiolone, difethialone, difenacoum, strychnine, warfarin, chlorophacinone, diphacinone, zinc phosphide, and cholecalciferol.

Rodenticides may harm land values

- ▶ PVR homeowners approved this ban in part because rodenticides don't enhance land values.
- ▶ By harming pets, humans, and predators, rodenticides degrade the functioning of a healthy environment - part of the reason why people buy property in Portola Valley to begin with.
- ▶ Upholding a healthy ecosystem may be beneficial to property values.

Integrated Pest Management

- ▶ “IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.” (UC IPM, 2016)
 - ▶ Pest identification
 - ▶ Monitoring and assessing pest numbers and damage
 - ▶ Guidelines for when management action is needed
 - ▶ Preventing pest problems
 - ▶ Using a combination of biological, cultural, physical/mechanical and chemical management tools
 - ▶ After action is taken, assessing the effect of pest management

How to start

- ▶ Identify your pest
- ▶ Identify your target
- ▶ If you don't have a target you don't have a problem
 - ▶ 1. Can you remove the target?
 - ▶ 2. Can you exclude the pest from entering?
 - ▶ 3. If the pest is already at the target, how can you most quickly and efficiently kill it, and then how can you prevent further pests from arriving?

Plants

Installing plants in wire gopher baskets can prevent gopher damage. Because pre-fabricated gopher baskets are expensive, it's more cost-effective to assume some pest attrition of small and cheap plants, and reserve the baskets for large or special plants.



Image from Arbico Organics

Squirrels are kept out of the vegetable garden at De Anza with wire mesh.



Use a castor oil based gopher / mole repellent liberally in the soil when planting. Also use deer repellent on any fresh plants.

Trees

- ▶ Prune trees up from ground and away from houses
- ▶ Eliminate lateral runways that critters can use to hop from tree to tree or tree to structure
- ▶ Do not leave fallen or ripe fruit on or near tree
- ▶ Use baffles
- ▶ Kill trap at tree base when necessary



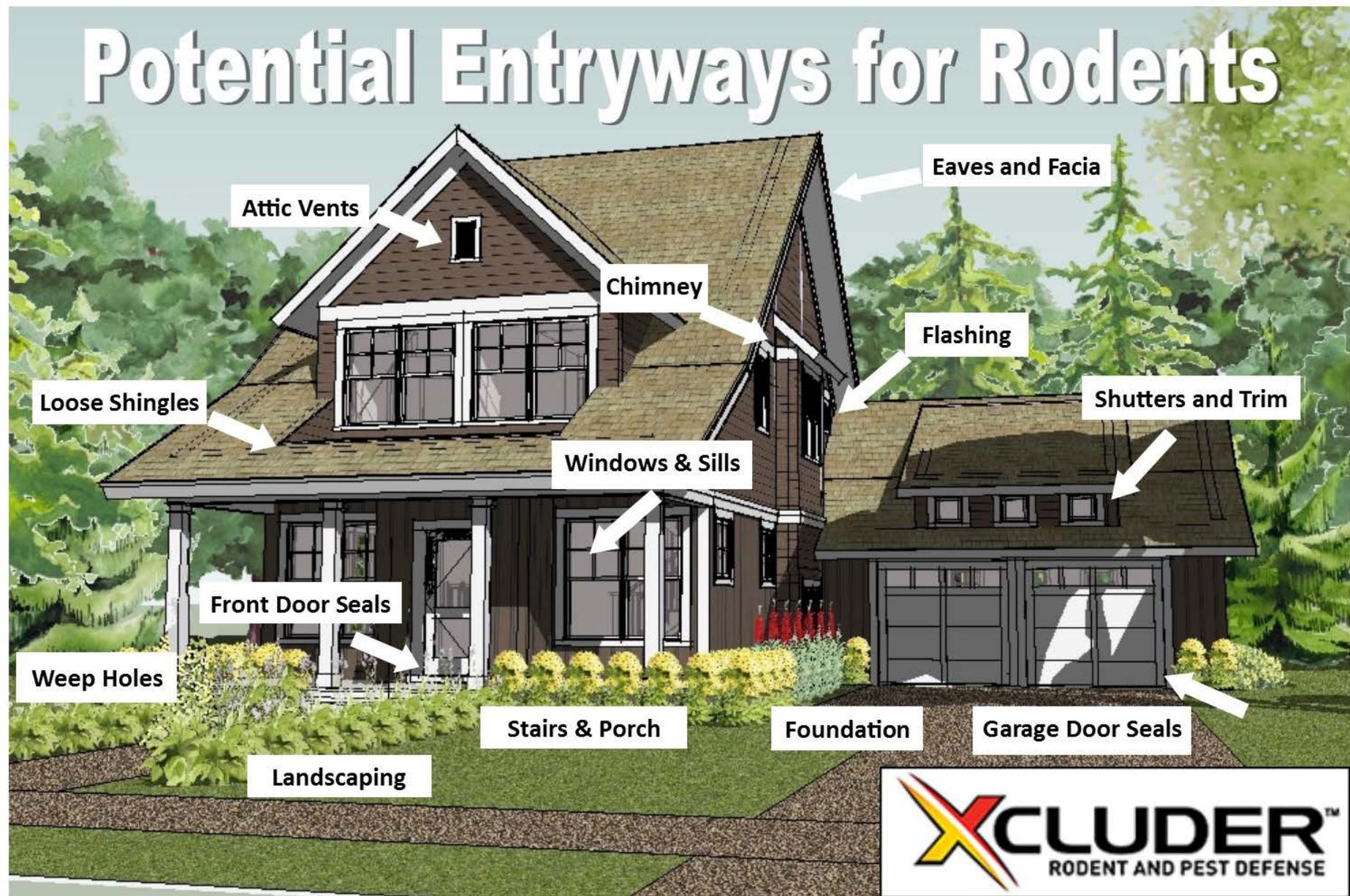
Remember, if you have no target, you have no problem. This ground squirrel "baffle," constructed by Groundskeeper Sergio Mendoza, prevents squirrels from raiding the orchard at PVR.

Pet stuff

- ▶ Do not leave free-fed pet food / water outside or in garage if possible. Feed your pet and then remove its food once it's finished. Do not leave bags of pet food on floor of garage even if unopened. Store all pet food and birdseed in airtight containers.
- ▶ Regularly sweep up fallen birdseed. Install baffles and seed trays on your bird feeders. (Google: how to make a bird feeder baffle for info on making your own.) Consider switching to habitat gardening and installing bird nesting boxes instead.
- ▶ Use low / no mess bird feeding options such as pre hulled or shelled seeds, sunflower hearts, cracked corn, also suet (as long as it doesn't melt). Great ideas at Wild Birds Unlimited website: <https://marin.wbu.com/content/show/45387>
- ▶ Promptly pick up pet feces in yard, rats are also drawn to it.

Homes

- ▶ Rodent exclusion in homes is complex and beyond the scope of this presentation.
- ▶ Tons of resources available online with simple Google search.
- ▶ One good resource: www.domyownpestcontrol.com/how-to-rodentproof-your-home-a-401.html



Kill Trapping

- ▶ Target removal and exclusion is the first step of IPM. However, sometimes you have pests already at the target that you need to deal with.
- ▶ *Live trapping is never an option.* Nobody wants your squirrels and mice. Bringing them to a nature preserve could at best create an ecological imbalance, and at worst introduce species and diseases that are fatal to indigenous fauna.
- ▶ Kill trapping should be done as quickly, efficiently, and humanely as possible (no glue traps please!) You can hire a professional trapper if you are too squeamish to do this yourself. Do NOT use poisons because you cannot bear to see death - poisons create a longer, slower, far more cruel death in the long run.
- ▶ I've heard good reviews about three kill-trap products from PVR Residents.

Three kill traps - all available on Amazon

- ▶ **Maccabee Steel Rodent Trap**
- ▶ Tricky to set, Effective
- ▶ Use outdoors on gophers and moles (with moles, ask yourself what is the target? They make unsightly burrows but are omnivorous and may not be doing a lot of actual damage to your yard.)
- ▶ If you have a gardener, flag traps so that your gardener won't lose fingers.

- ▶ **Victor Rat Zapper**

- ▶ Use indoor or out, for rats and mice.
- ▶ Easy to set, electronic, effective, you do not have to see the carnage. ;)



- ▶ **Ground squirrel tube traps**

- ▶ Use outdoors, for ground squirrels.
- ▶ Easy to set, mechanical, very powerful. Be careful when setting, flag traps.
- ▶ Pull traps at night to avoid catching skunks.

Thank you!

This mountain lion lives in Griffith Park, CA, and was one of the few to be caught, treated, and re-released. He survived his rodenticide poisoning and now wears a GPS collar so that he can be re-located if necessary. Image from National Park Service.

