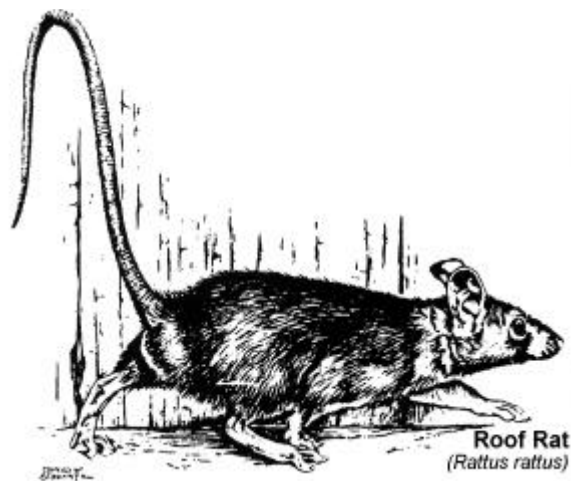


# *Rats*

## *Prevention*

## *And*

## *Control*



**The Roof rat** (*Rattus rattus*) is a major problem species in California. This agile rat is slender with the tail longer than the head and body combined. Roof rats frequently enter buildings and move about neighborhoods by using utility lines and fences as runways. The roof rat prefers to feed on many of the fruits, nuts, seeds, ivy, and pet food commonly found in residential backyards.



Norway Rat  
(*Rattus  
norvegicus*)

The Norway rat (*Rattus norvegicus*) is found along the shoreline in much of urban California, where it inhabits the riprap of jetties, and is also a subterranean inhabitant of sewer systems in many urban areas.

The Norway rat is slightly larger than the roof rat with a heavier, bulkier body. The eyes and ears are comparatively smaller than the roof rat's and the tail is shorter than the combined head and body length. This species nests in underground burrows and will feed on discarded fish, fish bait, garbage, meat scraps, pet food and cereal grains.

**Rats and their fleas** are capable of transmitting a variety of human diseases. Among the diseases transmitted by rats, *bubonic plague* is perhaps the most serious. Your County Vector Control District monitors for outbreaks of plague, though our *goal is prevention*. The potential of such outbreaks could increase if rat populations are allowed to increase unchecked.

*Murine typhus* is another rat-borne disease that exists in certain areas of California. This disease, like plague, can be transmitted by rat fleas. Rats also may be involved with the transmission of a variety of filth diseases in areas having poor sanitation.

**Roof rats may establish nests in these areas:**

- Italian cypress
- Bougainvillea
- Oleander
- Yucca
- Palm trees

## Roof rats and Norway rats may establish nests in :

- Algerian ivy
- Other heavy shrubbery
- Wood and lumber piles fig. (A)
- Storage boxes
- Utility sheds
- Rubbish piles

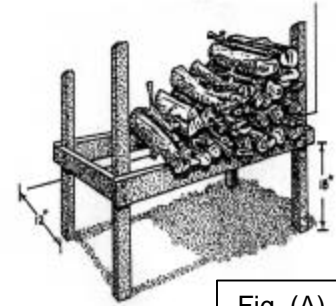


Fig. (A)

## Roof rats prefer to feed on :

- Oranges
- Avocados
- Natal plums
- Other ripe fruits
- Walnuts
- Pet food left out at night
- Snails
- Bird and grass seed

## RECOGNIZING RAT ACTIVITY

*Residents should be alert for these signs of roof rat activity:*

- Damaged, partially eaten oranges, avocados, or other fruits. (fig. B)
- Broken snail shells under bushes, on fences, or near nesting sites.



Fig. (B)

- Signs of gnawing on plastic, wood, or rubber materials.
- Greasy rub marks caused by the rat's oily fur coming in repeated contact with painted surfaces or wooden beams. (fig. C)
- Rat droppings are usually signs of significant rat activity. The droppings are randomly scattered and will normally be found close to a runway, feeding location, or shelter. Droppings are dark in color, spindle shaped, and about 1/2 inch long. (fig. D)
- Droppings found in forced air heaters, swimming pool heater covers, and water heater closets.
- Visual sightings on utility cables, tops of fences, or in trees.

Fig. (C)

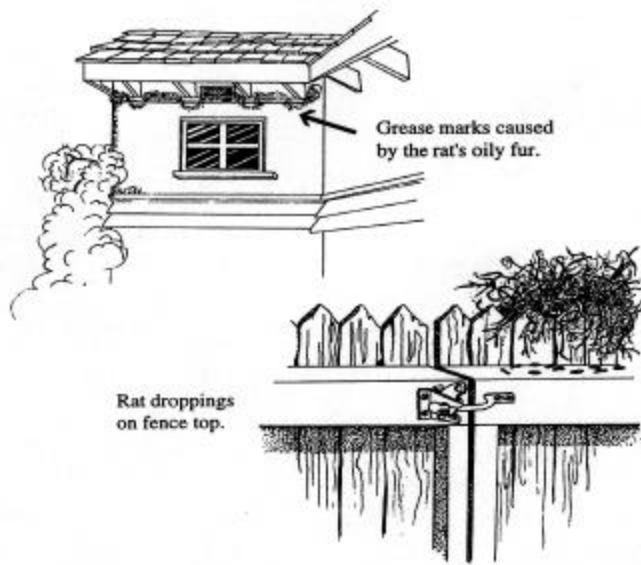


Fig. (D)

- **Burrows in the ground, and adjacent to sewer lines are signs of Norway rat activity.** (fig. E)

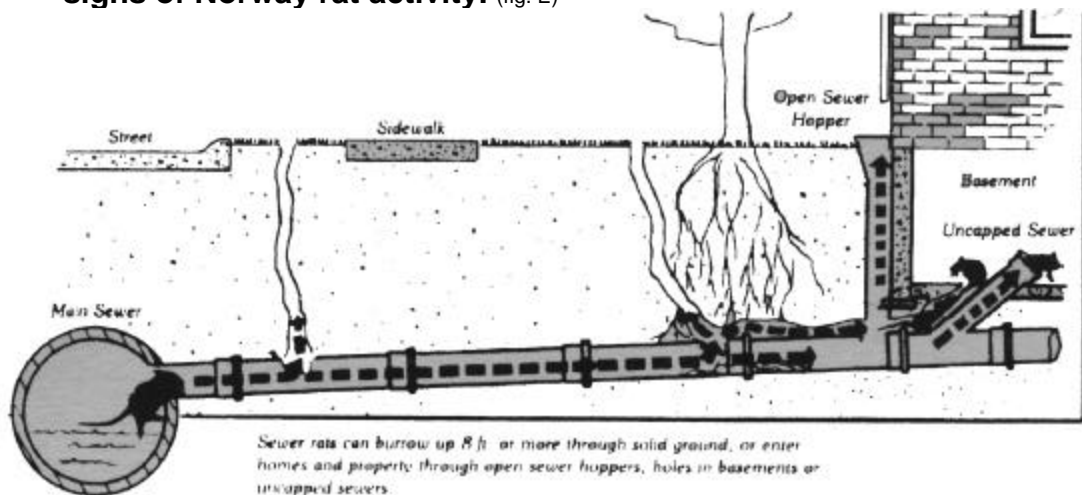
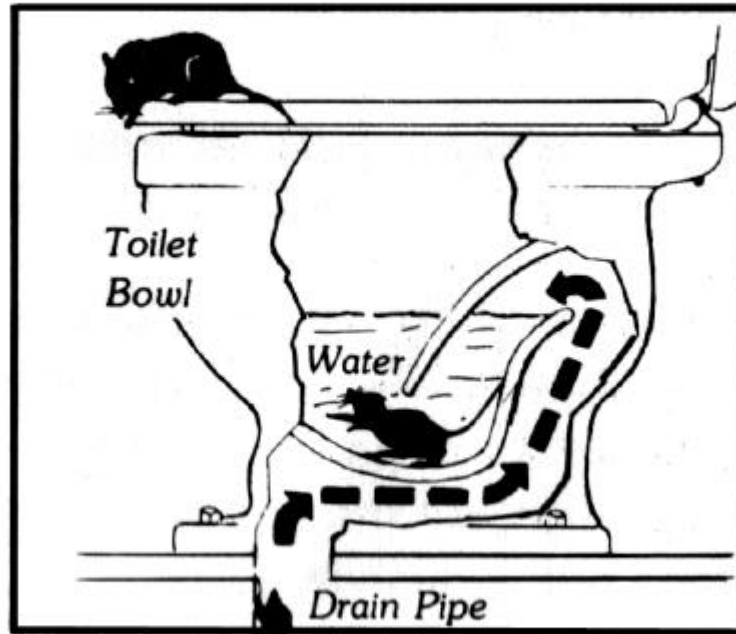


Fig. (E)

- Sewer rats can burrow up 8 ft. or more through solid ground, or enter homes and property through open sewer hoppers, or un-capped sewers.



***Norway rats may enter homes through the toilet!***

## **ENVIRONMENTAL MANAGEMENT**

**Rat survival** and prosperity is dependent upon the existence of three basic environmental conditions:

- Food
- Water
- Suitable harborage

**Good environmental management** practices supplemented by the wise use of rodenticides and traps are the most effective approaches to rat control. Sanitation and good housekeeping are the first steps in a successful rat control program.

## **The homeowner can help control rat populations by doing the following:**

*(see yard diagram)*

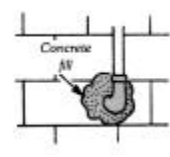
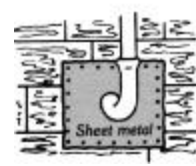
- Harvest oranges, avocados, peaches, apricots, plums, walnuts, and tangerines as soon as they ripen. Pick up all fallen fruit. Never leave uneaten pet food outside overnight.
- Keep pet food in sealed metal containers if stored in the garage or other outbuildings.
- Keep palm trees and yucca plants well trimmed. Algerian ivy, oleander, bougainvillea, and other thickly matted plants should be periodically thinned and trimmed well away from roofs, walls, fences, utility poles, and trees.
- Store wood and lumber piles on racks at least 18 inches above the ground and 12 inches away from walls. Storage boxes housed in utility sheds should be stacked close together in an orderly fashion.
- Piles of debris should be removed.
- Repair leaky faucets and eliminate any other unnecessary standing water.
- When renovating the yard or planning new landscaping, undesirable landscape vegetation should be eliminated from the plans and replaced by vegetation types that do not afford harborage to rats. A list of alternative landscaping plants (e.g., ground covers) is available from the District upon request.

## **BUILDING MAINTENANCE**

Rats can enter a home through small exterior openings of less than one inch in diameter. Important steps a homeowner can take to exclude rats are inspecting and repairing:

- basement windows and ventilation ports

- attic vents and louvers
- gaps between roof and chimney
- vent pipes and shafts
- tile roofs along the eaves



**All access openings** should be screened with 1/4 inch galvanized hardware cloth and inspected at least once a year for condition. Gaps around pipes and electrical conduits should be sealed. Also cracks around doors and windows should be weather proofed. Tree limbs should be kept well away from the eaves, roof, and exterior walls of the house.

## CONTROL

**TRAPPING:** Rat traps may be used in the yard and inside buildings with good results. Wood snap traps are inexpensive, give positive results, and eliminate the possibility of a poisoned rat dying in an inaccessible area. Rat carcasses within a home can be a serious odor problem. Several traps may be set at once for maximum effectiveness. The following baits are most attractive to rats:

- Peanut butter mixed with oatmeal
- Bacon
- Nutmeats
- Pieces of apple
- Chocolate candy

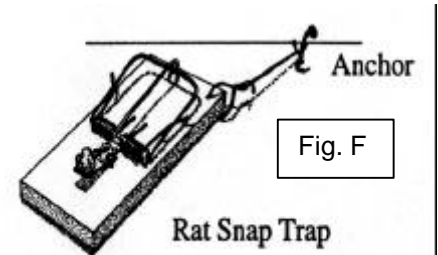
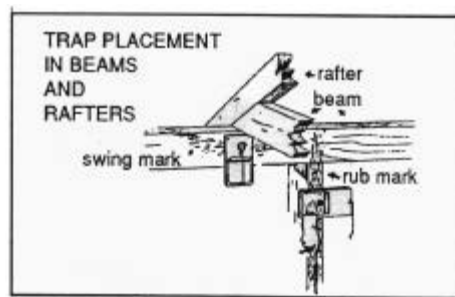


Fig. F

**Baits** should be kept in fresh condition for best results, and must be securely fastened to the trigger.

**Traps** should be placed along known rat runways such as fence tops and walls, where rat activity is evident. Securely anchor traps to an immovable object to keep any trapped animals at the placement site. (fig. F)

# FOLLOW ALL LABEL DIRECTIONS AND PRECAUTIONS WHEN USING ANY PESTICIDE!

**CHEMICAL CONTROL:** Most rodenticides presently available for rat control are anticoagulant formulations that require several consecutive feedings to reach a lethal level in the rat's blood. If the homeowner wishes to purchase rodenticides, many commercial brands are available at farm supply stores, nurseries, and hardware stores.

A **County Vector Control District Technician** can advise the homeowner on trap placement, bait choice and effectiveness, and other rat control information upon request. Should the homeowner wish to seek the advice and assistance of a licensed pest control operator, the classified section of the telephone directory may be consulted under the heading "Pest Control."



**Trapping and chemical control alone will not** achieve long term, permanent rat control. If the rats can be controlled and conditions that allow them to reproduce are removed, then we have achieved a longer lasting control. After the harborage has been removed, your property should be maintained harborage free so that then rats will not find the property attractive for reinfestation. Most people are capable of controlling rat problems if given the proper direction. *The District is asking you to remove any conditions on your property that allow rat harborage.* The continued maintenance and removal of harborage is recommended after the rats are controlled. At the same time, we are inspecting the neighborhood to find other properties with rat harbor-age.

**REMEMBER:** *The owner of property on which rats or rat harborage is found is responsible for the abatement and control of the problem!*

**What else can you do?** An effective way to get rid of rats on your block is to work together with your neighbors. Organize and call the people on your block together and as a group, you can make a commitment to make your neighborhood a place where rats cannot survive. Remember if your neighbor has rats, you have rats! Your County Vector Control District may arrange a speaker for your neighborhood and provide fliers or brochures.



