

Integrated Pest Management for Rat, Mice, and other Rodents at Thurston County's Buildings and Facilities

Thurston County owns and manages many buildings throughout the county. Many of these buildings are over 30-40 years old, and others are very new. All of our buildings and associated facilities have the potential to have pressure from outdoor rodents wanting to come indoors. These pests need to be controlled because they are a potential health hazard and because they have caused damage to building material and facility equipment.

Rodent control using Integrated Pest Management means the County will monitor its facilities and use several techniques to reduce the favorable environmental factors that promote rodents and their ability to thrive (food sources and harborage). It is the goal of County personnel to maintain an environment that discourages rodent populations. The Waste and Recovery Center (County landfill) has a site-specific rodent control prescription that is applicable to that site only – this prescription does not cover the Waste and Recovery Center.

Description

The main rodent of concern for the County is the rat but mice occupy County buildings to a lesser degree and occasionally require control. The most common rats in Thurston County are the Norway rat (*Rattus norvegicus*) and the roof rat (*Rattus rattus*). The roof rat is relatively new to Thurston County and the population has been growing at an exponential rate. Roof rats are projected to be a significant problem in the future. Norway rats have been in Thurston County since sailing vessels entered the port. Their populations are not expanding however nearly as quickly as the roof rat's. Behavior patterns and fecal matter help distinguish between the types of rat. Control methods are very different for each species. Roof rats tend to have overhead travel (power lines, trees, etc.) and harborage (attics, between walls, etc.) as part of their behavior. They often live secretly in a structure and go undetected until their populations are high. Norway rats tend to live in underground burrows and travel mainly across the ground.

Monitoring

Inspection and awareness of rodents shall be continuous during daily operations. Norway rats will create burrows along building foundations, under concrete slabs, near bushes or vegetation. Roof rats often live above ground within trees and will live along with Norway rats within accessible buildings (within insulation, between walls, or other hiding areas). Employees will notify the Central Services Facilities Division when visual evidence of rodent activity occurs. Visual evidence consists of any of the following; seeing a rodent, droppings, damaged and contaminated insulation, burrows, gnawed building material (damaged material or small piles of wood shavings or insulation), partially eaten food with rodent droppings, etc. After signs of rodents are observed, it is important for the County (Facilities Division) to clean up the area and remove any contamination so that future monitoring of the area can distinguish between past activity and ongoing activity. When rats are presumed to be living within a building (or are especially difficult to trap), ultraviolet light can be used to help identify the main travel routes and areas most frequented by the rats (because their urine will fluoresce in ultraviolet light).

Threshold of Concern

Control efforts will be made when unacceptable rodent activity is observed in County buildings. Unacceptable levels of rodent activity include; any visible signs of rodent activity within a habited building (offices toll booth, other heated building, etc.) or uninhabited building areas (sheds, garages with bay doors, vaults, etc.). Unacceptable levels of rodent activity in unoccupied areas may be tolerated unless there is visual sighting of rats in the daytime (activity that implies high populations in the area) or harborage (nest) is found.

Control Strategies

The most important measure in the controlling of rodents is implementing prevention methods. This involves sanitation, exclusion, and reducing harborage. These methods of control should take place on all buildings because all County structures are subject to infestation.

Sanitation

1. All edible food (lunches and snacks) will be stored in rodent proof containers not in desk drawers.
2. Spilled or uneaten food will be cleaned up and removed from eating areas by the end of each day.
3. Garbage cans in eating areas will be emptied daily or have tight fitting lids.
4. There will be no garbage cans for food waste in uninhabited buildings.
5. Exterior garbage areas will be kept clean and free of organic debris on the ground.
6. Fruit trees will be free of fruit fallen on the ground during the summer and fall.
7. Birds, squirrels and other wildlife will not be fed within 200 feet of any County building.

Exclusion

In occupied buildings, all areas of potential access by rodents should be identified and sealed.

1. Repair/seal any cracks or small holes ½ inch in diameter or larger in the foundation, walls, near windows, around pipes and cables entering building, in and around air vents, etc.
2. Repair broken windows and doors – ensure door seals are tight for any inhabited buildings.
3. Repair screens and cover foundations vents with rodent-proof screen material (1/4 inch).
4. Repair material should consist of metal sheeting, steel wool, durable steel mesh screen (with holes ¼ inch in diameter), concrete mortar or appropriate patching compound.
5. Around building foundations and concrete slabs where burrows are found – a one foot wide, one foot deep strip of pea gravel can be used to help to reduce the potential for future burrowing.
6. A three foot buffer should exist between buildings and vegetation. Trees should be pruned so that they are not in contact with building wall, eaves, or roofs.
7. Regular inspection and reporting of the exterior of buildings to determine new potential rodent entry points, habitat, or visible rodent activity will be performed at least annually.
8. The base of all exterior doors will be secure enough to prevent any rodent access.

Control Measures

When exclusion and sanitation have been performed and there is still an unacceptable level of rodent activity, population control is warranted.

1. Snap traps are the preferred control option for use within inhabited and uninhabited buildings.

2. Snap traps will be utilized within a protective bait station similar to those used for chemical baiting (ex. Protecta Rat Station®). These stations will protect workers and the public from contacting the traps as well as dead rodents.
3. Snap traps should be placed along runways with the trigger nearest the wall and baited (non-chemically) for a few days prior to setting them so the rodents get accustomed to eating from them. After bait has been eaten, the traps should be re-baited, set, monitored, and reloaded until rodent activity is no longer observed.

Rodenticide Population Control

Rodenticide baits can be very effective in rodent control programs. However, they should only be administered after sanitation, exclusion measures, and trapping have been attempted for at least one month, daily visual evidence of indoor rodent activity is still occurring, and it is determined by an authorized County personnel or a licensed pest management professional that chemical control is warranted. At that time, chemical baiting can take place until the indoor rodent problem is resolved (when daily signs of rodent activity is not seen for two weeks). If there are no visual signs of indoor or exterior (within 20 feet of the structure) rodent activity, all baiting with an active ingredient will be stopped and bait stations will be emptied of rodenticide baits. If indoor rodent activity has stopped, outside chemical baiting can continue until feeding stops or until feeding levels are light. If outside rodent activity remains (continuous heavy or moderate feeding of baits), then baiting will continue for up to three months. After three months, chemical baiting will be substituted with non-chemical baiting and use of snap traps. If outdoor rodent activity continues **throughout the month of non-chemical baiting**, then chemical baiting can resume for another three month cycle (and this rotation of non-chemical baiting followed by chemical baiting can continue until feeding stops or feeding levels are light). During this chemical and non-chemical baiting process, the potential harborage around the area should be evaluated and eliminated if possible.

All chemical baiting shall be used in accordance with the Rodenticide Control Pesticide Rules established by the Washington State Department of Agriculture (WAC 16-228-1380). Since these baiting practices are expected to be short in duration, the County will utilize second-generation anticoagulant active ingredients for baiting because they are currently the most effective on the market and all rodenticide active ingredients on the market are considered high in hazard for non-target toxicity, so a less hazardous option is currently not available (as of the year 2012). The following steps will also be undertaken by County personnel or hired contractor whenever chemical baiting is performed on County property;

1. All chemical rodenticides will utilize anchored baits within a weather resistant bait station.
2. All chemical bait stations will be tamper resistant with keyed access and will be anchored in place.
3. All chemical baits will be formulated into a wax or paraffin block to minimize the chance for rodents to remove it from the bait station.
4. All bait stations will be monitored frequently throughout the baiting process to remove dead animals and maintain fresh bait.
5. Chemical bait stations will be emptied of all chemical bait after rodent activity has been reduced to acceptable levels.