Rats

Rats threaten ecological values within New Zealand's forest parks and reserves. They also damage crops, contaminate stock feed and can cause extensive damage to buildings while posing risks to human health. There are three species of rat present in New Zealand: kiore, ship rat and Norway rat.

Ship and Norway rats are widespread throughout the Bay of Plenty region, while the kiore is only found on a few islands off the Bay of Plenty coast. Although kiore present a threat to some of New Zealand's native flora and fauna, they have a relatively small impact compared with the more aggressive ship and Norway rats.

Norway Rat
(Rattus norvegicus)

Norway rats were the first of the European rodents to become established in New Zealand. They came ashore in the late 18th century from North American and European sailing ships. Norway rats are now well established throughout New Zealand.

Habitat

Wild populations of Norway rats are now mainly associated with wetland habitat such as rivers, streams, lakes, lagoons, swamps and estuaries. They will also occupy buildings where there are suitable nesting conditions and an adequate food supply. Favoured habitats include landfills, sewers, sea walls, wharves and industrial areas where food is processed or stored. On farms they are found in pigsties, poultry yards, granaries, stores of stock food, cereal and root crops and along irrigation or drainage ditches.

Norway Rat (Rattus norvegicus)

Description

The Norway rat is the largest rat in New Zealand often weighing between 150–300 g, but can grow to more than 500 g. It has a short body and a heavy tail, which is slightly shorter than the combined length of the head and body. The coat of both sexes is coarse and quite shaggy, greyish brown on the flanks with a darker brown along the back. The stomach and throat are pale grey.

Norway rats are competent swimmers and are commonly called "water rats". This ability enables them to colonise lake or offshore islands. In favourable conditions a crossing of 600 metres is possible. They can also jump up to 77 cm vertically or 120 cm horizontally. Sexual maturity is reached within two to five months, and the average litter is seven to eight young. They have between three and six litters per year.

Field sign

Norway rat droppings are up to 20 mm in length and 6 mm in diameter. Droppings vary in shape and are roughly twice the length of other rat pellets. Norway rats will excavate burrows 60–90 mm in diameter in sloping ground by watercourses, or beneath rocks and tree roots. There may be well-worn 'runs' connecting feeding areas with burrows. Remains of food are sometimes scattered about burrow entrances.

Damage

Norway rats are omnivorous and eat a wide variety of vegetation and carrion. They also prey on bird nests, stealing eggs and killing fledglings. Seeds and fragments of other foods are often carried away to be eaten under cover or hoarded. Norway rats will chew through anything softer than the enamel of their teeth. They can damage building materials and create a potential fire risk by chewing the plastic insulation on electric wiring.

Ship Rat *(Rattus rattus)*

The initial spread of ship rats in New Zealand was slow because the more dominant Norway rat was already well established. Ship rats are now the most extensively distributed of the three rats present in New Zealand.

Description

The ship rat has a pointed muzzle, large eyes and ears.

The tail is longer than the combined length of the head and body. The body is quite sleek, with a scaly, sparsely haired tail. Ship rats are smaller than Norway rats weighing between 130–170 g.

Ship rats are usually clean, well groomed animals with smooth fur.

There are three colourations: black to slate grey; tawny above and grey-white below; or tawny above with white to lemon belly colouring.

Field sign

Ship rats are one of the most common mammals in New Zealand, but being shy and nocturnal they are seldom seen. Ship rat habitat is similar to that of Norway rats but ship rats are more common in forested areas. They are excellent climbers and able to better exploit bush habitats than Norway rats.

Ship rats do not dig burrows, but like the Norway rat will hoard food. Eaten native seed such as miro and hinau will have a small hole chewed in one end and the contents removed.

Ship rat droppings are smaller than Norway rats and more regular in shape, average length being 8–10 mm. They reach sexual maturity at the same age as Norway rats and have similar litters.

Damage

Ship rats are also omnivorous yet they can be very selective feeders. When living in association with man, they will feed on almost any animal or grain product, fruit or any edible stored product, as well as refuse.

In native forests they eat a wide range of plant and animal material, although their diet changes with the seasons. Ship rats eat most seeds, fruits and invertebrates, and will prey on bird nests. Like the Norway rat, ship rats can also damage building materials.

Control

There are a number of options for rat control. These include the use of traps and poison. Many types of baitstations are also available to use with poison baits.

For control of small numbers of rats living in buildings consider using traps. Use of poison alone in these situations may result in rats dying out of reach where they will smell as they decay.

For control of large infestations the most effective control will be provided by the use of poison.

For a rat control programme to be effective it must include these three steps:

1. Elimination of cover that might harbour rats.
2. Sanitation and the removal of potential food sources.
3. Rat proofing of buildings.

Poisons

Before using any poison read the poison label and comply with all handling instructions, ensure that you understand symptoms of poisoning and the recommended first aid treatment.

Most of the available poisons for rat control are anticoagulants. These require feeding over several days. The rat dies within five to ten days from eating the bait.

Lay baits in secure places away from all children and pets. Bait stations should be used to protect baits from weather and prevent access by other animals. These are available in a variety of models for rats and mice.

Baits should be placed along walls or in ceilings if rats are present. If you are controlling rats outside, place baits near ‘runs’ or burrows. Other good bait areas include the edges of drains or waterways, and near possible food sources. If extensive burrowing is present, rats can be controlled by fumigation. For further information on fumigation see Bay of Plenty Regional Council’s *‘Rabbit control options’* booklet.

Undertaking rat control over a large area, particularly at a forested site, requires technical knowledge of the species, method, and toxin being used. If you would like assistance in developing an effective control programme please contact a Bay of Plenty Regional Council Land Management Officer to discuss further.

For more information contact a Bay of Plenty Regional Council Land Management Officer.

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