

# Rodent incursion response



## Responding to probable or definite signs of rodents

**Probable signs of rats and mice** include clear toothmarks on monitoring tools or other items, droppings, footprints, predated birds or other clear feeding sign, shipwrecks, inconclusive photographs, or partial or brief sightings made by people familiar with rodents.

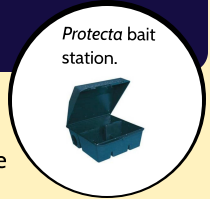
**Definite signs of rats and mice** include carcasses, clear photographs and clear sightings made by people with experience of rats or mice.

## Follow these 10 actions

	Action
1	<ul style="list-style-type: none"> <li>Contact your relevant decision makers.</li> <li>Contact the 'Biosecurity for LIFE' team, for guidance and support. Head to 'Need expert advice?' section on the website. <b>The team are here to help.</b></li> </ul>
2	<ul style="list-style-type: none"> <li>Deploy bait stations in grid 500m in all directions from location of sighting with surveillance stations every 50m (over an area of 1000m x 1000m or 100ha).</li> <li>These bait stations can be commercially available plastic bait boxes (<i>Protecta</i> stations) or the custom made 75cm waste pipe stations (used in most UK rat eradications).</li> </ul>
3	<ul style="list-style-type: none"> <li>Wire <b>three blocks of rodenticide</b> into each bait station.</li> <li>This includes any surveillance stations already out, switching their non-toxic wax surveillance blocks for rodenticide.</li> <li>Increase surveillance and add bait in areas likely to be utilised by invading animals (buildings and seabird colonies).</li> </ul>
4	<ul style="list-style-type: none"> <li>Check for sign in areas identified above.</li> <li>Use trail cameras in any areas with active sign to confirm the presence of rodents.</li> <li>If confirmed, place snap traps inside bait stations (kill traps e.g. <i>Trapper T-Rex</i> traps) at the site (in addition to the bait stations) and run for five nights.</li> </ul>
5	<ul style="list-style-type: none"> <li>Replenish bait as necessary to ensure a fresh supply is always available – we want the bait to be the most attractive food available to rats on the island and mouldy or damp bait is far less appealing.</li> </ul>
6	<ul style="list-style-type: none"> <li>Full island check carried out by conservation detection dog.</li> </ul>
7	<p><b>Stations should be checked over a seven-week period;</b></p> <ul style="list-style-type: none"> <li><b>Daily for the first week</b></li> <li><b>Twice weekly for the next two weeks</b></li> <li><b>Weekly for the next four weeks.</b></li> </ul>
8	<ul style="list-style-type: none"> <li>After the first two weeks of poison baiting, set up surveillance points halfway between each bait station and place flavoured wax (in the open, pegged in place with a piece of wire) and/ or tracking tunnels at each. Check with the same regularity as bait stations.</li> </ul>
9	<ul style="list-style-type: none"> <li>If no further sign is found <b>return to normal levels of surveillance after seven weeks.</b></li> </ul>
10	<ul style="list-style-type: none"> <li>Enter bait take, trap and surveillance check data into a suitable database (an Excel file is fine) on the day it is gathered. contact the biosecurity team to consult on whether to take further measures and to share the outcome of your incursion response.</li> </ul>

## Mitigate risks to non-target species. Use bait stations for either snap (kill) traps or rodenticide bait.

- Some of the techniques for surveillance and incursion response can pose a risk to non-target species, both those native to the island and domestic animals kept by islanders.
- Whether you use snap traps or rodenticide bait, you need to place them in stations (e.g. *Protecta* bait station, image right) to reduce risk to non-target animals.



Species	Risks	Mitigation
Native bird species	<ul style="list-style-type: none"> <li>Rodenticides are toxic to birds.</li> <li>Secondary poisoning due to ingestion of poisoned rodents is possible.</li> <li>Secondary poisoning via ingestion of invertebrates is possible but has not been shown to be a major risk in studies on UK islands.</li> </ul>	<ul style="list-style-type: none"> <li>Rodenticides should only be used in bait boxes or traps which exclude the majority of birds.</li> <li>Rodenticide blocks are unlikely to prove attractive to birds</li> <li>Any bait crumbs found outside the boxes should be removed and disposed of</li> <li>Carcases should be removed and disposed of to reduce risk of secondary poisoning.</li> </ul>
	<ul style="list-style-type: none"> <li>Snap traps could injure/kill birds.</li> </ul>	<ul style="list-style-type: none"> <li>Snap traps should only be used indoors in buildings that cannot be accessed by birds.</li> </ul>
Cats and dogs	<ul style="list-style-type: none"> <li>Rodenticides are toxic to mammals.</li> <li>Secondary poisoning due to ingestion of poisoned rodents is possible.</li> </ul>	<ul style="list-style-type: none"> <li>Rodenticides should only be used in bait boxes or traps which exclude cats and dogs.</li> <li>Any bait crumbs found outside the boxes should be removed and disposed of.</li> <li>Carcases should be removed and disposed of to reduce risk of secondary poisoning.</li> <li>Antidote (Vitamin K1 injection) can be offered to any individuals known or suspected to have eaten bait.</li> </ul>
Livestock	<ul style="list-style-type: none"> <li>Wax blocks may cause harm if ingested.</li> </ul>	<ul style="list-style-type: none"> <li>Wax blocks should only be used in bait boxes or traps which exclude livestock.</li> </ul>

## Equipment list



Protecta station with wax bait blocks

Item
Laminated sheets showing rodent sign (including identifying species by teeth marks left on wax blocks)
Map of island with routine surveillance etc.
Notebooks, pens, pencils etc.
Rodenticide bait (wax block formulation) suitable for use.
Bait stations (e.g. <i>Protecta</i> or pipe) to house rodenticide bait and surveillance wax blocks.
Snap (kill) traps, <i>Trapper T-Rex</i>
Flavoured wax blocks and wires for pegging them out.
Tracking tunnels, ink pads and ink
Trail cameras
Large clear plastic boxes for storing reference and detection kit



A Trapper T-Rex trap inside a Protecta station

## Rodenticide bait (poison wax blocks in bait stations)

Bait stations should contain 3 x 20g wax blocks of rodenticide bait.

- Check 'bait take' daily, replace any bait showing rodent gnaw marks (image right) so you can see 'fresh take'.

Rat gnaw marks on a wax bait block



When selecting rodenticide bait to purchase, always read the label and follow the instructions for use.

- Bait products are available to unlicensed users in containers up to 1.5kg. For an island incursion response you will need larger quantities. You and your staff will have undertaken a 'safe handling rodenticide course' and hold a certificate to purchase the bait. The Campaign for Responsible Rodenticide Use (CRRU) [thinkwildlife.org](http://thinkwildlife.org) run the stewardship scheme, oversee standards, and direct you to training materials and relevant courses.
- We recommend a second-generation toxin in wax block form (bromadiolone, difenacoum, difethialone or brodifocoum).
- A full list of rodenticide products currently authorised for use in the UK is available on the [HSE website](http://HSE website).

### Health and Safety

- Rodenticide use must be undertaken in accordance with the product label, including wearing gloves when handling.
- Antidote (Vitamin K1 injection) can be offered to any individuals known or suspected to have eaten bait.
- Dispose of used bait very carefully, it can still kill non-target species. Dispose of according to the instructions on the label, never in an open bin where it could be eaten by cats, dogs or birds. Only buy what you need to avoid stockpiles being left lying around.

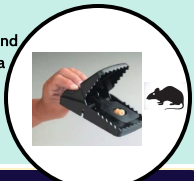
Find out more in the resource 'Rodents - Use of Rodenticide bait'.

## Snap (kill) traps

Snap traps should be placed near confirmed rodent sightings

- Setting traps inside properly fitting bait stations (e.g. *Trapper T-Rex* traps inside *Protecta* stations) increase the chances of a clean kill.
- Use a lure (peanut butter and oats is recommended)
- Ensure traps in *Protecta* stations are on a level surface (if the trap rocks, it may scare rats in particular).
- Ideally traps should be set in the evening and disarmed each morning. This will keep non-target species which are active in the daytime safe, while targeting nocturnal rats. Regular checks also mean that any rodents that haven't been killed outright can be humanely killed.
- If stations are not available, traps should always be tied to something solid to prevent injured rodents dragging the traps away, or scavengers from dragging away the dead rodent and the trap. Lengths of string or twine about 50cm long are ideal for this purpose. Make sure they are not tied to the mechanism of the trap as this might interfere with their ability to catch rodents.
- If you are unsure which rodents are present, set mouse and rat traps.

Peanut butter and oats as a lure



### Health and Safety

- Refer to guidelines for individual trap types and seek assistance if unsure. As some traps are capable of breaking a person's fingers, ensure you only ever handle a set trap from the back. Find out more in the resource 'Use of kill traps'.

## Use surveillance tools alongside traps and bait

Checking chocolate wax. Note: wax is on wire to avoid being dragged away by a rodent.



Footprint ink tracking tunnel pack [Gotcha tracking tunnel](http://Gotcha tracking tunnel)

Use surveillance tools to ensure that the bait and traps are working

If you detect rodent sign on these tools but rodents are not entering trap or bait stations, changes need to be made to your lures/location of stations to make them more attractive to rodents. Use chocolate wax (image above, left) as when rodents gnaw the wax they will leave detectable teeth marks. Use tracking tunnels (image above, right) with a lure, as when rodents walk through to eat the lure, they leave footprints. Find out more in the resource 'Rodent surveillance tools - why, what, how, when'.

## Notes on trap and bait station placement

- Bait stations and snap traps need to be carefully positioned to increase the chances that rodents will go into them (places likely to be attractive to rodents, e.g. in narrow runways through undergrowth or along linear features such as walls and big rocks).
- The stations should be positioned so that the entrance holes are next to the linear feature. Bait stations should always be secured in place using rocks, bricks, wires, metal pegs or any other means, in order to stop them being blown away by the wind or dragged away by animals.

The Biosecurity for LIFE team can support you. Head to the 'Need expert guidance?' section of the website [biosecurityforlife.org.uk](http://biosecurityforlife.org.uk) Thank you.