

Pest animal control

Result monitoring guidelines

June 2010

Monitoring lines

The methods described below are applicable for areas over 10ha in size. For smaller or narrow areas, you'll need to do the best you can in terms of fitting in a line or part of a line. The more monitoring lines you have out, the more accurate your information will be, but make the number manageable and aim to get a representative cover of the area. Choose a start point and then choose a random compass bearing to follow, then use that bearing for all other lines. The important thing is to not place all the lines along ridges or tracks or gullies so that the information you get is actually representative of the entire area.

Possums

Leg hold trap method

There is a [national protocol](#) for possum monitoring that must be followed to ensure accurate comparable results. In some cases ARC staff can conduct a monitor for you, otherwise you may need to engage a suitably qualified contractor or undertake the work yourself. Possum monitoring needs to be conducted over 3 consecutive fine nights. We are happy to provide advice and possibly equipment if you decide to undertake the monitor yourself.

Wax tag method

There is also a national protocol for the [wax tag method](#), this method **requires no specialised training and** can be easily undertaken by groups.. Wax tags are nailed to trees at a height of 300mm and in lines of 20 at 10 metre spacings. Lines should be at least 200m apart, and at least 4-6 lines are needed in areas <300ha. The more lines that are in place, the more accurate your results will be. The tags are left in place for 7 nights in areas of low possum density and for 3 nights in high density areas. Ideally the period should be over dry nights.

Tag markings need to be identified as either possum or rat. Possum teeth are larger and leave a flatter indentation compared to the smaller grooved markings of rat teeth. Both animals have a gap between their front teeth.

[Bite mark identification](#)

Markings on the tags only give a presence or absence record, not a count or percentage of presence c.f. leg hold trapping or tracking cards. For instance, a possum may chew a number of tags before realising there is no food to be had and moving away, but this will look exactly the same as when a number of different possums chewed on individual tags. Knowing what areas of presence (or absence) you have is valuable information and this type of monitoring can be carried out at any stage of a control operation to gauge its success and allow any adjustments to the programme to be made as necessary.

Rats

Tracking tunnels and cards

We recommend using tracking tunnels and pre-inked pads or cards. These tunnels should be laid out in lines of 10, each tunnel being 50 metres apart – so that one line covers a distance of 450 metres. When laying out lines, be careful to spread the lines across the area and across different slopes and habitats. Lines should be at least 200m apart and you should aim to have at least 4 lines, preferably 6, in areas <300ha. Use of a hip chain (available on loan from ARC) will ensure accurate 50 m spacings. The tunnels are normally left in the field to be used for future monitoring so the layout will only need to be undertaken once. Remember to number the tunnels and the different lines so that you will know which areas showed which results.

The method for each monitoring is to place the inked cards in the tunnels on one day and then collect them the next. This means the cards will have been out for one night – a dry night is ideal and results can be erroneously low if the cards are out on a wet night when less predator activity is likely. The cards are 'baited' in the middle with an attractant such as peanut butter. Remember to number the cards to the tunnels.

The prints can be identified with the help of the 'What made these tracks?' booklet (available from ARC) or with the help of ARC staff. Results are averaged across the cards according to presence or absence and reported as a percentage. For example if rat prints are found on 4 of 80 cards the resulting tracking index is 5%. The tracker card/tunnel system is a proven monitoring tool but is by no means an exact indication of all predators present, however to date it is the most widely used and most accurate tool available.

The cards results are likely to show other interesting data such as invertebrate prints (which can be identified) or lizard prints. Cat, hedgehog and possum prints may also be present.

In the Auckland region, we ask community groups to coordinate rodent monitoring to occur on the same weekend night three times a year. This coordination enables comparison of data around the region under similar weather and seasonal conditions.

Monitoring usually occurs on the first weekend in September, December and April. This timing should give indications of predators present at the beginning of the breeding season (and corresponding baiting cycle), mid way through the season and at the end of the season. Mid season data is essential to ensure your control methods are working, and if not, then adjustments to the control programme can be made as necessary to address the problem.

Wax tag method

As described for possums above. Special peanut flavoured wax tags are available.

Mustelids

The only methods available will give an indication of presence but are not as reliable as those for rats or possums. Mustelids are lone animals and have very large home ranges and can be difficult to detect, especially when numbers are low.

Tracking cards and tunnels can be used as above but only require one card every 100m, baited with either meat or fish. Leave the cards out for three fine nights. Lines should be at least 1km apart. It is fine to do a mustelid monitor following a rat monitor to save on labour and you may end up attracting more mustelids this way as they will be attracted to the scent of rats left on tunnels. Results are calculated as for rats but remember this result will be more an indication of the level of activity rather than a measure of actual numbers.

The trap catches recorded in your mustelid traps are also a useful monitoring tool and frequency of trapping can be used to indicate which areas need more traps or when seasonal flushes in numbers are occurring. Adjust your trap numbers or frequency of checking accordingly.