



Pest Animals Tracking & Trapping

Aims

- Introduce students to pest animals in NZ
- How they affect the ecosystem and the native plants and animals
- How we monitor for pest animals we have in our landscape
- Why we need to control pest animals, and what methods are available to control or remove pest animals from our landscape

Kia ora. Welcome to your journey of predator trapping. This guide is a basic overview of why and how we track and trap predators, the best practices and ways to record the data from your project. Trapping is not one size fits all so you may need to change things up from time to time during your project and think outside the square.

Why do we want to trap?

Aotearoa is a unique landscape which is isolated from the rest of the world, due to this we have a unique array of birds, lizards and insects that are endemic (not found anywhere else in the world), and only two native mammals, the short tailed and long tailed bats. There were no predatory land mammals until the arrival of humans.

Since we had no land predators to worry about, and an abundance of food, many of our native birds have over time lost the ability to fly. They spent more time on the forest floor where they could camouflage or freeze to avoid our flying predators such as the kārearea (falcon) and pouākai (haast's eagle). These predators often hunted other birds



during the day, which meant a lot of our flightless birds also adapted to nocturnal activities to avoid becoming dinner.

Humans introduced predatory land mammals such as rats, stoats, ferrets, hedgehogs, cats, and possums, and this changed things. These land mammals have an amazing sense of smell and meant our flightless birds could not just freeze or hide from them. So they are vulnerable to predation and we are seeing them decrease in numbers.



Possum



Rat



Ferret

Pest animals

One way in which you can help our native biodiversity, including insects and lizards, is to trap these predators. We have to remember that although we class these animals as pests, it is not their fault they are here and gorging on our native fauna which are easy targets. When we are trapping, we need to be respectful and kill them quickly so they do not suffer.



Kiwi



Gecko



Powelliphanta (carnivorous) snail

Unique NZ wildlife



This kit can link to the following NZ curriculum (2026)

Curriculum Links	Activities and ideas
Science (2007) <i>Nature of Science</i> - Investigating in science: Students use tracking tunnels and chew cards to gather evidence of pest activity. <i>Living World</i> Level 1-2: - Recognise that all living things have certain requirements for survival. - Explore how living things are suited to their environment. Level 3-4: - Explain how introduced species affect native plants and animals. - Understand relationships between living things and their environment (e.g., food webs, competition). - Investigate how human actions (such as pest control) impact ecosystems. <i>Communicating in science</i> - Share findings about pest threats and monitoring results. <i>Participating and contributing</i> - Engage in real-world conservation issues, making decisions about pest control in their school environment.	- Recognise introduced species and their adaptations. Discuss why these adaptations make pests successful in NZ environments. - Build a simple food web diagram showing native species and add pest animals to see what changes. Predict what happens if a pest population increases or decreases. - Debate or role-play: "Should we control possums?" Students research pros and cons. - Set up tracking tunnels or chew cards in the school grounds. Record footprints or chew marks, tally results. - Communicating in science—present findings visually. Compare results with regional data from Predator Free NZ or iNaturalist. - Research different pest control methods (traps, bait stations, exclusion fencing) and create an infographic. - Plan and implement a biodiversity project (e.g., planting native shrubs to support wildlife after pest control). - Design a pest management plan for the school or local reserve.



Maths (2026 curriculum) – use in addition to maths textbooks as desired

Statistics and Probability

Phases 1–4 (Years 0–10):

- Pose investigative questions (e.g., “Which pests are most common in our school grounds?”).
- Collect and manage data from tracking tunnels and chew cards.
- Display data using bar graphs, dot plots, and tables.
- Summarise and interpret patterns (e.g., pest frequency by location).
- Understand variation and uncertainty in sampling.

Measurement

- Measure distances for tunnel placement and calculate areas for monitoring zones.
- Use units and precision when recording tunnel spacing or bait station locations.
- Apply derived measures (e.g., density of pests per m²).

Number & Algebra

- Use whole numbers, ratios, percentages to compare pest counts across sites.
- Calculate averages (mean, median) for chew card marks or tunnel hits.
- Apply proportional reasoning (e.g., percentage of tunnels with pest activity).

Geometry

- Map tunnel and chew card locations using scale and coordinates.
- Plan layouts for monitoring and control zones considering area and spacing.

- Collect data from chew cards or tracking tunnels (e.g., number of footprints, bite marks); Make simple graphs (bar charts, pictographs) to show which pests are most common.
- Decide where to place tunnels, how often to check them; Use tally charts and frequency tables to record pest sightings; Create bar graphs, pie charts, or dot plots to compare pest activity in different areas.
- E.g., “Are rats more common near compost bins?”; Calculate averages, percentages, and variability in pest data; Interpret results to make evidence-based decisions about pest control.
- Compare pest numbers (e.g., “twice as many mice as hedgehogs”).
- Work out what percentage of chew cards showed pest activity.
- Discuss likelihood of finding certain pests in different habitats.
- Record how long traps are set and compare results over days/weeks.
- Measure where tunnels are placed (e.g., 10m apart) and calculate coverage of monitoring.



English (2026 curriculum)

Oral Language

- Share observations and findings clearly.
- Use precise vocabulary related to ecology and pest management.

Reading

- Read and interpret informational texts about pest species and their impact.
- Identify key ideas and supporting details in scientific or media texts.

Writing

- Write structured reports and explanations using appropriate language features.
- Create persuasive or informative texts for a specific audience.

- Students present results from tracking tunnels and chew cards.
- Group discussions on “Why control pests?” and ethical considerations.
- Students read DOC or Predator Free NZ resources and summarise main points.
- Compare texts on different control methods (e.g., trapping vs. poisoning).
- Students write a report on pest monitoring results.
- Develop a persuasive poster advocating for pest control in the school grounds.
- Examine Predator Free NZ advertisements or DOC campaigns for persuasive techniques.
- Create multimodal texts (video, infographic) promoting biodiversity action



Find what predators you have at school or local green space

Before you embark on your trapping project, you first need to establish what predators you have in and around your school, and where they might like to hide. Once you know what predators you have, you can make decisions about where you place your traps, what sort of traps you use, and what sort of bait might attract them.

You also want to monitor the success of your project and see if you are making a difference with your trapping efforts.

Your tracking kit includes tools to help you to identify what predators you have on the ground, the potential abundance of pest, and places they like to visit. The more information you can collect about your predators the more likely you are to catch them.



Contents of the pest animal tracking and trapping kit



Using tracking tunnels

Tracking tunnels are used to identify pests using their footprints. They are a black tunnel with an inked card inside with something tasty on top to attract an animal. The animal then walks into the tunnel to grab a feed, and in doing so they will get their feet covered in ink and leave prints which we can use to identify what animal they are.



Tracking tunnel ready to collect footprints

- 1 The first step you want to do is have a planning session with students or your trapping group – get a map of your school area and mark out places you think might be an ideal location for pests. You can mark these on a map. Make sure you spread out the tracking tunnels. You may want to add a chew card in similar location (*see section using chew cards*)
 - Animal Pests like places with coverage, i.e. fence lines, under decks of buildings, natural ridges like scrub edges or areas with lots of branches.
 - They also like places close to compost bins, rubbish bins, fruiting trees, hen house.
 - Basically think like a predator, where might you like live or visit.



- 2 If the tracking tunnels are not already put together, set them up by folding them together. Make sure the wings are out at each end which will protect the ink cards in bad weather. Place on a label and mark the confirmed location on the map.
- 3 Smear some bait on the centre of the pre inked tracking card (peanut butter works well for most predators but some fresh meat is great to attract stoats). If you have any students with a peanut allergy, use an alternative such as jam which works just as well.
- 4 Place your tracking tunnels out securing them with a metal prong – as per your map locations.
- 5 You may want to drip some of the salmon Lure It for around a 30cm strip leading toward the tunnel if you have no meat to attract rodents and stoats into the tracking tunnel.
- 6 Leave your tracking tunnels out for 2-3 nights and then check to see what you have.
- 7 If you have no prints, you can leave them out for a few more nights or look to move your tunnel. However, bear in mind that predators may not visit the same site every day and might only come past at odd occasions. Tracking takes patience, if you change the location of any of your tunnels, remember to mark these on your map and note where you had no prints.
- 8 Use the *“What made these tracks”* guide to identify the footprints on the cards.



Planning where to lay out tracking tunnels at school



For more information on tracking tunnels go to:

<https://predatorfreenz.org/toolkits/know-your-target-predators/tracking-cards-and-%20tunnels/>

How to collect tracking tunnel data

Card/ tunnel number	Date	Location	Bait	Recorded Tracks
<i>I.e TT1</i>	<i>12/06/2022</i>	<i>Compost bin</i>	<i>Peanut butter</i>	<i>Mouse /hedgehog</i>



Tracking tunnel with footprints

Using chew cards

Chew cards are another method used to identify what pests you have, this time by their teeth marks. They are particularly good for finding out if you have possums. Chew cards are either baited with synthetic peanut butter or aniseed which attracts the animal to



bite on the card to get to the tasty food.

- 1 Choose locations for your chew cards. You may want to add them to a similar location as the tracking tunnels. Label your chew cards and mark on the map.
- 2 Fold the chew card in half and label, Leave the top flap open approximately 45°. Nail or screw them in place approx. 30cm above ground level with the bait facing the ground.
- 3 You will want to leave your chew cards out for approximately 7 days before looking at the results.
- 4 Remove your chew cards and check the markings if any to determine what pest might be biting the cards.

You can use <https://www.landcareresearch.co.nz/discover-our-research/biosecurity/animal-pest-management/chewcards-for-detecting-animal-pests/> to help identify what animal has left the mark.



Chew cards with bite marks



How to collect chew card Data

Use a similar method to your tracking tunnels as below:

Card/ tunnel number	Date	Location	Bait	Recorded Tracks
le TT1	12/06/2022	Fence post next to field	Peanut butter	Mouse / hedgehog

Using the Trail Camera

Check the manufactures guide for full instructions:

Decide how long you want to leave your camera out for – this will influence the settings you use.

- You can choose video (if you checking every few days or to a week), or photos if you are checking every two weeks or longer).
- Check the batteries are working.
- Check the SD card is inserted and case shut.
- Choose the location for your camera – usually close to your trap or tracking tunnel so you can see who you are dealing with, and if they are stealing your bait and not getting caught.
- Pick a location away from public view and attach the camera to a tree or post and make sure you use the lock to secure your camera.
- You might want to test the field of view and camera angle to make sure you capture what you want and so it is only triggered by animals walking past.
- Avoid placing your camera where things like branches may set it off.
- Test your camera by walking past it and review what was recorded has it captured what you want.
- Review the footage on your camera. You might see your pest that won't take the bait, or you may find the trap isn't getting the attention you wanted so you can look to move your traps around to more suitable locations.



Identifying your pest from footprints or bite marks

Not all bite marks or prints are easy to decipher and can often look like each other. If you are having trouble identifying your prints you can use the *What Made these Tracks* guide from your kit or contact us. You can also reach out to your community on apps like iNaturalist or predator trapping Facebook groups.



Students learning to match footprints to their animal

Tracking devices are best used for 1-2 weeks, then it's time to trap.

If you find you aren't catching any pests with your traps after a few weeks, go back to your tracking tunnels to check whether there are still animal pests in your area.

You can also use your trail camera next to your traps to see if your pests are interacting with the traps or not. You may need to place the traps elsewhere.

Trapping is one big experiment and you will need to change things around and see what works. You may have some disappointments and some successes over the project.

You can download a Chewcards for detecting animal pests from Manaaki Whenua
<https://www.landcareresearch.co.nz/discover-our-research/biosecurity/animal-pest-management/chewcards-for-detecting-animal-pests/>



Collecting Data

It is so important to collect data for any project. This helps to determine how many predators you have caught, and is a good indication of the impact you are having. You can analyse the data over time and you might find some interesting trends about your pests.

When you go to check your traps you might want to take a notebook with you to later capture onto a spreadsheet, where you can make graphs to better understand the data.

You will want to record things such as

- Date and time
- Trap number and location
- Bait used
- Weather conditions
- Who is checking the trap
- Did you catch something
- What you caught

You can also load this data onto www.trapnz.co.nz to share your project and success with other projects around NZ.

The reason you are trapping is to protect our birds, insects and lizards. Before you start your trapping, you might also like to consider monitoring birds and insects. This is something you can do before and after your project to see how successful your project has been based on the presence and abundance of them.

For Birds:

You can monitor birds by carrying out a 5 min bird count or identifying what species of birds you have seen or heard at your school. It is a good idea to do this prior to trapping and do this again at the end of your project, to see if notice an increase in the number of birds, or may see other birds you haven't before.

You can find more information on how to do this at:

<https://www.doc.govt.nz/our-work/five-minute-bird-counts/the-5mbc-method/>



New Zealand GARDEN BIRD SURVEY
Run by Manaaki Whenua

BIRD ID & TALLY SHEET

- Select your garden, park, school or marae.
- Choose ONE day during the nine day survey period. Saturday 28 June – Sunday 6 July 2025.
- Look for birds for ONE hour in your survey area.
- Use this tally sheet to record for each species the HIGHEST number seen (or heard) at one time.

Tip:
If you see 2 blackbirds at the same time, cross 2.
If you then see 4 blackbirds together, cross up to box 4, not 6.
If you later see 3 blackbirds, stay at 4. Do not add up to 7.

If the count exceeds boxes, then enter the final number into the space provided.

5 Submit your survey results online: gardenbirds.govt.nz

Manaaki Whenua
Landcare Research

Small birds: <15 cm

Chaffinch

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Fantail

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Greenfinch

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Sparrow - house

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Warbler - grey

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Dunnock

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Goldfinch

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Silvereye

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Swallow - welcome

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Yellowhammer

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

20+ Error no.: _____

Male **Female**

Example of a 5 minute bird count sheet

For Insects:

Wētā are prone to predation, a way to monitor the abundance and presence of wētā is to set up wētā motels prior to trapping.

You can find instructions on how to build wētā motel at: <https://www.doc.govt.nz/parks-and-recreation/places-to-go/toyota-kiwi-guardians/take-action/build-a-weta-motel/>

Place the motels in places you think might suit a wētā. Remember think like the animal so places like under trees on trees that aren't so exposed are perfect.

Monitor your motel over time at the beginning and end of your project to see if there is a difference to numbers you find or if you find them at all.



Example of a bug hotel



It's now time to Trap

Based on the data you have collected from your animal tracking activities, you now have an idea of what pests you have and where are good places for your traps to target these pests.

Where possible make sure you place your traps where there is a clear path to the entrance and in as natural setting as you can. If you see any sharp edges on the mesh leading into the trap be sure to mend these as if an animal gets caught on these they may shy away.

Different traps will target different pests and we give you a few options to choose from in your kit:

- 4 x D Rats - these will target rats and mice. You can change the settings to target specific species. Please see instructions included with your trap on how to use these ones.
- 1 x DOC200 - will target stoats/rats/hedgehogs. Please watch this video clip to see how to set up the trap <https://predatorfreenz.org/toolkits/trapping-baiting-toolkit/trap-bait-and-equipment-tips/how-to-choose-the-right-trap/doc-150-200-250-traps/>
- 1 x A24 - will target stoats and rats. Please go this website see how to set up your trap <https://predatorfreenz.org/toolkits/trapping-baiting-toolkit/trap-bait-and-equipment-tips/how-to-choose-the-right-trap/goodnature-a24-rat-trap/>

In your kit, you will also find a Terra-Don trap servicing tool which you can use to bait traps and remove dead animals.

You will need to consider what you are going to do with any dead animals you successfully trap. You might want to bury them or have a rubbish bin located away from other students that these can be placed. Have a chat to your caretaker on what the best option might be.

You can also use your trail camera to put next to a trap if you are finding your bait disappearing or you are not catching anything. These animals can be clever so the camera might help you to identify what tricky pests you have.

Setting up your traps

Different predators prefer different bait so think about what will work for the pest you have in mind for catching.



- Stoats are attracted to eggs or a lump of meat (they love fresh rabbit). The smellier the better for a stoat but remember to change it often. You can spread some salmon flavoured lure (included in your kit) around the trap and on the ground leading into the trap to lure them in.
- Possums like fruity smells in particular cinnamon so apple dipped in sugar and cinnamon will work well here.
- Rats and mice love peanut butter, Nutella, and even vanilla essence. You can use cheese but bear in mind that these predators are very sneaky and can often steal a piece of cheese off a trap whereas spreads are more likely to make the predator stay in the trap longer.

You will need to experiment to see what your predators like best.



Secondary student learning to set a DOC 200 trap

Health & Safety

- We recommend you complete a RAMS form. There is one in the kit page on the website.
- It is recommend all traps are set under adult supervision so make sure you have an adult to help you when you set and clear traps.



- Make sure you have alerted the rest of the school about your traps and make sure no one else tampers with them.
- Change your bait on a regular basis and keep the trap clean.
- Make sure the trap is in good working order before baiting and setting.
- Use gloves and terra don setting and baiting tool.
- Wash your hands before going back to class.

So you catch something Now what?

Yay all the planning and effort has paid off.

- Make sure you are wearing gloves and use the tool to remove the dead animal.
- Dispose of your animal as discussed already (i.e. burying or putting in a larger rubbish bin away from students).

Some final words

We want you're trapping project to be successful. If you have any questions or need any further assistance please feel free to reach out to us by sending us an email to education@horizons.govt.nz

Celebrate your successes and don't be disheartened if it takes a while to see results. Remember to tag us on social media and give us a shout out in your newsletters – we want to spread the word so more schools can have the opportunity.

GOOD LUCK!