The hands-on guide to predator control

For community groups and projects

PREDATOR FREE NZ

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We gathered eight experts with the finest minds — and dirtiest boots — to share their knowledge on predator control. Then we mixed their insights with existing best-practice resources to create a hands-on guide to help sharpen your skills and get more impact from your efforts.

Is this guide for you?

These guidelines are for community predator control groups that already know the basics and want to become more effective at targeting specific predator species. For an introduction to trapping in your backyard, visit www.predatorfreenz.org.

Expert-backed information

This guide uniquely blends the field experience of leading predator control practitioners and existing best-practice resources, including the Department of Conservation's Practical guide to trapping, to offer hands-on and tangible recommendations for predator control.

With thanks to: Biz Bell (Wildlife Management International Ltd), John Bissell (Backblocks Environmental Management Ltd), Tim Day (Day in the Bush), Tim Sjoberg (Pest Free Banks Peninsula), Lindsay Wilson (Hollyford Conservation Trust), Cam Speedy (Wildlife Management Associates Ltd), Michelle Bridge and Nick Poutu (Department of Conservation).

Trap recommendations

- All included traps have passed National Animal Welfare Advisory Committee (NAWAC) guidelines.
- We've narrowed down the trap recommendations for each target species. While other traps are available, our recommendations aim to reduce decision-making time and are based on what consistently works in the field.

Toxin recommendations

This guide focuses on toxins that don't require a Controlled Substance Licence (CSL) to keep things simple and accessible. While there's a range of choices for toxins, our recommendations are based on effectiveness in the field.

CROSS-SPECIES BEST PRACTICE

Principles for predator control

There's no one-size-fits-all approach to predator control, but these solid principles can help you make smart decisions along the way.

This guide is not a rule book to follow precisely, but we hope it provides strong direction.

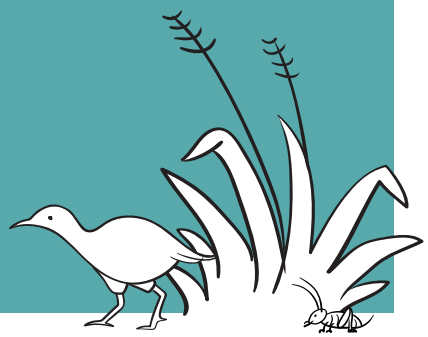
We recommend tweaking your approach based on location, habitat, budget, season, time available, and experience.

Predators behave differently across environments and adapt over time, so it's important to record your observations, stay flexible and be ready to adjust.

Stay realistic based on the time, money and people-power you have available.

Key principles

1. Know your outcomes and goals
2. Understand your target predators
3. Play the long game
4. Take your time, reduce caution
5. Maximise quality at every set-up
6. Be flexible
7. Keep it real



1. Know your outcomes and goals

Start by defining your outcomes and how you'll measure progress. What species are you protecting? What predators are you targeting? Are you aiming for initial knockdown or ongoing suppression?

- **Set realistic targets.** Identify the native wildlife improvement you're aiming for, and the reduction in predator numbers needed to get there.
- **Keep good records.** Monitor predator numbers and changes in the species you are trying to protect. This will help you spot what's working — and what's not — and adjust your approach.
- **Record both captures and empty traps.** A full data set will provide a complete picture and if a trap isn't catching anything, you can modify your approach.
- **Log lure use.** So you know what works well, and how it varies at different times of year.
- **Keep careful records of which toxins are used, how and where they are applied, and when.** Keep track of what works and doesn't, to avoid overusing the same toxin.

2. Understand your target predators

Animal behaviour isn't static. It changes with season, habitat, and landscape. What works once may not work next time, so being curious and adjusting your approach will go a long way. Take a look at our species-specific guides to help your understanding.

- **Think like your target predator:** How would a rat approach this trap? What might entice it to enter?
- **Consider how predators behave in a specific location.** Dense vegetation, food availability, waterways or human activity can affect how predators move and interact with traps.
- **Try using cameras or tracking tunnels** to understand how and why animals interact (or not!) with your traps and bait stations.

3. Play the long game

Upfront investment can save costs over time, so invest in durable and effective tools.

- **Plan for the future.** Your traps may not need to be safe for kea or kiwi now, but if those species rebound, consider what safety precautions you need in place. Design your project now for the change you want to see.
- Cost is always a factor, but it is more useful to consider **'cost per catch' rather than 'cost per trap'** i.e. a more durable and powerful trap might be a better investment than several cheaper ones.
- More durable traps (e.g. treated wood and stainless steel) may be heavier to transport, but **this effort is a one-off** compared to replacing traps over time.

4. Take your time, reduce caution

If animals have a bad experience with traps or bait stations (e.g. become scared from wobbly traps or get sick from a sub-lethal toxin dose), they may avoid them for good. Take the time to understand what's happening and adjust your approach. Make your set-up inviting. Let animals get used to new smells, flavours, and device locations.

- Put unset traps and boxes in place for a while before setting so **animals get used to them**.
- **Pre-feeding builds trust**, associates your device as a food source and increases the chance of success once traps are set or toxins added. Leave traps lured but unset or bait stations filled with non-toxic bait to get animals used to it.
- If traps start to catch fewer animals, **try unsetting them and pre-feed for a couple of weeks** before turning them back on. This activates scent trails and encourages social interaction around traps.
- Animals may take a while to interact with your traps or take bait, not necessarily because they are trap-shy, but just hesitant. Keep an eye on it, adapt your approach if needed, and **use your records to spot patterns and improve results over time**.

5. Maximise quality at every set-up

Small changes can have big impacts. It's better to have fewer devices performing well than spread yourself too thin.

- Your trap or bait station is competing with natural food sources and environments, so ensure it stands out to predators by making it appealing and inviting. **Lure and blaze around the area, and scuff the entrance.**
- **Schedule maintenance** into your plan to ensure everything works as it should. Check traps are calibrated, weight-tested and firing well, and that lure is appealing and replaced regularly.
- **Ensure trap boxes, tunnels and bait stations are secure and don't move.** Wobbly devices can deter animals from entering.

6. Be flexible: Adjust device placement and timing

Observe what's happening and what's working in your project space. As predator numbers change, adjust device placement, seasonal deployment, and how often you check devices.

- **Place traps and bait stations along linear landscape features** like ridgelines, rivers, and tracks where animals are most likely to travel. It is better to pick good natural features than stick to a rigid grid.
- Move a trap or bait station a few metres off your trapline if that's a better spot.
- Consider the seasons and vulnerable times for the species you are trying to protect. **You may need to intensify your efforts at certain times within the year,** e.g nesting or change up your lures based on seasonal availability of natural food sources.

7. Keep it real

Big goals are great, but every project has limits — **budget, time, and people**. Use this guide to improve the efficacy of your predator control, but tailor it to what you can sustainably manage.

- **Consider trap numbers, location and density**. Weigh this against the number of people involved and how frequently they can service the traps.
- Choose lures and replacement schedules carefully. **Lures can lose appeal over time.** Some lures (e.g. whole eggs) last longer; others (e.g. meat) dry out or rot quickly. Align your lure strategy with your trap-checking schedule to strike the right balance.
- Save time and have more impact by **targeting multiple species**. Savvy device choice, spacing and placement can make the most of your trapline. The scent of other caught animals will also attract your target species.

Safe and effective toxin use

Toxins can be useful, particularly for initial knockdown over large areas when predator numbers are high. This can be followed by ongoing trapping.

Careful toxin choice, planning and other considerations are needed, including:

- Land type: Consulting and permissions with landowners, councils, residents, land users etc.
- Safety of people distributing the toxin
- Safety to pets, birds and other non-target species
- Environmental impact
- Storage, timings and method of toxin distribution

As a starting point, our species-specific guides offer recommendations for toxins that do not require a Controlled Substance Licence (CSL). We recommend working with experienced contractors for additional advice and support to design a plan tailored to your area and goals.

Planning and using toxins safely

- **Less is more:** Use only the minimum amount of toxin needed and remove it when done. Overuse and sub-lethal doses can lead to resistance or wariness among target predators, making the toxin less effective next time.
- **Don't harm what you're trying to protect:** Toxins can pose risks to the environment, native species, other animals, and the food chain through secondary poisoning. For example, kiwi may become ill after eating poisoned slugs and snails.
- **Site specifics:** Before selecting a toxin, consider the site specifics. For example, in remote areas, can bait be removed again easily, and will it spoil in the meantime? In residential areas, think about how to keep bait away from kids and pets.
- **Beware bait thieves:** Think about what other predator species are around and plan your toxin and trapping sequence accordingly. Be aware of other species taking the bait; for example, you may need to reduce rats before possums. If your bait is vanishing fast, don't assume success. It could be one greedy possum or a bunch of mice. Cameras can be helpful here to understand what's going on.
- **Mix it up:** Changing to a different toxin can also help minimise resistance and overuse. Using the same toxin repeatedly will reduce its effectiveness.

Technique is everything

Using different toxins correctly will keep costs down, avoid over-feeding and minimise environmental impact.

- **One feed may be all that's needed:** With single-feed toxins like Brodifacoum, the animal eats a lethal dose, but it takes multiple days to work, so it may continue feeding in the meantime. Monitor your bait take to avoid unnecessary waste and toxins in the environment.
- **Avoid sub-lethal doses:** Multiple-feed toxins like Pindone require animals to consume enough to get a lethal dose over time, so check bait take and be prepared to top up regularly. If the bait runs out before they've eaten enough, it won't work. The animal may feel unwell, learn to avoid the bait, and communicate this to their colonies.
- **Pulse like a pro:** Pulsing means making toxic bait available in the right amount, at the right time, and then removing it while it takes effect. Pulse again (along with trapping) to catch any remaining animals.
- **Pre-feed to draw them in:** For some toxins, pre-feeding with non-toxic pellets is useful to get predators used to bait and stations. Once the bait is switched to toxic, they are more likely to eat more and get a lethal dose before symptoms set in. (This doesn't apply to all toxins, so check the manufacturer's instructions depending on what you're using.)
- **Tidy up:** Don't put new bait on top of old, mouldy bait. Old bait is less appealing, risking sub-lethal doses. Remove unused toxins and dispose of them safely according to the manufacturer's instructions.
- **Fresh is best:** Be aware of toxin freshness and store it carefully. Don't buy too much and use it quickly after purchase. Maintaining high-quality, palatable bait is critical.
- **Keep baits dry:** Moisture will seep into the baits during transfer into the bait station and accelerate degradation of pellets — even under an umbrella. A good rule is not to lay bait if more than 10mm of rain is forecasted that day.
- **Make it appealing:** As with trap boxes, ensure your bait station is appealing to the pests you are targeting: blaze and scuff around entrances, rub lure around the area and entrance to encourage them with scent.

Safety to yourself, others and non-target species

- **Storage and handling:** Wear gloves and wash your hands thoroughly after handling toxins and storage containers. Ensure storage bins are firmly sealed, labelled, and out of reach of kids and pets.
- **Lock it up:** Ensure bait stations are locked or secured to ensure the toxin only reaches target predators.
- **Let people know:** Post appropriate signage in areas where the toxin has been distributed.
- **Think about pets and wildlife you want to protect:** Carefully consider the potential effects on pets and native species in the area.
- **If you suspect poisoning:** Call the National Poisons Centre on **0800 POISON (0800 764 766)**.

A few final notes of caution

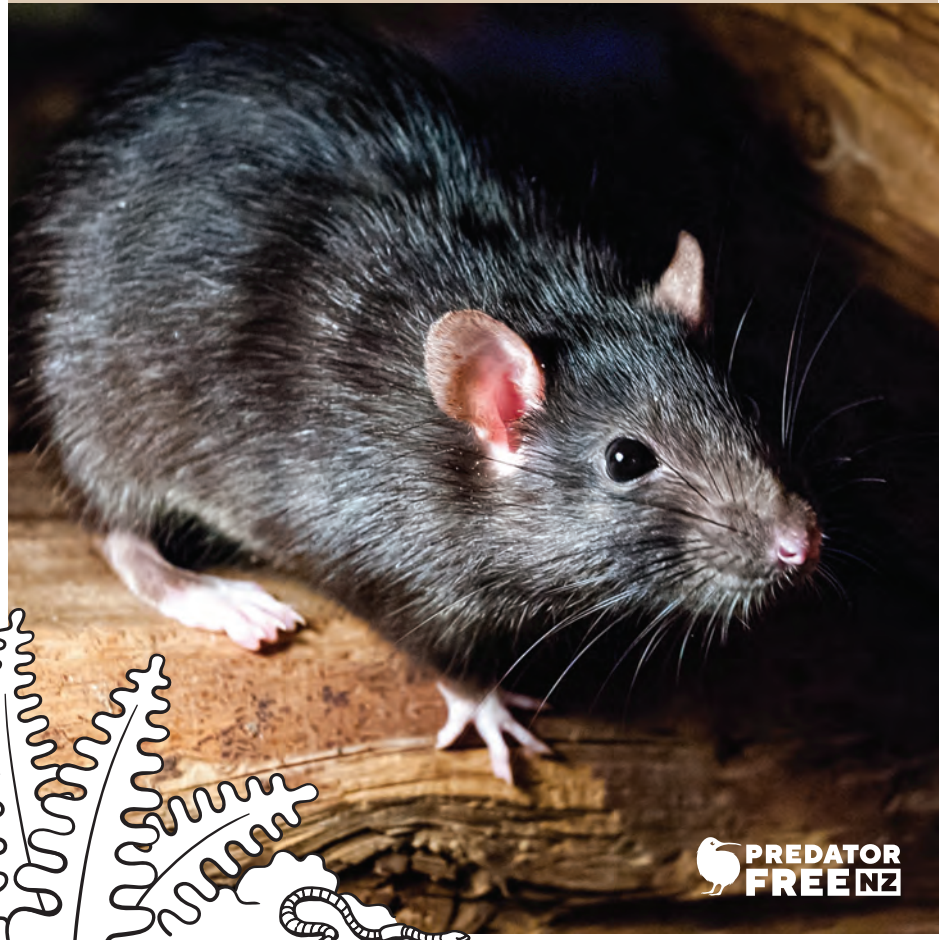
- **Note on CSLs:** This guide is for people without a CSL (Controlled Substance License) or a handler's license. This means we cover **chronic toxins** (used in bait stations), not **acute toxins** (like 1080, feratox/cyanide and PAPP). Find out more about getting a CSL online. Alternatively, consider working with a professional contractor with a CSL. Your regional council or local DOC office may be able to provide details of contractors.
- **Note on Brodifacoum:** We recommend particular caution with Brodifacoum because it can get into the food chain (e.g., through slugs, snails, possums, and pigs), and can cause secondary poisoning to pets and non-target species. DOC restricts its use on the mainland, and MPI is currently reviewing it. In the future, it may require a handler's certificate.
- **A note on toxins in our species-specific guides:** We have included toxin guidance for ship rats, Norway rats and possums in our species-specific guides. Mustelids and feral cats require acute toxins that require a CSL and are therefore not covered by this guide. We recommend you contact a professional contractor for assistance when using toxins targeting mustelids and feral cats. Contact your regional council, local DOC office or Predator Free New Zealand Trust for a list of contractors.

A GUIDE TO

Ship rat control

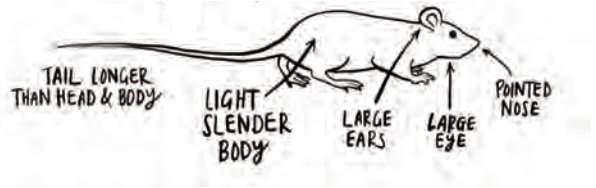
Climbing, cautious critters

This guide focuses on ship rat control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.



Behaviour insights

- **Strong climbers:** They spend a lot of time in trees — place traps in trees as well as on the ground.
- **Neophobic:** They are cautious of new things. To overcome this, try prefeeding: leave traps lured but unset or bait stations filled with non-toxic bait for a week or two.
- **Exploratory:** Ship rats have a home range of approximately one hectare (100m x 100m), but this can fluctuate with food availability and population density, so it's worth maintaining the size of your trap network even if there seem to be fewer signs of rat activity.
- **Driven by scent:** Rats rely heavily on smell. To boost your success, rub lures around trap box entrances and use scented blaze to draw them in.
- **Widespread, frequent, fast breeders:** Ship rats reproduce fast. Focus on getting numbers down at the key times of vulnerability for native species you're protecting (e.g. early springtime for most birds).



Understanding ship rats

It's helpful to know whether you're dealing with ship rats or Norway rats, as they behave differently and like different lures. However, it can be hard to tell what species is present and you might have both.

You'll probably need to catch a few rats before you can tell which species is present. You can also try experimenting with different lures to see which are eaten first: ship rats prefer sweet flavours like peanut butter, Norway rats prefer fatty lures like meat or fish oil.

As a general rule of thumb, ship rats are more common, especially in forests. If you're near waterways or urban areas, Norway rats are more likely. (Kiore are not covered in this guide.)

Lures: Sweet tooth

Ship rats are less picky than Norway rats and will eat many things.

Top lures

- Peanut butter (mixed with rolled oats to make it go further)
- Nutella
- Aniseed flavoured lures
- Local/seasonal foods like apples, macadamias or walnuts

Pre-feeding works

Pre-feeding — luring unset traps or using non toxic bait in bait stations — helps rats become familiar with a trap and lure and reduces their natural caution.

Flour blaze around rat traps will increase interest by providing an appealing scent. **Blaze when the ground is dry:** try flour with icing sugar and aniseed or cinnamon.

In springtime, you'll be competing with abundant natural food, so go big. **Try applying generous amounts of blaze at and around trap locations.**

Tip: Avoid mice eating up your lure by:

- Placing a mousetrap at the end of the trap box. A caught mouse will have the bonus benefit of attracting rats and stoats.
- Place lure in a container like a tea strainer or hang it up high to protect it from nibbling mice.

Traps: Types, placement and timing

Recommended traps

These traps should be in their bespoke wooden tunnel/box to protect wildlife and people.

- **Victor Professional:** Cheap and effective, but degrade over time, so factor in replacement cycle and overall budget. Regular maintenance will stretch their lifespan. Make sure you buy genuine Victor Professionals, not the low-quality imitations.
- **DOC 200:** A solid long-term choice. Though more expensive, these traps are more robust and durable. They are also ideal for targeting Norway rats, stoats, hedgehogs, and heavier weasels.

Other trap options

- D-Rat Supervisor is helpful for placing up trees.
- Goodnature A24 is self-resetting, requiring less frequent checks.
- NZ AutoTrap AT220 is a self-resetting possum trap that can catch rats, too.

Important: In areas with kiwi, weka, and kea, the trap box design will be different — longer vestibule lengths, side entrances and/or metal fittings may be required. Check the DOC trap box dimensions online.


DOC 200

Note: The exterior mesh entrance on the wooden box should be 50mm x 50mm.

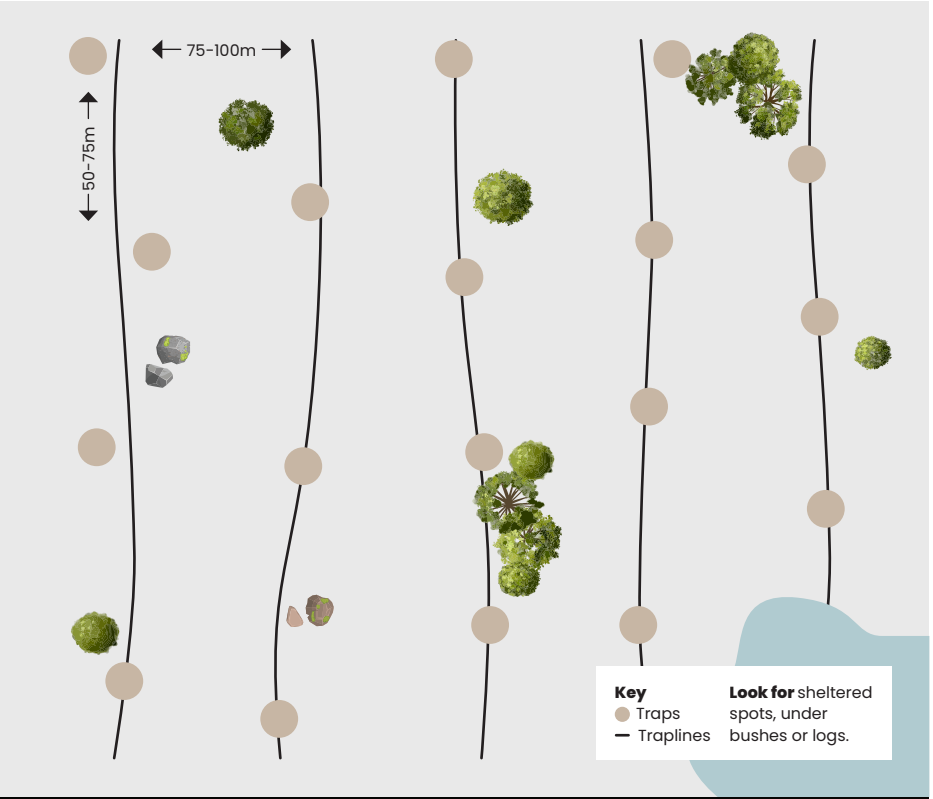
- This can be increased to 60mm x 60mm if you are also trapping Norway rats and stoats in a DOC 200 box.
- Rats are more likely to enter a trap box if they can see through it — mesh is good for visibility.

Trap density and grid

Your trap density and grid will vary based on your goals and capacity.

Recommended grid

- 75-100m between traplines
- 50-75m between traps along traplines
- Consider placing traps closer together for initial knockdowns, areas with high rat populations, or at the edges of your project zone



Tip: If your grid point lands in a damp spot or down a bank, **shift the trap upslope to better, drier, warmer terrain,** where rats are more likely to run. Explore up to 10m from the grid point.

Trap location and placement

Prioritise high rat habitat areas (e.g. forests, bush) and landscape features: ridges, gullies, fence lines.

A grid layout is recommended, but it's not a rule. It's worth wandering 10-15 metres from the proposed grid to find the best trap site.

Look for:

- Dry, warm, level ground
- Sheltered spots, as rats are less confident out in the open - try under bushes or piled up logs

Trap checking frequency

- **Initial knockdown:** Check traps as frequently as possible
- **Suppression:** Every 2-4 weeks

Pay attention

- Record your trap checks - remember recording no catch is as useful as catches. Lots of groups use Trap NZ to log trap checks.
- Adjust timing as needed based on higher populations and vulnerable times for the species you're protecting.

Toxins for ship rats

Toxins are a powerful tool for controlling ship rats — especially in rough terrain, when there are high numbers, or across large areas.

Use toxins to reduce rat populations at the time the species you are protecting are most vulnerable. Consider using when natural food sources are low (e.g. late winter): toxins will become more appealing to rats when there is less to eat. This advice covers toxins that don't require a Controlled Substances Licence (CSL). For further information around toxins for rats, head to predatorfreenz.org/toolkits.

Recommended toxins

- **Pindone (pellets):** Highly palatable and low toxicity to birds.
- **Diphacinone (pellets, paste or blocks):** Rats need to eat less to get a lethal dose, but it's less toxic to mice if you're targeting them as well.

Recommended bait stations

- Philproof bait stations can be used for pellets, paste or blocks.
- Black 'Tomcat' bait station (or similar) are used for toxin blocks.

If possums are around, fit possum-proof baffles to the Philproof bait station (possums will eat all the ship rat toxin without receiving a lethal dose). Or use black 'Tomcat '-style bait stations, which possums can't access.

Both Pindone and Diphacinone are highly palatable but require rats to feed on them multiple times over several nights to get a lethal dose. Ensure a constant, fresh supply of toxin is available, enough to feed all the targets, and monitor carefully. Check every few days at first. Top up if required, then leave for a few weeks until uptake stops, then remove the leftover toxin. Check the manufacturer's instructions for exact timings.

PHILPROOF BAIT STATION

Tip: Pre-feeding can help overcome bait shyness and resistance: stock bait stations with tasty, non-toxic lures to encourage rats before switching to toxins.

Boost initial interest at the bait station by adding scented flour blaze around the area.

BLACK 'TOMCAT' BAIT STATION

Bait station location and placement

Similarly to your trap network, place bait stations in locations where ship rats are present (ridges, gullies, fencelines) and then backfill to a grid of 75-100m (between lines) and 50-75m (between bait stations along lines), depending on feasibility.

Remember that ship rats like to climb, so place bait stations higher up as well as on the ground. Create ramps or platforms with branches or planks at bait station locations to provide easy access to bait stations installed higher up (but be aware of the safety of non-target wildlife and pets too).

Safety to yourself, others and non-target species

- **Storage and handling:** Wear gloves and wash your hands thoroughly after handling toxins and storage containers. Ensure storage bins are firmly sealed, labelled, and out of reach of kids and pets.
- **Lock it up:** Ensure bait stations are locked or secured to ensure the toxin only reaches target predators.
- **Let people know:** Post appropriate signage in areas where the toxin has been distributed.
- **Think about pets and wildlife you want to protect:** Carefully consider the potential effects on pets and native species in the area.
- **If you suspect poisoning:** Call the National Poisons Centre on 0800 POISON (0800 764 766).

Note on Brodifacoum: We recommend particular caution with Brodifacoum because it can get into the food chain (e.g., through slugs, snails, possums, and pigs), and can cause secondary poisoning to pets and non-target species. DOC restricts its use on the mainland, and MPI is currently reviewing it. In the future, it may require a handler's certificate.

A GUIDE TO

Norway rat control

Stocky suburban swimmers

This guide focuses on Norway rat control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.

Understanding Norway rats

It's helpful to know if you're dealing with ship rats or Norway rats, as they behave differently and like different lures. However, it can be hard to tell what species is present and you might have both.

You'll probably need to catch a few rats before you can tell which species is present. Try experimenting with different lures to see which are eaten first: Norway rats prefer meaty or oily baits (rabbit, bacon, fish oil), ship rats prefer sweet or starchy foods like fruit, seeds, sugar, nuts.

As a general rule of thumb, ship rats are more common, especially in forests. If you're near waterways or urban areas, Norway rats are more likely. (Kiore are not covered in this guide.)

Behaviour insights

- **Hefty:** Norway rats weigh up to 500-600g, and therefore require more powerful traps than ship rats.
- **Social and communicative:** Norway rats can live in large social colonies where they communicate food preferences and scents. Scented flour blaze and pre-feeding lures are especially useful for attracting them.
- **Excellent swimmers:** They are often found near waterways and can travel across rivers and large stretches of water.
- **Ground lovers:** They don't climb as much as ship rats, so traps are best positioned on the ground.
- **Highly exploratory:** Home ranges can span 5-6 hectares (300m x 200m+), depending on food, season, and population density. Even if you're not catching as many rats, maintain the size and density of your trap network.
- **Urban dwellers:** Norway rats are often found near human activity, especially compost bins, sheds, rubbish areas and drains.
- **Very neophobic:** They are cautious of new things. To overcome this, try pre-feeding: leave traps lured but unset or bait stations filled with non-toxic bait for a week or two.
- **Widespread, frequent, fast breeders:** Norway rats reproduce fast. Focus on getting numbers down at the key times of vulnerability for native species you're protecting.

Lures: Fatty proteins

Norway rats prefer fatty meat-based lures and proteins.

Top lures

- Cooked bacon
- Fish oil
- Dried pet food and Erayz

Pre-feeding works

Pre-feeding — placing non-toxic lure in unset traps or bait stations — helps rats become familiar with a trap and lure and reduces their natural caution.

Tip: Avoid mice eating up your lure by:

- Placing a mousetrap at the end of the trap box. A caught mouse will have the bonus benefit of attracting rats and stoats.
- Place lure in a container like a tea strainer or hang it up high to protect it from nibbling mice.

Scented lures will appeal to Norway rats in particular. Throwing flour blaze or fish oil around traps will increase interest by providing an appealing scent.

They'll communicate this back to their colony, carrying the scent of food on their breath, fur, and scats.

Use flour blaze when the ground is dry, or instead try savoury lures on the ground in and around the trap box.

For example, a large chunk of rabbit in a mesh cage pinned to the ground, cat biscuits, dog roll, egg mayo, fish oil or salmon pellets.

Try putting 1/3 of your lure in a trap, 1/3 in the box, and 1/3 around the site.

A note for monitoring:

If you're already using peanut butter (or aniseed) in chew-cards or tracking tunnels, stick with it: consistency is key for quality monitoring data.

If you have no results, try monitoring some lines with cooked bacon bits, fish oil, sardines mixed with oats or fish food pellets, etc, to see if anything changes. Stick with your chosen monitoring lure for some time (a few seasons).

Traps: Types, placement and timing

Recommended trap

The stainless steel DOC 200 in a wooden box is a solid long-term choice. They are robust, durable and also ideal for targeting Norway rats, stoats, hedgehogs, and heavier weasels.

Other trap options

- Some groups prefer the **DOC 150** as a lighter, cheaper, more compact option, but it targets fewer species and can be harder to set by hand than the DOC 200.
- **Victor Professional traps** (modified or otherwise) are also frequently used, but many Norway rats are too large for them to be humane and effective, and can be scared off.

Important: In areas with kiwi, weka, and kea, the trap box design will be different — longer porch lengths, side entrances and/or metal fittings may be required. Check the DOC trap box dimensions online.


DOC 200

Note: The exterior mesh entrance on the wooden box needs to be larger than for ship rats — we recommend up to 60 x 60mm for a DOC 200 box or rat tunnel.

Rats are more likely to enter a trap box if they can see through it — mesh is good for visibility.

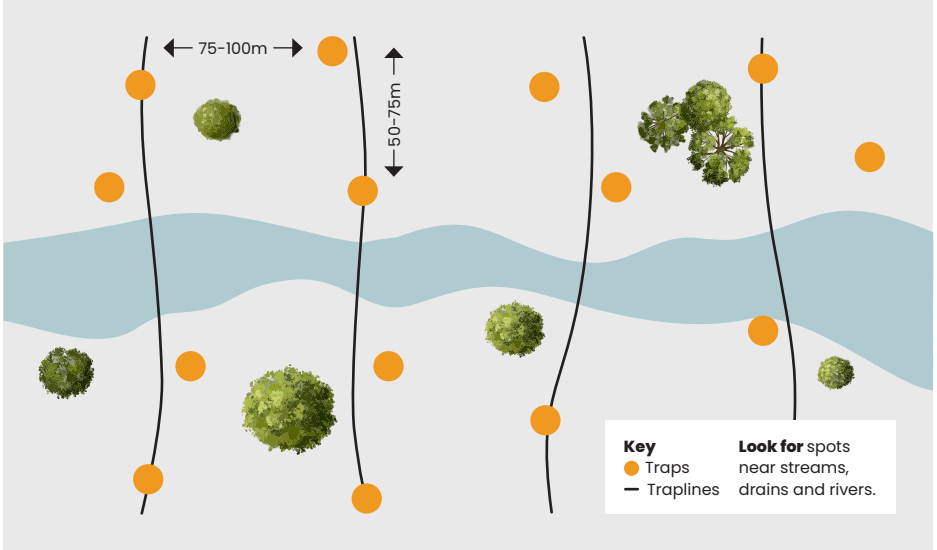
Trap density and grid

Your trap density and grid will vary based on your goals and capacity.

Recommended grid

Understanding habitat and where the 'hot spots' are is especially important for targeting Norway rats. Start near streams, drains and rivers where you know Norway rats are present and extend your grid a few hundred metres from there. This spacing is a rough guide:

- 75-100m between traplines
- 50-75m between traps along traplines
- Consider placing traps closer together for initial knockdowns, areas with high rat populations, or at the edges of your project zone



Tip: Prioritise good trap sites over rigid spacing. For example, if the grid point is in a damp hollow or down a bank, move the trap to a nearby level ground where rats are more likely to travel, especially near water.

Maintain trap density even as rat numbers decline. As Norway rat populations drop, their home ranges increase, meaning wider travel and continued risk. Trap density must stay high to remain effective.

Trap location and placement

Norway rats are common around waterways.

A grid layout is recommended, but it's not a rule. It's worth wandering 10-15 metres away from the grid point to find the best trap site on level ground. Unlike ship rats, Norway rats are more confident to go out into the open, so traps do not need to be as well-covered. Place traps near:

- Bodies of water (such as rivers, estuaries, lakes, drains)
- Human activity (e.g. compost bins)
- Be aware of fluctuating water heights to avoid submerging traps or traps being washed away in floods. Norway rats also use other linear features like gullies, fence lines, pathways and tracks, etc. Cameras and chew cards are great for identifying rat hotspots

Trap checking frequency

- **Initial knockdown:** Check traps as frequently as possible
- **Suppression:** Every 2-4 weeks

Pay attention

- Record your trap checks - remember recording no catch is as useful as catches. Lots of groups use Trap NZ to log trap checks.
- Adjust timing as needed based on higher rat populations and vulnerable times for the species you're protecting.

Toxins for Norway rats

Toxins are a powerful tool for rat control — especially in rough terrain, when there are high numbers, or across large areas.

Use toxins to reduce rat populations at the most vulnerable times for the species you protect. Consider when natural food sources are low (e.g. late winter): toxins will become more appealing to rats when there is less to eat. This advice covers toxins that don't require a Controlled Substances Licence (CSL). For further information around toxins for rats, head to predatorfreenz.org/toolkits.

Norway rats are 'caching' creatures: they store food. Be especially mindful when using toxins, as it can appear as though huge amounts of your toxin have been eaten, but much will be stored. Use the recommended contained, lockable bait stations to avoid this.

Recommended toxins

- **When on private land**, use Contrac (Bromadiolone) as bait blocks: only a single-feed is required for a lethal dose, but limit the amount of bait available to avoid using up too much.
- **When on Public Conservation Land**, use Ditrac (Diphacinone) as bait blocks: also a potent single-feed toxin.

Bait blocks on pins are best for Norway rats as their caching behaviours mean they will empty bait stations of toxin pellets, and store them.

Recommended bait station

The black Tomcat bait station offers secure pins for bait blocks and a clear line of sight through the station, which will encourage rats to enter.

- As per your traps, use ground scuffing and scented flour blaze at each bait station to increase interest in the site and communication between Norway rats.
- A cheaper, more basic option than cameras is using Velcro strips (the hook side) stuck near/on your bait stations which collect animals' fur so you can see if rodents or possums are taking bait.
- Generally, it's best to stock bait stations with tasty non-toxic lure to encourage rats in, before switching to toxins. However, this pre-feeding isn't critical for slow acting toxins like Ditrac (Diphacinone), Contrac (Bromadiolone) and even multi-feed Pindone.

Toxin timings (seasonal)

Toxins are useful for knockdown at critical periods. Use them to reduce rat numbers at the most vulnerable times for the species you protect. This means late winter and early springtime for fledgling birds, wintertime for bats and year-round for invertebrates. Consider that when natural food sources are low, toxins will become more appealing to rats.

Bait station location and placement

Similarly to your trap network, place bait stations in dry spots frequented by Norway rats, up to a few hundred metres from rivers, drains, estuaries, lakes, and compost bins. You could also backfill to a grid of 75-100m (between lines) and 50-75m (between bait stations along lines), depending on feasibility. A tighter grid is especially effective in high food/urban areas.

Ensure bait stations are placed on the ground as Norway rats aren't good climbers.

Safety to yourself, others and non-target species

- **Storage and handling:** Wear gloves and wash your hands thoroughly after handling toxins and storage containers. Ensure storage bins are firmly sealed, labelled, and out of reach of kids and pets.
- **Lock it up:** Ensure bait stations are locked or secured to ensure the toxin only reaches target predators.
- **Let people know:** Post appropriate signage in areas where the toxin has been distributed.
- **Think about pets and wildlife you want to protect:** Carefully consider the potential effects on pets and native species in the area.
- **If you suspect poisoning:** Call the National Poisons Centre on 0800 POISON (0800 764 766).

Note on Brodifacoum: We recommend particular caution with Brodifacoum because it can get into the food chain (e.g., through slugs, snails, possums, and pigs), and can cause secondary poisoning to pets and non-target species. DOC restricts its use on the mainland, and MPI is currently reviewing it. In the future, it may require a handler's certificate.

A GUIDE TO

Possum control

Pervasive and plant-hungry

This guide focuses on possum control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.

Understanding possums

Success relies on getting the fundamentals right: good trap placement and clever luring.

Possum control is usually part of wider pest control efforts. Plan carefully, as possum control can cause rat numbers to spike due to more food being available. Toxins can be highly effective for an initial knockdown, and traps can be used to maintain low numbers long-term.

Behaviour insights

- **Opportunistic omnivores:** Possums eat leaves, buds, fruit, and flowers, but will also eat almost anything, including eggs, chicks, and invertebrates.
- **Visual:** They respond to visual cues such as white traps, flour blazes and coloured lures. Keep white traps and bait stations clean.
- **Highly social:** Possums will follow others to food and interact with interesting new things. Pre-feed unset traps, use interesting lures and blazes to attract possums in groups.
- **Curious creatures:** Change lures and rotate trap and bait station locations every four months to keep things interesting. Take advantage of the seasons by moving traps to trees when they're flowering or fruiting.
- **Promiscuous:** Peak breeding season happens in autumn (March-April) and another in spring (Sept-Oct). Time your control work to match this activity: re-bait, set kill traps, and pulse toxins in bait stations.
- **Great climbers:** They spend most of their time off the ground, so place your traps in trees as well as on the ground.
- **Habitual and local:** Possums stick to their favourite spots and routes. Look for scratch marks and well-used tracks. This will change seasonally; for example, they love pollen from pine trees in spring.
- **Young males roam:** When male juveniles become independent after 9-12 months, they travel further and are easier to catch. Focus efforts from late summer (Feb-March) to take advantage.


POSSUM DOUGH FROM TRAPS.CO.NZ

Lures: Fruit and nut

Top lures

- Fruit, e.g. apple pieces, feijoas, dried apricots
- 'Smooth' lures, e.g. aniseed or cinnamon 'Possum dough' by traps.co.nz
- Mayonnaise (if using an automatic lure dispenser; otherwise, it is hard to place in most traps). Molasses also works well in the wet or winter.

- Possum control is ~80% pre-feeding and visual luring to get them interested, and ~20% actual trapping.
- Flour blaze (flour mixed with icing sugar and vanilla or cinnamon) is a scented and visual lure. Shake it around in an old milk bottle and spread it around to leave a visible scented trail to your trap or bait station. Possums can see white better at night, and once it's on their breath, paws, fur and scat, other possums will pick up on it as a food source.
- Try to avoid lures that blend in. If you're trapping in a plentiful apple orchard, don't use apples. Pick something new and exciting.
- Try combining lures, such as smearing Nutella or smooth lures on fruits, or dipping them in blaze to increase visibility.

Traps: Types, placement and timing

Most available traps work well for possums, but good placement will increase your success.

This guide includes kill traps and live capture traps. The traps you choose will depend on your location, available time and capacity to deal with a live capture.

Kill traps

Kill traps are instant, and some are effective for multiple-species (like cats and rats).

Recommended kill traps

- **Flipping Timmy:** Easy to set and cost-effective
- **AT220:** Self-resetting and time-saving, but with a higher upfront cost
- **Steve Allan 2 (SA2):** Fairly easy to use, but with an open entrance — use caution in public areas with tracks, pets. Also be wary of kea, kiwi, weka, or other ground-dwelling birds. Use with a ramp.

Other trap options

- **Sentinel:** Highly effective but trickier to set than others
- **Trapinator:** Compact, easy to set and cost-effective


AT220 WITH RAMP

Tip: Use ramps effectively. A ramp set at a 45-50 degree angle works well, with a 30-40cm gap below the trap so a possum can reach it.

Ramps with a platform under the trap are also effective.

Live capture traps

Live capture traps work really well for possums. However, it's a legal requirement to check them daily (within 12 hours of sunrise). Remote monitoring technology reduces the need to check all traps manually. Any possums caught in live capture traps must be dispatched humanely (shot by a licensed shooter or using blunt force). Live capture traps should not be used in areas with kea, kiwi, weka, or other ground-dwelling birds.

There are two main types of live capture traps

- **Cage traps:** Can take longer to capture possums than leg holds, but still effective. Once the treadle is triggered, the doors come down.
- **Leg-hold traps:** These can be very effective, especially when several are used together. There is less to be wary of, as the possums do not enter anything. However, setting and careful placement of traps requires skill and experience..

Recommended leg-hold trap

Victor #1: Strong springs, light, compact, reliable, adjustable tabs/plates. Can be harder to source, and more expensive. Bush Master leg hold traps are also an option.

Tip: Use two or more leg-hold traps at one site to make the most of possums' sociability.

Recommended cage traps

- **Tāwhiti Cage:** A double entrance cage trap with an optional sensor to detect when the trap has triggered and sends out a message.
- **Pestgard Tunnel trap MK2:** A lightweight and durable double entrance cage trap.

Tip: Look for cage traps with double-entrances and a treadle to maximise your chances.

TĀWHITI CAGE

Trap density and grid

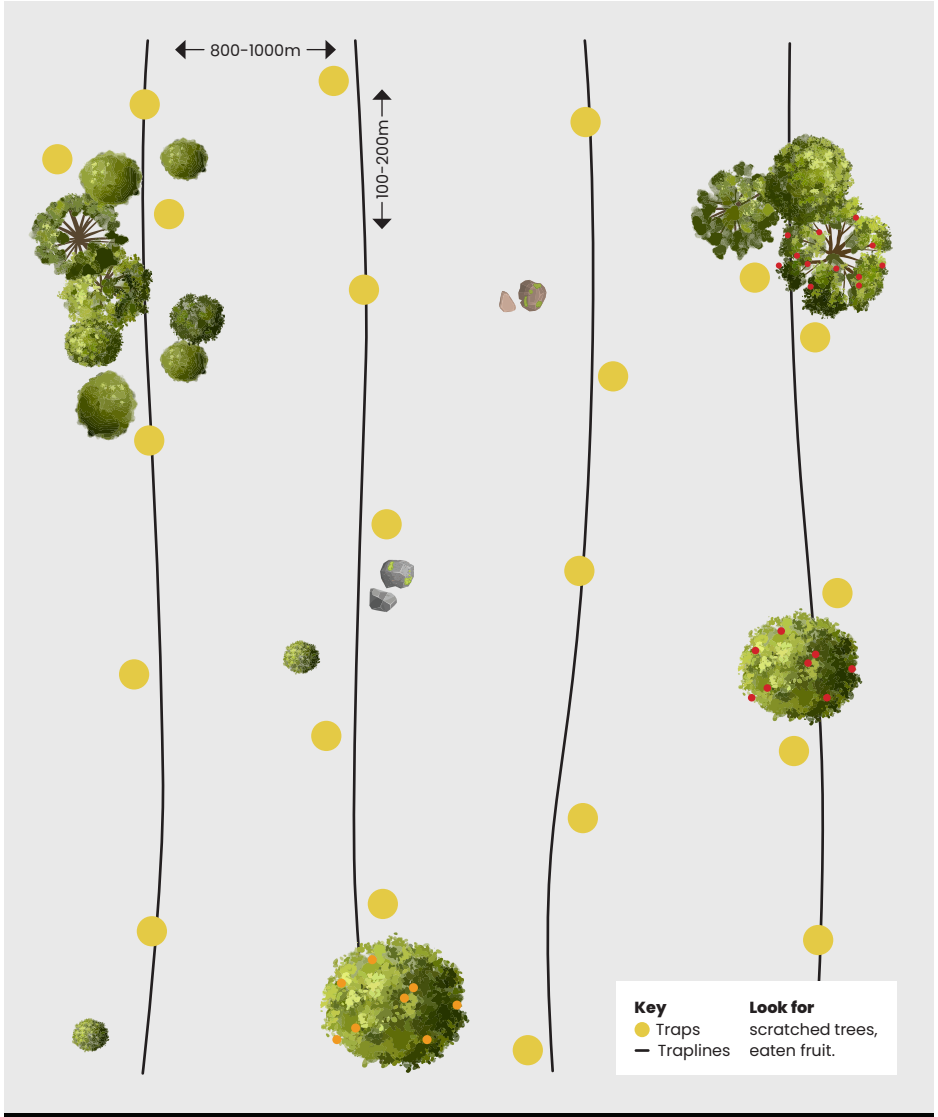
Following exact grid spacing for possum traps is less important than finding the right position based on signs of activity.

The grids below are a guideline, but ensure you move traps around depending on terrain, pest activity, and trap success. Consider the landscape and the fact that possums are visual: in dense forest, traps can be closer together, and in more open areas, traps can be further away.

Recommended grid

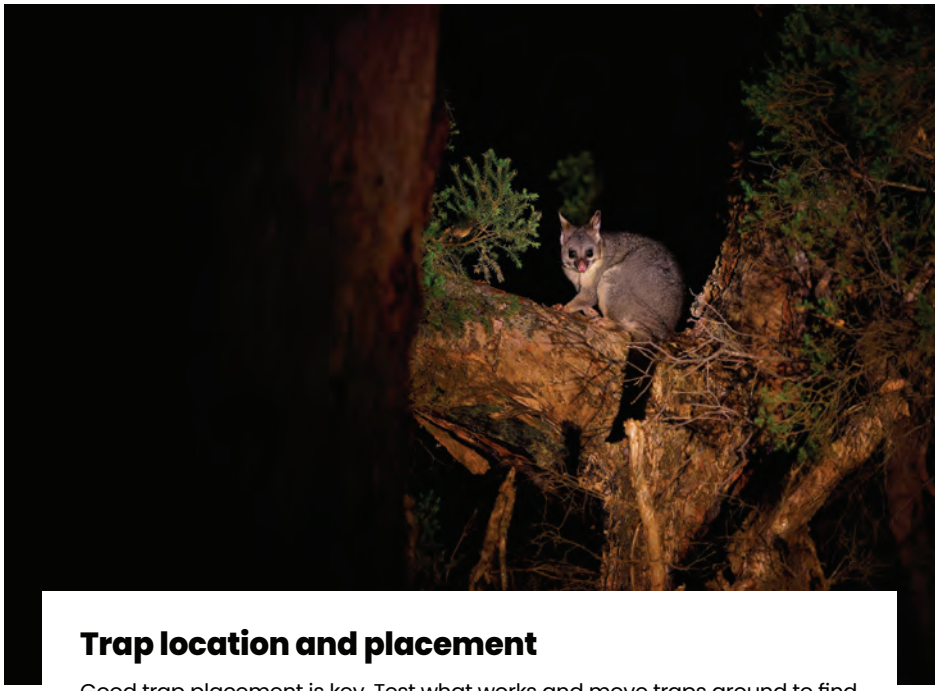
- 100m between traplines
- 100-200m between traps along traplines for kill traps
- 200m between traps is fine if you are using self-resetting traps like AT220s
- If traps are limited, your project area is large, and/or possums are at low density, then set up traplines 300m apart with traps 200m along each trapline. You can expand out to this spacing as the possum population reduces, and use pre-feeding to maximise interest
- When using live capture traps, look for signs of possum activity (scratched trees, pad-runs, eaten fruit) and set up traps at these spots

AT220



Tips: White backing boards for your traps create a strong visual lure, drawing in possums from farther away.

- CDs and other light reflecting lures or glow-in-the-dark objects hung near traps also create interest.
- When on public land, be aware of safety and traps being in public view.



Trap location and placement

Good trap placement is key. Test what works and move traps around to find the best spots.

A grid layout is recommended, but it's not a rule. It's worth wandering 10-15 metres off-grid to find the best trap site. Look for:

- Scratch marks on trees which indicate they are regularly visited by possums. Sometimes one side of the tree gets more activity, particularly if the trunk slopes and one side is easier to climb
- Use trees or posts that are dinner-plate sized for ease of climbing
- Existing tracks such as hiking trails or along roads
- 'Pad runs' (worn down track in bush)

Trap checking frequency

How frequently you check your traps will depend on the population numbers, seasons, and type of trap.

- **Leg-hold and cage traps:** Must be checked daily
- **Kill traps:** Check every 1-2 weeks initially, then reduce as possum numbers fall
- **Self-resetting traps:** Check and reservice every 3 months

Possum control by shooting

- **Shooting:** Night-shooting can be an effective method of reducing possums. Shooting is suitable in rural areas only, and can keep numbers down if done regularly. You'll need access to a skilled shooter with a thermal scope or spotlight. Landowner permission is essential on private land.
- Permits are also required on public conservation land.
- Check firearm license requirements.

A note on toxins for possums:

Toxins can be highly effective for initial possum knockdowns, with trapping for ongoing control at lower densities. To target possums directly, acute toxins such as Feratox, are required. **Acute toxins require a CSL and are not covered by this guide.** Brodifacoum is also a popular toxin choice for targeting possums. **We recommend particular caution with Brodifacoum** because it can get into the food chain (e.g. through slugs, snails, possums, and pigs), and can cause secondary poisoning to pets and non-target species. DOC restricts its use on the mainland, and MPI is currently reviewing it. In the future, it may require a handler's certificate.

Possums and rats often coexist so it may be wise to reduce your rat population before targeting possums with toxins, to maximise your toxin impact on your main target. Possums will consume a lot of rat bait without receiving a lethal dose, so protect your rat toxin from possums (use a reversible possum baffle in Philproof station, or tie in bait blocks). Some rat baits (e.g. Pindone) can actually act as a lure and pre-feed for possum toxins, but it's best to talk to an expert before trying this approach. Contact your regional council, local DOC office or Predator Free New Zealand Trust for a list of contractors.

Your group may be able to partner with a contractor to control possums. For example, you could apply initial rat control with Pindone and then work with a professional contractor with a CSL to apply more potent possum-targeted toxins.

An alternative option to Pindone (for groups that do not have a CSL) is DoubleTap (diphacinone + cholecalciferol), but this has produced mixed results. For further information around toxins for possums, head to predatorfreenz.org/toolkits.

Notes

A GUIDE TO

Stoat control

Swift, smart and deadly

This guide focuses on stoat control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.

Understanding stoats

Stoats are one of New Zealand's most devastating predators.

They're also infamously hard to catch and need a targeted, continuous, long-term and large-scale approach to achieve real gains for native wildlife. Controlling stoats at scale is crucial, as individual stoats can disperse 65km or more from their den.

Behaviour insights

- **Unique and individualistic:** Stoats are opportunistic and flexible hunters. This means observation and experimentation are important when targeting stoats: don't assume that one method will work for all stoats.
- **Cautious:** Stoats are often reluctant to interact with traps, so extra effort, such as pre-feeding or additional scented lures, can make the difference.
- **Active day and night, feed regularly and cache food:** Keep an eye on your lure supplies.
- **Prolific breeders:** Stoats have litters of 8-10 (max 20) and breed from September to November. Already pregnant juvenile females disperse from November to March, so maximise control efforts before breeding season to hit hardest when it counts. (Double-set traps can help catch family groups dispersing in late spring and summer.)
- **Highly mobile and adaptable:** They can disperse up to 65km and are found in almost any habitat. Even if catch numbers drop, keep monitoring as they might reappear in your area from elsewhere, particularly after the young disperse from burrows in early summer.
- **Good swimmers:** Stoats can travel over 1.5km or more in water, which means water provides no barrier, so set up trap buffer zones to prevent new arrivals.
- **Scent-motivated:** They're attracted to other stoats and the scent of prey. To exploit this, use double-set traps, flour blazes, and scent dragging.

Lures: Meaty morsels

Meat lures work best for stoats, the fresher the better. Choose tasty lures in large chunks. Mix things up to maximise interest.

Top lures

- Rabbit (fresh is best, but doesn't last long) or Erayz
- Egg (or egg-based products like Eggsellent or mayo)
- Raw mutton fat (ask your butcher or local home kill)
- Venison

- An automatic dispenser can provide a constant stream of mayonnaise lure — handy, but can be expensive.
- Try sourcing eggs locally, as commercial hens' eggs are usually washed and lose their scent. Release the scent of egg by breaking it gently, mixing the yolk with a stick and dropping some of the contents in and around the trap box. Fresh is best.
- Fish oil, pellets or spray can add extra luring power.
- Try a combo of a tasty 'fresh' lure (like rabbit) and a longer-lasting lure (an egg) to cover your bases.
- Secure lure up high to keep stoats looking up, away from the trigger plate. This also allows the scent to travel. A tea strainer or nail on the inside wall of the trap box works well.

A note on toxins for mustelids: Most cereal-based toxins rely on stoats eating poisoned rodents (known as 'secondary poisoning'). To target stoats directly, acute toxins delivered in meat lures are required (e.g. PAPP or 1080 in meatballs or sausage baits). These are under development.

- Acute toxins require a CSL and are not covered by this guide. We recommend that groups contact a professional contractor for assistance with targeting mustelids using toxins.
- Contact your regional council, local DOC office or PFNZ for a list of contractors. For further information, visit the Predator Free NZ website for a summary of toxins.

Traps: Types, placement and timing

Recommended trap

The stainless steel DOC 200 in a wooden box is a long-lasting and proven method.

Double-set DOC 200s are a good choice: they increase the number of available traps, and a caught rat or stoat in one trap can attract another.

Other trap options

- If you also have ferrets in your project area, consider using the DOC 250.

Important

- **The exterior mesh entrance for your wooden box should be 60mm x 60mm** (based on a 20mm mesh).

  Some experts advise that increasing the exterior entrance (but not the interior baffle) can catch larger stoats, but the box length needs to be longer to ensure the safety of non-target species — check the DOC trap box dimensions online.

  Get advice from predator control experts in your local area. Caution must be taken with non-target species, especially weka, kiwi, kea and pets.

- **In areas with kiwi, weka, and kea**, the trap box design will be different — longer vestibule lengths, side entrances and/or metal fittings may be required. Check the DOC trap box dimensions online.
- **Secure your trap box with metal stakes** to prevent movement which can cause misfiring in double-set traps, especially in areas with kea or pigs, which might disrupt the box.

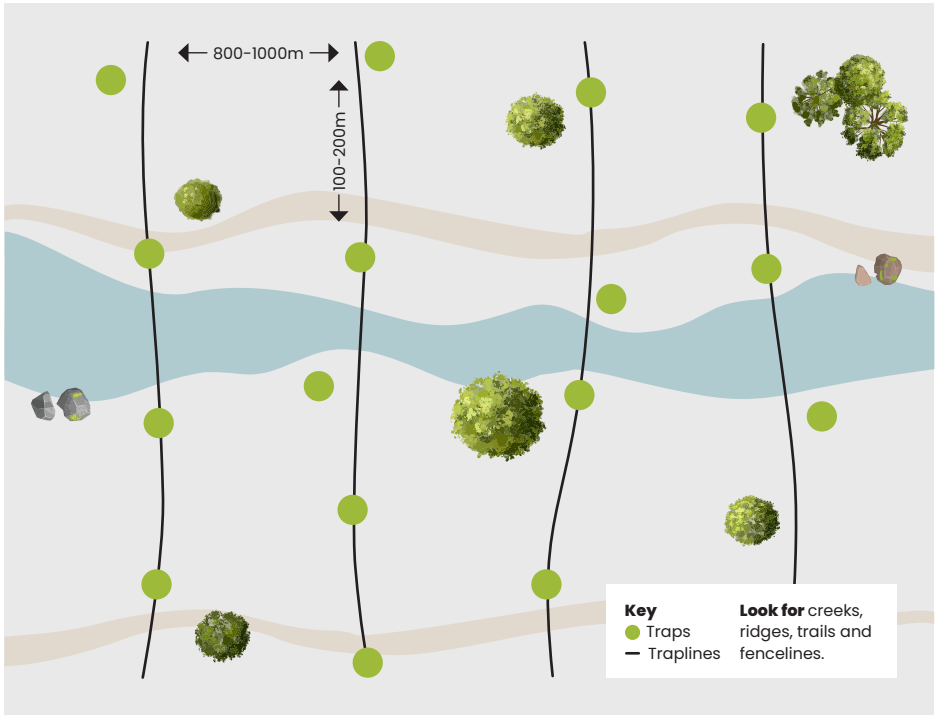
Tip: Ensure traps have sufficient clearance inside the box to fire correctly (check DOC build dimensions).

Trap density and grid

Your trap density and grid will vary based on your goals and capacity.

Recommended grid

- 800-1000m between traplines
- 100-200m between traps along traplines
- A tighter grid may be necessary depending on objectives and resources available, for example, if you're planning a kiwi translocation, 500m between traplines and 100m between traps may be necessary to get stoat numbers low enough



Tip! Keep the size of your trap network consistent, even if catch numbers drop — stoats travel long distances and densities vary seasonally.

In river valleys, especially when protecting whio, a single or double line of traps on either side of the river can make a big difference.

Trap location and placement

Stoats follow natural lines in the landscape.

It's better to pick good natural features than stick to a rigid grid. Wander up to 10-15 metres from the grid to find a good spot. Look for:

- Riversides, creeks
- Ridges, trails, game trails, tracks, spurs, fencelines and contours

Trap site must-haves

- Ensure box entrances are clear (of grass and debris). Clear mesh ensures animals can see through the trap and smell the lure.
- Smooth mesh around entrances, as sharp edges deter stoats.

Trap checking frequency

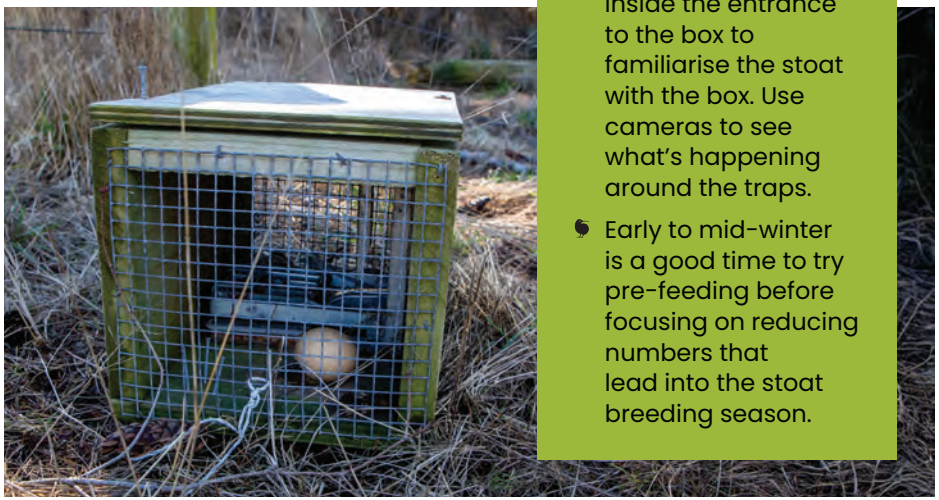
- **High stoat numbers/bird breeding season:** Weekly
- **Ongoing:** Monthly

Pay attention to seasons

In November to March, stoat numbers are high and young are dispersing: a good time to check traps more frequently.

Tip: Try pre-feeding if your catch rates are decreasing, but you suspect stoats are still around. Shut down lured traps for 2-4 weeks and then reset them.

- Try placing lures outside and just inside the entrance to the box to familiarise the stoat with the box. Use cameras to see what's happening around the traps.
- Early to mid-winter is a good time to try pre-feeding before focusing on reducing numbers that lead into the stoat breeding season.



Notes

A GUIDE TO

Weasel control

Wee and wily

This guide focuses on weasel control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.

Understanding weasels

Weasels are hard to detect and even harder to trap — your default trap network probably won't catch many.

While mice are their top pick for a meal, they'll also hunt birds and eggs, insects and lizards. They're fierce enough to kill a rabbit and return it to their den. Weasels aren't as common in New Zealand as stoats, and far less is known about them. If you know weasels are present in your environment, it might be worth working with a professional contractor. Your regional council or local DOC office can help with contractors' details.

Behaviour insights

- **Mistaken for stoats:** Weasels aren't just small stoats. Their behaviour and habitat is very different. Make sure you're targeting the right species. Find more identification information on the Predator Free NZ Trust website.
- **Summer boom:** Weasels breed in summer (December, January, February), so increase predator control during these months.
- **Winter lull:** Weasel numbers are low in winter, so this is a great time to pre-feed in unset traps, ahead of turning traps on in spring.
- **Move with mice:** They live in mouse-dense areas such as grasslands. They will also move into areas where you've reduced stoat numbers and mouse numbers are up, so place traps in these areas.
- **Wary of overhead threats:** They don't like things above them, e.g. birds of prey, so camouflage trail cameras.
- **Fast movers:** For monitoring, choose a camera with the fastest trigger speed, and try to 'hold' weasels at one clear spot by creating interest with lures, like pegged-down rabbit meat in a mesh cage.

Traps: Types, placement and timing

Recommended trap

The top choice is stainless steel DOC 200, manually calibrated to a trigger weight of 50g and housed in a wooden box.

This weight setting is lower than the default because weasels are lighter than stoats. Find videos on calibration on the Predator Free NZ Trust website.

Other trap options

Some groups prefer the DOC 150 as a lighter, cheaper, more compact option. Note that they are harder to set by hand, especially when calibrated to the 50g weight.

Note: The exterior mesh entrance for your wooden box should be 60mm x 60mm (based on a 20mm mesh). Get advice from predator control experts in your local area. Caution must be taken with non-target species, especially weka, kiwi, kea and pets.

A note on live capture traps: Live capture traps (such as Holden traps) can work, but come with legal and animal welfare obligations. They are best left to contractors.

Tip: Calibration of DOC traps is tricky and takes practice. New traps may need frequent adjusting at first.

Avoid double-set traps for weasels because the weight adjustment increases the chance of double-firing.

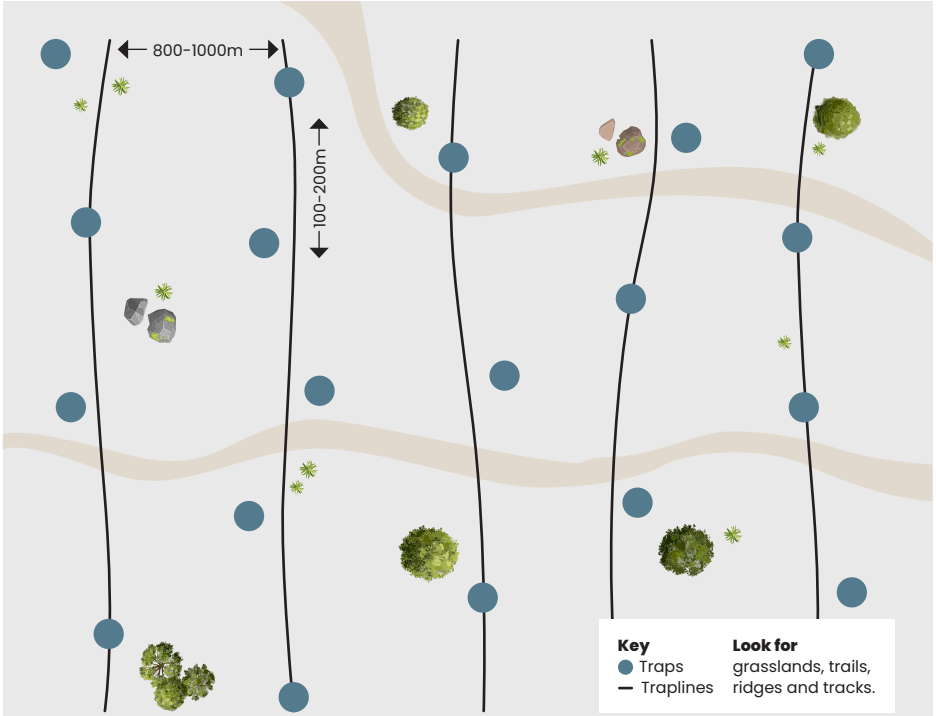
DOC 200

Trap density and grid

Your trap density and grid will vary based on your goals and capacity.

Recommended grid

- 800-1000m between traplines
- 100-200m between traps along traplines
- A tighter grid (e.g. 500m x 100m) may be necessary for specific projects, such as mokomoko (lizard) translocation



Tip! Even if the catch rate drops, keep the density of your trap grid constant, as weasels can travel long distances.

Keep an eye on trap performance; move them slightly if your traps aren't catching anything.

Trap location and placement

Weasels follow natural lines in the landscape. It's better to pick good natural features than stick to a rigid grid. Wander up to 10-15 metres from the grid to find a good spot. Look for:

- Grasslands with lots of seed
- 'Pad runs', or game trails
- Riversides, creeks, ridges, trails, tracks, spurs, fencelines and contours

Trap site must-have

Ensure box entrances are clear of grass and debris. Mesh ensures animals can see through the trap and smell the lure. Also be sure to anchor traps firmly to the ground for stability.

Trap checking frequency

- **High weasel numbers:** Every two weeks
- **Ongoing:** Monthly

Pay attention

- **Adjust as needed:** Calibrating traps for lighter weights (50g recommended) may require more frequent trap checking and adjusting.
- **Summer ramp up:** Check more often during summer (December - March) when young weasels are dispersing and at vulnerable times for the native wildlife you protect.

Tip: Smooth off or fold back any sharp mesh edges at trap entrances. Weasels are fussy — one scratchy encounter and they might not ever come back to a trap.

Lures: Nice mice

Common meat lures will work for weasels, but they're mainly attracted to mice. Your lure strategy should reflect that.

Top lures

- Catch mice, attract weasels: Trap mice nearby to lay down tempting scent trails, or place mice traps inside the wooden box behind DOC traps.
- Mayo magic: An automatic dispenser is good for attracting mice, which lures in weasels.
- Place meat lures such as commercial cat food (wet or dry), fresh salmon or rabbit inside your trap box. Use smaller pieces than you would for stoats or weasels.

Tips: Weasels will also be drawn to stoat activity, so consider how you might trap stoats nearby as a lure.

Hang the lure up high — a wire mesh bag or nail works well — so the weasel looks up at the bait and not at the trigger plate (they are easily deterred).

A note on toxins for mustelids: Most cereal-based toxins rely on weasels eating poisoned rodents (known as 'secondary poisoning'). To target weasels directly, acute toxins delivered in meat lures are required (e.g. PAPP or 1080 in meatballs or new sausage baits). These are under development.

- Acute toxins require a CSL and are not covered by this guide. We recommend that groups contact a professional contractor for assistance with targeting mustelids using toxins.
- Contact your regional council, local DOC office or PFNZ for a list of contractors. For further information, visit the Predator Free NZ website for a summary of toxins.

Notes

A GUIDE TO

Feral cat control

Clever, curious and hard to catch

This guide focuses on feral cat control and assumes you're familiar with general predator control practices. For general predator control advice, visit predatorfreenz.org.

Understanding feral cats

Feral cats are apex predators with devastating impacts on our native wildlife.

They're smart and suspicious, which makes them one of the hardest predators to control. At the same time, companion cats are important pets and their safety is crucial to maintaining community expectations and social license.

Key considerations

Trapping near people and pets? Loop in local communities. Talk goals, set expectations, and pet safety. You could ask people to keep their pet cats indoors at night so that control can be done. Scan for microchips and always check for a collar before assuming a cat is feral. Mistakes erode trust.

In public or recreational areas? Keep traps discreet and off tracks. Trapped animals, especially cats, can be distressing to see or hear.

Feral cats are very difficult to control. Figure out how low cat numbers must be in your area to have the desired impact on native wildlife numbers.

Consider getting additional advice from your local council or DOC.

Behaviour insights

- **Prolific, wide-ranging hunters:** Cats adapt successfully to a range of habitats from urban to alpine environments, so be prepared to plan varied control networks.
- **Cause local extinctions:** Cats hunt everything in an area and then move on. Break their cycle of behaviour with smart, adaptive predator control.
- **Highly individual and easily bored:** Some cats may be put off by the touch of cold metal, while others may be highly inquisitive, drawn to new smells, tracks or a well-placed lure. It pays to mix things up; cycle through different trap types, placements, lures and extra incentives to keep cats curious.
- **Solo or in colonies:** It depends on density and habitat. Kittens learn from their mothers, so it's important to avoid bad trapping, which teaches the next generation on avoiding traps.

Lures: Meat, meat and more meat

Feral cats are opportunistic: they feed on rabbits, birds and bird eggs, rats, hares, bats, lizards, mice, wētā and other insects.

For your lures, think meat: generous in size, raw, smelly, fresh and keep it diverse. Be cautious that meat lures may attract non-target species such as kāhu (harrier), kārearea (falcon) or pets (especially when using kill traps).

Top lures

- Fresh or hunted meat, e.g. possum, rabbit (blood, fur and guts welcomed)
- Commercial cat food
- Fish lures in winter when other food sources are low (cats need the protein)
- Freshly trapped rats or mice

Tip: Mimic local food sources where possible (e.g. possum road-kill, venison in popular deer hunting areas, duck in shooting season).

- Pre-feeding can be helpful to create novelty and build trust, but don't overdo it or cats will become bored.
- Dragging part of a fresh rabbit or possum around the trap site leaves attractive blood scent trails.
- Anchored lures are useful for creating interest at a trap or camera site. You could try a folded wire mesh bag/cage containing fur and meat pegged to the ground in front of the camera.
- In areas where kāhu or kārearea may be present, try covering the top of live capture cages to reduce raptor interest.

A note on toxins for feral cats: Most cereal-based toxins rely on feral cats eating poisoned rodents (known as 'secondary poisoning'). To target feral cats directly, acute toxins delivered in meat lures are required (e.g. PAPP or 1080 in meatballs or sausage baits).

These are under development. Acute toxins require a CSL and are not covered by this guide. We recommend that groups contact a professional contractor for assistance with targeting mustelids using toxins. Contact your regional council, local DOC office or PFNZ for a list of contractors.

For further information, visit the Predator Free NZ website for a summary of toxins.

STEVE ALLAN
TRAP (SA2)

Traps: Types, placement and timing

Because feral cats are so wary and difficult to control, using a variety of traps is often the most effective strategy.

This guide includes kill traps and live capture traps. Live capture traps are most effective for feral cats, but are not appropriate for many groups due to the additional requirements. Kill traps are not appropriate in areas where there are owned cats. The traps you choose will depend on your location, available time and capacity to deal with a live capture.

Kill traps

Kill traps are instant and effective for multi-species (most also catch possums), but cats may be reluctant put their head in them. Use them in areas away from residential zones where pet cats are common. Avoid using them in areas with kea, kiwi, weka, or other ground-dwelling birds.

Recommended kill traps

- **Steve Allan 2 (SA2):** An effective and durable trap, but heavy and can be harder to source. Use in a chimney box or with a ramp.
- **Timms:** Cheaper and lighter than the SA2, but may not last as long.

Top tips

When using a ramp, a 45-55 degree angle works best.

When using an SA2 or Timms kill trap, placing it next to an AT220 can be helpful, as feral cats may come to scavenge the dead possums below the automatic trap.

A SA2 can also be positioned on top of a wooden trap box (e.g. DOC 200) to attract a feral cat, but this requires particular care around non-target species. Do not use this approach in kea or weka habitat.

Hang bait in a wire mesh bag inside the chimney box so it attracts feral cats and distracts them from the trap.

TIMMS

Live capture traps

These traps are very effective and less intimidating to feral cats, however, it's a legal requirement to check live capture traps daily (within 12 hours of sunrise).

They also allow identification of pets (check for collars, name tags, microchips). Feral cats must be euthanised humanely by a licensed shooter. Live capture traps should not be used in areas with kea, kiwi, weka, or other ground-dwelling birds.

There are two main types of live capture traps

- **Cage traps:** Cats are more easily enticed inside cages than kill traps (though still require luring). Once the treadle is triggered, the doors come down.
- **Leg-hold traps:** These can be very effective, especially when several are used together. There is less for cats to be wary of, as they do note have to enter anything. However, setting and careful placement of traps requires skill and experience (e.g. camouflage: covering with leaves/partially burying).

Recommended cage traps

- **Pestgard Tunnel trap MK2:** Tall doors allow cats to enter without ducking.
- **Tāwhiti Cage:** A double entrance cage trap with an optional sensor to detect when the trap has triggered and sends out a message.

PESTGUARD TUNNEL TRAP MK2

Top tips

- Ensure trap entrances are big enough so cats don't need to duck to enter, as this will deter them. Cages with an entrance at each end are ideal, too, as the see-through tunnel builds confidence in entering the trap.
- Hang bait from the top of the trap to distract the cat from the treadle plate. Use a bait wire with a loop that allows the bait to move slightly and catch the cat's attention. If kāhu are present, hide the bait from aerial view.
- Camouflaging and covering the base in dirt helps reduce wariness.
- Cats use their footpads to detect changes in the ground. When setting traps, dig up the ground all around the trap site so the ground feels the same on and around the trap.
- Remote monitoring technology reduces the need to check all traps manually.

Recommended leg-hold trap

Victor #1.5 Soft Catch: A well-made and effective leg-hold trap but can be slippery to set in wet conditions.

Top tips

- Cover the centre plate (pan) with a thin layer of sand, soil or leaves (no stones). You can also add a layer of toilet paper to hold the sand/soil in place - make sure the trap jaws are not covered. Dig out a larger area around the trap/s ($2m^2$) so cats get used to walking on the sand/soil.
- Place bait 0.5m high on a nearby tree or post. It needs to be easy to reach for cats while also moving around in the wind to catch attention. You can also place something interesting up high (e.g. a fabric scrap scented with kitty litter or blood) to distract the cat from looking at its feet and noticing the trap/s.
- Multiple leg-hold traps in an area will also maximise the chances of a cat triggering one, as it approaches from different directions.

Other methods

- If you have access to a **skilled shooter** with a thermal scope and your project site allows, shooting can be an effective way of controlling cats.
- Permits are also required on Public Conservation Land. Check firearm license requirements.
- Using **skilled dogs** to flush feral cats up trees can also be effective. Landowner permission is essential on private land.

Trap location and placement

Trap placement near landscape features is key for feral cats: grids are far less useful.

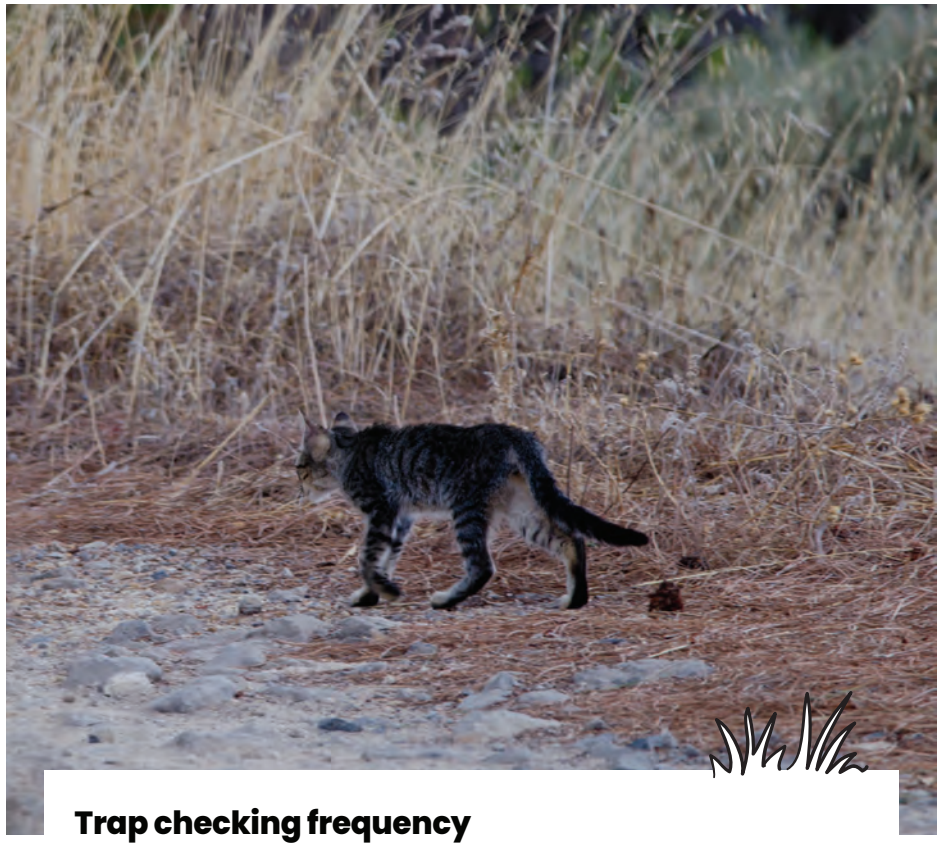
Position traps along natural or human-made lines that guide movement. Ideally, look for den sites and high movement areas. Aim for:

- Water and forest edges
- Roads, tracks, fencelines
- Stream crossings (logs, bridges)
- Tree rows or shelter belts (but away from the public eye)
- Runs and trails regularly used by cats and other animals
- High points in the landscape, as cats like to look down on their prey
- Food rich areas like hay barns, grain silos, chicken sheds, offal pits and other farm areas

Use cameras to observe individual cat behaviours and interests, and place traps accordingly.

Tip: When on public land, be aware of safety and traps being in public view. More open traps, such as the SA2 or live-capture traps, should be at least 50 metres from huts and tracks. Seeing feral cats in traps is particularly confronting, and care should be taken to keep them away from the public eye.

SUGGESTED TRAP LOCATIONS



Trap checking frequency

Feral cat trapping is time-intensive, and running traps year-round is often high maintenance. A smart approach is to run focused trapping bursts during peak times of cat activity or vulnerability.

Best times to trap

- **April:** Food is scarce, and cats are more likely to take the bait. Set traps for ten days.
- **July:** Another low food period; a good second trapping window.
- **February–March:** Ideal time to catch breeding females before kittens arrive.
- **December–January:** A quick summer burst can target naive juveniles, which are more easily caught.

Live capture and leg-hold traps require daily checking, and you'll need someone experienced with a firearms license to kill any cats caught. Check kill traps weekly when you have high cat activity.

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