

Possum Control using Single Set Kill Traps (revised)

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Possum control using single set kill traps is often considered to be just too Hard. But it can be an effective and relatively cheap method of controlling possums in both small bush blocks and larger areas of 1,000 hectares or more.

One of the reasons people are hesitant to give possum trapping a go is that there is just very little info out there to guide people. We get a constant trickle of enquires from conservation groups about trapping possums, so decided to write what we have learnt over several years of Possum trapping a 1,200 hectare conservation block. Plus relevant information from other experienced trappers and research papers read over the years.

This paper should provide people with enough information to become a competent possum Trapper, from which they can continue to grow their skills.

Possums are the easiest of our classified pest animals to get under control, firstly they are just not that smart. Like most of our pest animals they are neophobic, but are also naturally curious so drawn to things like bright white trap covers. Normally they only have one off spring a year, two at most, a good number of which never make it to a year old. So once you have achieved the initial knock down of possums they are relatively straight forward to maintain at low levels.

Another advantage to trapping possums is that the network of traps are there all year long just waiting for an inquisitive possum to wander by. With Toxins in Bait Stations it is normally a two week operation, so whatever possums you miss because they were already keyed into a seasonal food source or were just not attracted to the lure in the toxin, are then free to do what ever they want until you next run a Toxin operation. Likewise possums who wander into your block after the Toxin operation have the run of the place.

Community groups carrying out animal pest control for conservation don't normally target just a single animal like possums, mostly they target a range of animals dependant on their goals. With planning we can use this to our advantage by say installing possum traps where there are already mustelid traps, one stop for a person to check both traps and generally speaking a good place to catch a possum is also a good place to catch a stoat or ferret. Having a number of traps in the same spot will also help attract more animals due to scent trails and activity at that site.

A couple of the conservation groups I work with who have combined mustelid and possum trapping operations have found that with a good trap set-up it doesn't take volunteers much longer to check trap lines, and is a more efficient use of volunteers time.

Interestingly they have reported a boost in volunteer morale when they started possum trapping as volunteers are now catching more pest animals and can better see the good they are doing. A 4kg possum in a trap has more wow factor than another squashed rat.

Where to place Traps and how many

Ideally in larger blocks you would first monitor possum numbers using wax tags, chew cards or leg hold traps. Monitoring will indicate overall possum numbers, 5% rtc (residual Trap Catch) is approx 1 possum per hectare, plus monitoring might indicate areas of higher possum densities.

Higher possum numbers will require more initial resources like extra traps or more trap checks until you get the initial knock down of possums and move into a maintenance role.

If you have the option of using Toxins, then a round for possum control will get that initial knock down quicker and basically let you start maintenance trapping.

Where to place traps and how many you need is going to vary dependant on what you want to achieve and the country you are working in. Generally the larger the area being trapped the lower the density of traps required.

For example. If we take a native forest of say 1,000 hectares and you are carrying out general conservation work to protect flora and fauna, your goal is to keep possums at low levels of say – 5% rtc all year.

Pre monitoring of possums shows 15% rtc, then one well set up trap per two hectares, and checked every 2 to 3 weeks should be more than enough. At this trap density and number of checks it is probably going to take about 3 months to get a significant reduction in possum numbers.

Generally possums have a home range of 1 to 4 hectares and ranges often overlap. As possum numbers reduce through trapping then the remaining possums roam over a larger area so are more likely to encounter multiple traps.

If you have identified areas where possums may wander into your block from, then install a few more traps in those areas. If it looks like possums wander in along say a ridge line from an adjacent block talk to the Landowner they might get on board or let you install some traps along the ridge line.

Make sure the traps are clearly visible to catch the possums attention.

Possums are just like us, they are Lazy, so take the easy route. Have traps where the possums might be travelling, like existing or old game trails, old logging roads etc. Keep in mind that established trap lines once worn will become animal trails.

Where an animal trail, spur or ridge crosses your trap line are ideal spots.

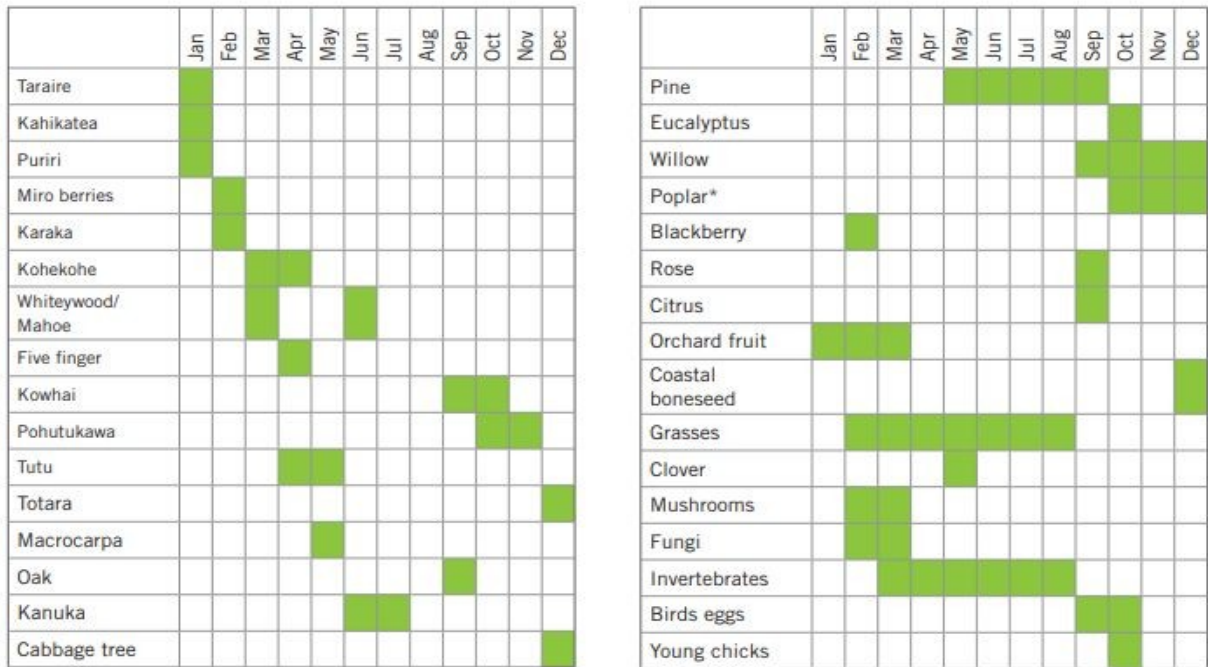
Ridges and spurs are be good spots for possums moving around.

Food source trees like Totara, Rewarewa, Pine or Willow (most trees are seasonal) are good spots for traps. (Personally I find it hard to walk past a mature Totara without sticking a trap on it). Forest farm boundaries, look for runs in long grass forest side of fence.

Tracks along streams are also good, possums don't like to get wet so will wander up until they find a crossing, a fallen log across the stream or a bridge are ideal spots for a trap.

On Farms where there are smaller bush blocks of Native or Pines then as long you have some traps in each block and the traps are checked regularly then roughly the same one trap per two hectares of Bush should keep possums under control. Possums like farm pasture forest edges, plenty of fresh sweet grass and the bushes on the edge have plenty of new growth and fruit from the extra sunlight.

Most food source trees, Willow, Pine etc. are seasonal, it is not practical for most operations to move traps but if you have say 10 traps on your farm or lifestyle block then moving them to suit seasonal food sources could be a good move.



Possum Seasonal Browsing Chart

Straight Trees with trunks around 140 – 280 mm in diameter make for good installations. Trees that have suitable Bark where possums can easily grip the trunk are ideal and for those situations larger diameter trunks are ok.

Where there are only larger diameter trees with smooth hard bark like Tawa you are probably best to use a running board.

When installing any Trap or bait Station it is a good idea to put yourself in the position of the target animal, how will they approach and feed from the Trap or bait station. All of the target pest species are neophobic, which is how they survive, so we need to make Traps and Bait Stations Obvious, Inviting and Easy for them to meet their maker.

Fast food companies don't even make us get out of our Cars to sample their delicacy's.

Example: During a camera field trial some Ship rats had problems getting into possum/rat Bait Stations mounted 280mm off the ground, they were falling off while trying to swing into the Bait Station from the top. The Bait Stations can't be lower or possums will have a problem feeding.

Answer hang a piece of Rope 300mm long and 20mm diameter from the bait station opening for rats to climb up. Follow up trial showed 85% of rats used the rope.

Trial paper available on request.

Running Boards

Research from the 90's plus our own 1,000 hectare trial shows that traps with Running boards or similar places for possums to sit catch a significantly higher number of possums than a straight tree. Running boards 90 – 100 wide are ideal and out preformed things like propping up a branch. They are an excellent way of getting a possum up close with tree mounted traps.

Some research shows that possums can have several interactions with a trap before they decide to stick their head into the trap to get the Lure, so having a suitable place for them to sit and investigate the trap is a big help.

Putting a bit of Lure on the top of Board or on the tree below the trap also helps get the possum up close to trap.

Video showing the value of a running board and attractant lure on the board.

https://www.youtube.com/watch?v=FF_Rq4IKVil

Where you have Kiwi or Weka traps must be at least 700mm off the ground and if using a running boards they must be at least 50 deg.

A 1.2 metre board is ideal, on level ground measure 900 from the ground up the tree, that will be the top of board and give you 50 deg. Boards 90 – 100 mm wide are ideal.

For traps where the possum enters from below like the Sentinel or Warrior then generally 200 – 240 mm from the top of the board to bottom of trap will be right.

A cheap source of Boards is to use longer pellets that wall board etc come on, ITM, Main freight etc are generally happy to give away damaged pallets, cut boards to 1.2 metres long. Pellets are not treated so dipping one end of the board in 20mm in Metalex, and putting that end on the ground will prolong the life of board.

Examples of Trap Installations



Kiwi are present at all installations

Running Board and Sentinel Trap

A Running Board is used as the Tree is large diameter with smooth hard bark.

The Board provides a possum with an ideal spot to sit and check out the Trap. Blue smooth on top of board.

Custom Trap cover is made from rigid PVC sheet, it will last forever and really stands out.

200 – 240 mm from top of Board to the bottom of Trap is ideal.



Sentinel Trap is mounted where a possum has easy access up the Tree, and can sit on the branch below the trap.

Note the Blob of Blue Smooth below the trap, Flour Blaze on the tree and limbs is another option.

This Trap is on a main Ridge line and caught 27 possums in two years.



Typical straight tree installation

Tree is about 200mm diameter and next to a well worn pathway.

Trap is mounted about 1.1 metres from the ground.

Mustelid Trap in background.

Attracting possums to the trapping

All the research suggests that Possums do not have a good sense of smell over larger distances so it is important to use other cue's to grab their attention and attract them to the trap.

The first step in getting possums to the trap is as mentioned previously. Having Traps where possums are travelling or feeding, and making sure the trap is clearly visible from both directions along the track.

Then we need to grab the possums attention. Possums are naturally curious but cautious, they are attracted to things like bright white trap covers, you can use a piece of white Coreflute say 150×150 mm above the trap, but Coreflute degrades so 1.5 mm thick White PVC sheet is better and easy to clean.

Occasionally clean the PVC sheet and or trap cover, a damp cloth with a dab of sugar soap works well, carry cloth in a zip lock bag.

Otanewainuku Kiwi Trust make their own Sentinel trap covers from 1.5 mm UV stable white PVC sheet, last forever, are easy to clean and really stand out.

You can use the traditional flour Blaze, 5 parts flour to one part Icing sugar, (I add a bit of Raspberry Essence or powdered Cinnamon/ mixed spice), apply a handful of Blaze about 300 mm up from the ground on the trail side of tree, Blaze does dissipate after a few of days.

Scuffing up the ground in front of traps with your Boot works to get the attention of most animals as they want to investigate.

One trial had some success using Romark bait stations on the same trees as the Possums traps. They used the same lure in the Romarks as the traps, the Romarks maintained a viable scent attractant after rats had eaten lure off trap bait blocks. We have found the Romarks great for Feratox operations, but a couple of points they need to be 320 mm off the ground to keep ship rats out, and in squally weather they can get water inside, I suggest drilling a 4mm hole in each corner.

As previously mentioned Running Boards or having traps mounted above a suitable place for possum to sit is a great way to get them up close to the trap.

The subject of so called "Trap Shy Possums" always comes up, ask yourself are they really trap shy or is your trap instillation just not appealing?.

Recently on a forum a person had two possums on video every night sitting under a tree mounted trap, but they couldn't catch them, so they called them "Trap Shy". Someone suggested trying a totally different lure, the next day they had caught the first possum.

I have video of a possum escaping from a trap, it sat on the ground for 8 minutes groomed itself then went back up the running board to get the lure from the now sprung trap. Landcare have made similar observations during pen trials.

In his presentations Wildlife Biologist and expert trapper Cam Speedy always emphasises the importance of animal scent trails and how different species interact and use those trails to find food and your Traps/ Bait Stations.

Cam says “ If you kill most animals that come to your trap site, the communication channels eventually break down - particularly in low density populations. It is worth closing your devices for a couple of weeks and prefeeding hard to cue possums back onto the site. A mix of ugly carrots, blaze and 'smooth' will get the party going. This is especially effective during the March Mate. There is nothing like endorsements from friends and family to bring everybody to the party. The scent trails, food cues and pad runs that open up to prefed sites can make a huge difference”.

On the same scent trail interaction subject. I was doing a field trial which involved prefeeding ship rats and possums using bait stations, which were topped up every three days. The rats thought it was Christmas and after a week or so at nearly every site a Feral Cat would turn up to check out what was going on.

Lures

The commercially available paste lures like Smooth Blue, Possum Dough etc work well and rotating which lure you use every few months is good practice, keep track of how the Lures go. It is worth while now and then to have a run through your traps with something different as you will probably pick up the odd possum that was not attracted to the lures you have been using, or just curious about a different scent. We have found some lures work better in different conditions, Possum Dough is a favourite for dry periods but I find it tends to absorb moisture from the atmosphere during continual rain. Pestoff wonder lure is more a Mayo type consistency good in some situations and it does seem to hold up well in wet conditions.

Hardly best practice but occasionally to mix things up we have used commercial lures as a base and added complementary attractants, like adding a bit of powdered Mixed Spice to Cinnamon based lure.

Unfortunately lures that are attractive to possums also attract mice, rats, invertebrates and sometimes birds.

Once it was common practice to use pieces of 12mm wooden Dowel with a hole drilled lengthways for a tie wire, Dowels were soaked in or covered with whatever you wanted to use. The idea being that the lure substance soaks into the wood so retains some attractant after non targets have consumed what's on the exterior. Dowels can be changed and re lured or refreshed in the field. Probably a good idea to discard Dowels after a while to keep things fresh.

We did a small trial on sentinels using wooden blocks to replace the standard plastic bait block, had some success but the trial was too small to be conclusive.

As previously mentioned Flour Blaze lures are a worthwhile addition on trees and running boards, but don't use them on traps they can go hard.

For some with say orchards then obviously use what the possums are eating, just take note of bait sizes below.

If you are using traps like Timms where you force the bait onto a bar then size and orientation of the bait is important. Bait like a piece of apple must be horizontal, if vertical the possum will turn it's head sideways to grasp the bait so the kill bar will strike on the side of neck resulting in an escapee or a slow inhumane death. The size of those baits is also important pen trial research showed 12-15 mm high was ideal, if the vertical size of bait was 40 mm then possums just licked the bait.

Record Keeping

Keeping accurate records is an important part of animal pest control, memory is often not a reliable indicator of what actually worked best, it can be clouded with what we think is best.

Record keeping is not hard and getting easier with a range of Apps, me I have been using an Excel spread sheet and dots on photocopied paper maps for 20 years. When I install a new possum trap I write a couple of notes, Location, diameter of tree and species, running board or not, natural sitting spot, on animal trail etc. This goes onto an Excel Master page.

Good records will show patterns like which traps are performing well and which need attention. What Lures work well in your area and at what times. Records will show when the main seasonal dispersal happen in your area, generally late summer, you will probably be catching more Juvenile /sub adult males particularly near bush boundaries as they disperse to set up their own territories. This is a good time to do a few extra trap checks and catch them while still a bit naïve.

There is an OLD saying that 20% of your Traps will catch 80% of the animals, and that is just the way it is. To an extent that will be correct either through experience or luck you may have put a trap in the right place. You can try and be a bit smarter and when your records show patterns of higher catch traps, look at those Trap installations and surroundings to see what you can learn, then try to transfer that knowledge to low or no catch traps.

For example is it on an animal pathway, is it on a tree possums love like Totara, does it have a running board, does it have a method to attract a curious possum like a bright white cover etc.

Moving non performing traps

If traps are not performing as expected then yes you can move them to what will hopefully be more productive spots. However in larger operations you will still want to have some coverage over the whole block, big gaps in the control network don't make sense as possum movements may vary, say when they are looking for a

mate or after a seasonal food.

Obviously as you reduce possum numbers you are going to be catching fewer possums, except maybe around some incursion spots. Some of your traps may also be more seasonal catch traps.

As you are checking traps keep a good eye out for fresh possum sign like Scat, Fresh Bite marks on trees, chewing on leaves, Fur from fights etc, (plenty of info on line). Being observant will help indicate if all is looking good, or changes are needed. Changes might be as simple as changing Lure, using Flour Blaze, adding a running board, or moving the trap to a different tree. Small changes can make a big difference.

As previously mentioned possums can be cautious around new items so catching them can take a while. Generally speaking for a new trap installation if you know possums are in that area, but you haven't caught a possum in the first two months look at making changes, again this is where good record keeping helps.

Trap Maintenance

Generally traps don't require too much maintenance, keep them clean and make sure triggers can operate smoothly.

As previously mentioned keep trap covers and or attractant strips clean.

Occasionally set the trap off to make sure it is operating correctly, this also allows the springs to unwind. Never dry fire the trap, an old sock filled with a couple more socks placed between the jaws will reduce shock loading.

Note: Keep your hands out of harms way.

Avoid spraying lubricants on the trap, if you have say a stiff pivot point then generally a good clean and a drop of 3 in 1 lube will do the trick.

Traps pass NAWAC standards when they are new but springs are set 24/7 so gradually lose tension over time. As your traps get older compare the effort required to set them to that of a new trap. Generally you should get 10 years out of traps

If your new traps come bare metal or with just a decorative paint finish, to improve their life span and operation you can get them Zinc Plated. This is a Cold process so doesn't affect the springs. Costs about \$3 per trap. I have been getting traps Zinc plated for 20 years and it's well worth the time and cost.

Never have traps hot dip Galvanised, it can damage springs.

Happy Trapping and remember that it's not all just about checking traps and killing things. Being observant to what is happening in the forest and taking time out to appreciate it will greatly increase your knowledge, and the enjoyment you get from being there.