Predator control for kiwi protection

New Zealand’s wildlife, including kiwi, are particularly vulnerable to pest animals. This is because New Zealand plants and animals evolved for millions of years in the absence of predatory mammals. Pest animals can be defined as all species introduced to New Zealand that have a negative impact on native plants and animals.

There are more than 70 iwi, landowner and community projects around New Zealand working hard to protect their kiwi. It may seem a difficult task but there is help and information available to help you.

Following is some basic initial information.

The major threats to kiwi come from:
- mustelids (ferrets, stoats, weasels) Stoats prey on kiwi chicks and ferrets on chicks and adults
- cats, which prey on kiwi chicks
- dogs which kill chicks and adult kiwi
- possums and pigs, which destroy habitat and chase kiwi off nests and eat eggs
- rats, which eat kiwi food

Planning considerations
- What numbers of kiwi are present
- What threats are present
- How you can best remove the threats and when you should time the work
- What is manageable for your project
- What possible other effects your management may have
2.0 Controlling animal pests

1.1 Stoats
- The middle sized mustelid
- Effective killer of kiwi chicks under 1000 gms or 7-9 months
- Where there is no trapping they kill most chicks
- Breed once a year- in spring and have 5-10 young
- Have a fast metabolism and need lots of food
- Will swim and climb
- Can be trapped with DOC 200 traps set under covers. Bait traps with white hens eggs, rabbit or possum meat (fresh or salted). Set off and rebait the traps about 2 weekly in summer and monthly in winter for best results. Set about 1 trap per 8 ha near streams, tracks and under cover.
- Have a territory of several hundred ha
- Trapping must be ongoing as they are cunning and may be hard to trap.

2.2 Cats
- Kill wildlife including kiwi chicks
- Are usually present but seldom seen
- Have a large territory
- They hunt mainly at night
- Can be trapped with live capture cages or plywood box traps or kill traps like SA Cat trap, Conibear trap, Timms trap, Belisle X220 chimney trap or shot
- Set about 200m apart and bait with fresh meat or fish
- Check about 2 weekly and replace with fresh bait

2.1 Dogs
- All dogs, whether family pet or wild dog will get excited by kiwi and could fatally injure or kill them
- Dog control is essential for kiwi survival
- Dogs are main predator of adult kiwi in some areas of NZ
- Dog control must be emphasised
- It is safest never to allow dogs into kiwi areas
- Do not allow dogs to be free and wander – especially unattended at night
- Dogs can be trapped with cages
- Kiwi aversion training for dogs reduces the risk. It is about 65% effective.
2.3 Possums
• Can destroy forests
• Feed at night. Eat eggs, fruit, leaves, flowers, insects
• Follow same tracks and have favourite trees
• Can be shot, poisoned or trapped with traps set high enough to avoid catching kiwi
• It is best to time their control to when it will most benefit things you want to protect

2.4 Rats
• Are common in forests
• Ship rats are good climbers
• Norway rats live near waterways and swamps
• Eat the food kiwi chicks need to have in order to grow fast and get too big for stoats to kill
• Can be trapped with Victor professional rat traps or poisoned with bait in baitstations

2.5 Ferrets
• Ferrets are the largest mustelid and are more nocturnal
• They will kill kiwi chicks and adult kiwi
• They do not like to climb and prefer bush edges and more open country
• They can be trapped with DOC 250 traps baited with rabbit or possum meat.
3.0 Recording and monitoring

It is a good idea to record what you are doing and your trapping results on forms. This will help you understand what is happening to the pests in your project area. Similarly you can monitor how many are remaining through small mammal index monitoring, trap catch monitoring or wax tag monitoring.

Monitoring kiwi by listening to calls will, over time, give you an indication of how your kiwi population is doing and how effective your work is.
HOW TO AVOID KIWI WHEN TRAPPING AND POISONING ANIMAL PESTS

Controlling possum populations is important for the health of our forests and the long term survival of their native inhabitants. Possum control has also become an important source of income for some people and possum hunters have become very active in the forest again.

Some of the techniques we use to kill possums, can also kill kiwi. Smart trappers can avoid this and can play a part in ensuring the survival of their local kiwi populations.

POSSUM TRAPS

How a trap is positioned on site and lured can provide greater safety for kiwi while not compromising the trap catch rate.

In general:

• The golden rule is to elevate traps off the ground or put them in boxes that kiwi cannot access.
• Kiwi do use possum and other animal runs so setting the traps directly on the runs increases the risk whereas setting raised sets next to the run will still catch the possum travelling through.
• Kiwi do get caught by ground set traps even if tucked into the base of a tree as the lure attracts bugs that they feed on.
• Hazing is designed to lead animals directly onto a trap to ensure they stand on it - it does not stop kiwi.
• Kiwi often feed around and on top of fallen logs so avoid setting traps against or on them.
• Using plenty of lure will draw even the most vertically challenged possum to your trap.

The 100% effective solution to prevent kiwi injuries and deaths is to mount the trap 70 cm off the ground where kiwi feet or bills won’t get caught. In the field it is sometimes difficult finding suitable and practical sets and more equipment may need to be carried into the bush. When using elevated sets apply lure above the trap, make sure the trap is secure, and attach all leg hold trap chains at a height which allows the possum to rest on the ground. Staple the chain behind the tree or under the ramp so it is not fouled by possums as they climb.

RAMPS

• Place a sloping branch against a tree at a 50° angle. This angle will also restrict non targets such as weka and cats as they have difficulty climbing angles greater than 30 degrees. A tree with a platform to lean the ramp on increases catch rates.
• Attach the trap near the top of the ramp. Ensure a caught possum can sit on the ground.
• Finely spread some lure up the ramp and on the ground to attract the possums to the raised set site.
• You will need to take a hammer and nails as well as other equipment when setting up the trap line.
• Baiting with meat or peanut butter and cat biscuits will also draw in cats and mustelids as well as possums.

SOME RAISED SET IDEAS
Scott boards: These are the most commonly used. They are pieces of 8mm x 240mm x 195mm wood wedged onto the tree using three 125mm nails (one above and two below the wood). Sometimes they have holes in them. The trap is held firmly on the board using rubber bands made from rubber inner-tubes.

L-brackets: Brackets (45 x 45mm) designed to hold the trap either by the springs or trap-base extension so that it sits at right angles to the tree.

Spikes: A metal spike that is hammered into the tree and holds the trap either by the springs or trap-base extension. Jolt head nails (125mm) can also be used to nail through the springs into the tree.

Shelf: Connovation has designed a spike/shelf for Victor traps. Note well that the trap dog should be facing away from the tree.

BRACKETS A range of sets are available.

KILL TRAPS

Landcare Research has identified a range of kill traps which increase the raised set catch rates. These must all be set out of reach of kiwi.

SA3 traps are very effective and easy to set. Warrior traps, SA modified conibears, Trapinators, Belisle traps, BMI traps and Sentinels, all attain good catches but require extra equipment and skills in setting them correctly. Timms traps can also be raised on ramps or stumps and catch just as well as on the ground when lured correctly.

FENN, DOC 200, SA CAT TRAPS, TUNNEL TRAPS AND POISONS

Traps set for mustelids or cats (such as Fenns, DOC 200s, DOC 250s) on the ground must also be set in tunnels with small entrances so they will not catch kiwi. Best practice boxes have been designed and tested that prevent kiwi getting their bills snapped off in the traps and also stop kiwi chicks from climbing into the boxes. See www.predatortraps.com

POISONS

Kiwi have also died from eating cyanide paste laid on the ground, so cyanide should be placed in bait stations out of a kiwi’s reach. It is highly effective and affordable to place small plastic pots up in trees at a safe height and draw the possums up the tree with lure. This will also stop weka, pig and hedgehog interference on cyanide baits.

FOR MORE INFORMATION, CONTACT THE FOLLOWING ORGANISATIONS:

Landcare Research http://possumdss.landcareresearch.co.nz/
Department of Conservation www.doc.govt.nz
Kiwis for kiwi www.kiwisforkiwi.org
QEII National Trust www.openspace.org.nz
NZ Landcare Trust www.landcare.org.nz

CREATED BY: Wendy Sporle, National Mentor for Advocacy, Kiwis for kiwi

INJURED AND DEAD KIWI

If you find an injured kiwi, regardless of the cause of injury, wrap it gently in a towel or clothing and take it to a local vet or the Department of Conservation (DOC) ASAP so it can be treated. Dead kiwi should also be handed in to DOC.
The Doc 200 has passed 'draft' NAWAC (National Animal Welfare Advisory Committee)* guidelines as a humane kill trap for stoats, rats and hedgehogs. These setting instructions must be followed to meet these guidelines.

**Step one**
Locating and screwing the trap in the tunnel:
- Use size 6 x 25mm rust proof screws
- Traps should be fixed with the treadle 5mm(approximately) from the side of the box and the baffle**.

**Step two**
Setting the trap:
- Pull carefully on the wire setting loop with your hand. Continue past the top of the trigger arm, allowing the trigger arm to drop onto the treadle.
- SLOWLY release pressure, allowing the bottom of the trigger arm to gently ride up treadle and catch on the sear.

* see NAWAC DoC traps humane report at www.predatortraps.com

Bait (egg or meat) on wood or nail pedestal

* Drawings, Phil Waddington
Trap and setting tool Purchase

Traps and setting tool are available direct from the manufacturer, CMI Springs.

Trap box Purchase

Traps in boxes can be purchased direct from Haines Pallet Co.

Advice, contacts and website

Predator control advice, trap development contacts and feedback.

The Safety clip

Safety clip application (one clip per order, for use when testing and cleaning trap).

www.predatortraps.com
These Department of Conservation ‘current best practice’ tunnel designs must be used with DOC 200 traps. These tunnels are designed to exclude non target species, guide target species and provide public safety.

**Single set tunnel design.**

In areas where weka are present, the tunnel length is 525mm, the distance from the end mesh to the internal mesh increases from 130mm to 265mm.

**Materials**

- All timber H4 treated radiata or similar.
- Ends and baffles 20mm galvanised weld mesh.
- 175mm galvanised a/groove decking nails.
- Lid labelled with project information
- Lid pivots on 75mm a/groove decking nail
- Ends and baffle 20mm weld mesh
- Lid and base 400 x 250 x 25mm
- Lid secured by 40mm screw or coach screw.
- Saw grooves
- Spacer 200 x 40 x 25mm
- Internal baffle hole 3 x 4 meshes, aligned just off the centre of the treadle - see setting diagram
- External end hole 3x3 meshes

All traps must have hazard warning on lid.

Drawings, Phil Waddington
These Department of Conservation ‘current best practice’ tunnel designs must be used with DOC 200 traps. These tunnels are designed to exclude non target species, guide target species and provide public safety.

Double set tunnel design.
In areas where weka are present, the tunnel length is 950mm, the distance from the end mesh to the internal mesh increases from 130mm to 265mm.

Materials
- All timber H4 treated radiata or similar.
- Ends and baffles 20mm galvanised weld mesh.
- 175mm galvanised a/groove decking nails.

All traps must have hazard warning on lid.

Lid labelled with project information
Lid pivots on 75mm a/groove decking nail
Ends and baffles 20mm weld mesh
Sides 600 x 200 x 25mm
Internal baffle hole 3 x 4 meshes, aligned just off the centre of the treadle -see setting diagram
75mm a/groove decking nails

Drawings, Phil Waddington