

# Ground Based Animal Control

Nigel Heron, (Senior Forester, Timberlands Limited)

Prior to 2008 the major focus of Timberlands Possum control revolved around aerial 1080 operations. This was a highly successful system where by large areas of around ten to fifteen thousand hectares were treated annually. Where these large scale aerial operations were carried out possum damage was generally eliminated for between five to seven years.

During this time trappers did operate in the estate however they tended to be small operators focusing purely on fur recovery and not control. With the Forest Stewardship Council taking away the option of aerial operations on our estate (except for where the Animal Health Board or regional authority requires it to be done) we had to look at a new strategy to control possums. An association was formed with Trappers NZ and together we implemented some trials looking at how effective trapping could be, when carried out by a professional operator using a large number of traps.

Trials were carried out in Whakarewarewa forest and in Kaingaroa forest to determine what level of control could be achieved by trapping for fur alone, or if the trapper was being paid to continue trapping after it was no longer sustainable for fur. The results were encouraging: with the Whakarewarewa block originally with an average Residual Trap Catch (RTC) of 25% being reduced to 16% by trapping for fur alone and to 7% with a payment incentive. The Kaingaroa block had an original RTC of 11%, and was reduced to 6% with just trapping for fur.

It was notable that in Kaingaroa a higher number of possums were recovered than the RTC would suggest.

Subsequently we have utilised trapping for pre-establishment control in Whakarewarewa and Tarawera. A large contract block in Tarawera was also controlled using traps. Monitoring of these operations proved them to be successful (for forestry possum control) with RTC's of around 5% being achieved. Timberlands also use ground laid 1080 in Kaingaroa for pre establishment control as part of an integrated pest control plan as this toxin will also control rabbits. This operation is carried out by EPRO (an agricultural contractor in Taupo) and has been successfully protecting newly planted trees for many years.

In Kaingaroa forest (in areas not previously controlled using aerial 1080 by the Animal Health Board) an intensive large scale trapping and Feratox operation for fur has been carried out by Trappers NZ. This operation has just been completed and monitoring will be implemented to ascertain the success of this methodology at reducing possum numbers over large areas.

The key to successful and economic control (we think) using traps or hand laid baits is to use professional operators who operate at a scale large enough to ensure large areas can be controlled quickly to minimise reinvasion. Also in key areas, combining fur recovery with payment.

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## Goodnature automatic humane possum trap

Following the development of their self-resetting trap technology, first applied to the Henry v9 automatic stoat and rat trap, Wellington-based industrial design team Goodnature moved their focus to New Zealand's most ecologically harmful pest – the possum.

Developed with the support of the Department of Conservation (DOC), Goodnature's possum trap uses their unique technology of compressed carbon dioxide to automatically reset itself up to 12 times. This means the trapping is less labour-intensive and more cost-effective than single-action traps, which have to be reset manually.

At the start of the resetting trap development project DOC calculated that including the purchase price and cost of labour, the total cost to run a single-action trap for 20 years amounts to around \$2000,

whereas a Goodnature automatic trap would cost just \$480.

The Goodnature automatic possum trap, which is designed and made in New Zealand, is also more humane than traditional single-action traps. It kills possums instantly meaning no suffering. Following rigorous ethics trials, the trap has achieved the Class A standard for humaneness as set out in the National Animal Welfare Advisory Committee's guidelines.

This is the only possum trap ever to have met this standard.

The trap incorporates an automatic lure system that constantly drips a small amount of scented syrup into the trap to entice possums from the surrounding area. Having been drawn to the trap site, the possum activates the trap by biting and pulling on the baited



bite block within the trap. This triggers the trap immediately driving a piston through the possum skull, causing massive trauma to the brain and killing the possum instantly.

Goodnature has also created a possum prefeed paste to boost the effectiveness of the trap. The lure syrup and possum prefeed paste combination has proven effective in small scale trials. Goodnature is developing further versions of the automatic lure syrup formulation to ensure it is efficacious as the sole lure enabling even longer periods between trap re-baiting efforts.

Goodnature traps and lures are toxin-free. This avoids any secondary harm to other animals and ensures that possums do not build resistance to this form of pest control.

The possum traps have also been designed to be easy to install and maintain. Goodnature's resetting traps can be set by anybody from novice to expert in the field allowing the whole community to get involved in pest control. The traps weigh less than 700 grams and are affixed to a tree with two stainless steel screws. The traps can be rebaited and recharged easily while on the tree.

Steve Riddall, North Island Regional Manager of Blakely Pacific Ltd relayed a positive experience with the new tool. "I have purchased a Henry trap as a trial to determine it's effectiveness as a possum trap. My initial impressions are very favorable. Installation is very easy. In the first week the trap killed 5 possums. The numbers have since tailed off quickly as the numbers in the vicinity of the trap diminish.

I found relocating of the trap quick as all that is required is the removal of 2 screws."

The first large-scale study to be established was a World Wide Fund for Nature funded community group project in East Taranaki. The East Taranaki Environment Trust is working towards returning



kokako to the area in 2013. The study involving 330ha of the 1014ha kokako block had 206 traps deployed in the first week of August 2011. After 6 weeks in the field the automatic traps had already killed at least 325 possums with possum numbers being collected by local volunteers walking the lines to skin the possums. Taranaki Regional Council will be undertaking the residual trap catch (RTC) operation in October/November to ensure the possum numbers have been reduced to the level required to allow the kokako to flourish.

Two further large-scale projects using the trap are currently being established.

Two of these will be run by DOC in kiwi and kokako protection areas – a 400ha project in Te Urewera Mainland Island on the East Coast and a 200ha project in Otanewainuku in the Bay of Plenty.

The Green Party has funded a large-scale study of automatic traps to begin in 2011, which is likely to cover 5000ha by 2014.

Initial trials of kea and kaka in enclosures with the automatic trap baited with cinnamon lure have recorded no interferences that would endanger the birds with neither species entering the traps. Interested kaka investigated the trap and had a short play with the plastic housings but seemed to show no interest in the cinnamon lure or bite block. Glen Falconer of the Wellington Regional Council, who ran one of the trials recommended that although the trials were undertaken in controlled conditions they

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were initially confident that the north island kaka will not be at risk from the self resetting possum trap when cinnamon bait is used. Ongoing field studies of native bird interactions with the traps will be included as part of the other established field trials.

Goodnature's automatic possum trap is available for purchase by the public.

## Note

You can read the National Animal Welfare Advisory Committee guidelines at <http://www.biosecurity.govt.nz/animal-welfare/nawac/policies/guideline09.htm>. A trap deemed humane by this standard makes the animal irreversibly unconscious within 3 minutes. The A Class standard is irreversibly unconscious within 30 seconds. All possums in the Goodnature automatic trap trial were deemed instantly killed.



## Education

The NZ School of Forestry

### How we fared in the earthquake

Dr. Bruce Manley, (Head of School)

**W**e have been very fortunate at the School of Forestry – we have been relatively unaffected by the earthquakes. The Forestry Building suffered minimal damage – we lost a few thousand dollars worth of glassware in the labs. Despite the disruptions caused by the University being closed because of earthquakes and snow we have been able to run our full programme of courses. Unlike most other departments, we did not have a single student leave because of the earthquakes. In fact we had three new PhD students, two from Germany and one from Malaysia start with us in June.

#### Student numbers

We have a total of about 90 Forestry Science students and 25 Forest Engineering students. A positive feature of the intake for 2011 has been the number of children or siblings of previous graduates from the School. Families include Brown, McKenzie, Saathof, Slui and van Haandel. The final year classes are small – just 15 in Forestry Science and 4 in Forest Engineering. Their job prospects are very good – most received a number of offers and have accepted positions for next year. We continue to have a strong postgraduate programme. We have a total of 28 postgrads – 14 from New Zealand with the other 14 from 11 different countries.

#### Research activities

##### ***Developing an Erosion Susceptibility Classification (ESC) for NZ Plantation Forests***

The ESC was commissioned by the Ministry for the Environment, and was a joint effort between three School of Forestry staff (Mark Bloomberg, Justin Morgenroth and Rien Visser), in conjunction with Tim Davies from the University of Canterbury Department of Geological Sciences. It also involved numerous collaborators outside the University, including Regional Councils, and land management and forestry consultants.

The objective of this study was the development of an erosion susceptibility classification (ESC), which will be used to analyse the risks of erosion, sedimentation and environmental harm associated with plantation forestry activities in New Zealand. The ESC is a classification system where land is categorised as low, moderate, high or very high erosion susceptibility, denoting increasing risks of erosion.

The susceptibility of the land to erosion is one of several key factors in a proposed National Environmental Standard (NES) for plantation forestry. Regulation of forestry activities under the proposed NES would be partially driven by the ESC. For example, harvesting in a low ESC area may be a permitted activity whereas harvesting in a high ESC area may