

CONTROLLING PESTS TO ERADICATE TB

OSPRI's TBfree programme aims to control and eradicate bovine TB from New Zealand. Pest management plays a vital part in our success.

WHY WORRY ABOUT TB?

Bovine TB is an infectious disease caused by the bacterium *Mycobacterium bovis* and is spread by close contact between animals. In New Zealand, possums are the main carrier and spreader of TB to livestock. Once in a herd, the disease can spread within and to other herds.

TB in cattle and deer herds can impact meat and dairy production which affects farmers' income and the willingness of export markets to buy New Zealand products.

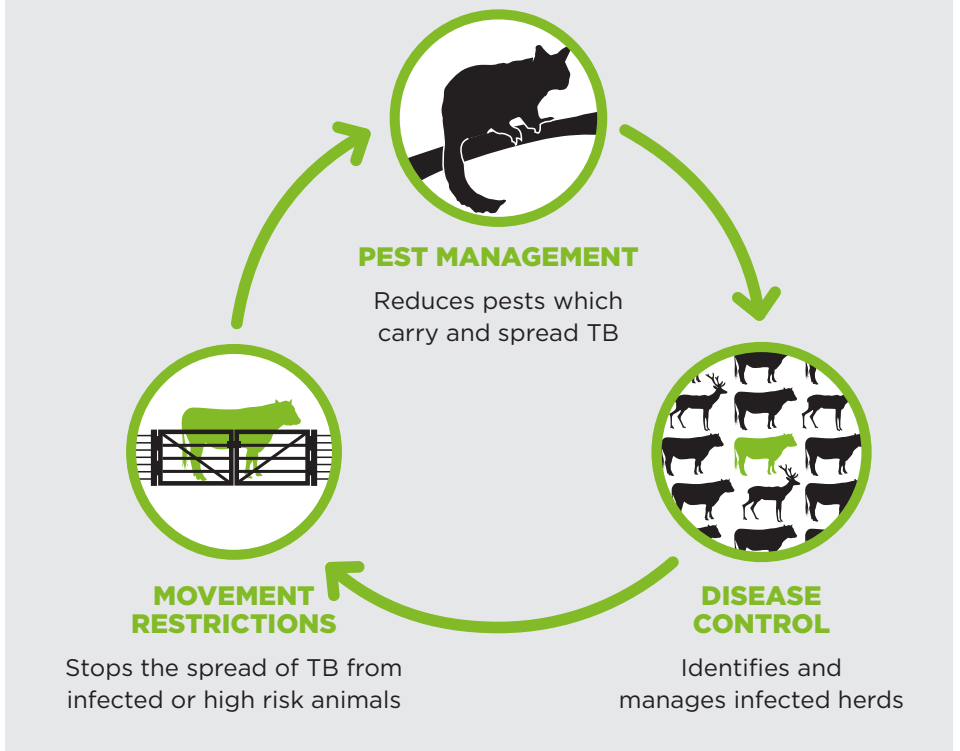
HOW WE CONTROL TB

Controlling TB requires three key components:

- **Disease control** - regular TB testing to identify infected herds.
- **Movement restrictions** - restricts the movement of animals from infected herds and those in high risk areas to stop the spread of TB.
- **Pest management** - a mix of ground and aerial operations reduce possum numbers which carry and spread TB to farmed animals.



HOW WE CONTROL TB





WHERE PEST CONTROL IS NEEDED

An assessment of New Zealand was completed a number of years ago. Areas with infected wildlife were classed as vector risk areas – areas where TB was known to exist. We've since been working away at those areas from the outside-in and at the end of 2015 had eradicated TB from 1.2 million hectares since 2011.

CHECKING POSSUM NUMBERS

We survey the number of possums within vector risk areas before a control operation. This means our control operations can be targeted where possums are known to be, rather than spread throughout the area.

To work out possum numbers we use chew cards and wax tags which lure possums with an attractant such as peanut butter. We can then assess the number of possums in the area by the bite marks on the chew cards and wax tags.

Any vector risk areas with more than two possums per ten hectares found are then targeted for control operations.



Chew cards



Wax tags

WHY WE CONTROL PESTS

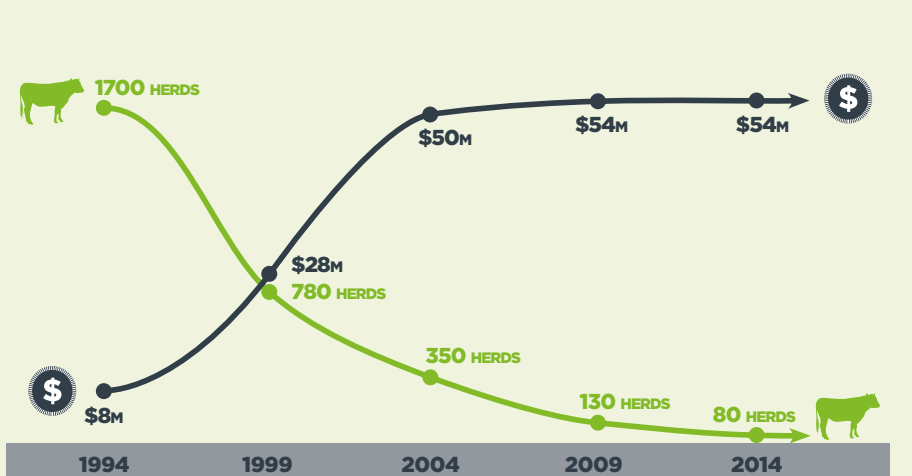
Controlling pests is vital to eradicate TB from New Zealand. Pests like possums and ferrets carry TB and can pass it on to cattle and deer. Possums are the main carrier and spreader of TB (also known as a vector) which is why we focus our pest control on them. They are responsible for around half of all new herd infections. If we reduce possum numbers to below two possums per ten hectares for a number of years, the disease will eventually die out. Pest control has dramatically reduced the number of infected herds in New Zealand.

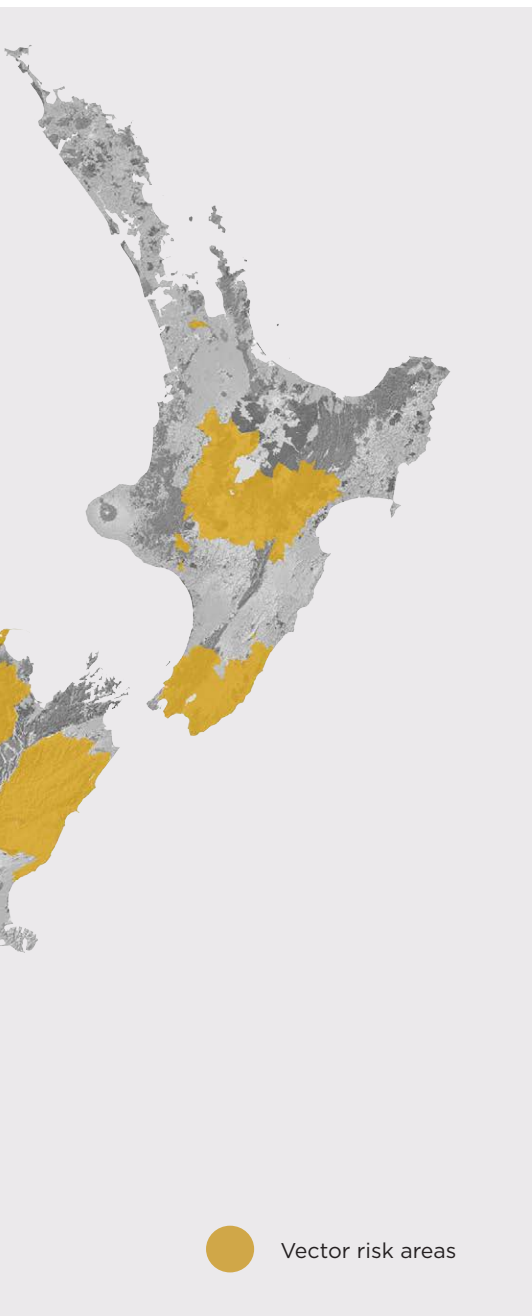


VECTOR RISK AREAS (2015-2016)



WHEN POSSUM CONTROL FUNDING INCREASES INFECTED HERD NUMBERS DECREASE





TYPES OF CONTROL OPERATIONS

Deciding between ground or aerial-based control methods depends on the:

- terrain
- wildlife present
- size of the area
- previous pest control work, and
- the objective for the area.

GROUND CONTROL

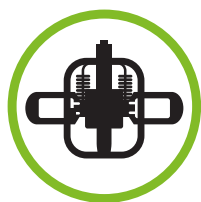
Ground control is ideal for areas that are accessible and have easy terrain, but can be costly and labour intensive. Two methods are used – traps and poisons. Traps can be either live capture or kill. Poisons are used in either bait stations, stapled to trees in biodegradable bags or hand-laid.

The average area for a ground operation is 4,000 hectares, meaning it can take a long time to complete pest control work compared to aerial operations which are usually done over a day or two.

AERIAL CONTROL

Aerial control using 1080 (sodium fluoroacetate) is used when it's more cost effective than ground control – particularly in large areas and those with rugged terrain and difficult access. It allows us to have a big impact on the possums in an area in a short period of time – meaning TB is less likely to survive in the area. 1080 is aerially applied using strict quality control and safety systems. GPS technology ensures accurate bait placement and audits are completed to make sure that OSPRI's high standards are met. Consent from landowners and local authorities is required prior to an operation. The public are also consulted before every operation.

Research has allowed for dramatic improvements to the way we use 1080. Around two weeks before 1080 is aerially dropped, non-toxic bait is now dropped over the site. Possums are creatures of routine and this 'pre-feed' helps overcome their bait shyness. This increases the operation's effectiveness, so less toxic baits are needed. Sow rates have decreased from 30kg per hectare in 1970 to around 2kg or less per hectare today.



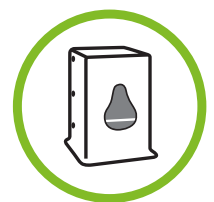
Leg hold



Cage traps



Bait stations



Kill traps



ospri.co.nz



0800 482 463



Pre-feed pellets (top) and toxic baits (bottom)

That's only about five baits for an area the size of a tennis court. Each bait only contains 0.15% biodegradable 1080.

The Parliamentary Commissioner for the Environment supports aerial control. The Commissioner completed an extensive review into the use of 1080, in which she strongly endorsed its continued use in New Zealand. Visit pce.parliament.nz to read the report.

For more information on the use of 1080 in New Zealand go to 1080facts.co.nz.

MEASURING SUCCESS

POSSUM, FERRET AND PIG SURVEYS

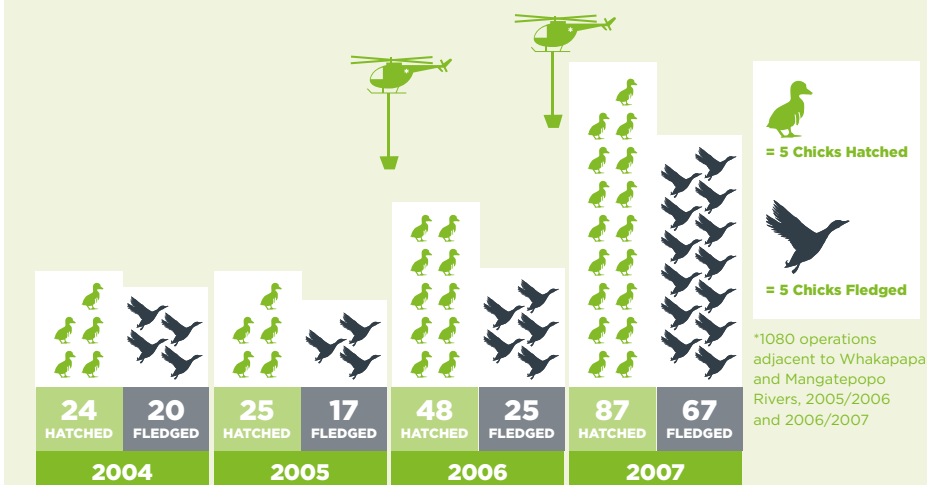
We check the number of possums in an area after pest control has been completed as they need to be kept below two per ten hectares for us to be able to eradicate TB. Once low possum numbers have been sustained over a number of years, we carry out surveys to check animals in the area for signs of TB infection. If TB is not present it's a good sign we're on the way to eradicating TB from the area - if there is TB then we need to do more control work.

During our surveys we post mortem any possums found and check for TB, to make sure it's no longer present in the area. While possums are the main source of TB infection from wildlife, it can be difficult and costly to detect TB in possum populations which is why we also survey ferrets and pigs.

Ferrets and pigs are good indicators of TB in possums because they scavenge, so are likely to get TB from eating TB-infected possum carcasses. Pigs can't maintain TB within their



WHIO BREEDING FOLLOWING 1080 DROPS IN THE CENTRAL NORTH ISLAND



own population, so if they are infected it means it's from another species.

THE METHODS USED

To survey possums our contractors use chew cards and hand-laid traps. From the bite marks on chew cards we can assess if there are possums in the area and lay traps to catch them. Ferrets are surveyed using kill-traps and leg-hold traps. Once caught, possum and ferret carcasses are collected and post mortems completed to check for the presence of TB infection.

Judas pig operations are carried out to help us find pigs that we can check for TB. Our contractors catch wild pigs, fit them with transmitters, and then leave them to find other pigs (they are very social animals). The tracked pigs are then found, and the other pigs they are with are shot, recovered and checked for the presence of TB.

In some areas pig heads are supplied by local hunters which we check for the presence of TB infection.

Sentinel pig operations are another method we use to measure the level of TB in an area. This involves releasing tracked, TB-free pigs into an area. The pigs are then picked up at a later date to see whether they have contracted the disease.

BIODIVERSITY BENEFITS

Possums eat native plants and are a major predator of our native birds, preying on eggs and chicks. By keeping possum numbers low, our native wildlife and bush get a chance to thrive. Along with possums, 1080 also kills rats and stoats indirectly when they scavenge on poisoned possum carcasses. This triple hit provides a breeding window for birds that is crucial to increasing chick survival.

OSPRI's pest control work is often done in conjunction with the Department of Conservation to achieve the greatest biodiversity benefits.