

Proposed national aerial operations plan

Submission FAQ

Thank you for taking the time to respond to OSPRI's proposed operation plan for aerial pest control for the coming year.

This document provides answers to those questions most frequently asked within public submissions.

To find out more about OSPRI's work in New Zealand, including the TBfree programme, please visit **ospri.co.nz**



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Our rationale

What is OSPRI's approach eradicating TB?

The Bovine TB National Pest Management Plan (TB plan) was approved by government in June 2016. It gives OSPRI a nationally coordinated and long-term approach to eradicating TB from New Zealand, with the following goals:

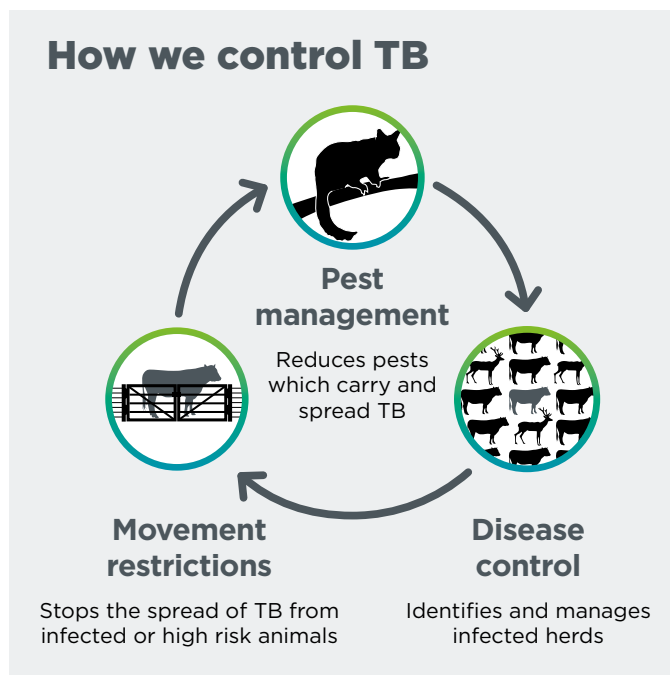
- TB freedom in cattle and deer herds by 2026.

While an important objective, the potential of an occasional herd animal infection will continue for some time. Firstly, when TB remains in wildlife, the threat of new infection also remains. Alongside this, the disease is persistent, strains can be inactive and undetected in animals only to emerge years later.

- TB freedom in possums by 2040.
- Prove TB freedom in all hosts by 2055.

To meet the plan's objectives our strategic approach to some areas of land are now considered in a different light.

Some areas were previously targeted for regular maintenance of possum levels to prevent TB spreading out of them. Under the new plan, all areas with risk of possum TB must be more intensively controlled with the goal of eradicating the disease from the possum population, after which control operations can cease.



Most of the time (more than 85%) OSPRI uses a variety of ground-based methods for possum control. However, to control possums over large areas of land or forest, or where the terrain makes access on foot difficult or inefficient, we use aerial baiting programmes.



Further information about local TB management areas (TMAs) can be found online ospri.co.nz/tb-and-pest-control/tb-management-areas

How do you know there's TB present in wildlife?

OSPRI's pest control planning considers several factors. Central to this is drawing on historic records of infected herds, and wildlife infections captured through surveys. Using this data, we do what's called 'spatial modelling' which shows the likely patterns of disease spread.



Several submissions have asked for more detailed information on and evidence of TB infection in wildlife - within or near operational areas. They also request greater use of wildlife surveys to confirm the presence of TB, before aerially applied 1080 takes place.

We've taken this feedback on board, and wildlife TB surveys will become a more prominent element of our planning.

Use of 1080

I am concerned about 1080, why is it used?

OSPRI uses 1080 cereal bait because it's the most effective means of achieving the possum control required to eradicate the bovine TB they carry. We do use other methods of population control too, and all these efforts are to safeguard cattle and deer herds, farms, the primary sector and New Zealand public from the impacts of TB.



While we look to minimise the amount of 1080 used within a pest control operation, the sow rate of bait and its toxicity needs to be enough for the exercise to be effective first time. Otherwise we risk bait shyness, and in turn ongoing TB in wildlife.

We recognise that people have different views, and wider concerns about the use of 1080 can also be raised with regulatory agencies.



To find out more about OSPRI and the TBfree programme please visit ospri.co.nz

I don't feel 1080 is humane, is it necessary?

While the toxin undoubtedly causes some animal suffering, this needs to be weighed against the benefits of rapid and effective pest control and implications of TB being left to spread in wildlife. OSPRI is always mindful of other approaches or products for pest control and weigh up what that means in terms of welfare, safety, and the environment.

While our work relates to disease management, the use of this bait also brings significant biodiversity gains. Possums in large numbers can destroy native bush and they, along with other predators (like rats and stoats), threaten the survival of native birds like the kiwi, whio and mohua.

Why control possum numbers?

In New Zealand, possums are the main maintenance host of TB in the wild (in other words, they can maintain this disease in their population), and in turn a risk to livestock. Once one cow or deer is infected, the disease can easily spread within the herd. Therefore, possums are the focus of OSPRI's pest control operations, and critical to eradicating TB is the reduction of their numbers and keeping them low over time; around one to two animals every 10 hectares, for at least five years.



Ferrets and pigs are good indicators of TB in the possum population because they scavenge – so are highly likely to get TB from eating infected possum carcasses. Pigs can't maintain TB within their own population, so if they are infected it means this has come from another species.

What are the risks to other animals?

We use 1080 cereal bait because it's the most effective means of achieving the possum control required to eradicate the TB they carry. Other predators (like rats and stoats) eat the bait, and this additional pest control aids native birdlife. However, there is always the possibility of unintended by-kill, and it's hugely disappointing when it happens.



Considerable research has been completed on lowering the amount of bait used to reduce the chance of other animals encountering it.

Despite that, we're very aware that work can risk wild deer and the inquisitive kea. Regarding our native parrot, DOC and OSPRI are working together, with joint research testing whether the bird repellent, anthraquinone, can be used to train kea to avoid 1080 cereal baits.

Alongside partners like Landcare Research, we continue to investigate the effectiveness of deer repellents – in different seasons, landscapes, and species. Importantly, we continue to look for cost saving opportunities (through new products and sow rates) so we can use it more often.

Is my dog at risk?

It's important to understand that dogs are particularly susceptible to 1080 and can die from consuming only very small quantities of treated bait. In fact, after pest control, wildlife carcasses remain toxic to dogs until they have fully decomposed.



By nature, dogs tend to roam so they are at greater risk than other domestic animals.

While OSPRI undertakes public notification, educates and warns through track signage, and funds free muzzles the most effective precaution is distance. **Keeping your pet, or working dog, well clear of any pest control area is the best way to protect it from accidental exposure to 1080.**

Any dog fatality is treated seriously, it's distressing for OSPRI's people too, and all our operational practices are reviewed.



Further information about dogs and 1080 can be found online – ospri.co.nz/assets/ResourcePDFs/1080-and-dogs-Factsheet.pdf

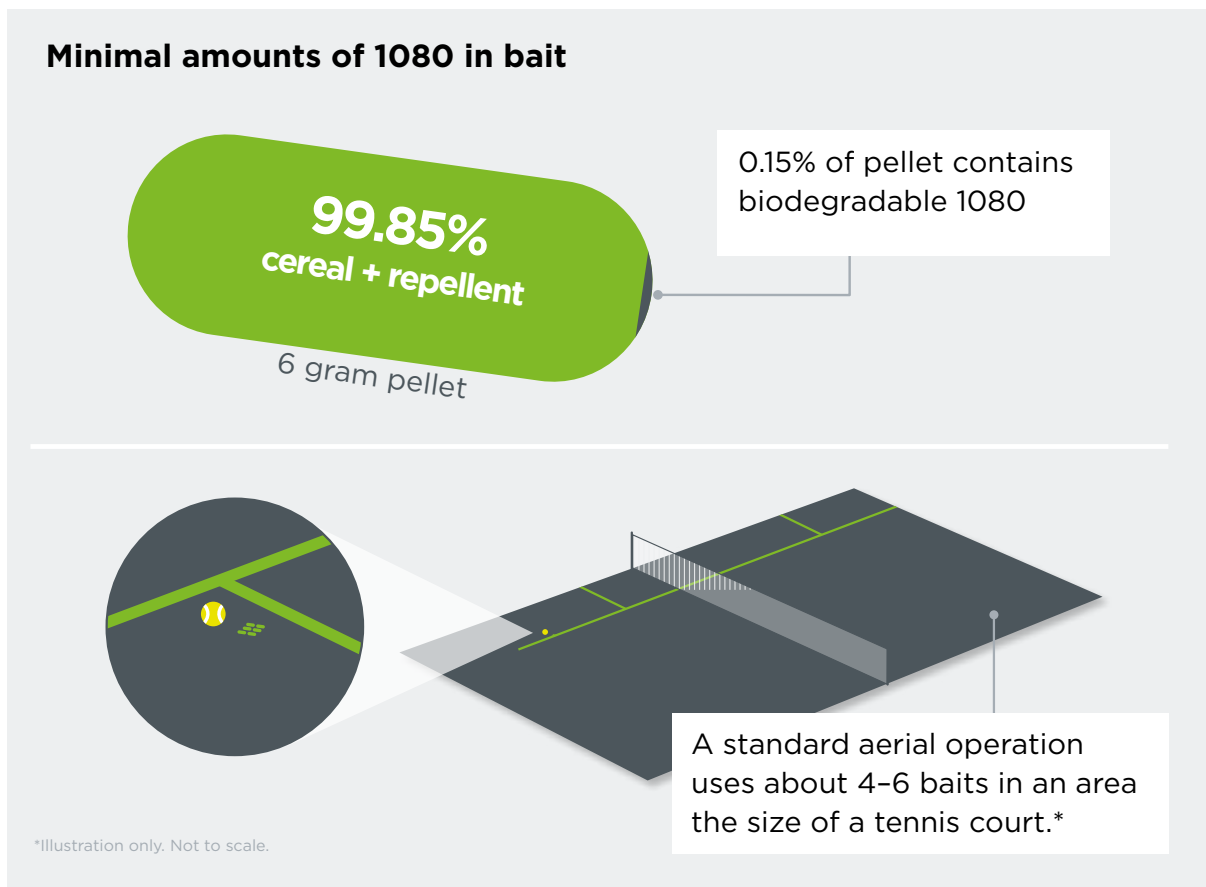
When using 1080, what safety precautions are taken?

When using 1080 cereal bait, our contractors are governed by legislation, and must meet strict transportation, storage, handling, notification, and operational safety requirements.

Additionally, there's quality assurance and monitoring in place, with OSPRI itself adding a layer of audit – to further ensure the precautions required are taken – before, during, and after each operation.

Control operations must also be approved by local public health officials, with specific consent conditions met to ensure everyone's protection.

How much 1080 does the bait contain?



The cereal bait used has a 1080 content of 0.15%, which is enough for effective possum control. Through research and trials, sowing rates have reduced significantly and typically we now sow at 2kg/ha, which is about 1 bait for every 60 square metres.

The bait containing 1080 breaks down over time in the environment through rainfall (it's highly soluble) and natural biodegrading. Afterwards it does not accumulate or leave permanent residues in soil, plants, water or animals.

What amount of bait is released?

Sowing rates are carefully considered before any operation. Factors are the length of time between pest control work, possum population density, and the land's vegetation type.

Through research and trials, sowing rates have also reduced significantly and typically we now sow at 2kg/ha, which is about 1 bait for every 60 square metres (for the pre-feed application, it's usually less again).

I'm concerned about 1080 and the environment, how can I learn more?

OSPRI's responsibility is to safeguard cattle and deer herds, farms, the primary sector and New Zealand public from the impacts of bovine TB. We use 1080 cereal bait because it's the most effective means of achieving the possum control required to eradicate the TB they carry.



Regardless of our work, it's understandable for people to have concerns about the use of a toxin in Aotearoa's beautiful backyard. So, we know we need to help people with more information about 1080 and their environment. Our website is a good starting point, and we have people based throughout New Zealand you can talk to.

We also work closely with the Department of Conservation to make sure our work supports theirs. In 2011 the Parliamentary Commissioner for the Environment released a report evaluating the use of 1080 in New Zealand. She concluded, in the interests of native biodiversity, it should continue and in fact be increased. This publication remains available online:



pce.parliament.nz/media/pwthbbah/evaluating-the-use-of-1080.pdf

How long is 1080 present in the environment when used?

After aerial application, most pellet baits will be eaten by the possums (or introduced pests). Any uneaten pellets will degrade; they're made of cereal and quickly break apart when wet (so rainfall is an important factor in how quickly this happens) dissolving the 1080 which then leaches into soil.

Once in the soil, dilution continues with ground water and micro-organisms also present in soil degrade 1080 to mostly form a harmless acid (glycolate) and carbon dioxide. Alongside moisture, temperature is a real driver on how quickly process takes place. At cooler temperatures residual concentrations of 1080 reach undetectable levels within about 100 days.



More information about how 1080 breaks down can be found online ospri.co.nz/assets/ResourcePDFs/How-1080-breaks-down-in-soil-and-water.pdf

How is our water protected?

We completely understand that people may have concerns about OSPRI's work, and any impact on water. Firstly, we assure you that there is no risk to public drinking water.

The bait containing 1080 breaks down over time in the environment through rainfall (it's highly soluble) and natural biodegrading. Afterwards it does not accumulate or leave permanent residues in soil, plants, water, or animals.



Additionally, our aerial control operations follow strict conditions set by local health authorities – so that drinking water is protected, even if bait is used in parts of the wider catchment. This includes testing water for any sign of contamination.

The use of GPS tools to exclude bodies of water or areas of water collection is common practice. We also work closely with individual land occupiers (like farms) using water supplies within or alongside pest control operations – ensuring all possible risks are mitigated.



More information about 1080 and water can be found online ospri.co.nz/assets/ResourcePDFs/How-1080-breaks-down-in-soil-and-water.pdf

What if carcasses end up in rivers or water ways?

Irrespective of OSPRI's work, animal carcasses can end up in waterways, and these may release *E. coli* for a short period of time while decomposing.

Usually, these animals are dead stock that farmers will remove, and while it's possible, pests targeted by aerially applied 1080 are not prone to being found in water later. Instead, when ill they tend to seek shelter.

Escherichia coli (*E. coli*) is bacteria found in the gut (intestine) and while most strains are harmless, some cause illness. *E. coli* can be found in water, and rain events can increase the levels of bacteria found in water courses through runoff and surface flooding.

With dilution and in running water, levels of the *E. coli* bacteria reduce. As a short-term activity OSPRI is not required to test for *E. coli*, or other bacteria, following its work.

Are insects impacted by 1080?

While insects can be susceptible to 1080, past monitoring from operational areas has shown no adverse effects at a population level.

We do however look to safeguard beehives. If a wooden hive found in the intended pest control area, we'll request the hobbyist or farmer to relocate it.



Our operations

What's the process of undertaking an aerial control operation?



The careful use of biodegradable 1080 to control possums has been a key tool in significantly reducing TB in cattle and deer herds. This occurs alongside TB testing of herds and livestock movement control.

Prior to any aerial application of 1080 cereal bait we consult with people and organisations who may be affected by the proposed disease control operations, including iwi, landowners and land users, farmers, hunters, and people involved in outdoor recreation. We also involve the Environmental Protection Authority and the Ministry of Health and seek consent for our work.

Before an aerial operation OSPRI erects information signs. They outline why the work is scheduled, when it will take place, safety precautions and show a map of the pest control area. These signs inform the public of the danger of 1080 bait and possum carcasses. Information signs are additional to the required 'warning signs', placed at all points of public entry by our contractor the time of operation.

Two flights occur, days apart. Firstly, a pre-feed (bait without 1080) and then the 1080 cereal bait. Weather is a big factor and safe application, flying and working conditions are paramount.

Bait is dispersed by helicopters with feed buckets, and advanced GPS navigational equipment ensure that bait is accurately sown and identified exclusion zones are avoided. There are strict procedures around working zones, including access and use of personal protective equipment.

The cereal bait used has a 1080 content of 0.15%, which is enough for effective possum control. Through research and trials, sowing rates have reduced significantly and typically we now sow at 2kg/ha, which is about 1 bait for every 60 square metres.

The bait containing 1080 breaks down over time in the environment through rainfall (it's highly soluble) and natural biodegrading. Afterwards it does not accumulate or leave permanent residues in soil, plants, water or animals.

Signs remain in place during a caution period, and for public land, caution periods can be checked by referring to Department of Conservation's pesticide summary interactive map found at doc.govt.nz.

When do aerial operations usually take place?

Pest control operations are generally planned for winter. During these months food is less plentiful for possums, increasing the likelihood of bait acceptance, and people's land use is at a minimum.

Directly affected or adjacent landowners are notified and visited well in advance of proposed operations, and engagement continues until work commences. OSPRI notifies landowners of the expected date of the aerial operation, although ultimately timings dependant on the right weather window – both for flying, and then feeding.

OSPRI

Clarence Reserve Bovine TB control operation

Removing TB from wildlife
Our proposed plan
OSPRI is planning an aerial possum control operation in the southern area of the Clarence Reserve covering up to 25,000 hectares (please see map provided for the operation area).
To control the spread of bovine TB, possum numbers need to be kept extremely low (around one to two animals every 10 hectares) for at least five years. Monitoring has shown that further control work is needed in the Clarence Reserve area to reduce the possum population and minimise the risk of the disease spreading through wild animal populations and onto farmed cattle and deer.
The TBfree programme aims to manage and eventually eradicate bovine tuberculosis (TB) from New Zealand's farmed cattle, deer and wild animal populations. Effective possum control has been a critical step in the reduction of TB infected livestock in the surrounding North Canterbury and Marlborough areas, and this area of the Clarence Reserve was last treated in 2018.

How we control TB

Pest management
Reduce pests which carry and spread TB

Movement restrictions
Stops the spread of TB from infected or high risk animals

Disease control
Identifies and manages infected herds

What to expect from the operation
Use of bait
The operation will begin with the distribution of non-toxic, green cereal pellets by helicopter. This "pre-feed" gives possums a taste for the pellets and overcomes bait shyness. One to two weeks later, toxic green cereal pellets will be applied by helicopter at a rate of one kilogram per hectare.
Following a successful "low-dose" trial (reducing the application rate to one kilogram per hectare) OSPRI will repeat this application across the entire treatment area within this proposed operation. That's about 4-6 baits dispersed over an area the size of a tennis court. Research has shown that the movement ranges of possums in high country terrain are larger than the ranges of forest dwelling possums.

So, despite the reduced application (and lower density) of bait, possums that browse further are more likely to encounter and consume a lethal dose.
The Clarence Reserve South operation will be subject to strict safety, quality assurance and monitoring requirements. Advanced GPS navigational equipment will be used to ensure the pellets are accurately placed and exclusion zones avoided.
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TBfree TBfree is an OSPRI programme

OSPRI.co.nz 0800 482 463

What signage is put in place?

Warning and information signs

Before an aerial operation OSPRI erects information signs. They outline why the work is scheduled, when it will take place, safety precautions and show a map of the pest control area. These signs inform the public of the danger of 1080 bait and possum carcasses.



Children should be kept under strict supervision, and dogs must be kept out of the operational area (unfortunately they are highly vulnerable to 1080).

At the time of operation our contractor places additional 'warning signs' at all points of public access.

Signs remain in place during a caution period which depends on factors such as weather conditions and decomposition (typically 6 to 8 months). It is an offence to remove signage, and we urge anyone encountering them to follow the safety precautions.

For public land, caution periods can be checked by referring to Department of Conservation's pesticide summary interactive map found at doc.govt.nz.

Our consultation

How much consultation is involved?

TB eradication is a long-term commitment, so relationships and plans are key for success. Working towards long term partnerships takes time, building a relationship and subsequent planning can take months and sometimes years. Good engagement feeds a long-term plan, specifically our aerial pest control operations, through our annual consultation. This is a good example of listening, and submissions do help shape our decisions for the year ahead.

Our aim is that nothing is a surprise to communities, landowners, interest groups and land users when pest control operations are notified, that the businesses delivering the pest control is known, and that information showing the positive impact of our work is shared.

A recent change in approach means we are delivering our pest control in balance with the values of the landowners within our Vector Control Zone (an area of land where 'vectors', animals capable of spreading disease, exist). This means we work in various types of partnerships:

- long term partnerships with contracted pest control businesses; we work with a small group of effective and trusted operators
- building capability and procurement opportunities with iwi, whānau and hapū businesses
- with research programmes looking at traditional methods done differently, and novel options that could be scaled up in future.

Will my business be affected?

Our work and its impact on local businesses is always a serious consideration.

Through consultation with owners or operators we hope to find options that will minimise any commercial impact of aerial control operations.

OSPRI's Regional Partner for your will be happy to talk to you about any concerns you may have.

Doesn't your work harm the fur and meat trade?

The TB programme does reduce commercial availability of wild possum fur and meat. Economic analysis shows that the value delivered by the TB programme, as it protects cattle and deer herds, farms, and the primary sector, greatly outweighs the potential of fur and game meat trade.

Recreational hunting



Do you consider the impact on hunters?

OSPRI is committed to working with hunting organisations, as we carry out the TBfree programme. As an organisation, we also have a regional footprint, and this allows for grass roots consultation too.

We acknowledge concerns that planned aerial operations have potential to impact deer habitats, and we'll continue to explore opportunity to lessen the impact of our activity.

This may involve working in winter months, the use of deer repellent or splitting larger land areas (scheduling each half for pest control at a different time) to keep a nearby hunting ground open.

What is the risk to wild deer?

Unfortunately, accidental deer deaths do occur during our possum control operations, even with the use of deer repellent (which makes bait less palatable).

Together with researchers and suppliers, OSPRI is working to further reduce the risk to deer. Trials involve different seasons, landscapes, and deer species.

Through breeding, wild deer can have a population ‘replacement rate’ of up to 40%. Encouragingly, research over the last two years is telling us that the use of some deer repellents can reduce deer mortality to low levels.

In 2021 OSPRI commissioned a study by Landcare Research monitoring South Island high country red deer before and after an aerial control operation involving repellent. You can read their report and its findings here:



ospri.co.nz/assets/ResourcePDFs/Manaaki-Whenua-Landcare-Research-Molesworth-Report-2021.pdf

Why don't you always use deer repellent?

Wild deer are highly valued by hunters and some landowners. While 1080 bait is intended for possums, unfortunately deer are also attracted to it. Over time repellents have been developed that (when added to the bait) make it less palatable to deer.



In response to requests for greater use of deer repellent, OSPRI does encounter a funding challenge. Currently the use of deer repellent increases a control operation's cost by up to 30%, so we consult with hunting organisations to best prioritise its use.

Alongside partners like Landcare Research, we continue to investigate the effectiveness of deer repellents – in different seasons, landscapes, and deer species. Importantly, we continue to look for cost saving opportunities (through new products and sowing rates) so we can use it more often.

Research & development

What research is OSPRI doing presently?



Each year OSPRI invests in research and development. We bring together the right partners, and technology, to find ways to advance the TBfree programme while lessening its impact.

Over time we'd funded several scientific studies to examine the biodegradability of 1080, and more recently research and development has included:

- using drones for aerial control operations
- repellent to protect wild deer (trials involved different seasons, landscapes, and species)
- mitigation techniques to protect kea.

