

SIKA DEER REPELLENT TRIALS

2017 SIKA DEER REPELLENT STUDY

The effectiveness of using deer repellent coating to deter sika deer from eating cereal baits was studied between June and September in the high-country hunting grounds of the central North Island.

The research was carried out by Landcare Research on behalf of OSPRI with the support and assistance of expert local deer hunters associated with the Sika Foundation.

In areas that wild deer are highly valued by hunters, such as the high country hunting grounds of the North and South islands, deer repellent is widely used during 1080 operations to reduce by-kill by minimising the consumption of toxic cereal baits.

Epro deer repellent (EDR) greatly reduced the incidental by-kill of red deer during earlier trials. However, EDR's effectiveness at deterring sika deer had not been directly researched before this trial. Sika are smaller and generally exist at higher population densities than red deer, so potentially are more at risk. Consequently they're probably hungrier and more likely to eat bait.

CENTRAL NORTH ISLAND TB CONTROL

As the TBfree programme managed by OSPRI moves towards achieving TB freedom in possums by 2040 and total eradication of bovine TB from New Zealand by 2055, possum control is required in some areas of the central North Island that have never been controlled before.



Bovine TB is well established in many parts of the central North Island, including many of the most rugged areas, therefore aerially distributed 1080 treatment is the most efficient method of controlling possums to reduce disease.

As much of this area contains populations of sika deer, having robust research on the efficacy of deer repellent on cereal 1080 baits is important to determining the likely outcome for sika deer during aerial 1080 operations.

SIKA DEER REPELLENT TRIAL

The 2017 project aimed to assess whether aerial 1080 baiting had a major impact on the number of sika deer during the Paemahi aerial 1080 possum control operation.

To do this, two grids of trail cameras, each covering about 600 hectares,

were used to compare the number of deer seen a month before the 1080 aerial operation (June) and a month after (July). Two other trail-camera grids were set up in a nearby unbaited block of very similar habitat and deer density to enable a comparative trial.



Green possum control 1080-pellets coated with EDR look significantly different to the brown pre-feed baits, right.

WHAT WAS THE MAIN RESULT?

Deer were abundant – a total of 730 deer were sighted on 83 cameras over 66 days, and deer density was estimated at about 20 deer per square kilometre. Sightings were lower in July (after 1080 baiting) than in June (before 1080). However, the number of sightings declined more in the unbaited areas than in the baited areas. That shows that most of the decline reflected reduced deer activity in winter. It indicates that the baiting did not have any major impact on the deer population.

In contrast, the number of possum sightings fell from 190 before the baiting to zero afterwards, suggesting a total or near-total kill that will greatly reduce the chance of TB possums being present in the area.

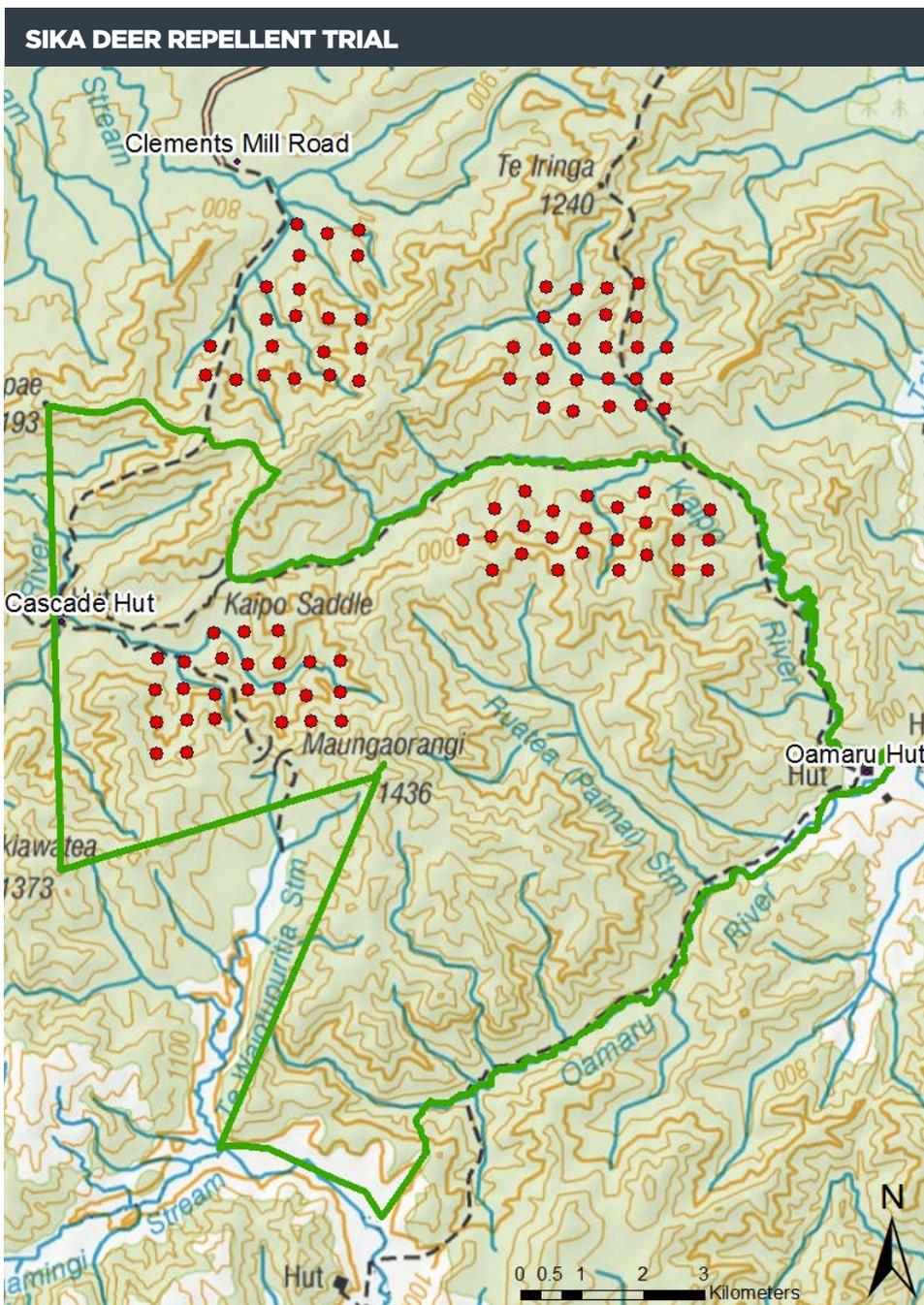
Some deer were killed. A total of 11 deer were found dead; five in systematic searches by researchers and six by Sika Foundation hunters. That indicated a by-kill estimate of about 1.6 per square kilometre, or below 10 per cent.

WHAT DOES THE STUDY SHOW?

The conclusion is that deer repellent 1080 bait did not have a major impact on the population size of sika deer in the Paemahi area. Although a number of deer were killed, the camera sightings show that mortality had little impact on the population. Statistically, there is little chance that sighting rate would have stayed high if more than 20 per cent of deer were killed.

Although more detailed analyses will be conducted for the final report, the interim estimates suggest that losses are likely to be replaced by natural reproductive increases within the next year.

The initial results from this trial are consistent with previous trials on red and fallow deer, which showed low incidental by-kill when deer repellent 1080 bait is used. Although deer repellent significantly increases the cost of a 1080 operation, it minimises the chance of a major reduction in the number of deer available to hunters.



Trail cameras (red dots) observed wildlife numbers before and after possum control, within and outside operational boundaries.

ONGOING RESEARCH

In addition to the Landcare Research study, OSPRI is undertaking its own trial looking at bait acceptance by sika deer. This involves using EDR coated 1080 cereal baits and making them freely available to 30 sika deer within an enclosed (0.5ha paddock) environment.

For the trial, 100 baits will be distributed across grid lines within the paddock and monitored and counted for a 7-day period. Cameras will be used to monitor the trial and to assist in the detection of

other animals (such as rodents) that could eat the baits. The results of that trial will be published as they become available.



FURTHER INFORMATION

More details and factsheets on Deer Repellent can be found at ospri.co.nz.