

TALKS

Recommendations for reducing environmental impact of pest mammal monitoring in New Zealand

Katie Pitt*, James Ross, Adrian Paterson, Tim Curran, Alison Bailey

Lincoln University, Agriculture and Life Sciences, Christchurch, New Zealand

*email of corresponding author: katie.pitt@lincolnuni.ac.nz

The introduction of pest mammals and plastic pollution are two significant contributors to biodiversity loss in New Zealand (NZ). My research aims to minimise both these issues by offering a solution to pest mammal monitoring that is more environmentally friendly

Despite NZ's reputation as a 'clean, green' country – we have trouble managing waste, leading to challenges in the fight against climate change. We have already banned plastic bags, and are expanding the ban to include all single-use plastics - targeting items that commonly end up in landfills and pollute soil, waterways and the ocean. It is estimated that more than 2 billion single-use plastics will be removed from our landfills yearly. By phasing out unnecessary and problematic plastics, we will reduce landfill, improve recycling systems and encourage reusable or environmentally responsible alternatives.

While the NZ government focuses on removing single-use plastic from many large sectors, such as hospitality, smaller less-recognised sectors, such as conservation and biodiversity, are often overlooked. Instead of waiting until the spotlight turns to the single-use plastic used in pest monitoring and control, we should begin phasing out single-use plastic ourselves. Currently, the most commonly used pest mammal monitoring options are plastic. New biodegradable, environmentally friendly pest mammal monitoring equipment options can be designed and compared with traditional plastic options to determine if they can become the new industry standard. I will also be investigating potential by-products from other larger sectors that could potentially be used to create sustainable monitoring equipment. Complementary research is being done to develop biodegradable traps and long-life biodegradable lures; however, more effort is required for monitoring equipment.

Throughout this study, I will conduct fieldwork that looks at encounter and interaction rates of plastic and biodegradable detection devices – with both free-ranging and captive animals. Current research suggests that biodegradable options have a slightly higher interaction rate than plastic options. This fieldwork will take place at several field sites around New Zealand to ensure biodegradable materials work in all terrains and conditions. Biodegradable materials will be also compared to their plastic alternatives in terms of how well they withstand environmental conditions and how easy animal identifications are on each material (bite marks, footprints etc.). These preliminary results will then be shared at the conference

I will also be taking into account what is valuable to a range of different stakeholders and working alongside different groups, businesses and individuals to ensure all products meet required standards in terms of disposal, durability and cost-effectiveness. Different materials (e.g wood-core pulps, cardboard, natural pulp fibres) will be investigated to find alternatives to the current equipment used in pest mammal monitoring in New Zealand. Recommendations will also be put forward on how they can be utilised to reduce our reliance on plastic in the pest control industry.