

UNWANTED VISITORS

by Allan Burne

You've been on holiday to Sāmoa. Now you're back in New Zealand, waiting to go through customs. You've filled in a passenger arrival card – and no, nothing to declare. One of the quarantine officers has a sniffer dog, a cute beagle, making its way down the queue. Eventually, the beagle reaches you. The dog seems interested in the pocket on your backpack, and that's when you remember ... yesterday's mango!

New Zealand has strict rules about what can be brought into the country. Some things, like that mango, are an obvious risk. It might be hiding fruit flies that could multiply and wipe out an entire crop – many kinds of crops, in fact. But unwanted stowaways can slip through the border in all kinds of ways. Tramping boots, dairy products, and even honey can hide species that might harm the environment, the economy, or people's health. Protecting a country against this risk is called biosecurity.



What We Protect

New Zealand's environment is made up of forests, grasslands, rivers, lakes, coastlines, mountains, and wetlands. All these places contain plants and animals that are special to our country – but unwanted pests, weeds, and diseases endanger them. Some introduced pests feed on native plants and animals or compete for food and territory. Others spread disease, choke waterways, and damage forests. Without biosecurity, many of New Zealand's precious natural assets would be destroyed.

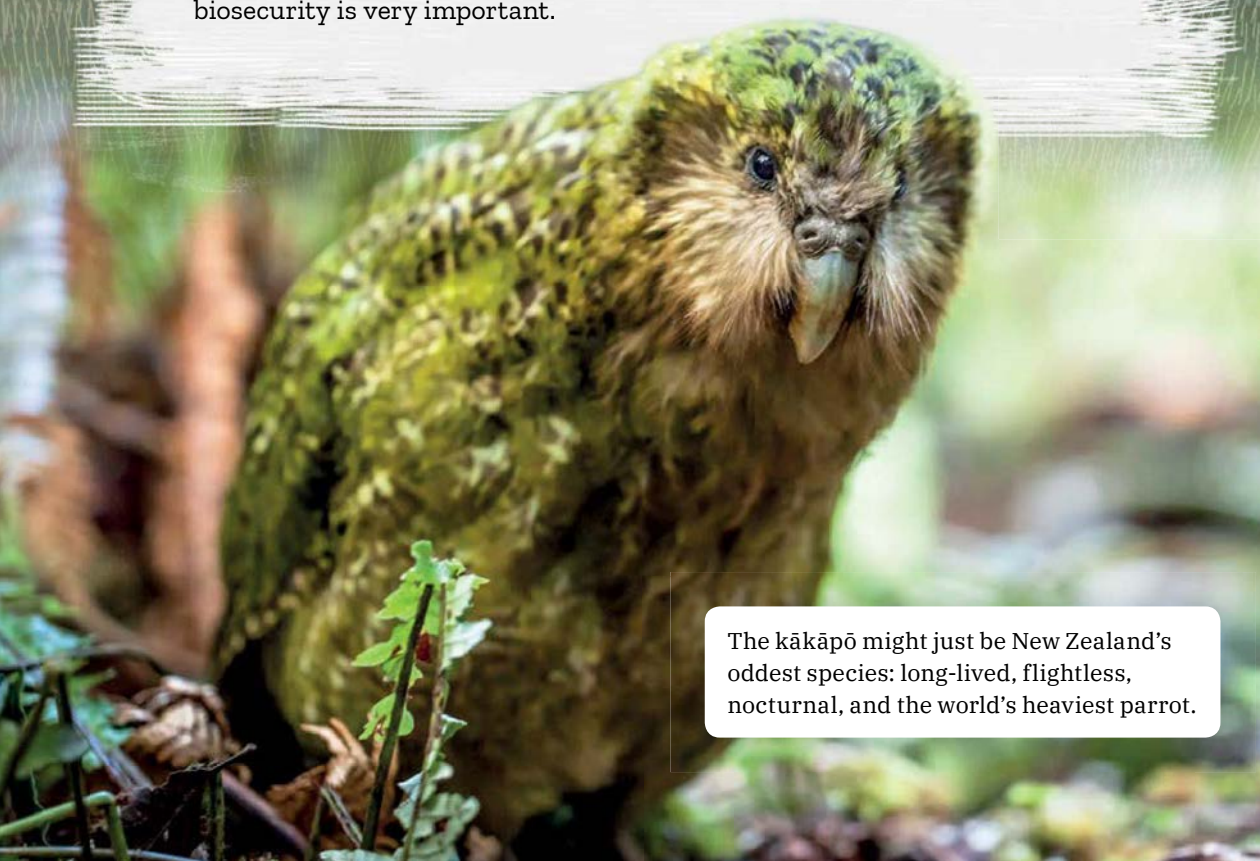
Kauri dieback disease is fatal for some of our oldest and biggest trees.



UNIQUE NEW ZEALAND


New Zealand became a group of islands around 83 million years ago. This isolation means our native flora and fauna developed in unusual ways. Entire groups of animals found in other countries are almost non-existent here. New Zealand has only two native land mammals – both are species of bats – and no snakes (we have only one poisonous native animal, the katipō spider). Other groups of animals are unusually large – we have dozens of kinds of wētā and so many seabirds we've been called the seabird capital of the world.

The list of oddities continues. New Zealand has giant snails, giant parrots, and giant buttercups. Many of our native species live for a long time, and we have a huge variety of flightless birds. Some scientists say that studying biology in New Zealand is like studying life on another planet. However, this uniqueness comes with a problem. Most of our native species evolved without predators, which means they can't defend themselves very well. Because they are so vulnerable, having good biosecurity is very important.



The kākāpō might just be New Zealand's oddest species: long-lived, flightless, nocturnal, and the world's heaviest parrot.

Biosecurity laws also protect our economy. Each year, New Zealand earns billions of dollars selling goods overseas, especially dairy products, meat, wood, honey, and fruit. But our main industries – agriculture, horticulture, and forestry – are vulnerable. Just one undeclared apple could carry enough fruit fly larvae to start a population. If they became established, some fruit fly species could affect 80 percent of our horticulture crops. Foot and mouth disease, spread by muddy boots and camping gear, is a major threat to agriculture. There's no cure for this disease, which affects farm animals such as cows, sheep, and pigs. A foot-and-mouth outbreak in New Zealand would be disastrous, costing millions of dollars and thousands of jobs.



Tourism is another important industry in New Zealand. Around 4 million people visit each year. Most come to enjoy our unique environment, which biosecurity laws protect.

NOT WANTED!

Unwanted species (also known as biological threats) can be divided into three main groups. Some of these species are already in New Zealand, some are not.

PESTS are animals that cause some kind of harm.

Pests can be large (deer, goats) or very small (fruit flies, caterpillars, ants). Some pests damage our native forests; others damage crops or trees logged for timber. German wasps and red imported fire ants are a nuisance because they sting, but the Brazilian wandering spider – should it ever reach New Zealand – would be more than a nuisance. Its venom is strong enough to kill a person.

WEEDS are plants that grow where they're not wanted.

Many grow rapidly, overrunning crops, native bush, waterways, and marine environments. Problem weeds in the New Zealand bush include old man's beard, wild ginger, and English ivy. On farms, common weeds are blackberry, ragwort, and Californian thistles. There's even a pest seaweed, *Undaria* – otherwise known as the gorse of the sea.

DISEASES are caused by bacteria, viruses, and fungi.

They infect plants, animals, and people, causing sickness and sometimes death. Myrtle rust is a recent arrival in New Zealand. This is a fungal disease that affects plants in the myrtle family, including mānuka and pōhutukawa. Diseases are spread in various ways, and some are very difficult to stop, especially those, like myrtle rust, that are carried on the wind.

Border Control

With so much at stake, New Zealand needs strict biosecurity laws. The main aim of these laws is to stop pests, weeds, and diseases from arriving in the first place. A lot of work happens at our mail centres, ports, and airports – known as the border. Here, biosecurity officials check everything arriving in the country. At airports, this means checking people and their luggage. At ports, officers mostly check cargo on container ships, although cruise ships are also inspected.



New Zealand has twenty-three ports, where millions of tonnes of goods arrive each year.

Our biosecurity system uses all kinds of methods to stop unwanted species from entering the country. The cabins of planes arriving from overseas are sprayed with **insecticide**, and most people have seen the X-ray machines and sniffer dogs at airports. These are used to detect fruit, vegetables, and other illegal goods that haven't been declared. Educating travellers about biosecurity is an important part of the process, too. Passenger arrival cards and signs remind people to declare risk items, and new technology, such as displays that use holograms, provides fresh ways for getting the message through.

STINKY AND SNEAKY

We hear a lot about fruit flies ... but what about the brown marmorated stink bug? This determined pest, originally from Asia, has tried sneaking in many times. Stink bugs hide in nooks and crevices, making them hard to see, and they are difficult to kill with insecticide. Stink bugs wreak havoc. They feed on at least three hundred different plants, including apples, pears, grapes, peaches, kiwifruit, and soya beans. In some places, the bug has wiped out entire crops. Their final crime? In winter, stink bugs come inside to shelter from the cold – and as their name suggests, they stink!



Looking for unwanted species, and keeping watch over those already here, is called **surveillance**. This kind of work is another important part of our biosecurity system. A lot of surveillance is done by scientists, either by collecting data in the field or analysing samples in laboratories. The Animal Health Laboratory in Upper Hutt analyses over 37,000 specimen samples each year. New Zealand also has pest-management programmes. These focus on high-risk pests and diseases, such as fruit flies and the gypsy moth. Some pests, like fruit flies and red imported fire ants, are considered so risky that special traps are set up near ports and airports for quick detection.

Home Biosecurity Officers

Biosecurity work isn't only done by officials and scientists. Each year, New Zealanders report around ten thousand suspected pests and diseases. Community surveillance – by iwi, landowners, conservation groups, and schools – is one of the best ways to gather information. In fact, it's essential if we want to keep New Zealand as pest-free as possible.

So what can you do to help? For starters, know what to look for. Biosecurity threats, especially new ones, are always advertised. Read the newspaper, check online, watch the news. New Zealand's lucky: it has nearly five million pairs of eyes. If we all keep them open, we have a much greater chance of spotting a new pest or disease before it can establish itself. And finally, when you travel, always take care when you return home. Pay attention and read the forms and signs. Don't be that person at the airport who forgets about their mango!

GLOSSARY

eradication: the wiping out of an unwanted species

insecticide: a poison used to kill insects

surveillance: closely watching something



Beyond the Border

No system is perfect, and sometimes unwanted species slip through. When this happens, biosecurity officials work to limit their spread and damage. Sometimes, special rules are enforced until a situation is brought under control. If **eradication** isn't possible, people are told how they can help contain the threat. For example, when didymo was discovered in the South Island, signs were put up reminding people to clean their boats and fishing gear to help prevent this waterweed from spreading. In more recent times, a similar campaign has been trying to educate people about kauri dieback disease.



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