Monitoring lizards at Rewanui

At Rewanui, our long-term aim is to restore the native habitat so that a wide range of native species thrive there. Lizards (geckos and skinks) are an important component of native fauna in a range of habitats. They spread seeds and pollen, prey on invertebrates, and are themselves preyed on by moreporks and kingfishers. A healthy lizard population is a good indicator of healthy native habitat.

In 2008, we began a three-year programme to monitor birds, invertebrates, lizards, and vegetation at Rewanui. A specialist from the Greater Wellington Regional Council biodiversity team was contracted to do the monitoring. Our aim was to get an idea of the relative abundance of native wildlife in different types of habitat at Rewanui. We also wanted to find out how native species responded to pest control. Lizards are a favourite food of cats and rats, and are also preyed on by possums, mustelids (stoats, weasels and ferrets), and hedgehogs. These pests have been intensively controlled at Rewanui since 2006.

There are eight species of skinks and geckos known to exist in the eastern Wairarapa. Four of these have declining populations (spotted skink, Wellington green gecko, Pacific gecko, ornate skink), one is vulnerable to extinction (speckled skink), while the common skink, common gecko, and forest gecko are currently thought to have stable populations.

Common gecko

Common skink

Searching for lizards

Lizards are very sensitive to weather, especially temperature. Some lizards are active in the daytime: the best time to find these lizards is when the weather is warm, sunny and settled. If it is too hot or cold and/or wet, they are less active on outer foliage and much harder to find. Nocturnal lizards (active at night) also have a limited range of optimal temperatures for activity. Lizards found in rocky habitats can be more easily found during the day as they are less affected by extremes of temperature in their sheltered habitats.

We undertook two lizard surveys, one in November 2008, the other in April 2010. In each survey we searched for lizards over several days, and carried out night surveys using spotlights.

We surveyed a range of habitats, including the native bush, regenerating scrub, open grassland, and some of Rewanui's rocky outcrops and talus (stable scree) slopes. We used four searching techniques:

Visual searching	Searching by eye, sometimes using binoculars, and a spotlight at night
Searching by hand	Picking up rocks, logs etc, to see if lizards were underneath (replacing them gently afterwards)
Pitfall traps	4.5-litre closed plastic containers, with a hole cut to allow lizard access, baited with tinned pear, checked daily
Pre-set artificial retreats, under which the lizards can shelter	(i) Onduline – a lightweight corrugated roofing material. Seventy Onduline sheets (28 cm x 40 cm) were placed near the edge of the native forest several weeks before the survey (ii) closed cell-foam (CCF) covers - foam mats, placed at chest height on the north side of mature native trees. Sixty of these mats (100 cm x 40 cm) were deployed on transects in the native bush several weeks before the survey.

Checking a pitfall trap for lizards.

Foam mat for lizard shelter.

Onduline roofing material.

Results of our monitoring

Species *Scientific name*	**Number found**	**Where found**
Common skink *Oligosoma nigriplantare polychrome*	6	Talus slopes; also under Onduline; in wood pile
Common gecko *Hoplodactylus maculatus*	45	Rocky outcrops with crevasses; also standing/fallen dead trees; under Onduline
Other unidentified	8	Range of habitats
Total	**59**	

Monitoring lizards on your own property

Lizards are secretive and very weather sensitive, and formal monitoring of populations requires considerable effort and skill.

By providing artificial retreats, such as corrugated roofing material or CCF mats, you will increase your chances of finding them. You could combine checking these retreats with five-minute bird counts and/or checking weta hotels (see Information Notes 7, 8).

By controlling pest predators, especially cats and rats, you will give lizards a much better chance of surviving to maturity, enabling breeding populations to develop on your property.

For more lizard monitoring advice, materials and on-site assistance, contact:

1. Your regional council biodiversity team
2. Private specialist contractors.

Warning! Protect your green geckos

Some species of lizards are highly sought after by illegal wildlife traders. New Zealand's green geckos are one such group. If you find any green geckos on your property, our advice is to inform the Department of Conservation and to not announce it in newspapers or on the internet, as wildlife poachers rely on information about habitat and location. Also set up pest control to protect them and to ensure their long-term survival.

More information

1. Pest control and monitoring native wildlife at Rewanui

See other Information Notes in this series.

2. About the work at Rewanui

Montfort Trimble Foundation:
www.trimblefoundation.org.nz

Tree species trials: Stuart Orme, Woodnet
stuart@woodnet.co.nz

3. Protecting native wildlife from poachers

The Wildlife Enforcement Group (a unit comprising officers from NZ Customs, MAF and DoC).

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Sustainable Farming Fund
Ministry of Agriculture and Forestry
Te Manatū Ahuwhenua, Ngāherehere

Nyree Fea was responsible for wildlife monitoring at Rewanui from 2008–2011.

Dr Marieke Lettink (Fauna Finders) and several volunteers assisted with the lizard surveys at Rewanui.

Rewanui belongs to the Montfort Trimble Foundation, a trust dedicated to growing trees for the benefit of local people. The farm is being developed as a trial and demonstration property. Our focus is on new approaches to adding trees to the farming mix.

Montfort TRIMBLE Foundation

Photos: Nyree Fea, Marieke Lettink