Lizard action plan for Poneke Area, Wellington Conservancy

2009–2014

Department of Conservation
Te Papa Atawhai

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Published by
Department of Conservation
P.O. Box 5086
Wellington, New Zealand

This plan was prepared by Lynn Adams TSO Fauna, Wellington Conservancy.

ISBN: 978-0-478-14600-4 (printed copy)
ISBN: 978-0-478-14601-1 (web pdf)

Cover photo: Wellington green gecko (*Naultinus elegans punctatus*). Photo: Bryan Welch.

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Abstract

The Poneke Area lizard action plan has been developed to guide the survey, monitoring and management of lizard fauna within the Area. It provides background material, information on the species and a list of actions for the next five years, prioritised as high, medium or low.

1. Introduction

Poneke Area has a relatively diverse lizard fauna and most species found within the Area are common and widespread. Poneke Area's boundaries are shown in Figure 1.

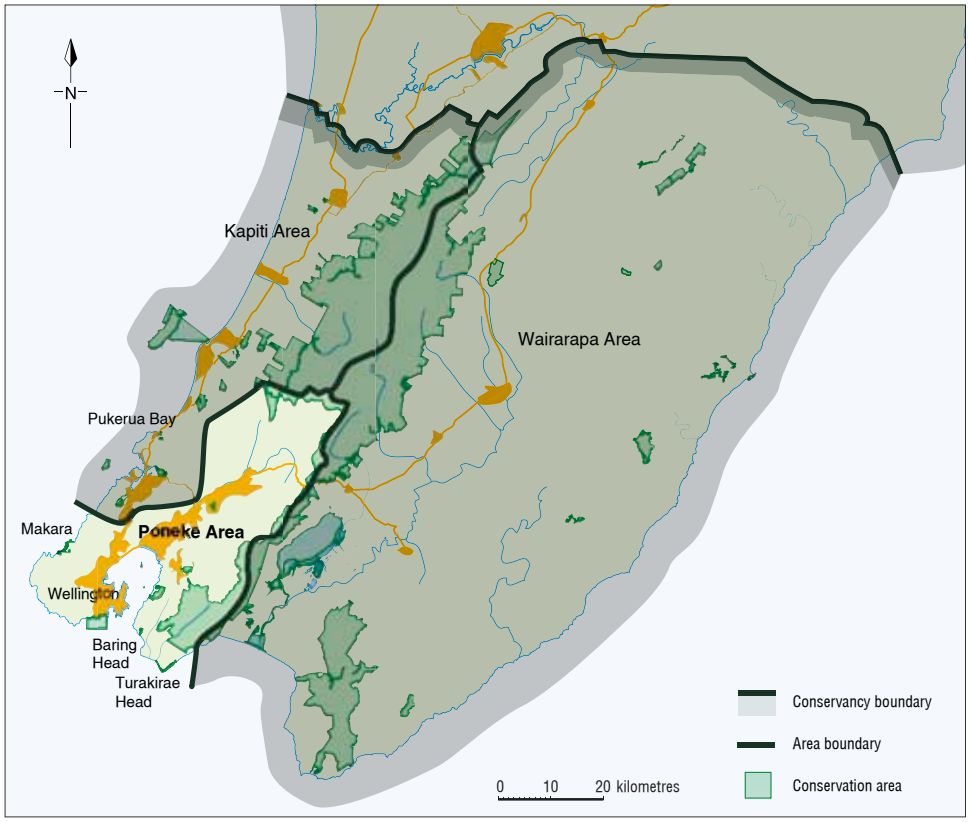

Figure 1. Map of Wellington Conservancy showing the boundaries of Poneke Area. Some features mentioned in the text are shown.

Poneke Area is unusual in that the diverse lizard fauna is co-habiting with a dense human population. Protection measures for lizard populations, therefore, depend on human activity and attitudes, as well as the usual ecological issues such as introduced predators and habitat modification.

Table 1 lists the species found within Poneke Area, including their threat ranking and distribution within the conservancy. Numerous species of lizard are held in captivity, some as pets, and some for conservation recovery. Several holders contribute to national conservation programmes, but for the purposes of this document, we consider captive holding only if the programme contributes to *in situ* recovery in Poneke Area.

TABLE 1. SUMMARY OF LIZARD FAUNA OF PONEKE AREA INCLUDING CURRENT THREAT CLASSIFICATION, DISTRIBUTION AND DOC CAPTIVE CATEGORY.

COMMON NAME	SPECIES	THREAT CLASSIFICATION[1]	DISTRIBUTION[2]
Wellington green gecko	*Naultinus elegans punctatus*	GD (HI)	Poneke, Kapiti, Wairarapa
Southern North Island forest gecko	*Hoplodactylus* "southern North Island forest gecko"	NT (DP)	Poneke, Kapiti, Wairarapa
Common gecko	*Hoplodactylus maculatus*	NT	Poneke, Kapiti Wairarapa
Common gecko "Marlborough mini" or mini-mac	*Hoplodactylus* "Marlborough mini"	NT	Poneke
Pacific gecko	*Hoplodactylus pacificus*	GD (DP)	Poneke
Common skink	*Oligosoma nigriplantare polychroma*	NT	Poneke, Kapiti, Wairarapa
Spotted skink	*Oligosoma lineoocellatum*	GD (HI)	Poneke, Kapiti, Wairarapa
Brown skink	*Oligosoma zelandicum*	S	Poneke, Kapiti.
Copper skink	*Cyclodina aenea*	NT	Poneke, Kapiti, Wairarapa
Ornate skink	*Cyclodina ornata*	GD (DP)	Poneke, Kapiti, Wairarapa

1. Hitchmough, 2005. NT= not threatened; S = sparse; GD = gradual decline. Qualifiers are represented in brackets: DP = data poor; HI = human induced;

2. Distribution: Area offices within Wellington where the species is present; includes historic data.

2. Goals and objectives

This plan describes actions required over the next five years to ensure that indigenous lizard populations are protected throughout their full range within the boundaries of Poneke Area. It also summarises biological and conservation information about each species, especially as it relates to Poneke Area.

Whilst indirect conservation actions, such as publicity and community relations, contribute to the protection of species, it is not the purpose of this plan to identify all of the requirements in these areas. Instead, this plan focuses on the ecological and biological requirements of lizards' conservation management.

This plan identifies survey, management and research requirements. High priority work will be undertaken by DOC staff but other lower priority work and research may be undertaken by external groups, including university researchers, DOC R&D or community groups.

Survey

Survey is required to update current knowledge of distribution and to determine extent and distributional limits of newly described or discovered species or subspecies. Survey can also identify the diversity of lizard species in one area.

Management

The purpose of management is to improve the conservation status of threatened species, either through creation of new populations, enhancement of habitat (including predator control) of existing populations and restoring species into previously occupied areas. For non-threatened species, the purpose is to protect populations throughout the full latitudinal and altitudinal range, focusing on populations or areas of high density or diversity. Management actions often need to be monitored in order to measure their success.

Research

Research is needed to answer three main questions:

- What is the taxonomic diversity of the lizard fauna in Poneke Area?
- What are the threats to each species?
- What are the most cost effective management tools to ensure security of populations within the Area.

Finally, this document identifies priority actions for lizard conservation. We have given priority as high (urgently need to achieve), medium (action needs to be undertaken but no urgency is required), and low (not essential for preservation of the population but still required to maintain minimum levels of information to enable conservation assessment). It is anticipated that these priorities will be reviewed at least every 3–5 years to take into account changing priorities as achievements are made.

3. Conservation management actions

3.1 WELLINGTON CITY

In this context, Wellington city is described as the urban areas within Wellington City Council limits. Despite the huge array of habitat modification, the diversity of herpetofauna in Wellington City is very high. There are forest, common, mini mac and green geckos, ornate, common, brown and copper skinks. The population status of these species within Wellington City is unknown.

Actions

- Record in the Herpetofauna database all lizards seen in Wellington City. (high)
- Educate the community on how to enhance lizard habitat in their gardens (medium)

3.2 TURAKIRAE HEAD

Historically, common skink, copper skink, spotted skink and common gecko have been found at Turakirae Head. Copper and spotted skinks were last recorded there in the 1980s but have not been documented in recent years. The spotted skink population extended from Turakirae Head to the Wainuiomata coast and extended up the coastal scarp. There is uncertainty about whether spotted skinks are still found in any of these locations.

Studies have estimated that the common gecko population declined 30% from the 1960s to 2000, although methods may not be comparable. The density is still high, with an estimated at 7770 individuals per hectare (Green, 2001). The population of common skink has become more abundant relative to the common gecko population but it was not clear whether declines had occurred (Green, 2001).

Actions

Confirm and record any sighting of copper and spotted skinks at Turakirae. (high)

Record all species seen at the site in the Herpetofauna database. (high)

3.3 BARING HEAD

Only spotted skink and common gecko have been recorded from the site However, the lizard population from Turakirae Head to Baring Head is likely to be contiguous. Records indicate that common and copper skinks are not present, but this may be due to lack of records or search effort

rather than a true absence. Spotted skink have not been recorded at the site since the 1960s.

Actions

- Record all species seen at the site in the Herpetofauna database. (high)
- Confirm and record any sightings of spotted, common and copper skinks (high).

3.4 WELLINGTON HARBOUR ISLANDS

Due to its pest-free status, Matiu/Somes Island is one of the most important sites for lizard conservation within Wellington Conservancy. Species found on the island are listed in table 2. The island already has a regionally significant population of spotted skink, and the translocated populations of green gecko and ornate skinks will be important should transfers be successful at establishing self-sustaining populations. The Matiu/Somes restoration plan describes management actions required on the island, and it is not the purpose of this plan to supersede the restoration plan. However, some details on lizard management requirements on the island are provided here.

There is potential to establish on Matiu/Somes Island populations of several lizard species that do not otherwise occur in Poneke Area. These are listed in table 2.

TABLE 2: SPECIES PRESENT ON MATIU/SOMES ISLAND OR SPECIES SUITABLE FOR RELEASE TO MATIU/SOMES ISLAND

COMMON NAME	SPECIES	STATUS[1]	SOURCE POPULATION	RELEASE LOCATION
Spotted skink	*Oligosoma lineoocellatum*	Existing population	Original population	N/A
Common skink	*Oligosoma nigriplantare polychrome*	Existing population	Original population	N/A
Copper skink	*Cyclodina aenea*	Existing population	Original population	N/A
Common gecko	*Hoplodactylus maculatus*	Existing population	Original population	N/A
Ornate skink	*Cyclodina ornata*	In progress	Wellington city	
Green gecko	*Naultinus elegans punctatus*	In progress	Wellington city	
Forest gecko	*Hoplodactylus* 'southern North Island forest gecko'	In progress	Wellington city	
Southern North Island speckled skink	*O.* aff. *infrapunctatum* "southern North Island"	Potential translocation	Wairarapa (if rediscovered) or Wanganui	Forest edge close to area with leaf litter, artificial cover objects may be needed

COMMON NAME	SPECIES	STATUS[1]	SOURCE POPULATION	RELEASE LOCATION
Duvaucell gecko	*Hoplodactylus duvaucelii*	Potential translocation	Brothers or Trios, Marlborough Sounds	Forest
Pacific gecko	*Hoplodactylus pacificus*	Potential translocation	Upper Hutt[2]	To be assessed
Brown skink	*Oligosoma zelandicum*	Potential translocation	Wellington city	Mixed grassland scrub with retreat sites

1. Status indicates: in progress = a translocated population is currently being released on the island but population hasn't been confirmed to have established; potential translocation= species should be considered for translocation (full proposal should be developed); Existing population = the population naturally occurs on the island

2. The population of Pacific gecko in Upper Hutt has not been recorded for several decades. If found would need to be held in captivity until sufficient were found/breed to be released— see section 4.5

Green gecko

For translocations to Matiu/Somes Island (and Karori, if not already present), green geckos can be collected from the whole of Poneke Area, and north to Pukerua Bay.

Salvaged and captive animals can be released on Matiu/Somes Island provided they or their offspring were originally sourced from within the boundaries of Poneke and Pukerua Bay (above). A check of captive holders must ensure records have been meticulous and there has been no chance that animals have bred with different populations, if they are to be released to Matiu/Somes. Full disease screening of translocated animals must occur (see section 3.5).

Forest gecko

For translocations to Matiu/Somes Island forest geckos can be collected from the whole of Poneke Area and north to Pukerua Bay. The same criteria used in green geckos apply to any captive animal translocated to a wild population (see above). Full disease screening of translocated animals must occur (see section 3.5).

Ornate skink

For translocations to Matiu/Somes, ornate skinks should be collected from salvaged or at risk individual (e.g., animals caught by cats, areas where habitat is being destroyed) from within Wellington City Council boundary. By 2008, animals had been collected from Kelburn, Northland, Ngaio, Wadestown and Karori.

Actions

- Maintain pre and post-border island biosecurity procedures in accordance with biosecurity SOP and Matiu/Somes biosecurity plan. (high)
- Complete translocation of green gecko, forest gecko and ornate skink (high)

- Continue to record all sighting of lizards on Herpetofauna database. (high)
- Five years after translocation, monitor populations to confirm that they are self-sustaining. Publish the tranlocation techniques and results for each species (high)
- As resources become available, translocate species (in order of priority) listed in table two (medium).
- Undertake 5-yearly monitoring of all lizard populations to ensure populations are persisting (medium)

3.5 MAKARA COAST

Common skink, copper skink and "Marlborough mini" geckos have been recorded on the Makara Coast and all species are likely to be still present.

Actions

- Continue to record all sighting of lizards on Herpetofauna database. (high)
- Investigate sightings of species not previously recorded at the site (high).
- Determine the distributional limits of the "Marlborough mini" popultions (med).

3.6 OTHER SITES

Within this document it was not possible to cover all sites within Poneke Area. Instead the highest priority (diverse, abundant populations) sites have been highlighted. But other sites may still contain large lizard populations that are worthy of protection and survey. While it will not be a high priority for the Department, work to clarify the status of a population or that will lead to greater information about it will be encouraged. More details about species distribution is found in section 4.

Actions

- Continue to record all sighting of lizards on Herpetofauna database. (high)
- Follow up sightings of species not recorded at the site (high).
- Support other organisations/groups to survey and manage populations. (medium)

3.7 TRANSLOCATION / DISEASE MONITORING

Prior to any translocation, a full survey of the site must be undertaken to ensure the species is not already present. For areas where mammalian eradications have occurred, it may take 10+ years for some lizards to increase enough to be detected. The North Island skink recovery group provides guidance for on techniques used to monitor sites that have mammalian pests eradicated. These principles apply in Karori Wildlife Sanctuary. Species confirmed to be present in Karori include brown skink, copper skink, ornate skink, common skink, common gecko, forest gecko. A single green gecko was found on the fence and put inside the reserve in 2008 (R. Empson *pers com*.). The Karori Wildlife Sanctuary restoration plan outlines species appropriate for transfer and a waiting period of 5–10 years since eradication to enable rare species to be detected is appropriate. DOC will respond to proposals as they are presented.

Disease can cause population-level declines and translocation of animals may provide a pathway for disease spread and should be managed. Little is known about herpetological diseases or parasites, and translocation provides a valuable opportunity to increase knowledge and develop protocols for future translocations. It also provides an opportunity to understand what diseases are currently in populations. Because so little is known about lizard diseases or whether they are pathogenic, a precautionary approach is needed to minimise the transfer of disease between populations, at least until more is understood about the disease status of the source and destination.

Surveillance screening is required for high priority sites. The purpose of surveillance screening is to collect information on prevalence of specific disease organisms and to collect baseline health data to develop a profile of normal health for wildlife. Conservation managers can use this information to make decisions about the disease risks associated with management activities.

For translocations, some basic screening is required for the translocated animals (based on advice provided by B. Gartrell for green gecko traslocation to Matiu/Somes Island 2007):

- Physical examinations for external parasites, skin diseases and obvious malformations of the body.
- Post mortems performed on any animals known to have been severely ill prior to death.
- Faecal cultures for *Salmonella*, *Yersinia*, *Aeromonas* (2008 – $33/ sample).
- Faecal floats for internal parasites, and coccidia and acid fast stains of faeces for cryptosporidia. (2008 – $14/sample)
- Blood smears for detection of haemoparasites (2008 – $12/sample) may also be taken but are not considered essential for translocation (Brett Gartrell *pers. comm*.).

If any tests are positive, in either source or destination populations, advice on treatment and appropriateness of translocation will be sought

from the New Zealand Wildlife Health Centre, DOC wildlife vet or other appropriately qualified wildlife vet.

For captive animals, or where animals have been caught from one location, the samples will be batched by cage/site to reduce costs. Captive animals should be re-sampled after one month to reduce the risk of transporting animals carrying *Salmonella* (D. Middleton *unpublished data*).

Actions

- Ensure the translocation SOP is followed when receiving any translocation proposals (high)
- Ensure all translocations meet the requirements of "Health Management of Terrestrial Vertebrate Species Protected Under the Wildlife Act" (wildlife health SOP) (high)
- Ensure the causes of decline have been adequately managed before approving any lizards translocations (medium)
- Undertake surveillance screening on Matiu/Somes and Makaro Island (high), other sites where translocations are likely to occur (high) and sites with high lizard diversity or density (low)

3.8 BIOSECURITY

Rainbow skink

Rainbow skinks (*Lampropholis delicate*), which are native to Australia, are currently known only from the Auckland, Hamilton, Whangarei, Dargaville, Coromandal, Tauranga, Te Puke, Whakatane and Wanganui. Isolated records have also been found in Palmerston North, Foxton, Nelson, Christchurch, and Dunedin. A single animal was found in Porirua in 2005. Through competition for food and resources, rainbow skinks are a threat to New Zealands native lizards. The main cause of spread is through people transporting equipment, freight, potted plants etc. For any incursion, full investigation of the importation pathway is required. This allows a full risk assessment of the likelihood of further incursion, and allows decisions to minimise/eliminate the risk. Action needs to be taken quickly and eradication techniques should be documented and at hand. Any animals found must be killed.

Argentine ant

The Argentine ant (*Linepithema humile*) is one of the world's most invasive and problematic ant species. Argentine ants are very aggressive, and unlike other ant species, their colonies cooperate with each other, and can combine over winter into super-colonies. Argentine ants are small (2–3 mm long) and honey-brown, while most other common household ants in New Zealand are black. They are a threat because of their sheer numbers, appetite and aggressiveness. Argentine ants can kill other species of ants, compete with native fauna, including lizards for food such as insects, nectar and worms and displace and kill native invertebrates.

Argentine ants are found in Wellington. They are also known from many parts of Auckland and Northland, as well as Bay of Plenty, Hawke's Bay, Nelson and Christchurch. It is important to stop the spread of Argentine ants.

New incursions

Wellington is an active port, and while MAF is the biosecurity control authority, DOC has a supporting role to play in biosecurity incursions. Staff should be aware of importation pathways and be prepared to respond

Actions

- Undertake full biosecurity quarantine procedures when travelling to and working in high priority areas. (high)
- Determine import pathways for all new incursions that occur; where possible manage pathway to prevent further incursion. (high)
- If incursions occur, assess eradication potential or document the spread of the species and indication of numbers. Identify high risk habitats and manage the pest within these sites. (high)
- Investigate any report of rainbow skink within Poneke and if present consider the feasibility of eradication. (high)
- Argentine ants: check potted plants for ants before moving (especially for revegetation projects), check equipment prior to moving from one location to another (especially in and around reserves). (high)

3.9 RMA PROTECTION

Ongoing habitat loss or modification—a serious cause of decline in some areas of New Zealand—is occurring on a relatively small scale in Poneke Area. Small-scale land clearance for farming is still occurring but the majority of impacts are through increased urbanisation. Coastal development and domestic predators have the potential to cause significant local declines of even common lizard species. Poneke Area already has a large population of domestic cats, especially in urban and urban fringe areas, and there is little point in using RMA processes to restrict activity around urban areas. However, there is still significant habitat, especially around the coastal fringe, which is significant and is worthy of protection.

Actions

- Identify areas where cat or dog bans, or other mitigation is appropriate should subdivision and increased urbanisation be proposed. Strongly advocate these measures using the RMA processes. (high)
- Be aware that kanuka and manuka clearance can significantly deplete lizard habitat and cause declines. Strongly advocate protection measures (including legal protection) using the RMA processes. (high)

3.10 LEGAL REQUIREMENTS

The Wildlife Act sets out the requirements for protection of lizards. The collection of lizards from the wild is prohibited, catching and handling of lizards requires permission and any research and monitoring programme must have a permit before work commences. Any person experienced in lizard handling and identification is allowed to catch and hold a lizard for the purpose of immediate identification, but the animal must be released immediately in the same place that it was caught. Where a lizard is injured or rescued from a predator (e.g., domestic cat), persons are permitted to catch and hold the lizard until advice from DOC is sought. Where possible, uninjured animals should be released in a nearby place that offers protection from the predator.

The Department occasionally seeks help from the public in recording and/or catching certain species. In these cases, people are permitted to catch and handle the species provided the Department is advised immediately. Instruction on what to do with the animal will be given by DOC.

4. Species

In order of priority for Poneke Area

4.1 WELLINGTON GREEN GECKO

Naultinus elegans punctatus

Wellington green gecko.
Photo: Bryan Welch.

There are many records of Wellington green gecko which cover most of the urban areas within Poneke Area. This includes a small number of records from most suburbs in Wellington city (from Miramar Peninsula, Island Bay, Karori to Mount Kaukau), most of Petone, Lower Hutt and Upper Hutt (including Pinehaven, Silverstream and Stokes Valley), all of the inhabited area on the eastern harbour (Point Arthur to Gracefield) and a handful of records from Tawa, Haywards, Whitby and Judgeford.

Threat classification

Gradual Decline

Distribution

The Wellington green gecko is found in the south-eastern North Island, roughly south of a line from Wanganui to East Cape, including Kapiti and Mana Islands.

Habitat and habits

Wellington green geckos are arboreal in lowland forest and scrub, including manuka/kanuka shrubland. Diurnal, sun-basks among foliage. They are generally sparse, but often locally common in suitable habitat.

Taxonomy

The Wellington green gecko is likely to be recognised as a full species in any taxonomic revision.

Actions

- Continue to collect wild animals for the Matiu/Somes release programme. Appropriate collection sites include the whole of Poneke Area and north to Pukerua Bay. (high)
- Disease screen all animals collected from the wild prior to placing in captivity, or release to Matiu/Somes. (high)
- Record all sightings on Herpetofauna database. (high)
- Solicit records and observations from the public. (medium)

4.2 PACIFIC GECKO

Hoplodactylus pacificus

Pacific gecko.
Photo: R. Veitch.

There are only a handful of Pacific gecko records from Poneke near Upper Hutt in the Blue Mountains (1965), Pinehaven (1965) and Moonshine Valley (1987). An unconfirmed report was made at Butterfly Creek under bark at the base of the track (A. Whitaker pers. comm.). There is some doubt as to whether these records are natural occurrences or escapees from captivity, because this species is absent from Wellington's offshore islands. If they are naturally occurring, they represent the southernmost extent of the species, and if they still survive at these locations, they would be a significant population. The nearest other record is in Wanganui Conservancy.

Threat classification

Gradual Decline

Distribution

North Island and many of its outliers, but not the Three Kings, Poor Knights or Mokohinau island groups. The northernmost confirmed record is Whangarei and the Hen & Chickens Islands. Records from Palmerston North are considered accidental or deliberate releases. The southernmost record is in the Hutt Valley, but see above. The species is secure on many islands but there have been substantial declines on the mainland.

Habitat and habits

Pacific geckos are found in lowland forest and scrubland trees (retreat sites are beneath loose bark or in deep hollows), creviced clay banks and rock bluffs, rock outcrops, and associated scrubby vegetation including flax. Also coastal among driftwood, rocks and scrub, usually well back from the high-tide line. In the southern North Island, largely restricted to forest in hill country. Arboreal or terrestrial.

Actions

- Investigate any reports from the upper Hutt Valley and Moonshine areas of "common geckos" since Pacific gecko is most likely to be confused with common. (high)
- If Pacific gecko are reported, undertake surveys of the site and other similar nearby habitats. (high)
- If Pacific gecko is collected by staff or the public, keep the animal in captivity and establish a breeding population for later reintroduction at a safe site (such as Karori). (high)
- Investigate the relationship between common gecko and pacific gecko to determine whether they can co-exist (note that they co-exist on several northern offshore islands). If able to co-exist, consider establishing a Pacific gecko population on Matiu/Somes Island. (high)
- Record all sightings on Herpetofauna database. (high)

4.3 SPOTTED SKINK

Oligosoma lineoocellatum

Spotted skink.
Photo: Andrew Morrison.

Matiu/Somes, Mokopuna and Makaro Islands all have large and secure populations of spotted skink. Because of the decline of this species in other locations around the lower North Island, these populations are regionally significant (and will become nationally significant if the lower North Island populations of spotted skink are found to be taxonomically distinct). It is accepted that the population will decline on the islands as the vegetation grows.

Several other sites around the Conservancy have populations of spotted skinks (e.g., Plimmerton, Titahi Bay, Wairarapa coast) although anecdotal evidence suggests none are secure. Within Poneke Area, spotted skinks have been found at Percy Reserve (1995), at the mouth of Korokoro Stream (1980), Wainuiomata coast (1983), Baring Head (1970) and Turakirae Head (1984). It is unknown whether any of these populations still exist.

Threat classification

Gradual Decline

Distribution

South-eastern North Island from Hawke's Bay to Wellington, eastern Nelson, Marlborough and Canterbury, including several islands in Nelson, Cook Strait area and north Canterbury. They appear to be declining more rapidly in North Island, and the North Island population may be taxonomically distinct. The threat classification of Gradual Decline includes North Island, Nelson and Marlborough Sounds populations, and there is uncertainty whether 5% per 10 years criterion in the classification is triggered overall, but the very serious situation of mainland populations (particularly North Island) justifies listing.

Taxonomy

Unpublished genetic research suggests that this species is in fact a series of separate species, the eastern Wairarapa form being separate from other forms. If this is confirmed, it is likely the threat status of Wairarapa's populations will elevate to a more threatened level

Habitat and habits

They inhabit open areas including scrub, grasslands, and coastlines and may live among dense vegetation or in rocky situation such as scree and rock piles. They range upwards to at least 1600 m above sea level, although not within Ponkeke Area. Spotted skinks are diurnal, are avid sun-baskers and entirely terrestrial. In some locations they can be abundant, but very localised and in densely vegetated habitats can be difficult to detect.

Actions

- Respond to sightings of spotted skink at Wainuiomata coast, Baring Head and Turakirae Head. (high)
- Record all sightings on Herpetofauna database when records are on the mainland, or when records are on islands (high).
- Respond to sightings of spotted skink at Korokoro stream mouth and in Percy Reserve. (medium)
- Re-survey Makaro and Mokupuna Islands at least every 5 years to confirm they are still present (medium).
- Be aware that the red belly of ornate skinks can be confused with spotted skinks (low).
- Collect any animals reported from the public and found within Wellington city (including Hutt Valley) and establish a population in captivity with view to establishing at a safe site. (low)
- Implement the island biosecurity plan for Wellington Harbour islands. (high).
- Survey for presence at sites of historical records or where suitable habitat occurs. (medium)

4.4 ORNATE SKINK

Cyclodina ornata

There have been very few ornate skinks records within Poneke Area despite the recent influx of observations. The species has been found from a line across Central Wellington City to Karori north through most suburbs to Johnsonville (and south of State Highway One). They have also been found in isolated locations in Korokoro (1962), Days Bay (1952), Silverstream (1983) and Pinehaven (1983)

Threat classification

Gradual Decline

Ornate skink.
Photo: Andrew Morrison.

Distribution

Widespread throughout North Island (possibly absent from area extending inland from Hawke's Bay) and on many outlying islands. Decline on mainland may be partly offset by increases on islands

Habitat and habits

Ornate skinks occur in forest or open areas with deep leaf litter or stable cover such as deep rock piles. They are very secretive; they can become active at any time but mostly at dawn and dusk, seldom emerging from cover. Often sparse.

Actions

- Continue to collect ornate skinks from Wellington city for release to Matiu/Somes. (high)
- Record all sightings on Herpetofauna database. (high)
- Survey sites where historic records indicate presence (or suitable habitats nearby), to confirm presence. (medium)
- Be aware that the red belly of ornate skinks can be confused with spotted skinks. (low)

4.5 FOREST GECKO 'SOUTHERN NORTH ISLAND'

Hoplodactylus "Southern North Island forest gecko"

Southern North Island forest gecko. Photo: Andrew Morrison.

Very little is known about this yet-to-be-described species.

Threat classification

Not threatened.

Distribution

'Southern North Island' forest geckos have been confirmed from Wellington including Karori, Otaki Forks and Mount Bruce; therefore it is assumed that the population extends to the Tararua Range and Kapiti Island.

Taxonomy

It is most likely that all forest geckos in Wellington Conservancy are the 'Southern North Island' species. Northern distribution limit poorly understood; the identity of some central North Island populations has yet to be resolved, and some could be 'southern North Island' forest gecko; there is uncertainty as far north as Rotorua.

Habitat and habits

Forest and shrublands. Arboreal, generally on trunks and larger branches of trees, but occasionally nearer to ground in shrubs or ferns, or in creviced clay banks. Largely nocturnal, sun-basks near retreat or among vegetation.

Actions

- Continue to collect wild animals for the Matiu/Somes captive release programme. Appropriate collection sites include the whole of Poneke Area and north to Pukerua Bay. (high)
- Record all records on Herpetofauna database. (high)

4.6 COMMON GECKO "MARLBOROUGH MINI"

Hoplodactylus "Marlborough mini"

An unusual colour variant of Marlborough mini gecko. Photo: Andrew Morrison.

The Marlborough mini gecko (often referred to as "mini mac") has only recently been identified (currently undescribed); limited information on this population is available. The species is likely to be contiguous from Lyall Bay to Makara (records include Houghton Bay, Taputeranga Island, Red Rocks and Sinclair Head and Makara) at least along the coastal scarp. It is not known whether the species is found along the entire coast between Sinclair Head and Makara. Nor is it known how far inland this species is found or whether there is overlap in range with common geckos, however most records from the western hill country of the south coast are common geckos. 'Marlborough minis' are currently known only from coastal sites in Wellington.

There is overlap of common and 'Marlborough mini' geckos in Island Bay and Lyall Bay. The distribution north of Makara is unknown, although common geckos have been confirmed at Titahi Bay.

Distribution

Marlborough, eastern Nelson (including the Boulder Bank), and the Wellington coastline from Island Bay westwards to Makara. Morphologically, the most distinct population is the Nelson Boulder Bank-Glenduan one. Animals there are larger and darker colour than elsewhere. Animals from the east coast of Marlborough tend to be somewhat bigger and more boldly patterned than those from inland sites. North Island specimens are very small, but otherwise resemble coastal Marlborough specimens. Possible cryptic taxon.

Habitat and habits

Screes, rock piles, creviced bluffs, and associated scrubby vegetation, in open grassland or scrubby areas. In coastal areas, boulder fields and driftwood, including associated dense vegetation such as pohuehue down

to high tide mark. Range upwards to at least 1600 m ASL in the South Island. They are largely nocturnal, but sun-bask at the entrance to retreats. Largely terrestrial but may climb shrubs and dense vines at night.

Actions

- Survey the coastal scarp from Lyall Bay to Titahi Bay to determine distribution of geckos. (high)
- Record all sightings in Herpetofauna database. (high).
- Develop an identification key to allow differentiation of common and 'Marlborough mini' geckos in the field. (medium)
- Be aware that "common gecko" records from the Wellignton area could be either 'Marlborough minis' or common geckos. (low)

4.7 BROWN SKINK

Oligosoma zelandicum

Brown skink.
Photo: Rod Morris.

Brown skinks are probably scattered throughout Wellington City from Johnsonville to Karori Wildlife Sanctuary and south to Island Bay, although they may not be abundant.

Brown skinks have been found in Kelburn (last seen in 1964), at the Bolton Street cemetery (1985), Wadestown (1965), Berhampore (1994), Highbury (1995), Khandallah (1995), Thorndon (1995), Wilton (2007), Karori (2001), Karori Wildlife Sanctuary (2003), Johnsonville (2004) and Horokiwi (2006). They were also present at Cape Terawhiti (1965).

The two outlying records, Horokiwi and Cape Terawhiti, deserve further investigation; the area between the core city location and these two locations should be searched to determine whether the populations are contiguous.

Threat classification

Not threatened.

Distribution

West of the main divide including the south-western North Island from Taranaki to Wellington, and Marlborough, Nelson (sparse) and northern Westland.

Habitat and habits

Prefer densely vegetated and typically damp habitats in lowland areas (up to 1000m ASL), including forest, scrub, farmland and coastlines, and on boulder banks. Diurnal, sun-basks but is secretive. Often locally abundant. Often co-exists with the similar-looking common skink but can be distinguished from common skinks by the brown iris colour (cf straw colour in common skinks).

Actions

- Record all sightings on Herpetofauna database (high)
- Investigate sighting in the rural country west of the line from Johnsonville to Island Bay to determine distribution. (low)
- Investigate sighting in the area east of State Highway One from Ngauranga, including Newlands, Horokiwi, and Korokoro Stream to determine distribution. (low)

4.8 COPPER SKINK

Cyclodina aenea

Copper skink.
Photo: G.R. Parrish.

Populations exist on Matiu/Somes and Makaro Islands. A handful of records are scattered throughout Wellington City (Seatoun, Miramar, Mt Victoria, Breaker Bay, Island Bay, Kelburn, Khandallah) and up the Hutt Valley (Percy Reserve, Belmont, Pinehaven, Blue Mountains and Whitemans Valley). They have also been seen at Makara, Eastbourne, Turakirae, Orongorongo River, Red Rocks Stream (Orongorongo) and Wainuiomata.

Threat classification

Not threatened.

Distribution

Widespread throughout North Island (possibly absent from Hawke's Bay to Manawatu), and on many outlying islands, but not the Poor Knights or Three Kings groups. New Zealand's smallest native lizard. The most common garden skink in some suburbs of Wellington.

Habitat and habits

Forest and open or shaded areas with adequate ground cover such as logs, rocks or long grass or deep leaf litter. Also in urban areas: compost heaps, rock gardens etc. Occurs close to the high-tide line in coastal situations. Most active by day but very secretive, seldom emerging from cover. Can be abundant.

Actions

- Investigate sighting at Turakirae to confirm copper skinks are still present (last record was from 1982). (medium)
- Seek and support research into the causes of decline of copper skink at Turakirae and Pukerua Bay. (medium)
- Record all sightings on Herpetofauna database. (medium)

4.9 COMMON GECKO

Hoplodactylus maculatus

Common gecko.
Photo: Andrew Morrison.

Common geckos are common in Poneke Area. The most secure stronghold is on Matiu/Somes and Makaro Islands where there are healthy populations.

The species is likely to be scattered along the southern coast from Fishermans Rock, Turakirae Head, Baring Head, Orongorongo River mouth, Wainuiomata coast, Pencarrow and along the coast and into the harbour to Eastbourne and up to Point Howard. It extends into Butterfly Creek, Catchpool Valley and up the Orongorongo River, but it is not certain how widespread they are inland.

They have been recorded in Happy Valley, Moa Point, Miramar, Wadestown, Hataitai, Newlands, Owhiro, Seatoun, Khandallah, Ngauranga, Korokoro, Maungaraki, Belmont and Upper Hutt,

Old records are from Terawhiti, Tongue Point and Owhiro Stream but these could be *H.* 'Marlborough mini'. Common gecko have also been recorded at Pipinui Point.

Distribution

North Island, Nelson and Marlborough, including many outlying islands. Increasing on islands from which rats have been eradicated, but declining in some mainland places.

Habitat and habits

Arboreal or terrestrial. Primarily lowland, forest trees, creviced rock outcrops, bluffs and rock tumbles, including associated scrubby vegetation, in open or scrubby areas. On coastlines they are among driftwood and boulders banks, including associated dense vegetation such as pohuehue, often down to high-tide line. In the northern North Island they are largely restricted to the coastline. Retreat sites are beneath loose bark or in deep hollows, often on standing dead trees. Largely nocturnal, but sun-bask at entrance to retreats.

Actions

- Determine the distribution of common gecko around the south western coast of Wellington, identify areas of range overlap with *H.* "Marlborough mini". (medium)
- Record all records on Herpetofauna database. (medium)
- Be aware that 'common gecko' records from the Wellington area could be either "Marlborough minis" or common geckos. (low)

4.10 COMMON SKINK

Oligosoma nigriplantare polychroma

Common skink.
Photo: Colin Roderick.

Common skinks probably occur throughout Poneke Area. They are (almost) contiguous along the coastal scarp from Turakirae, around the harbour, along the south coast to Makara. They are also found at numerous inland sites including Orogorongo Valley, Whitemans Valley, Pinehaven, Naenae, Belmont, Jonsonville, Kelburn, Otari, Karori, Wrights Hill and Brooklyn.

Distribution

Hawke's Bay and central to southern North Island, throughout the South Island, Stewart Island. A similar subspecies (*O. n. nigriplantare*) found on Chatham Islands is likely to be elevated to full species.

Habitat

Actions

- Record all records on Herpetofauna database (medium)

5. Conclusions

Poneke Area is a small geographical area, but it contains a diverse lizard fauna. While declines have occurred and are likely to be continuing, there are many secure sites, particularly on the harbour islands. This plan has not ventured into community relations or the involvement of the community in lizard projects, but there is huge scope for greater community involvement and awareness which should be explored in the future.

6. References

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