



NEW ZEALAND THREAT CLASSIFICATION SERIES 2

Conservation status of New Zealand reptiles, 2012

Rod Hitchmough, Peter Anderson, Ben Barr, Jo Monks, Marieke Lettink, James Reardon,
Mandy Tocher and Tony Whitaker

Cover: *Oligosoma aff. longipes* "Rangitira". Photo: James Reardon.

New Zealand Threat Classification Series is a scientific monograph series presenting publications related to the New Zealand Threat Classification System (NZTCS). Most will be lists of the NZTCS status of members of a plant, animal or fungal group (e.g. algae, birds, spiders). There are currently 23 groups, each assessed once every 3 years. After each 3-year cycle, there will be a report analysing and summarising trends across all groups for that listing cycle. From time to time the manual that defines the categories, criteria and process for the NZTCS will be reviewed. Publications in this series are considered part of the formal international scientific literature.

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Conservation status of New Zealand reptiles, 2012

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Abstract

The conservation status of all known New Zealand reptile taxa was reassessed using the New Zealand Threat Classification System (NZTCS). A full list is presented, along with a statistical summary and brief notes on the most important changes. This list replaces all previous NZTCS lists for reptiles.

Keywords: New Zealand Threat Classification System, NZTCS, conservation status, gecko, skink, tuatara, turtle, sea snake, Diplodactylidae, Scincidae, Sphenodontidae, Cheloniidae, Dermochelyidae, Hydrophiidae, Laticaudidae

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1. Summary

Hitchmough et al. (2010) presented results of the first known complete audit (carried out in 2009) of the conservation status of New Zealand reptiles, including marine migrant and vagrant species, and introduced species—a total of 109 taxa. The conservation status of these taxa was assessed using New Zealand Threat Classification System (NZTCS) criteria (Townsend et al. 2008). We have repeated this status assessment 3 years later, as suggested by Townsend et al. (2008). The categories, criteria and process were identical between the two listings, and most of the panel members (the authors of Hitchmough et al. 2010 and this document) were the same.

We assessed the status of 110 taxa, including 45 unnamed entities (41% of the total, and 45% of the native lizards, the group to which all the undescribed entities belong). One additional species of Vagrant sea snake (the blue-lipped sea krait *Laticauda laticaudata*) has been recorded in New Zealand since the publication of Hitchmough et al. (2010). No other new taxa were added and circumscriptions of all taxa were unchanged. There were some name changes between the two assessments (Table 1) resulting from the formal descriptions of some skink species previously listed as tag-named Taxonomically Indeterminate entities (Chapple et al. 2011), the elevation of the two former subspecies of *Naultinus elegans* to full species and the splitting of the gecko genus *Hoplodactylus* into six genera (Neilson et al. 2011). There are now no recognised or proposed subspecies of New Zealand reptiles—all described taxa are full species and all undescribed entities are considered to be likely species.

Table 1. Name changes affecting New Zealand reptile species between the publication of Hitchmough et al. (2010) and this document.

NAME IN HITCHMOUGH ET AL. (2010)	NAME IN THIS DOCUMENT
<i>Hoplodactylus</i> aff. <i>chrysosireticus</i> “southern mini”	<i>Woodworthia</i> “southern mini”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “Cascades”	<i>Mokopirirakau</i> “Cascades”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “Cupola”	<i>Mokopirirakau</i> “Cupola”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “Okarito”	<i>Mokopirirakau</i> “Okarito”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “Open Bay Islands”	<i>Mokopirirakau</i> “Open Bay Islands”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “Roys Peak”	<i>Mokopirirakau</i> “Roys Peak”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “southern forest”	<i>Mokopirirakau</i> “southern forest”
<i>Hoplodactylus</i> aff. <i>granulatus</i> “southern North Island”	<i>Mokopirirakau</i> “southern North Island”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Canterbury”	<i>Woodworthia</i> cf. <i>brunnea</i>
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Central Otago”	<i>Woodworthia</i> “Central Otago”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Cromwell”	<i>Woodworthia</i> “Cromwell”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Kaikouras”	<i>Woodworthia</i> “Kaikouras”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Marlborough mini”	<i>Woodworthia</i> “Marlborough mini”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Mount Arthur”	<i>Woodworthia</i> “Mount Arthur”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Otago large”	<i>Woodworthia</i> “Otago large”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “pygmy”	<i>Woodworthia</i> “pygmy”
<i>Hoplodactylus</i> aff. <i>maculatus</i> “Southern Alps”	<i>Woodworthia</i> “Southern Alps”
<i>Hoplodactylus</i> aff. <i>pacificus</i> “Matapia Island”	<i>Dactylocnemis</i> “Matapia Island”
<i>Hoplodactylus</i> aff. <i>pacificus</i> “Mokohinau”	<i>Dactylocnemis</i> “Mokohinau”
<i>Hoplodactylus</i> aff. <i>pacificus</i> “North Cape”	<i>Dactylocnemis</i> “North Cape”
<i>Hoplodactylus</i> aff. <i>pacificus</i> “Poor Knights”	<i>Dactylocnemis</i> “Poor Knights”
<i>Hoplodactylus</i> aff. <i>pacificus</i> “Three Kings”	<i>Dactylocnemis</i> “Three Kings”
<i>Hoplodactylus</i> aff. <i>stephensi</i> “Coromandel”	<i>Toropuku</i> “Coromandel”
<i>Hoplodactylus chrysosireticus</i> Robb, 1980	<i>Woodworthia chrysosiretica</i> (Robb, 1980)
<i>Hoplodactylus cryptozoicus</i> Jewell & Leschen, 2004	<i>Mokopirirakau cryptozoicus</i> (Jewell & Leschen, 2004)
<i>Hoplodactylus granulatus</i> (Gray, 1845)	<i>Mokopirirakau granulatus</i> (Gray, 1845)
<i>Hoplodactylus kahutarae</i> Whitaker, 1985	<i>Mokopirirakau kahutarae</i> (Whitaker, 1985)
<i>Hoplodactylus maculatus</i> (Gray 1845)	<i>Woodworthia maculata</i> (Gray, 1845)
<i>Hoplodactylus nebulosus</i> (McCann, 1955)	<i>Mokopirirakau nebulosus</i> (McCann, 1955)

Continued on next page

Table 1 continued

NAME IN HITCHMOUGH ET AL. (2010)	NAME IN THIS DOCUMENT
<i>Hoplodactylus pacificus</i> (Gray, 1842)	<i>Dactylocnemis pacificus</i> (Gray, 1842)
<i>Hoplodactylus rakiurae</i> Thomas, 1981	<i>Tukutuku rakiurae</i> (Thomas, 1981)
<i>Hoplodactylus stephensi</i> Robb, 1980	<i>Toropuku stephensi</i> (Robb, 1980)
<i>Naultinus elegans elegans</i> Gray, 1842	<i>Naultinus elegans</i> Gray, 1842
<i>Naultinus elegans punctatus</i> Gray, 1843	<i>Naultinus punctatus</i> Gray, 1843
<i>Oligosoma</i> aff. <i>inconspicuum</i> "Burgan"	<i>Oligosoma burganae</i> Chapple et al., 2011
<i>Oligosoma</i> aff. <i>inconspicuum</i> "Eyes"	<i>Oligosoma repens</i> Chapple et al., 2011
<i>Oligosoma</i> aff. <i>inconspicuum</i> "Nevis"	<i>Oligosoma toka</i> Chapple et al., 2011
<i>Oligosoma</i> aff. <i>inconspicuum</i> "Te Kakahu"	<i>Oligosoma tekakahu</i> Chapple et al., 2011

A summary of the numbers of taxa in each category in Hitchmough et al. (2010) and this document is presented in Table 2, and a full list of the taxa with their updated status, qualifiers which apply to each and the criteria triggered to place the taxon into the category is presented in section 2.

Table 2. Statistical summary of the status of New Zealand reptile species assessed in 2009 (Hitchmough et al. 2010) and 2012 (this document).

CATEGORY	HITCHMOUGH ET AL. (2010)	THIS DOCUMENT
Extinct	2	2
Data Deficient	8	4
Threatened—Nationally Critical	6	3
Threatened—Nationally Endangered	3	10
Threatened—Nationally Vulnerable	8	19
At Risk—Declining	27	26
At Risk—Recovering	3	4
At Risk—Relict	11	11
At Risk—Naturally Uncommon	10	9
Non-resident Native—Migrant	2	2
Non-resident Native—Vagrant	5	6
Not Threatened	23	13
Introduced and Naturalised	1	1
Total	109	110

A summary of shifts of taxa between categories is presented in Table 3. Overall, the number of Threatened species rose from 17 to 32, but the number of Nationally Critical species dropped from six to three. No new taxa moved into Nationally Critical, and three formerly Nationally Critical species moved to Nationally Endangered. Two of these (grand skink *Oligosoma grande* and Otago skink *Oligosoma otagense*) improved in status as a result of successful conservation management, and one (the Open Bay Island skink *Oligosoma taumakae*) as a result of targeted surveys discovering additional populations.

The number of At Risk species dropped slightly from 51 to 50. The number of Data Deficient taxa dropped from eight to four as a result of improved knowledge (although the four taxa that moved out of Data Deficient remain Data Poor), and the number of Not Threatened species dropped from 23 to 13. Numbers in the Extinct, Migrant and Introduced and Naturalised categories did not change, and the Vagrant category changed only by the addition of one newly-recorded species. There are no species listed as Nationally Critical or Data Deficient that are probably extinct (as there are in some other groups)—all known New Zealand reptile taxa (except those actually listed as Extinct) have been sighted within the last 15 years, despite some being extremely cryptic.

Taxa can change status between listings either as a result of a genuine increase or decrease in abundance or range, or as a result of better knowledge (e.g. from more accurate population estimates or the discovery of previously unknown populations). These two categories are not mutually exclusive—a species can have had both a genuine decline or recovery documented and additional populations discovered. Genuine changes account for six of the changes in status over the past 3 years, and improved understanding or changed interpretation of existing information was involved in 17 of the changes; one species was counted in both categories.

A more detailed analysis of the changes between the two listings and the drivers of changes in status will be published elsewhere.

The revised threat ranking list for reptiles is provided in section 2 and replaces all previous NZTCS lists for reptiles.

Table 3. Statistical summary of status changes of reptiles between 2009 (Hitchmough et al. 2010) and 2012 (this document).

CONSERVATION STATUS 2012	CONSERVATION STATUS 2009	DETERMINATE	INDETERMINATE	GRAND TOTAL
EXTINCT		2		2
	Extinct	2		2
DATA DEFICIENT			4	4
	Data Deficient		4	4
THREATENED		20	12	32
Nationally Critical		1	2	3
	Nationally Critical	1	2	3
Nationally Endangered		6	4	10
	Nationally Critical	3		3
	Nationally Endangered	2	1	3
	Declining		2	2
	Data Deficient	1	1	2
Nationally Vulnerable		13	6	19
	Data Deficient	2		2
	Declining	6	2	8
	Nationally Vulnerable	3	4	7
	Naturally Uncommon	1		1
	Not threatened	1		1
AT RISK		30	20	50
Declining		13	13	26
	Declining	9	7	16
	Nationally Vulnerable	1	1	2
	Not threatened	3	5	8
Recovering		4		4
	Recovering	3		3
	Relict	1		1
Relict		10	1	11
	Not threatened	1		1
	Relict	9	1	10
Naturally Uncommon		3	6	9
	Naturally Uncommon	3	6	9
NON-RESIDENT NATIVE		8		8
Migrant		2		2
	Migrant	2		2
Vagrant		6		6
	Vagrant	5		5
	New to list	1		1
NOT THREATENED		7	6	13
	Not Threatened	7	6	13
INTRODUCED AND NATURALISED		1		1
	Introduced and Naturalised	1		1
TOTAL		68	42	110

2. Conservation status of all known New Zealand reptiles

Taxa are assessed according to the criteria of Townsend et al. (2008), grouped by conservation status, then alphabetically by scientific name. For non-endemic species that are threatened internationally, the IUCN category is listed alongside the NZTCS listing. Categories are ordered by degree of loss, with Extinct at the top of the list and Not Threatened at the bottom, above Introduced and Naturalised. The Data Deficient list is inserted between Extinct and Threatened. Although the true status of Data Deficient taxa will span the entire range of available categories, taxa are in that list mainly because they are very seldom seen, so most are likely to end up being considered threatened and some may already be extinct. The Data Deficient list is likely to include many of the most threatened species in New Zealand.

See Townsend et al. (2008) for details of criteria and qualifiers, which are abbreviated as follows:

CD	Conservation Dependent
De	Designated
DP	Data Poor
EF	Extreme Fluctuations
EW	Extinct in the Wild
IE	Island Endemic
Inc	Increasing
OL	One Location
PD	Partial Decline
RF	Recruitment Failure
RR	Range Restricted
SO	Secure Overseas
Sp	Sparse
St	Stable
TO	Threatened Overseas

2.1 Taxonomically determinate

Extinct

Taxa for which there is no reasonable doubt—following repeated surveys in known or expected habitats at appropriate times (diurnal, seasonal and annual) and throughout the taxon's historic range—that the last individual has died.

NAME AND AUTHORITY	COMMON NAME
<i>Hoplodactylus delcourti</i> Bauer & Russell, 1986	Kawekaweau
<i>Oligosoma northlandi</i> (Worthy, 1991)	Northland skink

Data Deficient

Taxa that are suspected to be threatened, or in some instances, possibly extinct but are not definitely known to belong to any particular category due to a lack of current information about their distribution and abundance. It is hoped that listing such taxa will stimulate research to find out the true category (for a fuller definition see Townsend et al. 2008).

No taxonomically determinate reptile taxa are listed in this category.

Threatened

Taxa that meet the criteria specified by Townsend et al. (2008) for the categories Nationally Critical, Nationally Endangered and Nationally Vulnerable.

Nationally Critical

Criteria for Nationally Critical:

A—very small population (natural or unnatural)

A(1) <250 mature individuals

A(2) ≤2 subpopulations, ≤200 mature individuals in the larger subpopulation

A(3) Total area of occupancy ≤1 ha (0.01 km²)

B—small population (natural or unnatural) with a high ongoing or predicted decline

B(1/1) 250–1000 mature individuals, predicted decline 50–70%

B(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted decline 50–70%

B(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted decline 50–70%

C—population (irrespective of size or number of subpopulations) with a very high ongoing or predicted decline (>70%)

C Predicted decline >70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Oligosoma tekakahu</i> Chapple et al., 2011	Te Kakahu skink	A(3)	CD, DP, OL

Nationally Endangered

Criteria for Nationally Endangered:

A—small population (natural or unnatural) that has a low to high ongoing or predicted decline

A(1/1) 250–1000 mature individuals, predicted decline 10–50%

A(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted decline 10–50%

A(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted decline 10–50%

B—small stable population (unnatural)

B(1/1) 250–1000 mature individuals, stable population

B(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, stable population

B(3/1) Total area of occupancy ≤10 ha (0.1 km²), stable population

C—moderate population and high ongoing or predicted decline

C(1/1) 1000–5000 mature individuals, predicted decline 50–70%

C(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 50–70%

C(3/1) Total area of occupancy ≤100 ha (1 km²), predicted decline 50–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Oligosoma burganae</i> Chapple et al., 2011	Burgan skink	C(3/1)	DP
<i>Oligosoma grande</i> (Gray, 1845)	Grand skink	B(1/1)	CD, PD, RR
<i>Oligosoma judgei</i> Patterson & Bell, 2009	Barrier skink	B(2/1)	DP, RR, Sp
<i>Oligosoma otagense</i> (McCann, 1955)	Otago skink	B(1/1)	CD, PD, RR
<i>Oligosoma pikitanga</i> Bell & Patterson, 2008	Sinbad skink	B(1/1)	DP, OL
<i>Oligosoma taumakae</i> Chapple & Patterson, 2007	Open Bay Island skink	B(1/1)	CD, RR
<i>Oligosoma whitakeri</i> (Hardy, 1977)	Whitaker's skink	B(1/1)	CD, RR

Nationally Vulnerable

Criteria for Nationally Vulnerable:

A—small, increasing population (unnatural)

A(1/1) 250–1000 mature individuals, predicted increase >10%

A(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted increase >10%

A(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted increase >10%

B—moderate, stable population (unnatural)

B(1/1) 1000–5000 mature individuals, stable population

B(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, stable population

B(3/1) Total area of occupancy ≤100 ha (1 km²), stable population

C—moderate population, with population trend that is declining

C(1/1) 1000–5000 mature individuals, predicted decline 10–50%

C(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 10–50%

C(3/1) Total area of occupancy ≤100 ha (1 km²), predicted decline 10–50%

D—moderate to large population and moderate to high ongoing or predicted decline

D(1/1) 5000–20000 mature individuals, predicted decline 30–70%

D(2/1) ≤15 subpopulations, ≤1000 mature individuals in the largest subpopulation, predicted decline 30–70%

D(3/1) Total area of occupancy ≤1000 ha (10 km²), predicted decline 30–70%

E—large population and high ongoing or predicted decline

E(1/1) 20 000–100 000 mature individuals, predicted decline 50–70%

E(2/1) Total area of occupancy ≤10000 ha (100 km²), predicted decline 50–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Mokopirirakau cryptozoicus</i> (Jewell & Leschen, 2004)	Takitimu gecko	C(2/1)	DP, Sp
<i>Mokopirirakau kahutarae</i> (Whitaker, 1985)	Black-eyed gecko	C(2/1)	DP, RR, Sp
<i>Naultinus rudis</i> (Fischer, 1882)	Rough gecko	C(2/1)	DP, De, Sp
<i>Naultinus tuberculatus</i> (McCann, 1955)	West Coast green gecko	C(2/1)	DP, Sp
<i>Oligosoma homalonotum</i> (Boulenger, 1906)	Chevron skink	B(1/1)	CD, RR
<i>Oligosoma levidensum</i> (Chapple et al., 2008)	Slight skink	B(2/1)	RR
<i>Oligosoma longipes</i> Patterson, 1997	Long-toed skink	C(2/1)	DP, RR, Sp
<i>Oligosoma microlepis</i> (Patterson & Daugherty, 1990)	Small-scaled skink	B(2/1)	RR, Sp
<i>Oligosoma repens</i> Chapple et al., 2011	Eyres skink	B(2/1)	DP, RR, Sp
<i>Oligosoma toka</i> Chapple et al., 2011	Nevis skink	B(3/1)	RR
<i>Oligosoma waimatense</i> (McCann, 1955)	Scree skink	D(1/1)	Sp
<i>Toropuku stephensi</i> (Robb, 1980)	Cook Strait striped gecko	C(2/1)	CD, RR
<i>Tukutuku rakiurae</i> (Thomas, 1981)	Harlequin gecko	D(2/1)	DP, RR

At Risk

Taxa that meet the criteria specified by Townsend et al. (2008) for Declining, Recovering, Relict and Naturally Uncommon.

Declining

Criteria for Declining:

A—moderate to large population and low ongoing or predicted decline

A(1/1) 5000–20000 mature individuals, predicted decline 10–30%

A(2/1) Total area of occupancy ≤ 1000 ha (10 km^2), predicted decline 10–30%

B—large population and low to moderate ongoing or predicted decline

B(1/1) 20000–100000 mature individuals, predicted decline 10–50%

B(2/1) Total area of occupancy ≤ 10000 ha (100 km^2), predicted decline 10–50%

C—very large population and low to high ongoing or predicted decline

C(1/1) > 100000 mature individuals, predicted decline 10–70%

C(2/1) Total area of occupancy > 10000 ha (100 km^2), predicted decline 10–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Mokopirirakau granulatus</i> (Gray, 1845)	Forest gecko	C(2/1)	DP
<i>Naultinus elegans</i> Gray, 1842	Auckland green gecko	C(2/1)	–
<i>Naultinus gemmeus</i> (McCann, 1955)	Jewelled gecko	C(2/1)	PD
<i>Naultinus grayii</i> Bell, 1843	Northland green gecko	C(2/1)	DP, Sp
<i>Naultinus manukanus</i> (McCann, 1955)	Marlborough green gecko	C(2/1)	CD, PD
<i>Naultinus punctatus</i> Gray, 1843	Wellington green gecko	C(2/1)	DP, Sp
<i>Naultinus stellatus</i> Hutton, 1872	Nelson green gecko	C(2/1)	DP, Sp
<i>Oligosoma chloronoton</i> (Hardy, 1977)	Green skink	C(2/1)	CD, PD
<i>Oligosoma inconspicuum</i> (Patterson & Daugherty, 1990)	Cryptic skink	C(2/1)	–
<i>Oligosoma infrapunctatum</i> (Boulenger, 1887)	Speckled skink	C(2/1)	CD, PD, Sp
<i>Oligosoma ornatum</i> (Gray, 1843)	Ornate skink	C(2/1)	CD
<i>Oligosoma striatum</i> (Buller, 1871)	Striped skink	C(2/1)	CD, DP, Sp
<i>Oligosoma zelandicum</i> (Gray, 1843)	Brown skink	C(2/1)	CD, PD

Recovering

Taxa that have undergone a documented decline within the last 1000 years and now have an ongoing or predicted increase of $> 10\%$ in the total population or area of occupancy, taken over the next 10 years or three generations, whichever is longer. Note that such taxa that are increasing but have a population size of < 1000 mature individuals (or total area of occupancy of < 10 ha) are listed in one of the Threatened categories, depending on their population size (for more details see Townsend et al. (2008)).

Criteria for Recovering:

A 1000–5000 mature individuals or total area of occupancy ≤ 100 ha (1 km^2), and predicted increase $> 10\%$

B 5000–20000 mature individuals or total area of occupancy ≤ 1000 ha (10 km^2), and predicted increase $> 10\%$

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Mokopirirakau nebulosus</i> (McCann, 1955)	Cloudy gecko	B	CD, DP, PD, RR
<i>Oligosoma alani</i> (Robb, 1970)	Robust skink	B	CD, RR
<i>Oligosoma macgregori</i> (Robb, 1975)	McGregor's skink	B	CD, RR
<i>Oligosoma townsi</i> (Chapple et al., 2008)	Towns' skink	B	CD, RR

Relict

Taxa that have undergone a documented decline within the last 1000 years, and now occupy <10% of their former range and meet one of the following criteria:

A 5000–20000 mature individuals; population stable ($\pm 10\%$)

B >20000 mature individuals; population stable or increasing at >10%

The range of a relictual taxon takes into account the area currently occupied as a ratio of its former extent. Relict can also include taxa that exist as reintroduced and self-sustaining populations within or outside their former known range (for more details see Townsend et al. (2008)).

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Dactylocnemis pacificus</i> (Gray, 1842)	Pacific gecko	B	CD, PD
<i>Hoplodactylus duvaucelii</i> (Duméril & Bibron, 1836)	Duvaucel's gecko	B	CD, RR
<i>Oligosoma acrinasum</i> (Hardy, 1977)	Fiordland skink	B	CD, RR
<i>Oligosoma lineoocellatum</i> (Duméril & Duméril, 1851)	Spotted skink	B	CD, PD, Sp
<i>Oligosoma moco</i> (Duméril & Bibron, 1839)	Moko skink	B	CD, PD
<i>Oligosoma nigriplantare</i> (Peters, 1873)	Chatham Islands skink	B	CD, IE, PD, RR
<i>Oligosoma oliveri</i> (McCann, 1955)	Marbled skink	B	CD, RR
<i>Oligosoma suteri</i> (Boulenger, 1906)	Egg-laying skink	B	CD, PD, RR
<i>Sphenodon punctatus</i> (Gray, 1842)	Tuatara	B	CD, RR
<i>Woodworthia chrysosiretica</i> (Robb, 1980)	Goldstripe gecko	B	CD, PD

Naturally Uncommon

Taxa whose distribution is confined to a specific geographical area or which occur within naturally small and widely scattered populations, where this distribution is not the result of human disturbance.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS
<i>Oligosoma fallai</i> (McCann, 1955)	Three Kings skink	CD, IE, RR
<i>Oligosoma hardyi</i> (Chapple et al., 2008)	Hardy's skink	CD, DP, IE
<i>Oligosoma stenotis</i> (Patterson & Daugherty, 1994)	Small-eared skink	DP, RR, Sp

Non-resident Native

Taxa whose natural presence in New Zealand is either discontinuous (Migrant) or temporary (Vagrant) or which have succeeded in recently (since 1950) establishing a resident breeding population (Coloniser).

Migrant

Taxa that predictably and cyclically visit New Zealand as part of their normal life cycle (a minimum of 15 individuals known or presumed to visit per annum) but do not breed here.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS	IUCN STATUS
<i>Chelonia mydas</i> (Linnaeus, 1758)	Green turtle	TO	Endangered A2bd ver. 3.1
<i>Dermochelys coriacea</i> (Vandelli, 1761)	Leatherback turtle	TO	Critically Endangered A1abd ver. 2.3

Vagrant

Taxa whose occurrences, though natural, are sporadic and typically transitory, or migrants with fewer than 15 individuals visiting New Zealand per annum.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS	IUCN STATUS
<i>Caretta caretta</i> (Linnaeus, 1758)	Loggerhead turtle	TO	Endangered A1abd ver. 2.3
<i>Eretmochelys imbricata</i> (Linnaeus, 1766)	Hawksbill turtle	TO	Critically Endangered A2bd ver. 3.1
<i>Laticauda colubrina</i> (Schneider, 1799)	Banded sea krait; yellow-lipped sea krait	SO	
<i>Laticauda laticaudata</i> (Linnaeus, 1758)	Blue-lipped sea krait	SO	
<i>Laticauda saintgironsi</i> Cogger & Heatwole, 2005	Saint-Girons' sea krait	SO	
<i>Lepidochelys olivacea</i> (Eschscholtz, 1829)	Olive ridley turtle	TO	Vulnerable A2bd ver. 3.1

Coloniser

Taxa that otherwise trigger Threatened categories because of small population size, but have arrived in New Zealand without direct or indirect help from humans and have been successfully reproducing in the wild only since 1950.

No taxonomically determinate reptile taxa are listed in this category.

Not Threatened

Resident native taxa that have large, stable populations.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS
<i>Oligosoma aeneum</i> (Girard, 1857)	Copper skink	–
<i>Oligosoma maccanni</i> (Patterson & Daugherty, 1990)	McCann's skink	–
<i>Oligosoma notosaurus</i> (Patterson & Daugherty, 1990)	Southern skink	CD, DP, RR
<i>Oligosoma polychroma</i> (Patterson & Daugherty, 1990)	Common skink	CD
<i>Oligosoma smithi</i> (Gray, 1845)	Shore skink	CD, PD
<i>Pelamis platurus</i> (Linnaeus, 1766)	Yellow-bellied sea-snake	DP, SO
<i>Woodworthia maculata</i> (Gray, 1845)	Common gecko	CD, PD

Introduced and Naturalised

Taxa that have become naturalised in the wild after being deliberately or accidentally introduced into New Zealand by human agency.

NAME AND AUTHORITY	COMMON NAME
<i>Lampropholis delicata</i> (De Vis, 1888)	Rainbow skink; plague skink

2.2 Taxonomically indeterminate

This section includes described taxa whose taxonomic status is uncertain and requires further investigation, and also potentially distinct entities whose taxonomic status has yet to be formally determined.

Extinct

Taxa for which there is no reasonable doubt—following repeated surveys in known or expected habitats at appropriate times (diurnal, seasonal and annual) and throughout the taxon’s historic range—that the last individual has died.

No taxonomically indeterminate reptile taxa are listed in this category.

Data Deficient

Taxa that are suspected to be threatened or in some instances possibly extinct but are not definitely known to belong to any particular category due to a lack of current information about their distribution and abundance. It is hoped that listing such taxa will stimulate research to find out the true category (for a fuller definition see Townsend et al. (2008)).

NAME AND AUTHORITY	COMMON NAME
<i>Mokopirirakau</i> “Cupola”	Cupola Basin gecko
<i>Mokopirirakau</i> “Okarito”	Okarito gecko
<i>Oligosoma</i> “Whirinaki”	Whirinaki skink
<i>Oligosoma</i> aff. <i>inconspicuum</i> “Okuru”	Okuru skink

Threatened

Threatened taxa are those that meet the criteria specified by Townsend et al. (2008) for the categories Nationally Critical, Nationally Endangered and Nationally Vulnerable.

Nationally Critical

Criteria for Nationally Critical:

A—very small population (natural or unnatural)

A(1) <250 mature individuals

A(2) ≤2 subpopulations, ≤200 mature individuals in the larger subpopulation

A(3) Total area of occupancy ≤1 ha (0.01 km²)

B—small population (natural or unnatural) with a high ongoing or predicted decline

B(1/1) 250–1000 mature individuals, predicted decline 50–70%

B(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted decline 50–70%

B(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted decline 50–70%

C—population (irrespective of size or number of subpopulations) with a very high ongoing or predicted decline (>70%)

C Predicted decline >70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Oligosoma</i> aff. <i>infrapunctatum</i> "Chesterfield"	Chesterfield skink	A(2)	DP, RR, Sp
<i>Oligosoma</i> aff. <i>longipes</i> "Rangitata"	Rangitata skink	A(2)	DP, RR, Sp

Nationally Endangered

Criteria for Nationally Endangered:

A—small population (natural or unnatural) that has a low to high ongoing or predicted decline

A(1/1) 250–1000 mature individuals, predicted decline 10–50%

A(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted decline 10–50%

A(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted decline 10–50%

B—small stable population (unnatural)

B(1/1) 250–1000 mature individuals, stable population

B(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, stable population

B(3/1) Total area of occupancy ≤10 ha (0.1 km²), stable population

C—moderate population and high ongoing or predicted decline

C(1/1) 1000–5000 mature individuals, predicted decline 50–70%

C(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 50–70%

C(3/1) Total area of occupancy ≤100 ha (1 km²), predicted decline 50–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Mokopirirakau</i> "Open Bay Islands"	Open Bay Islands gecko	B(1/1)	CD, OL
<i>Mokopirirakau</i> "southern forest"	Southern forest gecko	A(2/1)	DP, Sp
<i>Toropuku</i> "Coromandel"	Coromandel striped gecko	A(2/1)	DP, Sp

Nationally Vulnerable

Criteria for Nationally Vulnerable:

A—small, increasing population (unnatural)

A(1/1) 250–1000 mature individuals, predicted increase >10%

A(2/1) ≤5 subpopulations, ≤300 mature individuals in the largest subpopulation, predicted increase >10%

A(3/1) Total area of occupancy ≤10 ha (0.1 km²), predicted increase >10%

B—moderate, stable population (unnatural)

B(1/1) 1000–5000 mature individuals, stable population

B(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, stable population

B(3/1) Total area of occupancy ≤100 ha (1 km²), stable population

C—moderate population, with population trend that is declining

C(1/1) 1000–5000 mature individuals, predicted decline 10–50%

C(2/1) ≤15 subpopulations, ≤500 mature individuals in the largest subpopulation, predicted decline 10–50%

C(3/1) Total area of occupancy ≤100 ha (1 km²), predicted decline 10–50%

D—moderate to large population and moderate to high ongoing or predicted decline

D(1/1) 5000–20000 mature individuals, predicted decline 30–70%

D(2/1) ≤ 15 subpopulations, ≤ 1000 mature individuals in the largest subpopulation, predicted decline 30–70%

D(3/1) Total area of occupancy ≤ 1000 ha (10 km²), predicted decline 30–70%

E—large population and high ongoing or predicted decline

E(1/1) 20000–100000 mature individuals, predicted decline 50–70%

E(2/1) Total area of occupancy ≤ 10000 ha (100 km²), predicted decline 50–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Mokopirirakau</i> “Roys Peak”	Roys Peak gecko	C(2/1)	DP, RR, Sp
<i>Oligosoma</i> aff. <i>chironoton</i> “West Otago”	Lakes skink	D(1/1)	DP, Sp
<i>Oligosoma</i> aff. <i>infrapunctatum</i> “southern North Island”	Kupe or Tamatea skink	C(2/1)	CD, DP, Sp
<i>Oligosoma</i> aff. <i>lineocellatum</i> “central Canterbury”	Central Canterbury spotted skink	C(2/1)	DP, Sp
<i>Oligosoma</i> aff. <i>lineocellatum</i> “Mackenzie Basin”	Mackenzie Basin spotted skink	C(2/1)	DP, Sp
<i>Oligosoma</i> aff. <i>lineocellatum</i> “South Marlborough”	South Marlborough spotted skink	C(2/1)	CD, De, DP, Sp

At Risk

At Risk taxa are those that meet the criteria specified by Townsend et al. (2008) for Declining, Recovering, Relict and Naturally Uncommon.

Declining

Criteria for Declining:

A—moderate to large population and low ongoing or predicted decline

A(1/1) 5000–20000 mature individuals, predicted decline 10–30%

A(2/1) Total area of occupancy ≤ 1000 ha (10 km²), predicted decline 10–30%

B—large population and low to moderate ongoing or predicted decline

B(1/1) 20 000–100 000 mature individuals, predicted decline 10–50%

B(2/1) Total area of occupancy ≤ 10000 ha (100 km²), predicted decline 10–50%

C—very large population and low to high ongoing or predicted decline.

C(1/1) >100000 mature individuals, predicted decline 10–70%

C(2/1) Total area of occupancy >10000 ha (100 km²), predicted decline 10–70%

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Dactylocnemis</i> “Matapia Island”	Matapia gecko	C(2/1)	CD, PD, RR, Sp
<i>Dactylocnemis</i> “North Cape”	North Cape Pacific gecko	C(2/1)	CD, PD, RR, Sp
<i>Mokopirirakau</i> “Cascades”	Cascades gecko	C(2/1)	DP
<i>Mokopirirakau</i> “southern North Island”	Southern North Island forest gecko	C(2/1)	DP, PD
<i>Naultinus</i> “North Cape”	North Cape green gecko	C(2/1)	DP, RR
<i>Oligosoma</i> aff. <i>longipes</i> “southern”	Southern long-toed skink	C(1/1)	DP, RR, Sp
<i>Oligosoma</i> aff. <i>polychroma</i> Clade 2	Common skink clade 2	B(2/1)	CD, RR
<i>Oligosoma</i> aff. <i>polychroma</i> Clade 3	Common skink clade 3	C(2/1)	–
<i>Oligosoma</i> aff. <i>polychroma</i> Clade 4	Common skink clade 4	C(2/1)	–
<i>Oligosoma</i> aff. <i>polychroma</i> Clade 5	Common skink clade 5	C(2/1)	–
<i>Oligosoma</i> aff. <i>smithi</i> “Three Kings, Te Pahi, western Northland”	Western shore skink	B(2/1)	CD, PD
<i>Woodworthia</i> “Otago large”	Large Otago gecko	C(1/1)	PD
<i>Woodworthia</i> cf. <i>brunnea</i>	Canterbury gecko	C(1/1)	PD

Recovering

Taxa that have undergone a documented decline within the last 1000 years and now have an ongoing or predicted increase of >10% in the total population or area of occupancy, taken over the next 10 years or three generations, whichever is longer. Note that such taxa that are increasing but have a population size of <1000 mature individuals (or total area of occupancy of <10 ha) are listed in one of the Threatened categories, depending on their population size (for more details see Townsend et al. (2008)).

Criteria for Recovering:

- A 1000–5000 mature individuals or total area of occupancy ≤ 100 ha (1 km²), and predicted increase >10%
- B 5000–20000 mature individuals or total area of occupancy ≤ 1000 ha (10 km²), and predicted increase >10%

No taxonomically indeterminate reptile taxa are listed in this category.

Relict

Taxa that have undergone a documented decline within the last 1000 years, and now occupy <10% of their former range and meet one of the following criteria:

- A 5000–20000 mature individuals; population stable ($\pm 10\%$)
- B >20000 mature individuals; population stable or increasing at >10%

The range of a relictual taxon takes into account the area currently occupied as a ratio of its former extent. Relict can also include taxa that exist as reintroduced and self-sustaining populations within or outside their former known range (for more details see Townsend et al. (2008)).

NAME AND AUTHORITY	COMMON NAME	CRITERIA 2012	QUALIFIERS
<i>Oligosoma</i> aff. <i>infrapunctatum</i> "crenulate"	Crenulate skink	B	CD, PD, Sp

Naturally Uncommon

Taxa whose distribution is confined to a specific geographical area or which occur within naturally small and widely scattered populations, where this distribution is not the result of human disturbance.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS
<i>Dactylocnemis</i> "Mokohinau"	Mokohinau gecko	CD, IE, RR
<i>Dactylocnemis</i> "Poor Knights"	Poor Knights gecko	CD, IE, RR
<i>Dactylocnemis</i> "Three Kings"	Three Kings gecko	CD, IE, RR
<i>Oligosoma</i> aff. <i>ornatum</i> "Poor Knights"	Aorangi skink	CD, DP, IE, OL
<i>Woodworthia</i> "Kaikouras"	Kaikouras gecko	DP, RR, Sp
<i>Woodworthia</i> "Mount Arthur"	Mount Arthur gecko	DP, RR, Sp

Non-resident Native

Taxa whose natural presence in New Zealand is either discontinuous (Migrant) or temporary (Vagrant) or which have succeeded in recently (since 1950) establishing a resident breeding population (Coloniser).

Migrant

Taxa that predictably and cyclically visit New Zealand as part of their normal life cycle (a minimum of 15 individuals known or presumed to visit per annum) but do not breed here.

No taxonomically indeterminate reptile taxa are listed in this category.

Vagrant

Taxa whose occurrences, though natural, are sporadic and typically transitory, or migrants with fewer than 15 individuals visiting New Zealand per annum.

No taxonomically indeterminate reptile taxa are listed in this category.

Coloniser

Taxa that otherwise trigger Threatened categories because of small population size, but have arrived in New Zealand without direct or indirect help from humans and have been successfully reproducing in the wild only since 1950.

No taxonomically indeterminate reptile taxa are listed in this category.

Not Threatened

Resident native taxa that have large, stable populations.

NAME AND AUTHORITY	COMMON NAME	QUALIFIERS
<i>Woodworthia</i> "Central Otago"	Central Otago gecko	DP
<i>Woodworthia</i> "Cromwell"	Cromwell gecko	DP
<i>Woodworthia</i> "Marlborough mini"	Marlborough mini gecko	DP
<i>Woodworthia</i> "pygmy"	Pygmy gecko	DP
<i>Woodworthia</i> "Southern Alps"	Southern Alps gecko	–
<i>Woodworthia</i> "southern mini"	Southern mini gecko	DP

Introduced and Naturalised

Taxa that have become naturalised in the wild after being deliberately or accidentally introduced into New Zealand by human agency.

No taxonomically indeterminate reptile taxa are listed in this category.

3. References

- Chapple, D.G.; Bell, T.P.; Chapple, S.N.J.; Miller, K.A.; Daugherty, C.H.; Patterson, G.B. 2011: Phylogeography and taxonomic revision of the New Zealand cryptic skink (*Oligosoma inconspicuum*; Reptilia: Scincidae) species complex. *Zootaxa* 2782: 1–33.
- Hitchmough, R.A.; Hoare, J.M.; Jamieson, H.; Newman, D.; Tocher, M.D.; Anderson, P.J.; Lettink, M.; Whitaker, A.H. 2010: Conservation status of New Zealand reptiles, 2009. *New Zealand Journal of Zoology* 37: 203–224 (doi:10.1080/03014223.2010.496487).
- Nielsen, S.V.; Bauer, A.M.; Jackman, T.R.; Hitchmough, R.A.; Daugherty, C.H. 2011: New Zealand geckos (Diplodactylidae): cryptic diversity in a post-Gondwanan lineage with trans-Tasman affinities. *Molecular Phylogenetics and Evolution* 59: 1–22.
- Townsend, A.J.; de Lange, P.J.; Miskelly, C.M.; Molloy, J.; Norton, D.A. 2008: New Zealand Threat Classification System Manual. Wellington, New Zealand, Department of Conservation. 35 p.