Regionally Endemic Species in Otago

Scott Jarvie

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Salt pan cress, *Lepidium kirkii* Petrie. A regionally endemic vascular plant only known to occur on patches of saline/sodic soils (sometimes referred to as salt pans) in the semi-arid region of Central Otago. Photograph by John Barkla on the front and back covers.

Burgan skink, *Oligosoma burganae* Chapple et al. 2011. A regionally endemic skink species restricted to the Rock and Pillar and Lammermoor Ranges in Otago. Photograph by Carey Knox on the frontispiece.

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Executive Summary

This report provides an overview of regionally endemic species in the Otago Region, meaning they are not found elsewhere on Earth. A total of 360 species were identified as regionally endemic to Otago, with the species group mainly focused on being those found in the terrestrial realm. This includes birds, bryophytes, reptiles, select invertebrate groups, vascular plants, although freshwater fish and some freshwater invertebrates are included. Of the species assessed, 194 had been assessed nationally for their threat status, with 170 (88 percent) having elevated extinction risk (Threatened, At Risk, or Data Deficient). Other species groups should have their regional endemics identified. The report will support the Otago Regional Council, our iwi partners, territorial authorities in the region, stakeholders, landowners, and community groups to provide an evidence base to inform biodiversity management across the region. This includes highlighting the biota (flora, fauna, and fungi) in Otago that are regionally endemic, including those that are at risk or threatened with extinction, which the Council has statutory obligations to protect.

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Introduction

This report provides an overview of species that are regionally endemic to Otago, meaning they are found nowhere else on Earth. A summary is provided of the number of regionally endemic species for select taxonomic groups, including birds, bryophytes (mosses, hornworts and liverworts), select invertebrates groups, reptiles, and vascular plants. The report will support the Otago Regional Council, iwi partners, territorial authorities in the region, stakeholders, landowners, and community groups to provide an evidence base to inform biodiversity management across the region. This includes highlighting the flora, fauna, and fungi in Otago that are regionally endemic and at risk or threatened with extinction, which the Council has statutory obligations to protect.

Background

An endemic species is a species (or taxon) whose geographic range or distribution is confined to a single given area. Although the species may inhabit a small area, such as a single lake, or its range may extend across an entire region, it is considered endemic if it not found natively anywhere else in the world. Endemic species are often found in isolated areas, such as on island or on a mountain within a mountain range, and they often have specialised adaptations that allow them to survive only in unique habitats. Such specialisations often make them susceptible to the effects of environmental disturbances.

Our indigenous biodiversity in Aotearoa New Zealand makes a significant contribution to overall global diversity, with an estimated 80,000 species of native animals, plants and fungi. Our high level of endemism among these native species and large proportion of threatened species makes Aotearoa New Zealand an internationally recognised world ‘hotspot’ for biodiversity (Myers et al. 2000). The high endemism is largely the result of our long isolation from other land masses and diverse geography and climate, allowing unique flora, fauna and fungi to develop. For example, Aotearoa New Zealand’s endemic species include all our native frogs and reptiles, more than 90% of our insects, approximately 80% of vascular plants and a quarter of bird species. At regional scales in Aotearoa New Zealand, an area that has long been recognised to have extraordinary regional endemism is Otago.

In Aotearoa New Zealand the Department of Conservation – Te Papa Atawhai manages indigenous species nationally under the Wildlife Act (1953), but regional and district councils have statutory obligations to maintain indigenous biodiversity under the Resource Management Act 1991 (RMA), including to manage the habitats of threatened species. This report provides a preliminary list of regionally endemic, largely terrestrial taxonomic species found in Otago (see Appendix 1 for a map of the Region).

Methods

Data sources

1. Compilation of information from regional conservation statuses and species lists

To compile information on regionally endemic species in Otago, initially sources were:

A. Recently completed regional conservation status reports for six taxonomic groups (bats, 2023b; indigenous vascular plants, 2024a; birds, 2024b; reptiles, Jarvie et al. 2024c; mushroom fungi, i.e., selected species of non-lichenised agarics, boletes and russuloid fungi, Jarvie and Cooper 2024; amphibians, Jarvie 2024; see website link for more information: www.orc.govt.nz/environment/biodiversity/regional-threat-assessments/).
B. Recently completed compilations of species lists for two groups (lichen and non-lichenised fungi; fungi from 2005 report by Hitchmough et al., excluding those taxa included in the de Lange et al. 2018 report).
C. Recently completed spreadsheets for five groups (hornworts and liverworts, Pritchard 2025a; mosses, Pritchard 2025b; freshwater fish, Campbell 2025; marine mammals, Jarvie 2024b; parasitic mites and ticks, Jarvie 2024c; Onychophora, Jarvie 2024d; see pages of the following website link for more information: www.orc.govt.nz/environment/biodiversity/otago-species/).
D. Recently completed species lists for four taxonomic groups in Aotearoa by region (amphibians, Dale et al. 2025; bats, Pryde et al. 2025; birds, Thomas 2025; reptiles, Knox and Hitchmough 2025; Jarvie and Monks, 2025).

2. Collation of information from the Global Biodiversity Information Facility

The Global Biodiversity Information Facility (GBIF, www.gbif.org/) was used as a secondary source, because it captures data from many institutions with standardised terminology. GBIF has become the 'go-to' aggregator for such information and has directly enabled a steady increase in scientific publications[1] and a 1:12 societal benefit[2]. To get data not available on GBIF, contact was made with the curators of Tūhura Otago Museum (OMNZ), Canterbury Museum (CMNZ), the Te Papa – Museum of New Zealand (MONZ) and Lincoln University (LUNZ), as these collections either don't publish, or have limited records, on GBIF. Responses were received from every institution. A geographical filter was then applied using the GIS layer for the Otago Regional Council's administrative boundary (https://datafinder.stats.govt.nz/layer/120946-regional-council-2025/).

To validate the preliminary list the following was also completed:

[1] More than 10,000 scientific papers enabled by GBIF-mediated data
[2] Report reveals return on investments in GBIF

A. Each species was checked to see if specimens were from outside Otago.
B. Online searches were conducted for any indication that the species was not only from Otago. The taxonomic name was used in the search, and any information returned was typically a text-based description (e.g., 'species x is often in the Waikato and Auckland regions …'). Online sources included Wikipedia, Wikispecies, iNaturalist, specialist taxonomic portals (World Spider Catalogue (https://wsc.nmbe.ch/), Scalenet (García Morales et al. 2016), Thysanoptera Aotearoa (Thrips of New Zealand) [Mound et al. 2017]), and published literature.

3. Additional sources of information

To ensure backward and forward compatibility with changes in taxonomic nomenclatures to future proof the compilation, the New Zealand Organisms Register (NZOR, www.nzor.org.nz) 'matching' function was used to match the names of type species and return an NZOR identification number. NZOR is an actively maintained compilation of all organism names relevant to Aotearoa New Zealand: indigenous, endemic or exotic species or species not present in Aotearoa New Zealand but of national interest to our conservation and biosecurity agencies. NZOR is digitally and automatically assembled on a regular basis from several taxonomic data providers. It provides a consensus opinion on the preferred name for an organism, any alternative scientific names (synonyms), common and Māori names, relevant literature, and the data provider's view on the documented presence/absence in New Zealand.

Next, the database of the New Zealand Threat Classification System (NZTCS, https://nztcs.org.nz/) was used to match the names of type species with their conservation status (if it had been assessed) by 'marrying' with the Species ID. For each taxonomic group, the latest threat assessment information is provided: i.e., amphibians (Burns et al. 2025), indigenous vascular plants (de Lange et al. 2024), rhytididae (carnivorous snails; Walker et al. 2024), bats (O'Donnell et al. 2023), mushroom fungi (selected species of Agaricales, Boletales, Russulales; Cooper et al. 2022), Orthoptera (wēta, crickets and grasshoppers; Trewick et al. 2022), parasitic mites and ticks (Acari; Heath et al. 2022), birds (Robertson et al. 2021), reptiles (Hitchmough et al. 2021), spiders (Sirvid et al. 2021), leaf-veined slugs and amber snails (Barker et al. 2021), pūpūharakeke/flax snails (Walker et al. 2021), hornworts and liverworts (de Lange et al. 2020), marine macroalgae (Nelson et al. 2019), marine mammals (Baker et al. 2019), chimaeras, sharks and rays (Duffy et al. 2018), freshwater fishes (Dunn et al 2018), lichens (de Lange et al. 2018), Onychophora (Trewick et al. 2018), hymenoptera (Ward et al. 2017), lepidoptera (Hoare et al. 2017), mosses (Rolfe et al. 2016), stick insects (Buckley et al. 2016), earthworms (Buckley et al. 2015), fleas (Heath et al. 2015), aphids (Stringer et al. 2012), coleoptera (Leschen et al. 2012), diptera (Andrew et al. 2012), hemiptera (Stringer et al. 2012), small or less well-known terrestrial invertebrates

(Buckley et al. 2012), nematodes (Yeates et al. 2012), micro-snails (Mahlfeld et al. 2012), and fungi excluding selected species of Agaricales, Boletales and Russulales (Hitchmough et al. 2007; other taxa were re-assessed by Cooper et al. 2022).

Results

A total of 360 species are recorded as endemic to or occurring only in Otago (Table 1). The most speciose group was invertebrates with 302 taxa, followed by indigenous vascular plants with 40 taxa, freshwater fish with nine taxa, reptiles with six taxa, bryophytes (mosses and liverworts) with two taxa, and birds with one taxon.

Table 1. The number of species that are endemic to Otago from different functional groups with different orders (listed initially by functional groups then the order with the most species)

Functional group	Order name	Common name	Number of species
Invertebrates (n = 302)			
	Araneae	Spiders	73
	Diptera	Flies	64
	Coleoptera	Beetles	46
	Lepidoptera	Moths	32
	Sarcoptiformes	Mites (feather, skin)	20
	Hymenoptera	Wasps, bees, ants	17
	Hemiptera	True bugs	15
	Plecoptera	Stoneflies	8
	Trichoptera	Caddisflies	6
	Orthoptera	Weta, grasshoppers	5
	Opilliones	Harvestmen	5
	Trombidiformes	Chiggers (mites)	5
	Entomobryomorpha	Springtails	1
	Diplostracha	Water fleas	1
	Dorylaimida	Roundworms (dorylaims)	1
	Isopoda	Crustaceans (pill bugs, woodlice, slaters, or sowbugs)	1
	Pseudoscorpiones	False scorpions	1
	Stylommatophora	Land snail, slugs	1
Vascular plants (n = 40)			
	Asterales	Daisies, sunflowers	11
	Boraginales	Borages, for-me-nots	7
	Poales	Grasses	7
	Capparales	Brassicales – mustard, capers	3
	Araliales	Ivy family	2
	Rosales	Roses	2
	Thymelaeales	Daphne	2
	Apiales	Umbellifers (celery, carrot or parsley)	1
	Caryophyllales	Inks, carnations	1
	Fabales	Legumes, peas, beans	1
	Oxalidales	Wood sorrel	1
	Ranunculales	Buttercups	1
	Violales	Violets	1
Freshwater fishes (n = 9)			
	Galaxiiformes	Galaxiids	8
Reptiles (n = 6)			
	Squamata	Lizards and snakes*	6
Bryophytes (n = 2)			
	Bartramiales	Mosses	1
	Jungermanniales	Liverworts	1
Birds (n = 1)			
	Suliformes	Gannets, cormorants, and allies	1

*Note that terrestrial snakes are not resident indigenous species in Aotearoa New Zealand

Of the regional endemics, 194 taxa had their conservation status assessed nationally in the NZTCS (Table 2). This means only ~54 percent of regionally endemic taxa in the Region had been assessed nationally. Conservation statuses for these species from the NZTCS are as follows: 47 taxa in the Threatened category (Nationally Critical = 25; Nationally Endangered = 15; Nationally Vulnerable = 6; Nationally Increasing = 1), 56 taxa

in the At Risk category (Declining = 2; Naturally Uncommon = 52; Relict = 2) and 25 taxa in the Not Threatened category. Sixty-six taxa were assessed as Data Deficient, meaning there was insufficient data to assign a conservation status, while 165 taxa have not been assessed yet.

Table 2. Number of regionally endemic species in Otago assessed in the New Zealand Threat Classification System (NZTCS), with their threat category and status.

NZTCS category	NZTCS status	Taxon count
Threatened (n = 47)		
	Nationally Critical	25
	Nationally Endangered	15
	Nationally Vulnerable	6
	Nationally Increasing	1
At Risk (n = 56)		
	Declining	2
	Naturally Uncommon	52
	Relict	2
Not Threatened (n = 25)	Not Threatened	25
Data Deficient (n = 66)	Data Deficient	66
Total		194

In the Otago region the invertebrate species had the most regional endemics (Table 3). Of these, the orders with more than ten regional endemic taxa are Araneae, Diptera, Coleoptera, Lepidoptera, Sarcoptiformes, Hymenoptera and Hemiptera. Whereas the following taxonomic groups have eight taxa or less in their orders: Plecoptera, Orthoptera, Trombidiformes, Trichoptera, Opiliones, Dorylaimida, Entomobryomorpha, Isopoda, Pseudoscorpiones and Stylommatophora.

Many regionally endemic invertebrates have not had their conservation status assessed nationally (Table 3; 159 out of 302 or ~53 percent). Of the taxa that have a national conservation status, 18 were Threatened (Nationally Critical = 11; Nationally Endangered = 5; Nationally Vulnerable = 3), 37 were At Risk (Naturally Uncommon = 35; Relict = 2), 23 were Not Threatened, and 64 were Data Deficient.

Table 3. Regionally endemic invertebrate species in Otago. The New Zealand Threat Classification System (NZTCS) categories and statuses are provided. The NZTCS reports are Andrew et al. 2012, Grainger et al. 2018, Hoare et al. 2017, Leschen et al. 2012, Marlfeld et al. 2012, Sirvid et al. 2021, Stringer et al. 2012, Trewick et al. 2022, Ward et al. 2016, and Yeates et al. 2012.

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Akatorea otagoensis Forster & Wilton, 1973	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Alistra centralis (Forster, 1970)	Araneae	Hahniidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Amaurobioides maritima O. Pickard-Cambridge, 1883	Araneae	Anyphaenidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Anoteropsis flavescens L. Koch, 1878	Araneae	Lycosidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Anoteropsis urquharti (Simon, 1898)	Araneae	Lycosidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Aorangia poppelwelli Forster & Wilton, 1973	Araneae	Stiphidiidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Ascuta leith Forster & Platnick, 1985	Araneae	Orsolobidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Cambridgea arboricola (Urquhart, 1891)	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Cambridgea secunda Forster & Wilton, 1973	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Cantuaria aperta Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria apica Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria assimilis Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria catlinensis Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria depressa Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria dunedinensis Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria kakanuiensis Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria lomasi Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria maxima Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria napua Forster, 1968	Araneae	Idiopidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Cantuaria pilama Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria toddae Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cantuaria vellosa Forster, 1968	Araneae	Idiopidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Cycloctenus fugax Goyen, 1890	Araneae	Cycloctenidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Dunedinia pullata Millidge, 1988	Araneae	Linyphiidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Dunstanoides kochi (Forster & Wilton, 1973)	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Duripelta otara Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Gasparia montana Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Gasparia nava Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Gohia parisolata Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Goyenia multidentata Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)

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Endemic invertebrates

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Haplinis dunstani (Blest, 1979)	Araneae	Linyphiidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Haplinis marplesi Blest & Vink, 2003	Araneae	Linyphiidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Hapona otagoa (Forster, 1964)	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Hexathele waipa Forster, 1968	Araneae	Hexathelidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Huttonia palpimanoides O. Pickard-Cambridge, 1880	Araneae	Huttoniidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Laestrygones otagoensis Forster, 1970	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Lamina minor Forster, 1970	Araneae	Toxopidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Makora mimica Forster & Wilton, 1973	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Mamoea rufa (Berland, 1931)	Araneae	Desidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Mangareia maculata Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Maniho centralis Forster & Wilton, 1973	Araneae	Desidae	Threatened	Nationally Endangered	Spiders 2020 (Sirvid et al. 2021)
Meringa leith Forster, 1990	Araneae	Physoglenidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Meringa otago Forster, 1990	Araneae	Physoglenidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Migas linburnensis Wilton, 1968	Araneae	Migidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Migas lomasi Wilton, 1968	Araneae	Migidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Migas taierii Todd, 1945	Araneae	Migidae	Threatened	Nationally Endangered	Spiders 2020 (Sirvid et al. 2021)
Migas toddae Wilton, 1968	Araneae	Migidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Neoramia alta Forster & Wilton, 1973	Araneae	Stiphidiidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Neoramia matua Forster & Wilton, 1973	Araneae	Stiphidiidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Neoramia nana Forster & Wilton, 1973	Araneae	Stiphidiidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Neoramia otagoa Forster & Wilton, 1973	Araneae	Stiphidiidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Otagoa wiltoni Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Oramia littoralis Forster & Wilton, 1973	Araneae	Agelenidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Pakeha protecta Forster & Wilton, 1973	Araneae	Cycloctenidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Pakeha subtecta Forster & Wilton, 1973	Araneae	Cycloctenidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Panoa tapanuiensis Forster, 1970	Araneae	Desidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Parafroneta monticola Blest, 1979	Araneae	Linyphiidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Paravoca otagoensis Forster & Wilton, 1973	Araneae	Cycloctenidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Protoerigone otagoa Blest, 1979	Araneae	Linyphiidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Rayforstia antipoda (Forster, 1959)	Araneae	Anapidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Rinawa otagoensis Forster, 1970	Araneae	Hahniidae	Not Threatened	Not Threatened	Spiders 2020 (Sirvid et al. 2021)
Subantarctia centralis Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)

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Endemic invertebrates

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Subantarctia trina Forster & Platnick, 1985	Araneae	Orsolobidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Tangata otago Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Tangata tautuku Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Tautukua isolata Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Viridictyna kikkawai Forster, 1970	Araneae	Dictynidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Waiporia hawea Forster & Platnick, 1985	Araneae	Orsolobidae	At Risk	Relict	Spiders 2020 (Sirvid et al. 2021)
Waiporia wiltoni Forster & Platnick, 1985	Araneae	Orsolobidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Wiltonia graminicola Forster & Platnick, 1985	Araneae	Orsolobidae	At Risk	Naturally Uncommon	Spiders 2020 (Sirvid et al. 2021)
Wiltonia porina Forster & Platnick, 1985	Araneae	Orsolobidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Zealanapis otago Platnick & Forster, 1989	Araneae	Anapidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Zealoctenus cardronaensis Forster & Wilton, 1973	Araneae	Miturgidae	Data Deficient	Data Deficient	Spiders 2020 (Sirvid et al. 2021)
Asilis annulicornis Wittmer, 1979	Coleoptera	Cantharidae			
Catoptes robustus (Sharp, 1886)	Coleoptera	Curculionidae			
Chalcolampra apicula Wardhaugha & Leschen, 2021	Coleoptera	Chrysomelidae			
Chalepistes curvus (Barratt & Kuschel, 1996)	Coleoptera	Curculionidae			
Chalepistes dugdalei (Chalepistes dugdalei, 1996)	Coleoptera	Curculionidae			
Chalepistes patricki (Barratt & Kuschel, 1996)	Coleoptera	Curculionidae			
Duvaliomimus (Duvaliomimus) *taieriensis* Townsend, 2010	Coleoptera	Carabidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Eugnomus alternans Broun, 1917	Coleoptera	Curculionidae			
Inophloeus inuus Pascoe, 1875	Coleoptera	Curculionidae			
Inophloeus praelatus Broun, 1886	Coleoptera	Curculionidae			
Irenimus minimus Brown, 2017	Coleoptera	Curculionidae			
Lithocia stictica Broun, 1923	Coleoptera	Curculionidae			
Lyperobius cupiendus Broun, 1886	Coleoptera	Curculionidae			
Maoritrechus nunni Townsend, 2010	Coleoptera	Carabidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Mecodema laeviceps Broun, 1904	Coleoptera	Carabidae	Threatened	Nationally Critical	Coleoptera 2010 (Leschen et al. 2012)
Mecyclothorax otagoensis Liebherr & Marris, 2009	Coleoptera	Carabidae			
Megadromus fultoni Broun, 1882	Coleoptera	Carabidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Megadromus sp. 8 "Omeo Hut" (Omeo Hut, Otago, CMNZmega08)	Coleoptera	Carabidae	Threatened	Nationally Critical	Coleoptera 2010 (Leschen et al. 2012)

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Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Metacorneolabium zanotium	Coleoptera	Staphylinidae			
Mimopeus lewisianus (Sharp, 1903)	Coleoptera	Tenebrionidae			
Mimopeus rugosus Bates, 1873	Coleoptera	Tenebrionidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Nicaeana fraudator (Marshall, 1931)	Coleoptera	Curculionidae			
Oopterus monticola Larochelle & Larivière, 2017	Coleoptera	Carabidae			
Orchymontia otagensis Ordish, 1984	Coleoptera	Hydraenidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Oregus inaequalis (Laporte de Castelnau, 1867)	Coleoptera	Carabidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Pedalopia novaezelandiae Laporte de Castelnau, 1867	Coleoptera	Carabidae			
Pentarthrum fultoni Broun, 1893	Coleoptera	Curculionidae			
Pentarthrum subsericatum Wollaston, 1873	Coleoptera	Curculionidae			
Prodontria capito (Broun, 1909)	Coleoptera	Scarabaeidae			
Prodontria jenniferae Emerson, 1997	Coleoptera	Scarabaeidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Prodontria lewisii Broun, 1904	Coleoptera	Scarabaeidae	Threatened	Nationally Endangered	Coleoptera 2010 (Leschen et al. 2012)
Prodontria modesta (Broun, 1909)	Coleoptera	Scarabaeidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Prodontria montis Emerson, 1997	Coleoptera	Scarabaeidae			
Prodontria patricki Emerson, 1997	Coleoptera	Scarabaeidae	Data Deficient	Data Deficient	Coleoptera 2010 (Leschen et al. 2012)
Prodontria pinguis Given, 1952	Coleoptera	Scarabaeidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Prodontria regalis Emerson, 1997	Coleoptera	Scarabaeidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Rygmodus opimus Broun, 1880	Coleoptera	Hydrophilidae			
Sciacharis (Sciacharis) *t autukuensis* Franz, 1986	Coleoptera	Staphylinidae			
Scopodes basalis Broun, 1893	Coleoptera	Carabidae			
Syrphetodes cirrhopogon Leschen & Buckley, 2015	Coleoptera	Ulodidae			
Taenarthrus capito (Jeannel, 1938)	Coleoptera	Carabidae			
Trichopsida popei Larochelle & Larivière, 2013	Coleoptera	Carabidae			
Trichopsida propinqua (Broun, 1917)	Coleoptera	Carabidae			
Waitatia bellicosa Bordoni, 2005	Coleoptera	Staphylinidae			
Zeadelium senile Watt, 1992	Coleoptera	Tenebrionidae	At Risk	Naturally Uncommon	Coleoptera 2010 (Leschen et al. 2012)
Zeolymma brachypterum Steel, 1950	Coleoptera	Staphylinidae			

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Endemic invertebrates

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Eulimnadia marplesi Timms & McLay, 2005	Diplostracha	Limnadiidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)
Amphineurus operculatus Alexander, 1924	Diptera	Limoniidae			
Amphineurus perarmatus Alexander, 1924	Diptera	Limoniidae			
Amphineurus senex Alexander, 1922	Diptera	Limoniidae			
Anabarhynchus castaneus Hutton, 1901	Diptera	Therevidae			
Anabarhynchus fuscofemoratus Lyneborg, 1992	Diptera	Therevidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Anabarhynchus indistinctus Lyneborg, 1992	Diptera	Therevidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Anabarhynchus spiniger Lyneborg, 1992	Diptera	Therevidae			
Anabarhynchus triangularis Lyneborg, 1992	Diptera	Therevidae	At Risk	Naturally Uncommon	Diptera 2010 (Andrew et al. 2012)
Anabarhynchus tricoloratus Lyneborg, 1992	Diptera	Therevidae			
Anabarhynchus wisei Lyneborg, 1992	Diptera	Therevidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Ceratomerus earlyi Plant, 1991	Diptera	Therevidae			
Culiseta novaezealandiae Pillai, 1966	Diptera	Culicidae			
Dicranomyia acanthophallus Alexander, 1924	Diptera	Limoniidae			
Dicranomyia allani Alexander, 1959	Diptera	Limoniidae			
Dicranomyia circularis Alexander, 1924	Diptera	Limoniidae			
Dicranomyia huttoni Edwards, 1923	Diptera	Limoniidae			
Dicranomyia megastigmosa Alexander, 1922	Diptera	Limoniidae			
Dicranomyia otagensis Alexander, 1924	Diptera	Limoniidae			
Dicranomyia primaeva Alexander, 1924	Diptera	Limoniidae			
Discobola haetara Johns, 2007	Diptera	Limoniidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Dolichopeza howesi Alexander, 1922	Diptera	Tipulidae			
Gonomyia oliveri Alexander, 1924	Diptera	Limoniidae			
Gynoplistia aculeata Alexander, 1924	Diptera	Limoniidae			
Gynoplistia aurantiopyga Alexander, 1922	Diptera	Limoniidae			
Gynoplistia hirsuticauda Alexander, 1923	Diptera	Limoniidae			
Gynoplistia (Cerozodia)*l aticosta* Alexander, 1930	Diptera	Limoniidae			

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Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Heteria flavibasis Malloch, 1930	Diptera	Tachinidae			
Hilara anisonychia Collin, 1928	Diptera	Empididae			
Hilara philpotti Miller, 1913	Diptera	Empididae			
Hilara vector Miller, 1923	Diptera	Empididae			
Hilarempis kaiteriensis (Miller, 1913)	Diptera	Empididae			
Libnotes falcata Alexander, 1935	Diptera	Limoniidae			
Limnophila oliveri Alexander, 1923	Diptera	Limoniidae			
Liriomyza vicina Spencer, 1976	Diptera	Agromyzidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Metalimnophila penicillata (Alexander, 1922)	Diptera	Limoniidae			
Metalimnophila simplicis (Alexander, 1922)	Diptera	Limoniidae			
Molophilus analis Alexander, 1923	Diptera	Limoniidae			
Molophilus pictipleura Alexander, 1922	Diptera	Limoniidae			
Neolimnia ura Barnes, 1979	Diptera	Sciomyzidae	At Risk	Naturally Uncommon	Diptera 2010 (Andrew et al. 2012)
Neolimnia vittata Harrison, 1959	Diptera	Sciomyzidae			
Nothodixa otagensis (Alexander, 1922)	Diptera	Dixidae			
Oropezella nigra Miller, 1923	Diptera	Hybotidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Pales exitiosa (Hutton, 1904)	Diptera	Tachinidae			
Paracladura lyrifera Alexander, 1923	Diptera	Trichoceridae			
Parahyadina angusta Mathis and Zatwarnicki, 2019	Diptera	Ephydridae			
Parentia defecta Bickel, 1991	Diptera	Dolichopodidae	Data Deficient	Data Deficient	Diptera 2010 (Andrew et al. 2012)
Pericoma barbata Satchell, 1950	Diptera	Psychodidae			
Pollenia hispida Dear, 1986	Diptera	Polleniidae			
Pollenia immanis Dear, 1986	Diptera	Polleniidae			
Pollenia uniseta Dear, 1986	Diptera	Polleniidae			
Pseudolycoriella hauta Köhler, 2019	Diptera	Sciaridae			
Pseudolycoriella plicitegmenta Köhler, 2019	Diptera	Sciaridae			
Pseudolycoriella porehu Köhler, 2019	Diptera	Sciaridae			
Psychodocha pulchrima (Satchell, 1954)	Diptera	Psychodidae			
Psychodocha tridens (Satchell, 1954)	Diptera	Psychodidae			

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Endemic invertebrates

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Rhabdomastix neozelandiae Alexander, 1922	Diptera	Limoniidae			
Scatella subvittata Tonnoir & Malloch, 1926	Diptera	Ephydridae			
'Spilogona' argentifrons Malloch, 1931	Diptera	Muscidae			
Spilogona dolosa (Hutton, 1901)	Diptera	Muscidae			
Tasiocera bituberculata Alexander, 1924	Diptera	Limoniidae			
Tephritis marginata Malloch, 1931	Diptera	Tephritidae			
Thinempis otakouensis (Miller, 1910)	Diptera	Empididae			
Tricimba dugdalei Spencer, 1977	Diptera	Chloropidae	At Risk	Naturally Uncommon	Diptera 2010 (Andrew et al. 2012)
Zelandomyia otagensis (Alexander, 1923)	Diptera	Limoniidae			
Longidorus waikouaitii Yeates, Boag & Brown, 1997	Dorylaimida	Longidoridae	Threatened	Nationally Critical	Nematodes 2010 (Yeates et al. 2012)
Entomobrya promontorium Jordana and Greenslade, 2020	Entomobryomorpha	Entomobryidae			
Aneurus (Aneurodellus) brevipennis Heiss, 1998	Hemiptera	Aradidae			
Anzygina barrattae Fletcher & Larivière, 2009	Hemiptera	Cicadellidae	Data Deficient	Data Deficient	Hemiptera 2010 (Stringer et al. 2012)
Chinamiris zygotus Eyles & Carvalho, 1991	Hemiptera	Miridae	At Risk	Naturally Uncommon	Hemiptera 2010 (Stringer et al. 2012)
Eriococcus argentifagi Hoy, 1962	Hemiptera	Eriococcidae			
Eriococcus crenilobatus Hoy, 1962	Hemiptera	Eriococcidae			
Eriococcus latilobatus Hoy, 1962	Hemiptera	Eriococcidae			
Forsterocoris salmoni Woodward, 1953	Hemiptera	Rhyparochromidae	Data Deficient	Data Deficient	Hemiptera 2010 (Stringer et al. 2012)
Hypsithocus hudsonae Bergroth, 1927	Hemiptera	Pentatomidae	At Risk	Naturally Uncommon	Hemiptera 2010 (Stringer et al. 2012)
Kiwisaldula laelaps (White, 1878)	Hemiptera	Saldidae	Threatened	Nationally Endangered	Freshwater invertebrates 2018 (Grainger et al. 2018)
Kiwisaldula yangae Larivière and Larochelle, 2018	Hemiptera	Saldidae			
Montanococcus thriaticus Henderson, 2007	Hemiptera	Eriococcidae			
Paradorydium sertum Knight, 1973	Hemiptera	Cicadellidae			
Romna oculata Eyles & Carvalho, 1988	Hemiptera	Miridae	Not Threatened	Not Threatened	Hemiptera 2010 (Stringer et al. 2012)
Trioza gourlayi Tuthill, 1952	Hemiptera	Triozidae			
Ventrispina dugdalei Cox, 1987	Hemiptera	Pseudococcidae			
Adelencyrtoides tridens Noyes, 1988	Hymenoptera	Encyrtidae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Amblyaspis breviscutellaris Buhl, 2011	Hymenoptera	Platygastridae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Ceratanaphes monticola Noyes & Valentine, 1989	Hymenoptera	Mymaridae			

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Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Chorebus paranigricapitis Berry, 2007	Hymenoptera	Braconidae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Leptacis arcuata Buhl, 2011	Hymenoptera	Platygastridae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Leptacis fuscalata Buhl, 2011	Hymenoptera	Platygastridae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Platygaster novaezealandiae Buhl, 2011	Hymenoptera	Platygastridae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Prosynopeas notaulicum Buhl, 2017	Hymenoptera	Platygastridae			
Shireplitis frodoi Fernandez-Triana and Ward, 2013	Hymenoptera	Braconidae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Shireplitis tolkieni Fernandez-Triana and Ward, 2013	Hymenoptera	Braconidae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Woldstedtius gauldius Ward, 2013	Hymenoptera	Ichneumonidae	Not Threatened	Not Threatened	Hymenoptera 2014 (Ward et al. 2017)
Zelandonota rufiscutum Buhl, 2011	Hymenoptera	Platygastridae	Data Deficient	Data Deficient	Hymenoptera 2014 (Ward et al. 2017)
Zelostemma longipedicellatum Buhl, 2017	Hymenoptera	Platygastridae			
Zelostemma medionitens Buhl, 2017	Hymenoptera	Platygastridae			
Zelostemma brevistriatum Buhl, 2017	Hymenoptera	Platygastridae			
Zelostemma laevicornu Buhl, 2017	Hymenoptera	Platygastridae			
Zelostemma popovicii Buhl, 2017	Hymenoptera	Platygastridae			
Austridotea benhami Nicholls, 1938	Isopoda	Idoteidae	At Risk	Naturally Uncommon	Freshwater invertebrates 2018 (Grainger et al. 2018)
Aoraia oreobolae Dugdale, 1994	Lepidoptera	Hepialidae	At Risk	Naturally Uncommon	Lepidoptera 2015 (Hoare et al. 2017)
Aoraia orientalis Dugdale, 1994	Lepidoptera	Hepialidae			
Archyala culta Philpott, 1931	Lepidoptera	Tineidae	Data Deficient	Data Deficient	Lepidoptera 2015 (Hoare et al. 2017)
Arctesthes siris (Hudson, 1908)	Lepidoptera	Geometridae			
Arctesthes titanica B.H. Patrick, H.J.H. Patrick, R.J.B. Hoare, 2019	Lepidoptera	Geometridae	Threatened	Nationally Vulnerable	Lepidoptera 2015 (Hoare et al. 2017)
Atomotricha lewisi Philpott, 1927	Lepidoptera	Oecophoridae			
Dichromodes gypsotis Meyrick, 1888	Lepidoptera	Geometridae			
Dichromodes ida Hudson, 1905	Lepidoptera	Geometridae			
Dichromodes simulans Hudson, 1908	Lepidoptera	Geometridae			
Epichorista tenebrosa Philpott, 1917	Lepidoptera	Tortricidae			
Gelophaula palliata (Philpott, 1914)	Lepidoptera	Tortricidae			
Hierodoris gerontion Hoare, 2005	Lepidoptera	Oecophoridae			
Hierodoris polita Hoare, 2005	Lepidoptera	Xyloryctidae	At Risk	Naturally Uncommon	Lepidoptera 2015 (Hoare et al. 2017)

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Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Hydriomena clarkei (Howes, 1917)	Lepidoptera	Geometridae			
Lycaena sp. "Chrystalls Beach boulder"	Lepidoptera	Lycaenidae	Threatened	Nationally Critical	Lepidoptera 2015 (Hoare et al. 2017)
Loxostege sp. "salt pan"	Lepidoptera	Crambidae	At Risk	Relict	Lepidoptera 2015 (Hoare et al. 2017)
Mallobathra cataclysma Clarke, 1934	Lepidoptera	Psychidae			
Mallobathra memotuina Clarke, 1934	Lepidoptera	Psychidae			
Mallobathra perisseuta Meyrick, 1920	Lepidoptera	Psychidae			
Notoreas "South Shag River"	Lepidoptera	Geometridae			
Orocrambus cultus Philpott, 1917	Lepidoptera	Crambidae			
Orocrambus geminus Patrick, 1991	Lepidoptera	Crambidae			
Orocrambus lindsayi Gaskin, 1975	Lepidoptera	Crambidae			
Orocrambus punctellus (Hudson, 1950)	Lepidoptera	Crambidae	Data Deficient	Data Deficient	Lepidoptera 2015 (Hoare et al. 2017)
Phylacodes cauta Meyrick, 1905	Lepidoptera	Plutellidae			
Pyrgotis humilis Philpott, 1930	Lepidoptera	Tortricidae			
Scoparia caliginosa Philpott, 1918	Lepidoptera	Crambidae			
Scoparia pascoella Philpott, 1920	Lepidoptera	Crambidae			
Scoparia tuicana Clarke, 1926	Lepidoptera	Crambidae			
Scoriodyta suttonensis Hattenschwiler, 1989	Lepidoptera	Psychidae			
Tinea furcillata Philpott, 1930	Lepidoptera	Tineidae			
Tingena terrena (Philpott, 1926)	Lepidoptera	Oecophoridae			
Americovibone remota Taylor, 2016	Opiliones	Neopilionidae			
Cenefia sorenseni hawea Forster, 1954	Opiliones	Triaenonychidae			
Nuncia (Corinuncia) *sublaevis* (Pocock, 1903)	Opiliones	Triaenonychidae			
Rakaia macra Boyer & Giribet, 2003	Opiliones	Pettalidae			
Prasma sorenseni regalia Forster, 1954	Opiliones	Triaenonychidae			
Pharmacus notabilis Hegg, Morgan-Richards and Trewick, 2022	Orthoptera	Rhaphidophoridae	Not Threatened	Not Threatened	Orthoptera 2022 (Trewick et al. 2022)
Pharmacus senex Hegg, Morgan-Richards and Trewick, 2022	Orthoptera	Rhaphidophoridae	Not Threatened	Not Threatened	Orthoptera 2022 (Trewick et al. 2022)
Pharmacus vallestris Hegg, Morgan-Richards and Trewick, 2022	Orthoptera	Rhaphidophoridae	Data Deficient	Data Deficient	Orthoptera 2022 (Trewick et al. 2022)
Isoplectron pallidum (Richards, 1972)	Orthoptera	Rhaphidophoridae	Not Threatened	Not Threatened	Orthoptera 2022 (Trewick et al. 2022)
Sigaus childi Jamieson, 1999	Orthoptera	Acrididae	Threatened	Nationally Vulnerable	Orthoptera 2022 (Trewick et al. 2022)
Nesoperla patricki McLellan, 2003	Plecoptera	Gripopterygidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)

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Endemic invertebrates

Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Zelandobius auratus McLellan, 1993	Plecoptera	Gripopterygidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandobius crawfordi McLellan, 2008	Plecoptera	Gripopterygidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandobius edwardsi McLellan, 2008	Plecoptera	Gripopterygidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandobius inversus McLellan, 1993	Plecoptera	Gripopterygidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandobius mariae McLellan, 1993	Plecoptera	Gripopterygidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandobius montanus McLellan, 1993	Plecoptera	Gripopterygidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Zelandoperla maungatuaensis Foster, McCulloch & Waters, 2019	Plecoptera	Gripopterygidae			
Synsphyronus lineatus Beier, 1966	Pseudoscorpiones	Garypidae			
Austrachipteria novazealandica Ermilov & Minor, 2015	Sarcoptiformes	Achipteriidae			
Cultroribula otagoensis Ermilov & Minor, 2015	Sarcoptiformes	Astegistidae			
Dicrotegaeus incurvus Ermilov & Minor, 2015	Sarcoptiformes	Cerocepheidae			
Dicrotegaeus mariehammerae Ermilov & Minor, 2015	Sarcoptiformes	Cerocepheidae			
Lanceoppia (Baioppia) *trapezoides* Ermilov & Minor, 2015	Sarcoptiformes	Oppiidae			
Macrogena abbreviata Ermilov & Minor, 2015	Sarcoptiformes	Ceratozetidae			
Macrogena brevisensilla Ermilov & Minor, 2015	Sarcoptiformes	Ceratozetidae			
Macrogena hexasetosa Ermilov & Minor, 2016	Sarcoptiformes	Ceratozetidae			
Magellozetes crassisetosus Ermilov & Minor, 2015	Sarcoptiformes	Ceratozetidae			
Microlamellarea minuta Ermilov & Minor, 2015	Sarcoptiformes	Lamellareidae			
Pedunculozetes ovatum Ermilov & Minor, 2015	Sarcoptiformes	Chamobatidae			
Porallozetes badamdorji Ermilov & Minor, 2016	Sarcoptiformes	Punctoribatidae			
Pterochthonius roynortoni Ermilov & Minor, 2015	Sarcoptiformes	Atopochthoniidae			
Safrobates gerdi Ermilov & Minor, 2016	Sarcoptiformes	Oribatellidae			
Safrobates insignis Ermilov, Behan-Pelletier & Minor, 2016	Sarcoptiformes	Oribatellidae			

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Name and authority	Order	Family	NZTCS category	NZTCS status	Report name
Scapheremaeus gibbus Ermilov & Minor, 2015	Sarcoptiformes	Cymbaeremaeidae			
Scapheremaeus luxtoni Ermilov & Minor, 2015	Sarcoptiformes	Cymbaeremaeidae			
Tripiloppia alpina Ermilov & Minor, 2015	Sarcoptiformes	Oppiidae			
Tripiloppia frigida Ermilov & Minor, 2015	Sarcoptiformes	Oppiidae			
Zealandozetes southensis Ermilov, Minor & Behan-Pelletier, 2015	Sarcoptiformes	Maudheimiidae			
Alsolemia cresswelli Climo, 1978	Stylommatophora	Charopidae	Threatened	Nationally Critical	Land Snails 2010: (Mahlfeld et al. 2012)
Costachorema hebdomon McFarlane, 1981	Trichoptera	Hydrobiosidae	At Risk	Naturally Uncommon	Freshwater invertebrates 2018 (Grainger et al. 2018)
Oeconesus angustus Ward, 1997	Trichoptera	Oeconesidae	Threatened	Nationally Critical	Freshwater invertebrates 2018 (Grainger et al. 2018)
Olinga christinae Ward & McKenzie, 1998	Trichoptera	Conoesucidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Philorheithrus harunae Henderson & Ward, 2006	Trichoptera	Philorheithridae	At Risk	Naturally Uncommon	Freshwater invertebrates 2018 (Grainger et al. 2018)
Pseudoeconesus paludis Ward, 1997	Trichoptera	Oeconesidae	Threatened	Nationally Endangered	Freshwater invertebrates 2018 (Grainger et al. 2018)
Tiphobiosis quadrifurca Ward, 1997	Trichoptera	Hydrobiosidae	Data Deficient	Data Deficient	Freshwater invertebrates 2018 (Grainger et al. 2018)
Aceria microphyllae Manson, 1984	Trombidiformes	Eriophyidae			
Diversipes laticaudatus Khaustov and Minor, 2018	Trombidiformes	Scutacaridae			
Pedaculops propinquae Manson, 1984	Trombidiformes	Eriophyidae			
Scutacarus cornutus Khaustov and Minor, 2018	Trombidiformes	Scutacaridae			
Scutacarus incisus Khaustov and Minor, 2018	Trombidiformes	Scutacaridae			

Forty vascular plant taxa are endemic to Otago (Table 4). The most speciose order was Asterales with 11 taxa, then Boraginales and Poales with seven taxa, Capparales with three taxa, Araliales, Rosales, and Thymelaeales with two taxa, and Apiales, Caryophyllales, Fabales, Oxalidales, Ranunculales and Violales all with one taxon.

Thirty-four regionally endemic vascular plants have had their conservation status assessed nationally (Table 4; de Lange et al. 2024), while all 40 taxa had their conservation status assessed regionally (Table 4; Jarvie et al. 2025). In the recent regional threatened classification 20 species were assessed as Regionally Threatened (Regionally Critical = 13; Regionally Endangered = 4; Regionally Vulnerable = 3), 16

species were Regionally At Risk (Regionally Declining = 3; Regionally Naturally Uncommon = 13) and four taxa were Regionally Data Deficient.

Table 4. Regionally endemic vascular plants species in Otago. The New Zealand Threat Classification System (NZTCS) and Regional Threat Classification System (RTCS) categories and statuses are provided from de Lange et al. 2024 and Jarvie et al. 2025, respectively.

Name and authority	Common name	Order	Family	NZTCS category	NZTCS status	RTCS category	RTCS status
Abrotanella patearoa Heads		Asterales	Asteraceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Acaena aff. *rorida* (OTA 59561; Pool Burn)	bidibidi	Rosales	Rosaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Acaena tesca B.H.Macmill.	bidibidi	Rosales	Rosaceae	Not Threatened	Not Threatened	Regionally At Risk	Regionally Naturally Uncommon
Anisotome (b) (CHR 511716); "Otago bog")		Araliales	Apiaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Anthosachne aprica (Á.Löve & Connor) C.Yen & J.L.Yang	blue wheat grass	Poales	Poaceae	At Risk	Naturally Uncommon	Regionally Threatened	Regionally Vulnerable
Apium "inland saline"		Apiales	Apiaceae			Regionally Threatened	Regionally Critical
Brachyscome humilis G.Simpson & J.S.Thomson	daisy	Asterales	Asteraceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Brachyscome "Taiari"		Asterales	Asteraceae			Regionally Threatened	Regionally Critical
Cardamine sciaphila Heenan	cress	Capparales	Brassicaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Carex applanata Thorsen & de Lange		Poales	Cyperaceae	At Risk	Naturally Uncommon	Regionally Threatened	Regionally Endangered
Carex aff. *aucklandica* "Dunstan"		Poales	Cyperaceae			Regionally Data Deficient	Regionally Data Deficient
Carex aff. *wakatipu* (e) (CHR 472041; Bendigo)		Poales	Cyperaceae			Regionally Data Deficient	Regionally Data Deficient
Carmichaelia compacta Petrie	Cromwell broom	Fabales	Fabaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Declining
Celmisia haastii var. *tomentosa* G.Simpson & J.S.Thomson	daisy	Asterales	Asteraceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Celmisia lindsayi Hook.f.	Lindsay's daisy	Asterales	Asteraceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Craspedia argentea Breitw. & K.A.Ford, sp. nov.		Asterales	Asteraceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Craspedia (ll) (CHR 629757; Otago)		Asterales	Asteraceae	Not Threatened	Not Threatened	Regionally Data Deficient	Regionally Data Deficient
Craspedia (y) (CHR 516260; Cape Saunders)		Asterales	Asteraceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Festuca matthewsii subsp. *pisamontis* Connor		Poales	Poaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Gingidia grisea Heenan		Araliales	Apiaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Declining
Helichrysum simpsonii subsp. tumidum (Cheeseman) de Lange & Blanchon		Asterales	Asteraceae	Threatened	Nationally Vulnerable	Regionally Threatened	Regionally Vulnerable
Kelleria villosa var. *barbata* Heads		Thymelaeales	Thymelaeaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Leptinella aff. *pectinata* (a) (CHR 580894; Nevis)		Asterales	Asteraceae	Threatened	Nationally Vulnerable	Regionally Threatened	Regionally Vulnerable
Lepidium crassum Heenan & de Lange	thick-leaved scurvy grass	Capparales	Brassicaceae	Threatened	Nationally Endangered	Regionally Threatened	Regionally Endangered
Lepidium kirkii Petrie	salt-pan cress	Capparales	Brassicaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Luzula traversii var. *tenuis* Edgar	wood-rush	Poales	Juncaceae	At Risk	Naturally Uncommon	Regionally Threatened	Regionally Endangered
Melicytus aff. *crassifolius* (b) (CHR 616706; Cape Saunders)		Violales	Violaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Montia aff. *fontana* (CHR 681612; "Otago alpine flush")		Caryophyllales	Montiaceae			Regionally At Risk	Regionally Naturally Uncommon
Myosotis albosericea Hook.f.		Boraginales	Boraginaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Myosotis bryonoma Meudt, Prebble & Thorsen	forget-me-not	Boraginales	Boraginaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon

Continued next page

Endemic vascular plants

Name and authority	Common name	Order	Family	NZTCS category	NZTCS status	RTCS category	RTCS status
Myosotis goyenii Petrie subsp. *goyenii*		Boraginales	Boraginaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Declining
Myosotis hikuwai Meudt et al. 2022.		Boraginales	Boraginaceae	Threatened	Nationally Endangered	Regionally Threatened	Regionally Endangered
Myosotis oreophila Petrie		Boraginales	Boraginaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Myosotis umbrosa Meudt, Prebble & Thorsen		Boraginales	Boraginaceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Oxalis aff. *magellanica* (CHR 472028: "Otago alpine flush")		Oxalidales	Oxalidaceae			Regionally At Risk	Regionally Naturally Uncommon
Pimelea sericeovillosa subsp. *alta* C.J.Burrows		Thymelaeales	Thymelaeaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Poa pygmaea Buchanan		Poales	Poaceae	At Risk	Naturally Uncommon	Regionally At Risk	Regionally Naturally Uncommon
Solenogyne christensenii (Petrie) de Lange, Jian Wang ter & Barkla, comb. nov.		Asterales	Asteraceae	Threatened	Nationally Critical	Regionally Threatened	Regionally Critical
Ranunculus (c) (CHR 472008; Garvie Range)		Ranunculales	Ranunculaceae	Data Deficient	Data Deficient	Regionally At Risk	Regionally Naturally Uncommon

In Otago six lizard species are regional endemics (Table 5). Of these six, three are skinks and three are geckos. Two of the largest, most colourful species of skinks in Aotearoa New Zealand are the regionally endemic Otago skink (*O. otagense*) and grand skink (*O. grande*). Shiny black with bold blotches of gold, the Otago skink can reach 30 cm in length on a heavy-set body and is a true giant among the country's endemic skinks. The grand skink is a little smaller and more svelte than the Otago skink, and its black skin is peppered with tiny golden flecks. A small alpine skink is the third regionally endemic skink and is restricted to two populations in inland Otago; it is known as the Burgan skink (*O. burganae*). The three gecko species that are endemic to Otago belong to the *Woodworthia* species complex: Raggedy Range gecko (*W.* "Raggedy"), schist gecko (*W.* "Central Otago"), and the Kawarau gecko (*W.* "Cromwell"). These three gecko species are medium-sized, with diurno-noctural activity patterns, and typically occur in rocky habitats. All six regionally endemic lizards are at risk or threatened with extinction as assessed in the national and regional threat classifications (Hitchmough et al. 2021; Jarvie et al. 2024).

Table 5. Regionally endemic reptile species in Otago. The New Zealand Threat Classification System (NZTCS) and Regional Threat Classification System (RTCS) categories and statuses are provided from Hitchmough et al. 2021 and Jarvie et al. 2024, respectively.

Name and authority	Common name	NZTCS category	NZTCS status	RTCS category	RTCS status
Oligosoma burganae Chapple et al., 2011	Burgan skink	Threatened	Nationally Endangered	Regionally Threatened	Regionally Vulnerable
Oligosoma grande (Gray, 1845)	grand skink	Threatened	Nationally Endangered	Regionally Threatened	Regionally Endangered
Oligosoma otagense (McCann, 1955)	Otago skink	Threatened	Nationally Endangered	Regionally Threatened	Regionally Endangered
Woodworthia "Central Otago"	schist gecko	At Risk	Declining	Regionally At Risk	Regionally Declining
Woodworthia "Cromwell"	Kawarau gecko	At Risk	Declining	Regionally At Risk	Regionally Declining
Woodworthia "Raggedy"	Raggedy Range gecko	Threatened	Nationally Vulnerable	Regionally Threatened	Regionally Vulnerable

In Otago two bryophytes are regionally endemic (Table 6). One of these species is a liverwort (*Neolepidozia patentissima* var. *ampliata*, with a national threat assessment of Data Deficient), while the other is a moss (*Conostomum pusillum* var. *otagoensis*, whose threat status has not yet been nationally assessed).

Table 6. Regionally endemic bryophyte species in Otago. The New Zealand Threat Classification System (NZTCS) category and status for the liverwort is from de Lange et al. 2020.

Name and authority	Order	NZTCS category	NZTCS status	Functional group
Neolepidozia patentissima var. *ampliata* (J.J. Engel & G.L.Sm.) E.D. Cooper	Jungermanniales	Data Deficient	Data Deficient	liverwort
Conostomum pusillum var. *otagoensis* Fife	Bartramiales			moss

The only regionally endemic bird species is the Otago shag/matapo, i.e., known to currently exclusively breed in the region (Table 7). Although a Holocene fossil and archaeological midden assemblages indicate a former wider distribution across the eastern Te Waipounamu/South Island, following human arrival the species became

restricted to rocky cliffs and islands off Otago. The Otago shag has recently extended their range northwards and southwards, and now occur from the southern Catlins north towards the Waitaki River. Using updated information released since national assessment, research suggests the species is not having a population increase > 10% but would have a stable count of ±10 % between 2007 and 2021 (Parker & Rexer-Huber 2022). This is why there is a difference between the national status and the regional status.

Table 7. Regionally endemic bird species in Otago. The New Zealand Threat Classification System (NZTCS) category and status is from Robertson et al. 2021 and the Regional Threat Classification (RTCS) category and status is from Jarvie et al. 2025.

Name and authority	Common name	Māori name	NZTCS category	NZTCS status	RTCS category	NZTCS status
Leucocarbo chalconotus G.R. Gray, 1845	Otago shag	matapo	Threatened	Nationally Increasing	Regionally Threatened	Regionally Vulnerable

Nine freshwater fishes are endemic to the Otago region, all of which are Galaxiid species (Table 8). There are two slim and slender species from the pencil galaxias group – lowland longjaw galaxias (*Galaxias cobitinis*) and alpine galaxias (Manuherikia River) (*G.* aff. *paucispondylus* "Manuherikia"), and seven belong to the cigar-shaped *Galaxias vulgaris* species complex: central Otago roundhead galaxias (*G. anomalus*), Taieri flathead galaxias *(G. depressiceps*), Eldon's galaxias (*G. eldoni*), dusky galaxias (*G. pullus*), Teviot flathead galaxias (*G.* "Teviot"), Clutha flathead galaxias (*G.* "species D"), and Nevis galaxias (*G.* "Nevis"). All of Otago's endemic freshwater fishes are threatened with extinction (Dunn et al. 2018).

Table 8. Regionally endemic freshwater fishes in Otago. The New Zealand Threat Classification System (NZTCS) categories and statuses are provided from Dunn et al. 2018.

Name and authority	Common name	NZTCS category	NZTCS status
Galaxias anomalus Stokell, 1959	central Otago roundhead galaxias	Threatened	Nationally Endangered
Galaxias cobitinis McDowall & Waters, 2002	lowland longjaw galaxias (Kakanui River)	Threatened	Nationally Critical
Galaxias depressiceps McDowall & Wallis, 1996	Taieri flathead galaxias	Threatened	Nationally Vulnerable
Galaxias eldoni McDowall, 1997	Eldon's galaxias	Threatened	Nationally Endangered
Galaxias pullus McDowall, 1997	dusky galaxias	Threatened	Nationally Endangered
Galaxias "Teviot"	Teviot flathead galaxias (Teviot River)	Threatened	Nationally Critical
Galaxias aff. *paucispondylus* "Manuherikia"	alpine galaxias (Manuherikia River)	Threatened	Nationally Endangered
Galaxias "Nevis"	Nevis galaxias (Nevis River)	Threatened	Nationally Endangered
Galaxias "species D"	Clutha flathead galaxias	Threatened	Nationally Critical

Summary and conclusions

The Otago Region has a diverse biota (fauna, flora and fungi) reflecting the region's contemporary landscapes, geological past and climatic history. Alpine areas, river valleys, dryland ecosystems and coastal landscapes are among the many ecosystems that contribute to this biodiversity.

For most taxonomic groups, the process of obtaining data and verifying regional endemics within the Otago region worked well, particularly with the data-driven approach trialled. However, it would be highly valuable to have all institutions in Aotearoa New Zealand provide data to GBIF as a central aggregator of biodiversity information. This would enhance access to data and provide better taxonomic and geographical coverage.

Endemic species

A total of 360 species were identified as regionally endemic to Otago. Although it is often difficult to create lists of endemic species for a region, with the traditional approach being to create a list by sifting through published literature, examining specimens in collections, and/or conducting new sampling. However, these are time consuming tasks, typically done by a researcher with a restricted taxonomic focus. The combination of the data-driven and traditional approaches has made regionally endemic lists of species feasible.

Because of the increasing number of digital records now makes such a task much easier and taxonomically more comprehensive, the data-driven approach used in this report to generate a preliminary regional list of endemic species worked well. For example, it returned several well-known endemic species, such as the Cromwell chafer beetle (*Prodontria lewisi*), speargrass weevil (*Lyperobius cupiendus*), Maungatua stonefly (*Zelandoperla maungatuaensis*), salt pan cress (*Lepidium kirkii*), Cromwell broom (*Carmichaelia compacta*), Otago skink (*Oligsoma otagense*), grand skink (*O. grande*), among many others.

Despite this, the endemic list should be considered preliminary. The biggest issue is that the list has been created with incomplete digital information about almost all the species. Consequently, the extent of the geographical distribution is also likely to be incomplete (although there are some exceptions; for example, the Cromwell chafer beetle, the Maungatua stonefly, salt pan cress and the grand skink).

Greater confidence could be obtained by:

A. Digitising all specimens that already exist in taxonomic collections
B. Undertaking new field surveys to better delimit a species distribution (e.g., it is likely that some of the regionally endemic species listed in this report will also be present in the Southland and Canterbury regions).

Taxa that are potentially regionally endemic that do not appear in this report should be reported to the Otago Regional Council for future assessment and inclusion in subsequent reports. Future reports intend to also focus on regional endemic lists for species from lesser-known taxonomic groups, e.g., fungi, freshwater invertebrates, spiders.

Recommendations

- Complete compilation of regional endemic lists for species from lesser-known taxonomic groups.
- Support initiatives to digitise all specimens and samples of endemic species in the Otago Region. This will give important information on their geographical distributions.
- Encourage institutions to become data providers to GBIF as a central aggregator of biodiversity information. This will enhance access to data and provide better taxonomic and geographical coverage.
- Encourage and support national initiatives on the digitisation of specimens and the georeferencing of locality information.

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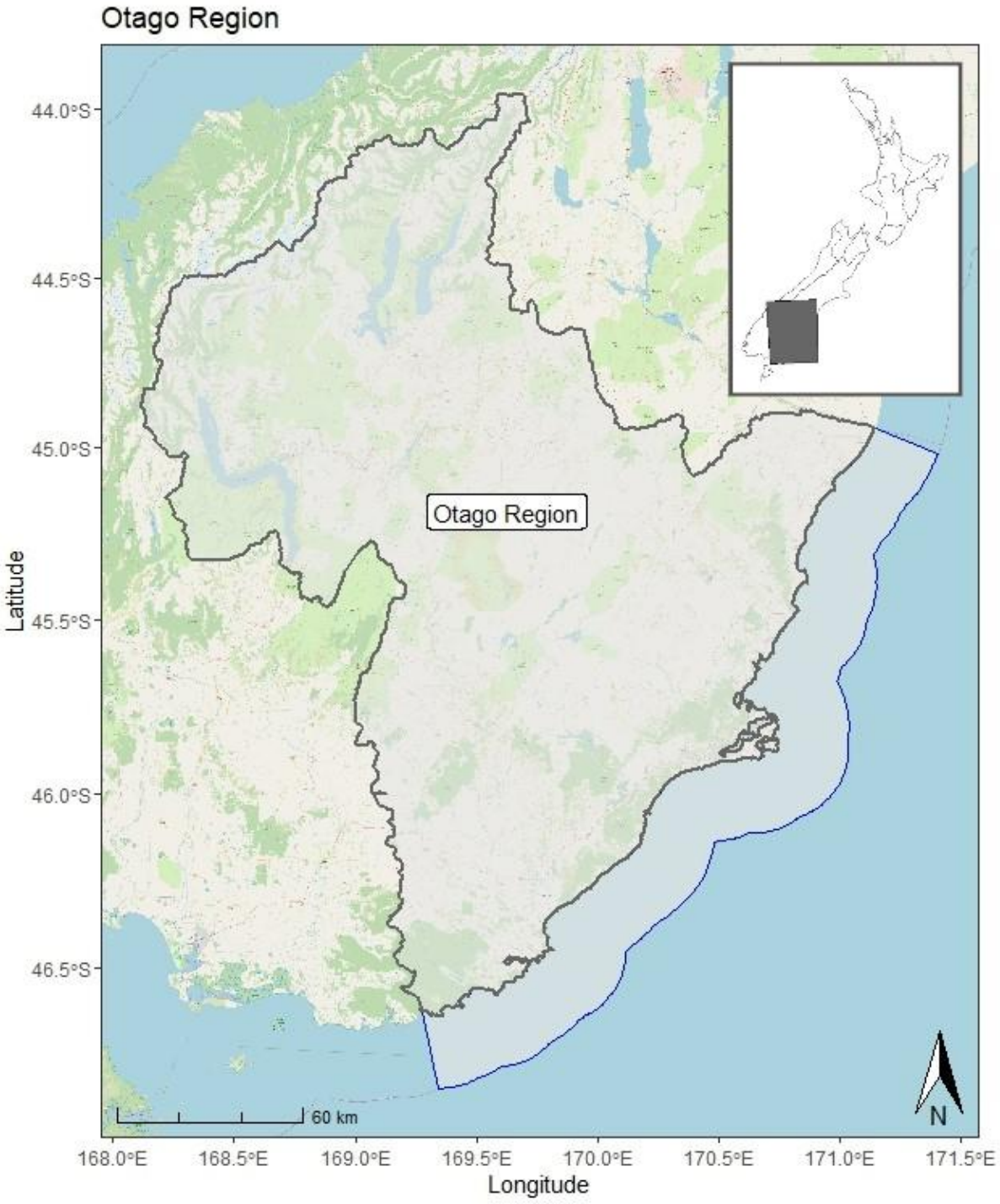
Appendices



Appendix 1: Map of the Otago Region, showing the coastal marine area. Inset map shows Otago in relation to the remainder of Aotearoa New Zealand

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