Biodiversity Advisory Group
AGENDA

Notice of Meeting:

A meeting of the Biodiversity Advisory Group will be held on:

Date: **Monday 4 November 2024**

Time: **1.00pm**

Venue: **Wakanui Room** (Ground Floor)**, Te Whare Whakatere**
Ashburton Library & Civic Centre, 2 Baring Square East, Ashburton

Membership:

Ashburton District Council	Cr Leen Braam Cr Lynette Lovett Cr Richard Wilson (Acting Chair) Mayor Neil Brown (ex officio) Neil McCann (GM Infrastructure & Open Spaces) Ian Soper (Open Spaces Manager) Dr Christian Chukwuka (Ecologist/Bio Advisor)
QEII Trust	Alice Shanks
Ashburton Water Zone Committee	Adi Avnit
Environment Canterbury	Donna Field
Forest & Bird, ACCT	Val Clemens, Edith Smith, Mary Ralston
Awa Awa Rata Reserve	Mary Ralston
Foothills Landcare Group	Gen de Spa
Department of Conservation	Ian Fraser, Andy Hirschberg
Kanuka Trust	Kim Wall
Mid Canterbury Catchment Collective	Angela Cushnie, Janine Holland, Willy Leferink
Fonterra	Tom Munro
Synlait	Nick Vernon
Fish & Game	Nikki Dellaway
Federated Farmers	Mike Salvesen
Methven Birdsong Initiative	Barry Maister
Upper Rangitata Gorge Landcare Group	Sally Stevens

Biodiversity Advisory Group

Timetable	
Time	**Item**
1:00pm	**Meeting commences**

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	- Cr Leen Braam and Ian Fraser	
2	**Extraordinary Business**	
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4. Biodiversity Advisory Group Minutes – 5/08/24

Minutes of a meeting of the Biodiversity Advisory Group held on Monday 5 August 2024, in the Wakanui Room, 2 Baring Square East, Ashburton, commencing at 1.00pm.

Present

Councillors Leen Braam (Chair), Lynette Lovett (via Teams) and Richard Wilson, Alice Shanks, Adi Avnit, Edith Smith, Angela Cushnie, Kim Wall, Mike Salvesen, Val Clemens, Ian Fraser, Andy Hirschberg, Robb Stevens, Shaun Spencer, Gen de Spa, Nick Vernon, Ian Soper (Open Spaces Manager), Dr Christian Chukwuka (Ecologist/Biodiversity Advisor).

In attendance

Phillipa Clark (Governance Support).

1 Apologies

Mayor Neil Brown; Donna Field, Barry Austin, Barry Maister, Mary Ralston, Willie Leferink, Brad Edwards and Janine Holland.
For lateness: Nick Vernon (1.37pm)

2 Extraordinary Business

The Chair advised that Donna Field is unavailable today and her report will be deferred until the next meeting.

3 Declarations of Interest

Nil

4 Confirmation of Minutes

That the minutes of the Biodiversity Advisory Group meeting held on 13 May 2024 be taken as read and confirmed.

Richard/Leen Carried

5 Pudding Hill Weed Control – project update

The first phase of the project has been completed using a grant from the Ashburton Water Zone Committee ($8,000 + GST). The delivery was only within the approved grant. There are more weeds to be removed upstream, and we will revisit the project in Spring 2024 if funds are available.

Christian reported that the Ashburton Water Zone Committee's funding programme is open, and this project fits the criteria of the Action Plan (weed control encroaching on riverbeds), but an application may have to compete against projects with greater priority.

Officers will estimate time and cost (likely around $6.5k) but at this stage, just looking for approval to ask for funding.

1. **That** the Biodiversity Advisory Group receives the report on Pudding Hill Stream weed control; and

2. **That** the Biodiversity Advisory Group advises the Project Team to seek more funding and continue to eradicate weeds on the Pudding Hill Stream channel.

Edith/Gen Carried

6 Ashburton River Hakatere Shorebird Habitat Management Strategy 2023-30

This report will be presented to the next meeting on 4 November. The Group agreed it would be useful for all Councillors to be part of the discussion and an invitation will be extended.

7 Ashburton District Biodiversity Strategy Implementation – deliberation on BAG led actions in the strategy

Christian presented a progress report and advised that meetings have been held with a few stakeholders to discuss some aspects of the Strategy implementation where they have input. Going forward, updates on the Strategy actions will be presented at the Biodiversity Group meetings.

- ***Covenants and land protection***

Insufficient funding for QEII covenants and most potential new covenants doesn't fit QEII criteria. Ecologist/Biodiversity Advisor is proposing to develop a Council covenant process within section 77 of the Reserve Management Act.

Alice advised that QEII prioritise natural vegetation. Working on three covenants in the Ashburton district currently.

- ***Planting guidelines***

Christian referred to the amount of information that can be found online for people wanting advice on what to plant and where. He'll look at this and refine into a single list.

Christian confirmed that roadside planting is currently not permitted. Council is the road controlling authority.

- ***Advocate and distribute information to landowners***

It was suggested that Christian contact Mary Ralston to ask if she's interested and available to be the stakeholder lead. It was further suggested that the position be remunerated.

Representatives from Fonterra and Synlait commented that they could help with information going out to farmers using their communications.

Other suggested names / organisations were noted by Christian who will progress this.

- ***Citizen Science***

Kanuka Trust (Kim) and Ashburton Community Conservation Trust (Val) to lead the delivery of Citizen science project. Christian will oversee the program development.

- ***Regular media publication of biodiversity***

Looking for 'success' stories that can be shared. Members were asked to get in touch with Christian if they have a story or items that needs to be shared with the Community.

- ***Support school programmes***

Some funding is available for the school programme. Aim to speak to Principals Association as a group.

Kim advised that Kānuka Trust are working alongside 7 schools currently and looking how they can extend that. Forest & Bird are working with Wakanui, Staveley Camp with one school on a regular basis, and others from time to time, and Synlait are working with Lauriston School.

- ***Water races***

Edith asked whether a particular goal has been identified for water races and if various aspects of the Strategy have been used.

Richard reported that Council is now looking at protocols for the new Stockwater Working Group and they will include race biodiversity values. Once Council's position is clear, it will be shared with the Biodiversity Group.

8 Ecologist / Biodiversity Advisor's Report

- ***Plantation Road Investigation***

Christian presented the outcome of the investigation to the group for deliberation. This is one of the few sites on the Plains where original remnants of plants remain and currently a significant site in the District Plan but not an area of significant conservation value (ASCV).

Post meeting, Christian further comments:

In summary, the road is used by both landowners to move stock to another paddock, which will be difficult if the road is closed. Due to that, we agreed with the landowners that the road would remain open as an unformed legal road. Suggestion was made by the landowners and agreed by us to extend the fence line up to 6 metres from the shelterbelt to merge all the native vegetation into one single-fenced area. The fenced area will also be elevated and included in the district plan ASCV layer. However, recognising the site as an ASCV does not affect an existing activity, sheep grazing, cattle movement, irrigation, farming and adjoining shelterbelt. Adverse effects from these activities will be managed voluntarily with the landowners.

Alice suggested that the existing fence shouldn't be removed but be reinforced with a new fence. Between that area and the new fence, people may plant but there needs to be a barrier to prevent people spraying and damaging the native vegetation.

Open Spaces Management agreed on this cause of action.

That the Ecologist/Biodiversity Advisor's report be received, and the investigation outcome is accepted by the group.

Val/Richard Carried

8 Group activity updates

- **Forest & Bird**

The annual Winter bird count was recently undertaken – the 40th year of doing this so a good milestone. Edith noted that 3,160 birds were counted in total in 1984 – and this year the count was 5,675.

Another wilding day was held at Lake Heron. Last year around 11,000 wildings were removed, and a large number were removed again this year. They noted that a number are coming from land belonging to DOC.

Invites will be sent for the planting day on 8 September at Harris Reserve.

- **Methven Birdsong Initiative**

Gen spoke on behalf of the Group, reporting that the project is going well and they hope to start trapping soon.

- **Upper Rangitata Gorge Landcare Group**

Sally provided an overview of the Group's project and their involvement with planting and fencing of water ways. They're in the fourth and final year of that programme. All the plants have been sourced from the Gorge (initially via Orari Nursery and then Te Arowhenua's nursery).

- **Kānuka Trust**

Kim commented on the good traction the Trust is getting with schools. They are also connecting with the Methven Birdsong project.

- **Department of Conservation (DOC)**

Thanked the Upper Rangitata Landcare Group for the work they're undertaking.

Funding ended in June and DOC are reducing the scale of trapping.

DOC's role includes preparing response plans in the event that bird flu should break out. While its not in the country yet, they are remaining vigilant.

- **Synlait**

Synlait is emphasising "right place, right plant". The company despatched 60,000 plants in Autumn and are on track for more in the Spring. Working closely with catchment groups.

- **Mid Canterbury Catchment Collective**

Angela commented that geese are becoming an increasing pest (urban and rural). A landowner in the Rakaia Gorge is doing work with ECan on this.

Would like an update from Rakaia on work being done in the corridor, and also an update on planting that's being undertaken on the banks of the Ashburton River.

Lynette will follow up the Rakaia request at the community meeting this week and ask if a report can be provided to the Biodiversity Group.

- **Staveley Camp**

Gen reported that volunteers undertook significant weeding in the forest over a period of18 days (366 volunteers including school children).

Looking to publish a book on the social / ecological aspect of Staveley forest. Have an event coming up which will be publicised.

- **Fonterra**

Robb spoke briefly about a Trust that Fonterra is involved with in Southland that could be of interest to the Biodiversity Group. He will report further on this.

9 Next Meeting

The next meeting is scheduled for Monday 4 November 2024.

The meeting concluded at 3.50pm.

5. *Planting on Road Reserves for Environmental Benefits*

Angela Cushnie
Mid-Canterbury Catchment Collective

Mel Brooks, Justin Legg, Nicole Matheson
MHV Water Ltd

Summary

A majority of the road reserves on the Hekeao Hinds Plains are between 20 to 30m in width. Assuming a 5m wide tarmac, this area represents potentially 2120 ha that could be partially restored ecologically via planting of native plants from the mountains to the sea, with numerous ecological and social benefits.

Recommendation

1. **That** Council considers options for native planting on road reserves using appropriate native plants with maximum height <1.5m.

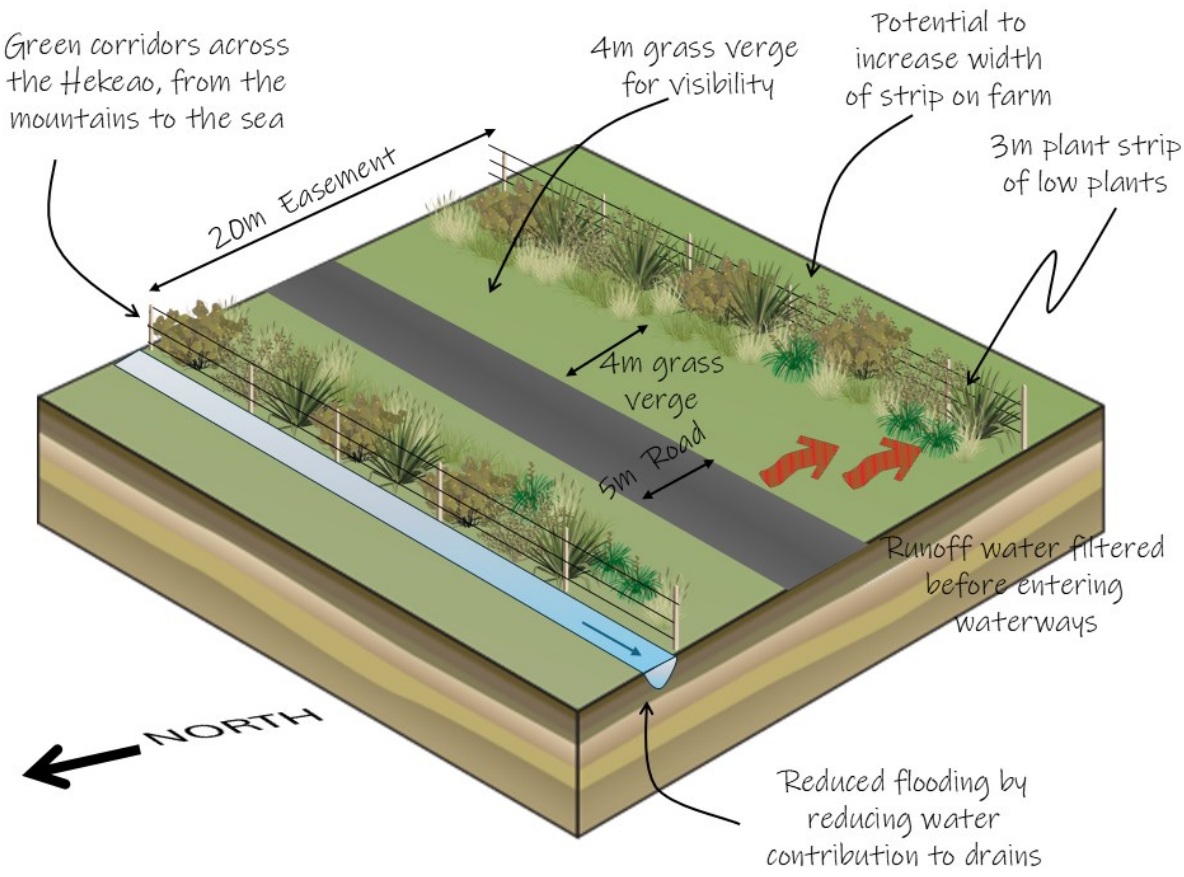
Background

1. This report is proposing that planning provisions be made by the ADC such that road reserves can be planted with low native plants for biodiversity, environment as well as amenity values, whilst maintaining their intended function as part of a safe road network.

2. The ADC has issued the following action as part of the Ashburton District Biodiversity Strategy
- protect & maintain indigenous biodiversity,
- restore and interconnect indigenous biodiversity for the benefit of the community,
- educate and enhance awareness about biodiversity,
- cooperate, encourage and celebrate community participation,

3. MHV is a major stakeholder in the Hekeao Community with a value statement “deliver sustainable solutions for our community, now and into the future” that aligns with the goals of the ADC’s Biodiversity Strategy.

4. MHV is proposing that planning provisions be made by the ADC such that road reserves can be planted with low native plants for biodiversity, environment as well as amenity values, whilst maintaining their intended function as part of a safe road network.



5. Planting of low (Max. Height <1.5m) plants would have the following benefits.

a. Increase biodiversity from monoculture pine shelter belts to multi species plants that would encourage increased bird and insect habitat. **Supports Goal 2.1**

b. By having a series of linear interconnected greens paces, it would develop a green corridor from the mountains to the sea. **Supports Goal 2.2 A**

c. Act as 'rain gardens' that would filter out potential surface contaminants from roads (e.g. heavy metals, hydrocarbon compounds etc), as well as reduce localised flooding by slowing water down thus letting it gradually seep into the natural ground, rather than running straight into roadside ditches that drain into our waterways.

6. MHV and other actors in the Hekeao could encourage and potentially incentivise landowners' plant additional plants on their respective side of the road reserves thus increasing the already noted benefits. **Supports Goal 2.2 C, 2.3 as well as 4.1.**

7. Enable a publicly accessible space where the community can not only engage with planting programmes or visit as part of an educational programme, but can also view as they drive past, thus solidifying their relationship and engagement to the space **Supports Goal 3.1, 3.3 and 3.4**

8. Promotes the incorporation of Mātauranga Māori and te ao māori Mana whenua as well as the development of Mahinga kai. **Supports Goal 3.2**

9. The project could be developed over time, thus no large up front capital costs (e.g. a water filtration unit) as well as once established, would have minimal ongoing maintenance costs. This in turn could be promoted as an exemplar example of large-scale integrated catchment management. **Supports Goal 2.4**

10. Safety

a. A 4m grass buffer would be preserved immediately adjacent to the road to maintain visibility as well as sufficient area for cars to pull off the road if required.

b. Plants would not be >1.5m when fully grown to maintain visibility and would be 'soft' in nature (as opposed to rigid trees such as pine or eucalyptus), hence in the event of a motor vehicle incident, they would assist with the gradual de-acceleration rather than act as a hard barrier.

c. Depending on sun strike risk, plants would be generally preferentially planted on the south side of the reserves to reduce shading and the risk of black ice in winter.

Item 6

Ashburton River Hakatere Shorebird Habitat Management Strategy 2023-2030

July 2023

Author:
NIKKI MCARTHUR

Ashburton River Hakatere Shorebird Habitat Management Strategy 2023-2030

Nikki McArthur

17A Ida Street, Redwoodtown, Blenheim 7201

This report was prepared for Environment Canterbury in fulfilment of the Contract for Services dated 23rd March 2023

31st July 2023

Citation:

This report should be cited as:

McArthur, N. 2023. Ashburton River Hakatere Shorebird Management Habitat Strategy 2023-2030. Client report prepared for Environment Canterbury, Ashburton.

Cover Image: A recently hatched banded dotterel (*Charadrius bicinctus*) chick.
Image credit: David Newell / Macaulay Library at the Cornell Lab of Ornithology (ML523505721).

Table of Contents

Executive Summary

The Ashburton River/Hakatere is considered to be one of the most important braided rivers in the Canterbury region for birdlife, supporting 81 species of birds, including nationally- and internationally significant populations of several shorebird species. The Ashburton River/Hakatere and its associated lakes and wetlands have long been an important landscape and food basket for Ngāi Tahu, and the river has been identified as an Important Bird Area by Birdlife International and Forest & Bird.

In 2016 Environment Canterbury (ECan) prepared the Ashburton River/Hakatere Shorebird Management Strategy (AHSMS), setting out management objectives, performance measures and management actions designed to improve the health of shorebird habitats and populations on the Ashburton River/Hakatere between 2016 and 2023.

From 2023 onwards, New Zealand is predicted to re-enter El Niño climactic conditions for the first time since 2016, resulting in lower rainfall in the eastern parts of the South Island and increasing the risk that the Ashburton River/Hakatere will again experience the extremely low summer water flows observed during the years prior to 2016. These low summer flows are likely to exacerbate the adverse impacts of mammalian predators, woody weeds and 4WD vehicles on nesting shorebirds on the Ashburton River/Hakatere from 2023 onwards, underscoring the importance of continuing to manage these threats to maintain high quality habitat for breeding shorebirds on this river.

Based on the review by McArthur (2023) this updated AHSMS delivers a revised set of management objectives, performance measures, monitoring actions and management actions to guide Environment Canterbury's efforts to continue to maintain and improve the shorebird values of the Ashburton River/Hakatere for a further seven-year period, from 2023 – 2030.

1. Introduction

1.1 Background

The Ashburton River/Hakatere is considered to be one of the most important braided rivers in the Canterbury region for birdlife, supporting nationally- and regionally-significant populations of tarapirohe / black-fronted terns (*Chlidonias albostriatus*), tarāpuka / black-billed gulls (*Larus bulleri*), pohowera / banded dotterels (*Charadrius bicinctus*), black-fronted dotterels (*Elseyornis melanops*), ngutu pare / wrybill (*Anarhynchus frontalis*), tōrea / South Island pied oystercatchers (*Haematopus finschi*), poaka / pied stilts (*Himantopus himantopus*) and karoro / black-backed gulls (*Larus dominicanus*) (O'Donnell 1992). A total of 81 bird species have been recorded on the Ashburton River/Hakatere since 1981, 31% of which (23 species) are ranked as Nationally Threatened or 'At Risk' under the New Zealand Threat Classification System (Robertson *et al.* 2021; Crossland 2023).

The Ashburton River/Hakatere has been identified as an Important Bird Area (IBA) by Birdlife International and Forest & Bird. This is based on the presence of five indigenous bird species with local population sizes that trigger IBA criteria, including tarāpuka / black-billed gull, tarapirohe / black-fronted tern, ngutu pare / wrybill, matuku hūrepo / Australasian bittern (*Botaurus poiciloptilus*) and kawau tikitiki / spotted shag (*Stictocarbo punctatus*; Forest & Bird 2016).

The Ashburton River/Hakatere and its associated lakes and wetlands have long been an important landscape and food basket for Ngāi Tahu. For Ngāi Tahu, water is a taonga left by the ancestors to provide and sustain life. All the waterways, their associated tributaries, wetlands and springs are considered significant resources of cultural, spiritual and historical importance to Ngāi Tahu (ECan, 2011). Three Rūnanga consider the zone part of their takiwā, namely Arowhenua Rūnanga, Taumutu Rūnanga and Ngāi Tūāhuriri Rūnanga (Ashburton Zone Committee 2015). In earlier times, the eggs of karoro / black-backed gulls, tarāpuka / black-billed gulls and kakīānau / black swans (*Cygnus atratus*) were harvested for food, as were moulting pārera / grey ducks (*Anas superciliosa*). Native fish species including īnanga (*Galaxias maculatus*), kanakana / lamprey (*Geotria australis*) and tuna / freshwater eels (*Anguilla* spp.) were also important food resources and continue to be harvested by members of the local Rūnanga and the wider local community (John Henry, *personal communication*).

In recent years, a number of groups and agencies, including Environment Canterbury (ECan), the Department of Conservation (DOC), Forest & Bird (F&B) and Braided River Aid (BRaid) have implemented local-scale management actions on the Ashburton River/Hakatere to improve the state of the river and its bird values. In 2016, discussions between these stakeholders identified a need to create an overarching management strategy for the Ashburton River/Hakatere, to better prioritise and coordinate these management actions, and to identify additional threats that needed to be addressed with management. To meet this need, ECan worked with these stakeholders to create the Ashburton River/Hakatere Shorebird Management Strategy (AHSMS), which set out three management objectives and fifteen management actions designed to improve the health of shorebird habitats and populations on the Ashburton River/Hakatere (McArthur & Bell 2016).

The existing AHSMS concluded its seven-year operational lifespan in July 2023, and a review of the efficacy of the strategy was carried out by McArthur (2023). The results of this review have been used to revise and update the AHSMS, to enable ECan and stakeholder groups to continue to maintain and improve the health

of shorebird populations and their habitats on the Ashburton River/Hakatere for a further seven-year period from 2023 to 2030.

1.2 Purpose and scope of this plan

This Ashburton River/ Hakatere Shorebird Habitat Management Strategy has been prepared as an outcome of discussions held between Environment Canterbury, the Department of Conservation and the Ashburton Branch of Forest & Bird.

The purpose of the plan is to facilitate the coordination of management activities aimed at improving habitat quality for the shorebirds of the Ashburton River/Hakatere; to prioritise the implementation of management actions; optimise the use of existing funding; and to support applications for further funding to resource management actions. As such, all of the management and monitoring actions outlined in this plan should be considered as recommendations. Prior to the implementation of any of these actions, all relevant or affected stakeholders should be consulted and be given the opportunity to have input into the planning and implementation of these actions, through the Ashburton River/Hakatere Management Group[1].

The geographic extent of the management plan is the bed of the Ashburton River/Hakatere from the Coastal Marine Area (therefore including the Ashburton River mouth), to the base of the Arrowsmith Range on the Ashburton River/Hakatere South Branch and the Pudding Hill Stream confluence on the Ashburton River/Hakatere North Branch (see Figure 1.1).

[1] The Ashburton River/Hakatere Management Group includes representatives from key stakeholder groups, including but not restricted to: Environment Canterbury, Ashburton District Council, the Department of Conservation, Forest & Bird, Fish & Game, Arowhenua Rūnanga and the Mid-Canterbury Four Wheel Drive Club. Environment Canterbury has been nominated as the agency responsible for convening the Ashburton River/Hakatere Management Group and coordinating the implementation of this management plan.

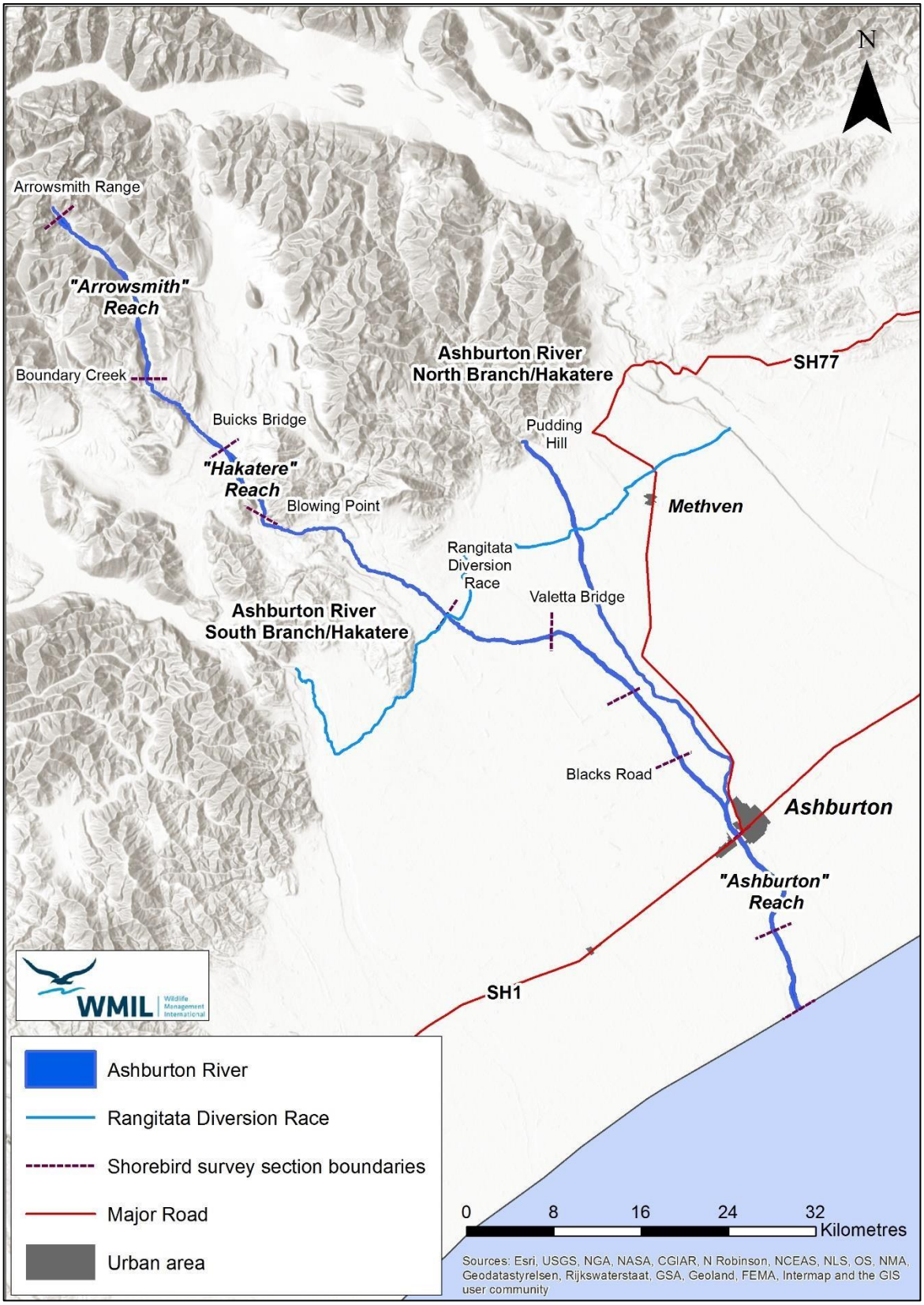


Figure 1.1: Map of the Ashburton River/Hakatere, showing the geographic scope of this management plan (Map reproduced from McArthur & Bell (2016)).

1.3 Shorebird values of the Ashburton River/Hakatere

The Ashburton River/Hakatere is considered to be one of the most important braided rivers in the Canterbury region for birdlife, supporting nationally- and regionally-significant populations of tarapirohe / black-fronted terns, tarāpuka / black-billed gulls, pohowera / banded dotterels, black-fronted dotterels (*Elseyornis melanops*), ngutu pare / wrybill , tōrea / South Island pied oystercatchers, poaka / pied stilts (*Himantopus himantopus*) and karoro / black-backed gulls (*Larus dominicanus*; O'Donnell, 1992). A total of 81 bird species have been recorded on the Ashburton River/Hakatere since 1981, 31% of which (23 species) are ranked as Nationally Threatened or 'At Risk' under the New Zealand Threat Classification System (Robertson *et al.* 2021; Crossland 2023).

The Ashburton River/Hakatere has been identified as an Important Bird Area (IBA) by Birdlife International and Forest & Bird. This is based on the presence of five indigenous bird species with local population sizes that trigger IBA criteria, including tarāpuka / black-billed gull, tarapirohe / black-fronted tern, ngutu pare / wrybill, matuku hūrepo / Australasian bittern and kawau tikitiki / spotted shag (Forest & Bird, 2016).

The Ashburton River/Hakatere and its associated lakes and wetlands have long been an important landscape and food basket for Ngāi Tahu. For Ngāi Tahu, water is a taonga left by the ancestors to provide and sustain life. All the waterways, their associated tributaries, wetlands and springs are considered significant resources, of cultural, spiritual and historical importance to Ngāi Tahu (ECan, 2011). Three Rūnanga consider the zone part of their takiwā, namely Arowhenua Rūnanga, Taumutu Rūnanga and Ngāi Tūāhuriri Rūnanga (Ashburton Zone Committee, 2015). In earlier times, the eggs of karoro / black-backed gulls, tarāpuka / black-billed gulls and kakīānau / black swans were harvested for food, as were moulting pārera / grey ducks. Native fish species including īnanga (*Galaxias maculatus*), kanakana / lamprey (*Geotria australis*) and tuna (*Anguilla* spp.) were also important food resources and continue to be harvested by members of the local Rūnanga and the wider local community (John Henry, *personal communication*).

The South Branch of the Ashburton River/Hakatere supports much larger numbers of shorebirds than the North Branch of the river (O'Donnell, 1992). On the South Branch, three reaches of river support a particularly high diversity and/or density of shorebirds. The 17 km "Arrowsmith Reach", from the base of the Arrowsmith Range downstream to the Boundary Creek confluence supports relatively high numbers of pohowera / banded dotterels, tarapirohe / black-fronted terns and pīhoihoi / New Zealand pipits (*Anthus novaeseelandiae*; O'Donnell, unpublished data). Further downstream, the 9 km "Hakatere Reach" also supports relatively high numbers of pohowera / banded dotterels, tarapirohe / black-fronted terns and pīhoihoi / New Zealand pipits, together with a small number of ngutu pare / wrybill (Grove, 2005; Cochrane, 2015; O'Donnell, unpublished data). Downstream from the "Hakatere Reach" the river becomes much more channelised and shorebirds become either rare or absent. Shorebird numbers begin to increase again downstream from the Rangitata Diversion Race, with particularly high densities of pohowera / banded dotterels, poaka / pied stilts, tōrea / SI pied oystercatchers and tarapirohe / black-fronted terns found on the 27 km "Ashburton Reach" between Blacks Road and the coast. The 18 km section of this reach between the SH1 Bridge and the coast also provides habitat for the majority of the black-fronted dotterels found on the Ashburton River/Hakatere (Figure 1.2; O'Donnell, unpublished data).

An outstanding feature of the "Ashburton Reach" of the river is the exceptionally large number of tarāpuka / black-billed gulls that typically use this reach as breeding habitat during the summer months (Figure 1.3). Historically, the Ashburton River/Hakatere South Branch has had some of the highest counts of tarāpuka / black-billed gulls of any braided river surveyed, with just under 11,000 birds recorded in 1986 and counts of over 10,000 birds recorded in 1982, 1984 and 1987 (O'Donnell, 1992). Gull numbers have declined in

more recent years, however breeding colonies of several thousand birds still typically establish each summer, usually either immediately upstream, or downstream of the SH1 Bridge (Schmechel, 2008; McClellan, 2015; Mischler & Bell, 2016a; O'Donnell, unpublished data). During the 2014/15 breeding season, a colony of 9,545 tarāpuka / black-billed gulls was recorded on the lower Ashburton/Hakatere River, the largest colony recorded in the Canterbury region that year (McClellan, 2015). During the 2015/16 breeding season, two much smaller colonies comprised of 1,198 and 203 birds were situated near the SH1 Bridge and at the Ashburton River mouth respectively (Mischler & Bell, 2016a). This sudden drop in gull numbers between 2014/15 and 2015/16 is thought to be due to a large number of gulls relocating from the Ashburton River/Hakatere to the Rangitata River mouth during the second year, possibly in response to extensive woody weed growth in the bed of the lower Ashburton River/Hakatere (Mischler & Bell, 2016a).

The Ashburton River mouth provides important year-round habitat for a large number of shorebird and waterfowl species, with more bird species having been recorded at this site than at any other location in the Ashburton District (Crossland, 2023). An outstanding feature of the river mouth is the very large concentrations of kawau tikitiki / spotted shags that roost on the shingle spit at the mouth of the river during autumn and winter. Flocks of up to 6000 spotted shags have been observed roosting at the river mouth (Crossland, 2016), most likely comprised of juvenile and post-breeding adult birds from the nearby Banks Peninsula population (Doherty & Bräger, 1997). The river mouth and shingle spit also provides important breeding habitat for tarāpuka / black-billed gulls (Mischler, 2016) and pohowera / banded dotterels during summer months. During autumn and winter, the river mouth and shingle spit also provides foraging and roosting habitat for a range of coastal and freshwater bird species, including māpunga / black shags (*Phalacrocorax carbo*), tōrea / SI pied oystercatchers, tōrea pango / variable oystercatchers (*Haematopus unicolor*), tarāpunga / red-billed gulls (*Larus novaehollandiae*), tara / white-fronted terns (*Sterna striata*), tarapirohe / black-fronted terns and tara nui / Caspian terns (*Hydroprogne caspia*; eBird, 2002).

Between 1981 and 2015 there have been significant declines in the numbers of tarapirohe / black-fronted terns, tarāpuka / black-billed gulls, pohowera / banded dotterels, tōrea / SI pied oystercatchers and poaka / pied stilts counted each summer on the Ashburton River/Hakatere South Branch (O'Donnell, 1992; O'Donnell, unpublished data). These declines are likely to have occurred due to a combination of ongoing habitat loss and loss of habitat quality resulting from declining mean low flows, the encroachment of woody weeds into open gravel habitats and depredation by mammalian predators (O'Donnell, 1992). In more recent years, these declines have been partially offset by the local recovery of pohowera / banded dotterels, tarapirohe / black-fronted terns and ngutu pare / wrybill in the "Hakatere Reach" of the Ashburton River/Hakatere South Branch, likely a consequence of the intensive pest animal and weed control work that has been carried out by Environment Canterbury and the Department of Conservation along this stretch of river and in the surrounding landscape since 2003 (Cochrane, 2015; O'Donnell, unpublished data).

In contrast to the ongoing declines being observed in a number of these locally-breeding shorebird species, annual counts of black-fronted dotterels have steadily increased since 1981. Black-fronted dotterels are a recent coloniser to New Zealand having first been recorded in Hawkes Bay in 1954 (Brathwaite, 1956). This increase in the number of black-fronted dotterels observed on the Ashburton River/Hakatere is likely a consequence of the ongoing range expansion of this species in New Zealand in recent decades (Robertson et al, 2007). At present, black-fronted dotterels are mainly restricted to the "Ashburton Reach" of the Ashburton River/Hakatere South Branch, but are steadily expanding their distribution upriver, having now been recorded as far upstream as the Valetta Bridge (O'Donnell, unpublished data).

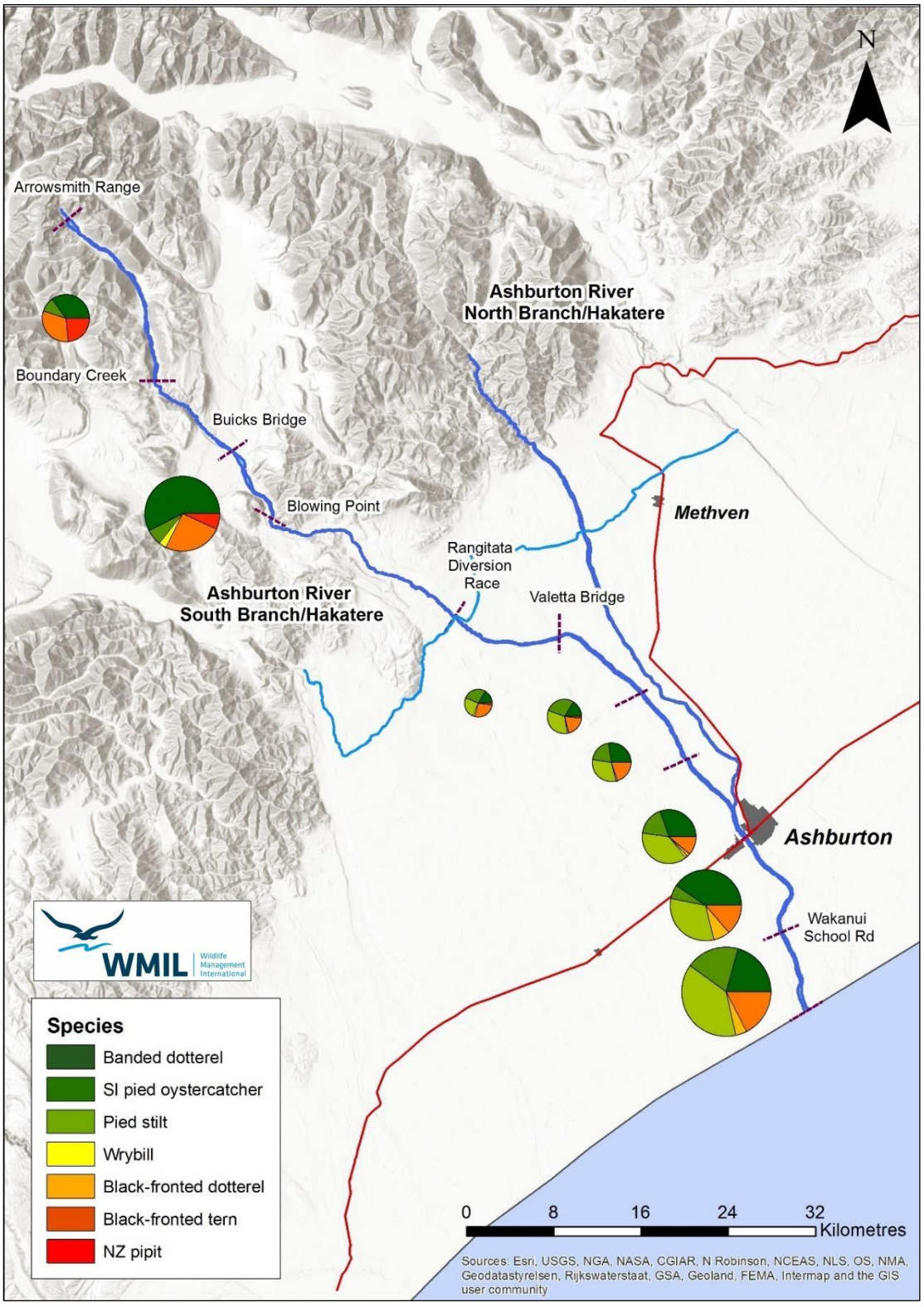


Figure 1.2: Mean relative abundance of shorebirds (excluding gulls) along the Ashburton River/Hakatere South Branch between 2006 and 2015 (Map reproduced from McArthur & Bell (2016)).

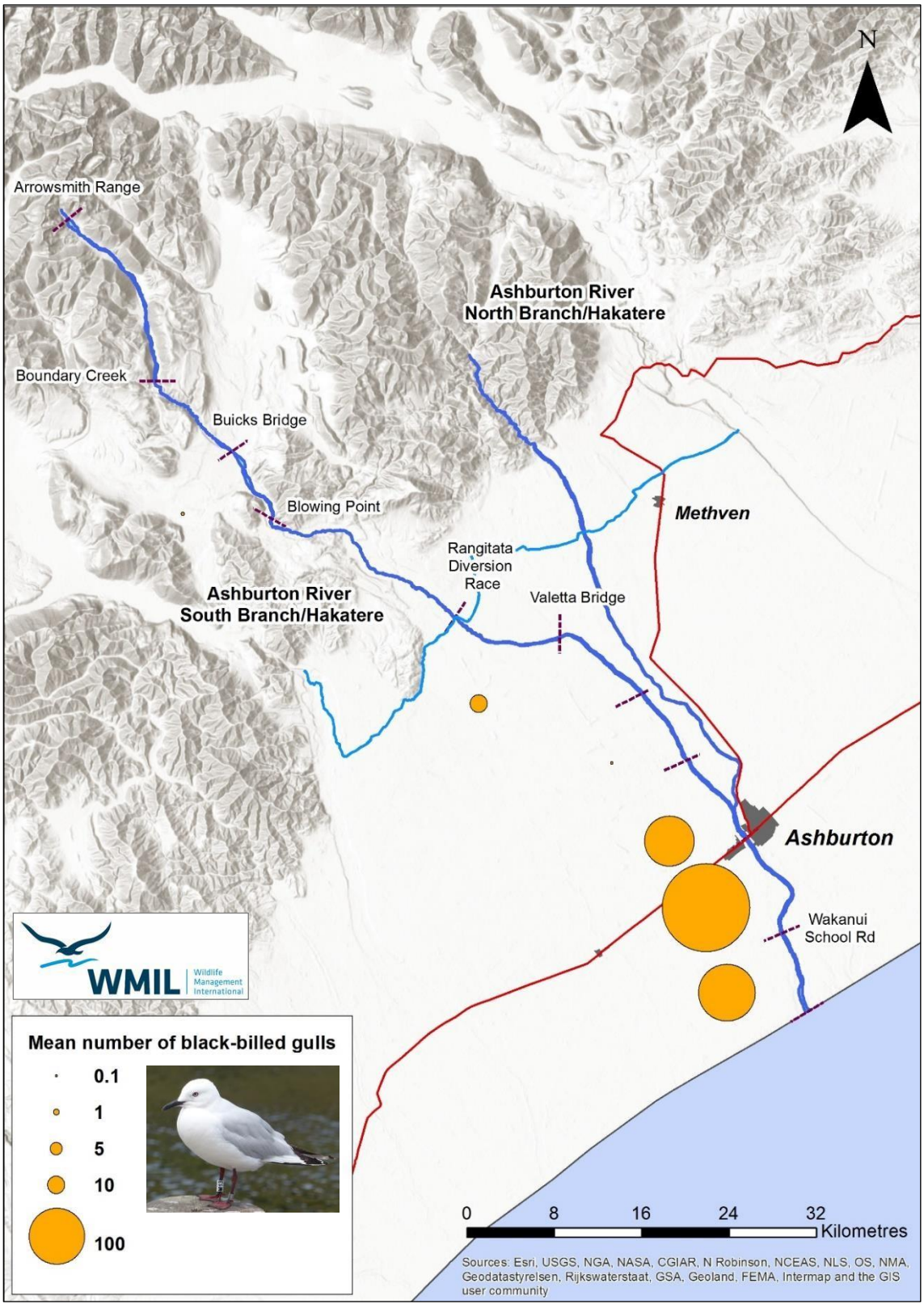


Figure 1.3: Mean annual counts of tarāpuka / black-billed gulls along the Ashburton River/Hakatere South Branch between 2006 and 2015 (Map reproduced from McArthur & Bell (2016))

1.4 Threats to the shorebird values of the Ashburton River/Hakatere

Water abstraction

The maintenance of natural flow regimes on braided rivers has long been recognised as being essential for maintaining high quality feeding and breeding habitat for shorebirds (Hughey, 1985, 1997, 1998; Hughey et al, 1987). A high diversity of microhabitats, including both shallow and deep water, runs and riffles of intermediate depth and dry gravel beaches and islands of different heights is needed to maintain the full diversity of riverbed-nesting birds on braided rivers (Hughey, 1985; Hughey et al, 1989, Rebergen, 2011 and 2012).

Abstraction of water from rivers and the consequent reduction in mean and peak flows reduces the size and number of small channels and gravel islands in rivers and reduces the total area of aquatic feeding habitat for birds (Bowden et al, 1982; Robertson et al, 1983; Hughey, 1987). Furthermore, braided rivers are naturally unstable habitats, and it's this feature that naturally limits the establishment of woody vegetation and allows the maintenance of the large areas of open gravel habitats required by riverbed-nesting shorebirds. The lower and less variable flows resulting from water abstraction can reduce the natural erosion and scouring of the riverbed, leading to dramatic increases in woody weed growth such as that seen on the lower Ashburton River/Hakatere within the last 30 years (Miall, 1977; O'Donnell 1992). In extreme situations, if flows are reduced to the extent that channels dry up (as can occur in the lower reaches of the Ashburton River/Hakatere North Branch) there will be an almost total loss of local shorebird populations (e.g. Maloney 1999).

The Ashburton Zone Implementation Programme clearly identifies that the authorised takes from the Ashburton River/Hakatere are so great that the river is being placed under severe pressure (ECan, 2011). It states that "there is widespread recognition…of the pressure the river is under from reduced flows due to significant consumptive use and the impacts of changing land use…" According to the ZIP, both summer and winter flows in the Ashburton River/Hakatere are over-allocated. Summer allocations currently represent 191% of the Seven Day Mean Annual Low Flow (7DMALF) and winter allocations represent 133% of the 7DMALF (ECan, 2011).

These high rates of water abstraction are likely to be exacerbating the impacts of other threats to shorebird values mentioned below. For instance, O'Donnell (2000) states that "river flows and [woody] weed problems appear to be closely linked", due to the fact that lower flows create more stable gravel habitats into which woody weeds can invade more easily. Similarly, lower river flows can reduce the number and area of gravel islands that provide comparatively safe nesting habitat for shorebirds due to being less accessible to mammalian predators (Bell & McArthur, 2016).

Flood protection management activities

A number of the activities carried out by local authorities to manage the risk of flooding can have detrimental impacts on shorebirds and their habitats. Disturbance of dry gravel habitats during woody weed removal, gravel extraction, gravel ripping or contouring activities carried out during the breeding season can lead to the local destruction of nests and chicks, reducing the productivity of shorebird populations (Cameron, 2013 & 2015; McArthur et al, 2015). The construction of stopbanks, rock groynes, willow planting, gravel island removal and channel straightening can increase river channelisation and reduce habitat quality for shorebirds (O'Donnell, 2000; Rebergen 2011 & 2012).

Conversely, some of these activities can have positive impacts on locally-breeding shorebirds provided that local losses of nests, eggs and chicks are minimised. In the absence of large, regular floods, the mechanical disturbance of dry gravels during gravel extraction, gravel ripping or contouring activities can help reduce woody weed encroachment and maintain open habitats for shorebirds. On the Ruamāhanga River and its tributaries in the Wairarapa region these activities appear to have helped to maintain stable or increasing populations of pohowera / banded dotterels, black-fronted dotterels and tarāpuka / black-billed gulls over the past 30 years, during which time shorebird populations on nearby rivers not subject to flood protection activities have declined (Rebergen, 2011; 2012; McArthur et al, 2015).

Environment Canterbury and Ashburton District Council have statutory responsibilities under the Resource Management Act (1991) for the management of flood risks from the Ashburton River/Hakatere. Measures taken to manage flood risks posed by the river include the construction of stopbanks, the planting of willows to protect and stabilise river banks and gravel extraction, woody weed control and channel straightening to streamline flows and to maintain the flood-bearing capacity of the active riverbed (Boyle, 2012).

Recreational use of the riverbed

Unintentional disturbance by people and vehicles can cause localised losses of eggs, chicks and adult birds during the breeding season (O'Donnell & Moore, 1983; Robertson et al, 1983), Similarly, the prolonged or repeated disturbance of roosting birds can cause them to abandon habitual roost sites, increasing competition for remaining disturbance-free habitats (Woodley, 2012). The effects of prolonged or repeated disturbance of birds are difficult to quantify, however by increasing energy expenditure and/or reducing time spent roosting and foraging, higher rates of disturbance may reduce the survival and productivity of affected birds, potentially contributing to population declines (Pfister et al, 1992; Lord et al, 1997).

On the Ashburton River/Hakatere, disturbance impacts are likely to occur mainly during the shorebird breeding season (August – February), as the majority of the shorebirds that breed on the Ashburton River/Hakatere migrate to coastal sites elsewhere during the non-breeding season (Heather & Robertson, 2015). Disturbance impacts are likely to be highest closer to urban centres and in the vicinity of river access points, so the "Ashburton Reach", with its proximity to Ashburton township and multiple legal access points to the river is particularly at risk to disturbance impacts (Figure 1.4).

The Ashburton River mouth, and particularly the shingle spit, is at risk from disturbance caused by 4WDs, fishers and other recreational users all year round. The shingle spit provides important breeding and roosting habitat for a large variety of shorebird species year-round and is a particularly important roosting sites for large numbers of kawau tikitiki / spotted shags.

Figure 1.4: Convoy of 4WD vehicles driving through a tarapirohe / black-fronted tern colony the lower Ashburton River/Hakatere, October 2015. Adult tarapirohe / black-fronted terns can be seen flying around the rear (right hand) vehicle. In this case the disturbance was unintentional, the occupants of the vehicles believed that the birds were nesting in the lupins, so drove on the open shingle in an attempt to avoid damaging nests. Source: Forest & Bird.

Vandalism and illegal hunting

Vandalism and the illegal hunting of shorebirds can cause catastrophic losses of adult birds, eggs and chicks, leading to sudden and drastic local population declines. Most of New Zealand's shorebird species are relatively long-lived with comparatively low reproductive rates (Dowding & Murphy, 2001; Heather & Robertson, 2015). Due to these life history traits it can take many years or decades for shorebird populations to recover from sudden, catastrophic mortality events.

Some species are particularly vulnerable to vandalism and hunting due to negative public perception and a history of persecution (Woodley, 2012). Gulls are particularly at risk, due to their ubiquitous distribution and scavenging behaviours. An added complication is that relatively few people can reliably distinguish between tarāpuka / black-billed gulls (At Risk, Declining, and absolutely protected under the Wildlife Act, 1953) and karoro / black-backed gulls (Not Threatened, and one of our few native species that is not legally protected). Shags are another group of birds that have a history of illegal persecution, due to an erroneous assumption that they compete with fishers for commercial, recreational and sport fish (Dickinson, 1951).

On the lower Ashburton River/Hakatere, two shorebird species are particularly at risk of vandalism or illegal hunting. The large tarāpuka / black-billed gull colony that typically establishes each summer in the vicinity of the SH1 Bridge is a very large and conspicuous feature and has attracted the attention of vandals in the past. In November 2008, a vehicle was intentionally driven through this colony, causing the deaths of 110

adults and destroying an unknown number of eggs and chicks. (Schmechel, 2008). Following a similar incident in November 2012, a man was prosecuted and sentenced to two months' imprisonment for driving his vehicle into the colony, destroying an unknown number of nests and eggs (Ashburton Guardian, 2013).

The very large concentrations of kawau tikitiki / spotted shags that roost on the shingle spit at the Ashburton River mouth is similarly at risk. Despite the fact that kawau tikitiki / spotted shags feed almost exclusively at sea and forage up to 15km offshore (Heather & Robertson, 2015), some members of the local community are calling for the kawau tikitiki / spotted shags at the Ashburton River mouth to be culled, due to a belief that they're competing with recreational fishers for freshwater fish and mahinga kai species (John Henry, *personal communication*). In January 2016, over 50 birds including 16 tarāpuka / black-billed gulls, four tara / white fronted terns, one tōrea / SI pied oystercatcher and one kawau tikitiki / spotted shag were illegally shot at the Ashburton River mouth (Edith Smith, *personal communication*).

Woody weeds

Introduced weeds such as broom (*Cytisus scoparius*), gorse (*Ulex europaeus*), Russell lupin (*Lupinus polyphyllus*), sweet briar (*Rosa rubiginosa*) and willow (*Salix spp.*) are particularly invasive in braided river habitats and pose a significant threat to shorebird populations (O'Donnell & Moore 1983; Brown 1999). Woody weeds reduce the total area of open gravel habitats available to shorebirds and are also likely to increase the channelisation of the river, leading to the loss of minor braids and gravel islands which provide particularly high-quality shorebird foraging and nesting habitat. Furthermore, dense stands of woody weeds provide shelter and cover for mammalian predators, so likely contribute to higher depredation rates on breeding shorebirds (O'Donnell & Moore, 1983; Robertson et al, 1983; O'Donnell 1992; Hughey & Warren 1997 and Rebergen et al, 1998).

The two upper reaches of the Ashburton River/Hakatere South Branch that currently support high numbers of shorebirds (the "Arrowsmith" and "Hakatere" reaches described above) are both relatively weed-free at present, however the Hakatere Reach is now being encroached upon by broom, sweet briar, Russell lupin, yellow tree lupin, false tamarisk (*Myricaria germanica*) and grey willow (*Salix cinerea*; Figure 1.5).

On the lower reaches of the Ashburton River/Hakatere, particularly the "Ashburton Reach" described above, weed encroachment has been steadily worsening since the early 1980s. O'Donnell (1992) observed that there had been a "considerable increase in the extent and encroachment of introduced shrubs, particularly broom, gorse and…willows" on the river between 1981 and 1990. He also noted that there was a strong relationship between the extent of woody weed encroachment observed and the total abundance of shorebirds counted along the river. Since the early 1980s, shorebird numbers have steadily declined as weed encroachment has worsened, although shorebird numbers temporarily bounced back following major flood events that cleared woody vegetation from large areas of riverbed. Such events only provided temporary improvement in habitat quality however, as woody weeds typically re-colonised these clear areas of riverbed within 3-4 seasons following a major flood event. Based on these observations, O'Donnell (1992) concluded that "if the wildlife values are to be maintained [on the Ashburton River/Hakatere], then weed control is essential."

Woody weed growth within Ashburton Reach has been particularly severe during the 2-3 years prior to 2016, with the majority of gravel beaches and islands now covered in dense thickets of broom and yellow tree lupin (*L. arboreus*) (Figure 1.6). This weed growth has led to rapid, local declines in several shorebird species, and likely caused a large number of tarāpuka / black-billed gulls to abandon their traditional nesting site near the SH1 Bridge last summer, in favour of nesting at the Rangitata River mouth (O'Donnell, unpublished data; Mischler & Bell, 2016a).

Figure 1.5: Broom and Russell lupin infestation on the true left bank of the "Hakatere Reach" of the Ashburton River/Hakatere South Branch. Source: Cochrane (2015).

Figure 1.6: Extensive tree lupin infestation and prospecting tarāpuka / black-billed gulls on the Ashburton River/Hakatere near the SH1 Bridge in late September 2015. Source: Edith Smith/Forest & Bird.

Mammalian predators

There is now a very large body of evidence demonstrating that introduced mammalian predators including feral cats (*Felis catus*), ferrets (*Mustela furo*), stoats (*M. erminea*) and hedgehogs (*Erinaceus europaeus*) have a major impact on the survival and productivity of riverbed-nesting shorebirds and are contributing to ongoing population declines of several species. Species such as ngutu pare / wrybill, pohowera / banded dotterels and tarapirohe / black-fronted terns are particularly vulnerable to predation (e.g. Rebergen et al, 1998; Dowding & Murphy, 2001; Sanders & Maloney, 2002; Bell & McArthur, 2016; Figure 1.7).

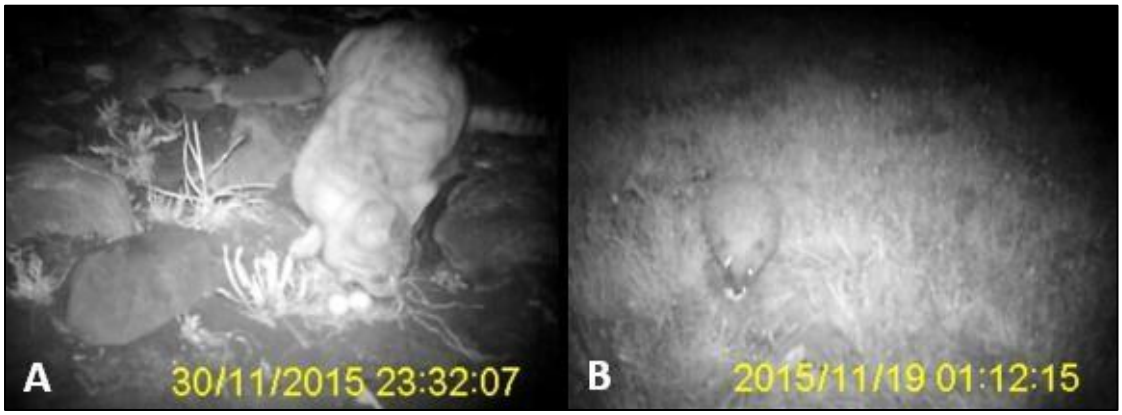


Figure 1.7: A feral cat (A) and a hedgehog (B) preying on black-fronted tern nests on the Upper Clarence River, November 2015. Source: Bell & McArthur, (2016).

All of these predator species are present and widespread on the Ashburton River/Hakatere and are regularly trapped in predator control operations underway in both the Hakatere and Ashburton Reaches of the river (Cochrane, 2015). Local increases in the abundance of shorebirds in the Hakatere Reach since 2003 indicate that the trapping programme on this part of the river is succeeding in reducing depredation rates by mammalian predators (O'Donnell, unpublished data). However, predators are likely to be contributing to the ongoing declines in shorebird numbers being observed from the Valetta Bridge downstream to the sea.

Karoro / black-backed gulls

There is a growing body of evidence demonstrating that karoro / black-backed gulls can be significant predators of other shorebird species, including tarāpuka / black-billed gulls and tarapirohe / black-fronted terns. Impacts are likely to be highest when large numbers of karoro / black-backed gulls are co-existing with these more vulnerable species, and particularly when nesting colonies are situated in close proximity (Mischler & Bell, 2016b). Although karoro / black-backed gulls are a native species, they have benefited substantially from the human settlement of New Zealand, and their numbers are now substantially higher than at any time in the past (Heather & Robertson, 2015). As a result, black-backed gulls are one of the few native bird species that are not afforded any level of protection under the Wildlife Act (Miskelly, 2013).

The Ashburton River/Hakatere South Branch supports a very large breeding population of karoro / black-backed gulls. Numbers are relatively low in both the Arrowsmith and Hakatere Reaches, the latter being a consequence of culling operations carried out by Environment Canterbury (Grove, 2005). Karoro / lack-backed gull numbers continue to be very high on the lower reaches of the Ashburton River/Hakatere from the Rangitata Diversion Race downstream, particularly the reaches between Valetta Bridge and Shearers Road and the "Ashburton Reach" between Blacks Road and the sea (Figure 1.8). During summer months,

breeding colonies comprising up to 2500 birds have been recorded on these lower reaches of the river (O'Donnell, unpublished data).

Table 1.1 below summarises the key threats impacting the bird values of the Ashburton River/Hakatere that are described above and identifies which reaches of river are being affected by each threat. The codes alongside each threat correspond to the management objectives listed in Table 2.1, which in turn correspond to the management activities listed in the Operational Plan (Table 3.1). These codes are used to ensure that each management action taken is targeted at reducing or eliminating one or more specific threats that have been identified.

Many of the threats identified here can, and do, interact with each other. For example, higher rates of water abstraction can increase the rate of woody weed encroachment into the open gravel habitats required by nesting shorebirds. Furthermore, the effects of these threats on local shorebird populations can be both direct (e.g. vandalism of tarāpuka / black-billed gull colonies causing local losses of adults, eggs and chicks) and indirect (e.g. woody weeds providing improved habitat for mammalian predators and leading to an increase in depredation rates on shorebirds). Figure 1.9 below summarises the interactions between the various threats summarised in Table 1.1, and how each threat directly or indirectly impacts local shorebird populations.

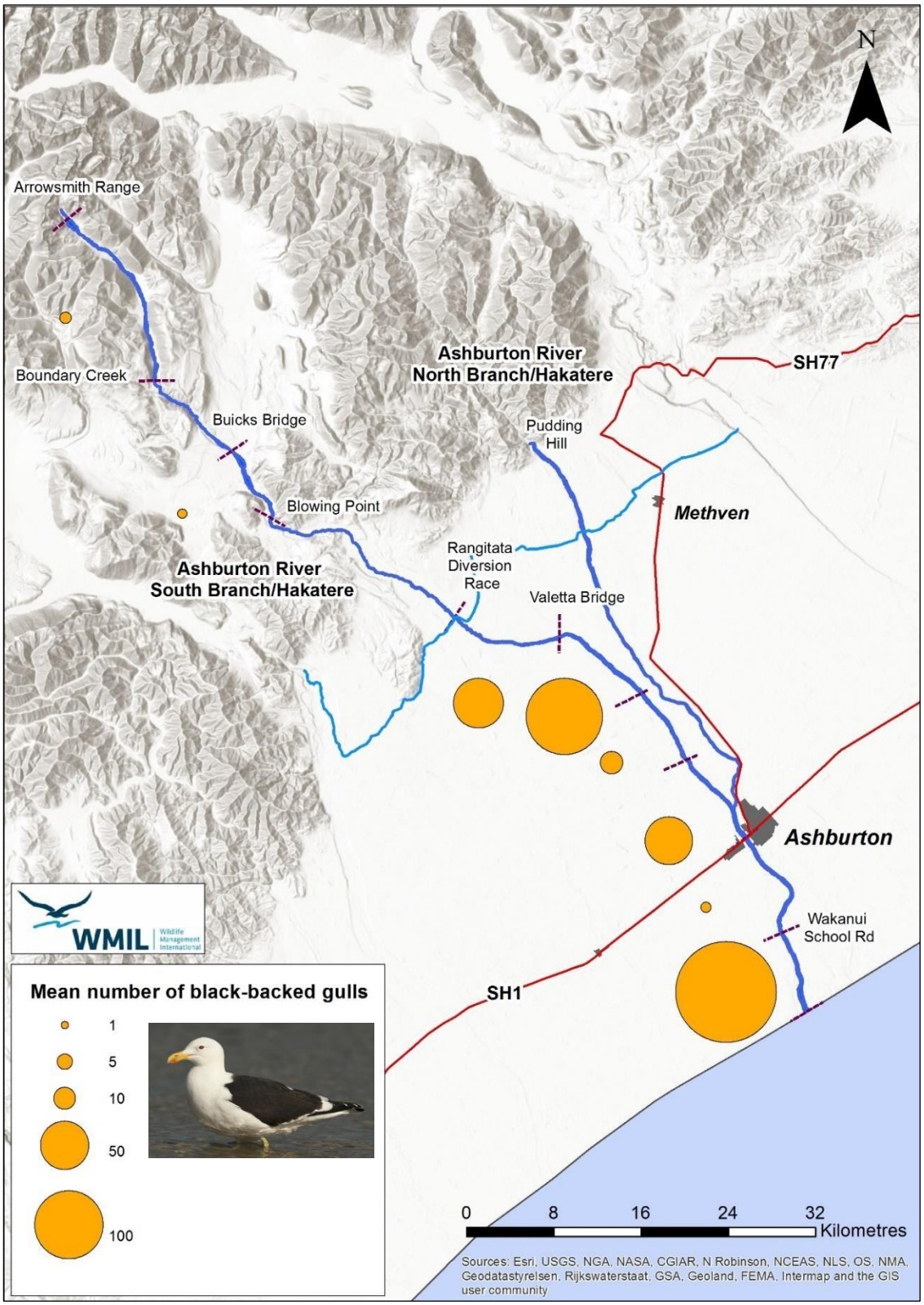


Figure 1.8: Mean annual counts of karoro / black-backed gulls along the Ashburton River/Hakatere South Branch between 2006 and 2015 (Map reproduced from McArthur & Bell (2016)).

Table 1.1: Key threats to river bird values on the Ashburton River/Hakatere (SB = Ashburton River/Hakatere South Branch; NB = Ashburton River/Hakatere North Branch)

Threat code	Threat and impact on river bird values	Affected area(s)
Human activities		
HA-1*	The high level of water abstraction is reducing mean water flows in the river, likely increasing the rate of woody weed encroachment in open gravel habitats and improving predators' ability to access and depredate shorebird eggs, chicks and adult birds. Low water flows are also likely to be improving 4WD and foot access in the riverbed, leading to higher rates of human disturbance of nesting shorebirds.	SB: From the Inverary Bridge to the sea; NB: From Pudding Hill to the NB/SB confluence
HA-2*	ECan flood protection management activities, including aerial spraying and mechanical removal of weeds, gravel extraction, stopbank and rock groyne construction and willow planting has the potential to disturb nesting shorebirds when activities are carried out during the breeding season. The cumulative effects of these activities may also lead to greater channelization of the riverbed over time, reducing the overall extent and quality of shorebird habitat on the river.	SB: From the Inverary Bridge to the sea. NB: From Pudding Hill to the NB/SB confluence.
HA-3	Recreational users, including 4WDs, fishers, dog-walkers and bird-watchers have the potential to disturb shorebirds, resulting in localised losses of eggs and chicks and lower annual productivity.	Entire river.
HA-4	Intentional vandalism and illegal hunting or culling of local bird populations can result in catastrophic losses of adults, chicks and eggs. Species at particular risk include black-billed gulls and spotted shags.	From SH1 road bridge to river mouth.
Pest plants		
PP-1	Woody weeds (primarily broom, gorse, lupin and willow spp.) are encroaching on the riverbed and reducing the area of open gravel habitats used by locally-breeding shorebirds. Woody weeds also provide improved habitat and cover for mammalian predators.	SB: From Buicks Bridge to the sea NB: From Pudding Hill to the NB/SB confluence.
Pest animals		
PA-1	Introduced mammalian predators (principally possums, mustelids, cats and hedgehogs) are reducing the survival and productivity of locally-breeding shorebirds by preying on eggs, chicks and adult birds.	Entire river
PA-2	Native karoro / black-backed gulls are likely to be reducing the productivity of other (threatened) shorebird species by preying on eggs and chicks. The presence of large karoro / black-backed gull colonies on the river may also the area of habitat available to these more threatened shorebird species due to competitive exclusion and predator avoidance behaviours.	SB: From the Valetta Bridge to the sea.

* Any threats marked with an asterisk are not addressed by actions in this management plan. In the case of HA-1 above, this threat is being addressed in other planning documents, namely the Canterbury Water Management Strategy, Ashburton Zone Implementation Programme and Canterbury Land and Water Regional Plan which together provide a framework for addressing water abstraction issues in the Ashburton River/Hakatere catchment (CWMS, 2010; ECan 2011; ECan, 2015). In the case of HA-2, this threat is being addressed in the Code of Practice documents governing activities carried out by ECan for the purposes of flood management (ECan 2015b; 2015c). However, in order to effectively manage the shorebirds of the Ashburton River/Hakatere, it is important to be aware of all existing threats to the bird values of the river, hence the inclusion of these threats in the table above.

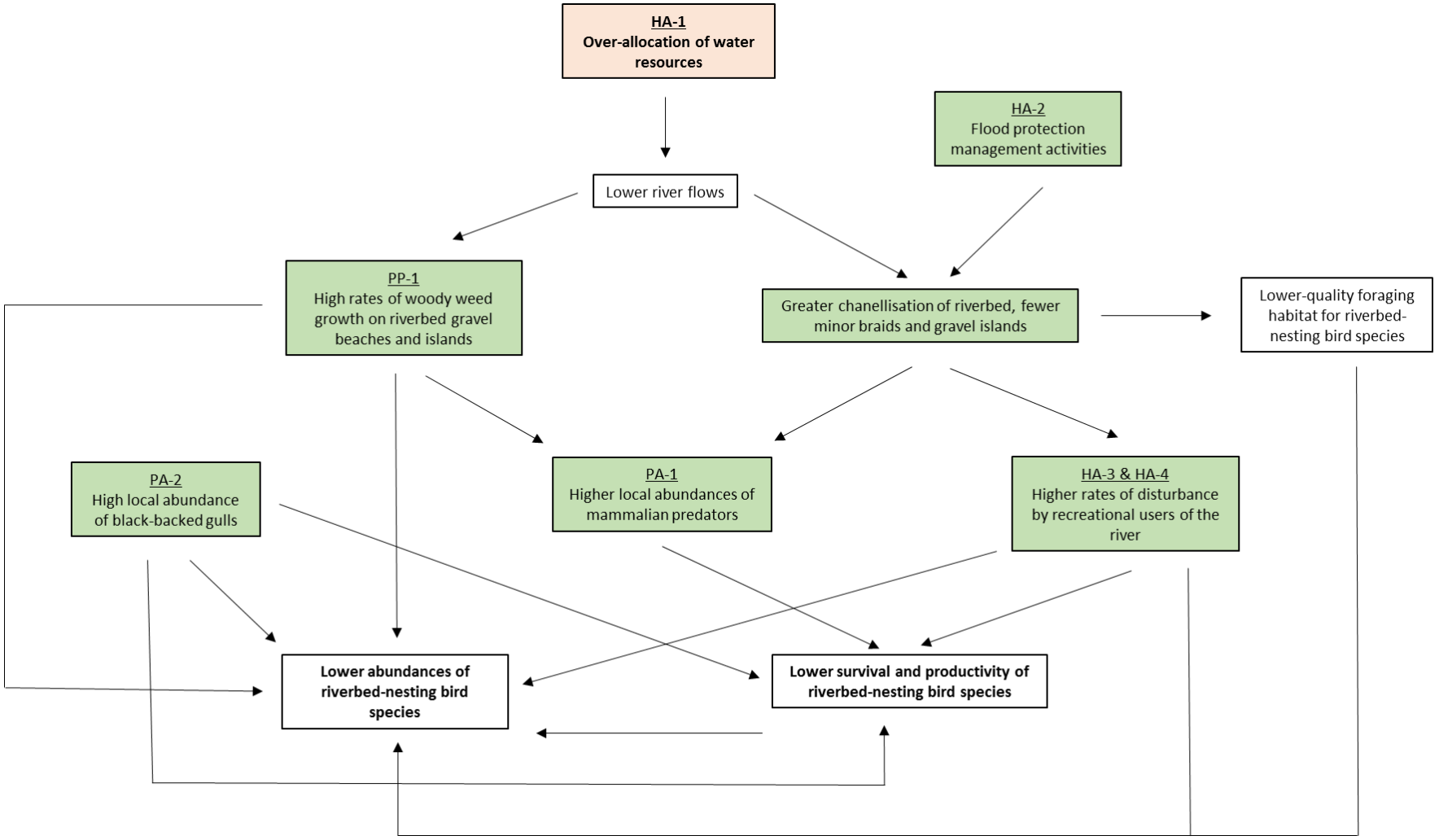


Figure 1.9: Interactions and effects of key threats to the shorebird values of the Ashburton River/Hakatere.

1.5 Landowners and stakeholders

Environment Canterbury Regional Council

The roles and functions of Environment Canterbury Regional Council (ECan) are set out by the Local Government Act (2002). Among these functions, ECan is responsible for managing the effects of using freshwater, land, air and coastal waters, by developing regional policy statements and through the issuing of consents under the Resource Management Act (1991). ECan is also charged with managing rivers in the Canterbury region in order to mitigate soil erosion and for flood control under the Soil Conservation and Rivers Control Act (1941).

Regional Councils have a statutory requirement to take into account a range of natural and cultural values under the Resource Management Act. These include recognising and providing for the protection of significant habitats of indigenous fauna from inappropriate subdivision, use and development (Section 6c) and recognising the relationship of Māori and their culture with taonga (Section 6e). There is also a requirement to have a particular regard to the intrinsic values of ecosystems (Section 7d).

The broad policy direction for ECan is described in the Canterbury Regional Policy Statement (ECan, 2013), and includes:

1. ***Chapter 8, Objective 3, Policy 4*** *Areas of indigenous vegetation and habitats of indigenous fauna…should be protected from adverse effects*
2. ***Chapter 9, Objective 1, Policy 1*** *Flow regimes and water levels should be set to protect basic instream values including ecological values*
3. ***Chapter 10, Objective 1, Policy 1*** *Land use activities should avoid causing significant adverse effects on the significant habitats of indigenous flora and fauna within the beds of rivers and lakes and their margins.*

Environment Canterbury is responsible for flood management activities on the lower reaches of the Ashburton River/Hakatere, including woody weed control, the construction and maintenance of stopbanks and groynes, riparian willow planting and gravel extraction. ECan's Flood Protection staff have indicated a willingness to assist with some of the management actions listed in this plan, including providing technical support regarding the creation and maintenance of gravel islands to provide safe nesting habitat for shorebirds.

Environment Canterbury staff have also provided technical advice and carried out advocacy work to support the efforts of local Forest & Bird members to protect the SH1 tarāpuka / black-billed gull colony.

Since 2003, Environment Canterbury has funded intensive pest animal and weed control work in the Hakatere Reach of the Ashburton River/Hakatere to improve the breeding success of locally-breeding shorebirds. ECan similarly funds pest control work in the lower Ashburton River/Hakatere, between the SH1 Bridge and the sea.

Environment Canterbury also jointly operates the Ashburton Zone Committee, which is charged with implementing the Canterbury Water Management strategy in the Ashburton Zone.

Ashburton District Council

The Ashburton River/Hakatere catchment falls within the Ashburton District, for which the Ashburton District Council is the territorial authority. The roles and functions of the Ashburton District Council are largely set out by the Local Government Act (2002). Among these functions, the Ashburton District

Council is responsible for the provision of local infrastructure including water, sewerage, stormwater and roads; and controlling the effects of land use, and the effects of activities on the surface of lakes and rivers.

In 2010 the Ashburton District Council established the Biodiversity Working Group, a team of people from across the Ashburton District with an interest in the district's natural environment. A key purpose of the Biodiversity Working Group is to prepare and implement a Biodiversity Action Plan, the purpose of which is to provide a clear set of objectives to coordinate biodiversity protection work in the Ashburton District (ADC, 2011).

Ashburton District Council also jointly operates the Ashburton Zone Committee, which is charged with implementing the Canterbury Water Management strategy in the Ashburton Zone.

Ashburton Zone Committee

The Ashburton Zone Committee is one of 10 water zone committees in the Canterbury Region established as part of the Canterbury Water Management Strategy 2009 (ECan, 2011). The Ashburton Zone Committee operates as a joint committee of Ashburton District Council and Environment Canterbury but includes representatives from the wider community.

The purpose and function of the committee is to facilitate community involvement in the development, implementation, review and updating of a Zone Implementation Programme that gives effect to the Canterbury Water Management Strategy in the Ashburton Zone. The Ashburton Zone Implementation Programme was published in November 2011 and subsequent to this the Ashburton Zone Committee has led the development of a new minimum flow regime for the Ashburton River/Hakatere which has now been incorporated into the Canterbury Land and Water Regional Plan (Ashburton Zone Committee, 2015; ECan, 2015). In addition to this planning work, the Ashburton Zone Committee has been driving on-the-ground actions to improve the state of freshwater resources, including the distribution of almost $500,000 to 33 community-led biodiversity projects (Ashburton Zone Committee, 2015).

Land Information New Zealand (LINZ)

Land Information New Zealand (LINZ) is a central government agency responsible for managing land titles, geodetic and cadastral survey systems, topographic and hydrographic information and managing Crown property. The active beds of most braided rivers are crown land administered by the Commissioner of Crown Lands and are managed by LINZ on behalf of the commissioner. Among other roles, LINZ undertakes weed and animal pest control on crown land including on braided rivers (O'Donnell et al, undated).

LINZ currently funds gorse and broom control on the upper reaches of the Ashburton River/Hakatere South Branch, upstream of Hakatere (http://www.linz.govt.nz/crownproperty/using-crown-property/biosecurity/control-programmes; accessed 29/9/2016).

Department of Conservation

The Department of Conservation (DOC) is the central government agency charged with conserving New Zealand's natural and historic heritage. The Conservation Act (1987) sets out the majority of DOC's responsibilities and roles, which includes administering and enforcing another 25 Acts of Parliament, including the Wildlife Act (1953) and the Reserves Act (1977).

On the Ashburton River/Hakatere, DOC has worked in the past to enforce the Wildlife Act by investigating a number of cases of intentional vandalism and illegal hunting of absolutely protected bird species (e.g. Schmechel, 2008; Ashburton Guardian, 2013). DOC staff have also provided support and technical advice regarding the management of the SH1 tarāpuka / black-billed gull colony and have been supporting the management of braided river habitat management in the Hakatere Reach by monitoring the nesting success of several shorebird species and by leading weed control efforts within the Hakatere Conservation Park.

Arowhenua Rūnanga

The Arowhenua Rūnanga is one of 18 regional Papatipu Rūnanga that exist to uphold the mana of the Ngāi Tahu people over the land, the sea and the natural resources in their respective takiwā. The Arowhenua Rūnanga therefore provides representation of Ngāi Tahu interests at the local level, by engaging with local government agencies and the wider community (Te Rūnanga o Ngāi Tahu, 1996).

The Arowhenua Rūnanga, along with Tuahuriri and Taumutu Rūnanga have representatives on the Ashburton Zone Committee to represent the interests and views of their respective Rūnanga regarding water management issues in the Ashburton Zone.

Forest & Bird

Forest & Bird is New Zealand's leading independent conservation organisation working to protect and restore New Zealand's wildlife and wild places.

The Ashburton Branch of Forest & Bird has a particular focus on protecting and managing the biodiversity values of braided rivers in the area, including the Ashburton River/Hakatere. Branch members have been instrumental in lobbying for the preparation of this management plan and have advocated for improvements in the management of the Ashburton River/Hakatere for many years. Branch members have also provided invaluable assistance in carrying out annual shorebird counts along up to 124 km of the Ashburton River/Hakatere since the early 1980s, creating a 35-year dataset describing the state and trends in shorebird populations on the river (O'Donnell, 1992; Don Geddes, personal communication). This dataset has now been used both to identify high priority reaches of the river for biodiversity management (Grove, 2005) and to demonstrate that the Ashburton River/Hakatere met Birdlife International's criteria to be designated an Important Bird Area (Forest & Bird, 2016).

Ashburton Branch members have also been involved in the monitoring and management of the SH1 black-billed gull colony, and the installation and maintenance of signage at river access points upstream and downstream of the colony. Branch members have also been assisting the Department of Conservation to carry out wilding conifer control in the Hakatere Conservation Park over a number of years.

BRaid

BRaid is an Incorporated Society formed in 2006 by individuals from across the South Island who shared a concern about the declining state of New Zealand's braided river species and ecosystems. BRaid functions as an umbrella group, working to protect, enhance and restore braided river ecosystems through cooperation and partnership with iwi, individuals, schools, community groups and government departments (http://braid.org.nz/about-braid/; accessed 29/09/2016).

In the past, BRaid has worked with the Ashburton branch of Forest & Bird to raise community awareness of the bird values and threats to the Ashburton River/Hakatere, with a particular emphasis on the SH1 tarāpuka / black-billed gull colony.

Birds New Zealand

Birds New Zealand (the Ornithological Society of New Zealand, Inc.) is an incorporated society dedicated to the study of birds in New Zealand. A key aim of the society is to assist the conservation and management of birds by providing information from which sound management decisions can be derived (OSNZ, 2006).

Members from the Canterbury Region of Birds New Zealand have been involved in the shorebird surveys that have been carried out on the Ashburton River/Hakatere since 1981 and have assisted with raising awareness of the shorebird values of the Ashburton River/Hakatere among the general public. Canterbury Region members have also carried out regular bird counts and surveys at the Ashburton River mouth, and some of these counts are publicly accessible on the New Zealand eBird database, an online open-access bird observation database jointly administered by Birds NZ and the Cornell Lab of Ornithology.

Mid-Canterbury Four Wheel Drive Club, Inc.

The Mid-Canterbury Four Wheel Drive Club is an Incorporated Society affiliated to the New Zealand Four Wheel Drive Association catering for 4WD enthusiasts based in the mid-Canterbury area. The club holds monthly meetings and regular trips as well as off-road training for its members. The Ashburton River/Hakatere is one venue for club trips, however the club has a long-standing policy not to run trips in the river during the shorebird nesting season, between September and December.

The Club believes that the majority of the off-road vehicles disturbing nesting shorebirds on the Ashburton River/Hakatere are being operated by non-Club affiliated 4WD owners who view the Ashburton River/Hakatere as a convenient and accessible location to use their vehicles. Unfortunately, many of these 4WD enthusiasts appear to be oblivious of the damage that their activities are doing to nesting shorebirds.

Fish & Game

Fish & Game New Zealand manages, maintains and enhances sports fish and game birds and their habitats in the best long-term interests of present and future generations of anglers and hunters. Fish & Game is a “user pays, user says” non-profit organisation that receives no government or taxpayer money (http://www.fishandgame.org.nz/about-fish-game; accessed 29/9/2016).

The Ashburton River/Hakatere is popular with local salmon and trout anglers, particularly early in the season, when there is the possibility of catching sea run brown trout (*Salmo trutta*). The Hakatere Huts on the north bank of the river mouth is a popular access point to the river mouth for anglers, and good fishing water is found in the Ashburton River/Hakatere North Branch, upstream of SH72 and in the Ashburton River/Hakatere South Branch upstream from the junction of Taylors Stream at Valetta.

Hakatere Hut Owners

The Hakatere Hut owners maintain houses and bachs at a small settlement on the northern bank of the Ashburton River mouth. In the past these owners have had input into shorebird management work on the Ashburton River/Hakatere through a group called the Ashburton River mouth Action Committee (ARMAC). This group have organised signage to be erected at the Ashburton River mouth providing visitors with information on the birds of the area. The Hakatere Hut Owners are also some of the main users of the Ashburton River mouth area, often gaining access to the river mouth via the Croys Road gate.

2. Management Objectives

2.1 Management Objective One

Management objective one of the AHSMS aims to ensure that:

> ***There is a large and productive tarāpuka / black-billed gull colony present on the "Ashburton Reach" of the river during most years.***

This management objective is further subdivided into five performance measures designed to provide quantitative measures of whether this management objective has been met. These performance measures are:

> ***1a: Numbers of tarāpuka / black-billed gulls breeding on the "Ashburton Reach" are stable or increasing.***
>
> ***1b: In flood-free years, an average of 0.8 chicks fledge per nest*** *(limited to monitoring of tarāpuka / black-billed gull productivity to those gull colonies that are situated on artificially constructed raised gravel islands at both the river mouth and downstream of the SH1 bridge)*
>
> ***1c: No adult mortality is being caused by local human-induced factors such as vandalism or disturbance. Additional efforts be made to further reduce disturbance caused by recreational users.***
>
> ***1d: Prioritise the construction and maintenance of raised, weed-free gravel islands both at the river mouth and downstream of the SH1 bridge.***
>
> ***1e: Environment Canterbury to establish a standard, detailed field protocol for quantifying the number of tarāpuka / black-billed gulls nesting on the lower Ashburton River / Hakatere each season and requires all future monitoring to be carried out according to this protocol.***

Due to the high frequency of spring flooding on the lower Ashburton River / Hakatere, and the difficulty and expense of measuring tarāpuka / black-billed gull fledging success, it is recommended that performance measure 1b limits the monitoring of tarāpuka / black-billed gull productivity to those gull colonies that are situated on artificially constructed raised gravel islands at both the river mouth and downstream of the SH1 bridge. By restricting productivity monitoring to these islands, monitoring resources will be focused on quantifying the performance of these islands, which are designed to minimise the risk that spring and summer flooding poses to breeding tarāpuka / black-billed gulls. This review of the tarāpuka / black-billed gull monitoring data collected to date has noted that the ornithologists involved in conducting this monitoring between 2016 and 2023 have employed a variety of methods to estimate the number of gulls breeding on the lower river each year. Breeding population estimates have been variously expressed as the number of apparently occupied nests, the number of breeding pairs and the number of breeding adults, and survey methods have included ground-based counts of the total number of adult birds present at colonies, complete counts of the number of apparently occupied nests from aerial photographs and counting the number of occupied nests within a randomised sub-sample of plots within colonies (Keystone Ecology 2017; Bell & Harborne 2019; Crossland 2019; Crossland 2020; Crossland 2021; Crossland 2022; Crossland 2023). This variation in

the methodologies used creates a challenge when attempting to directly compare counts of nests or breeding birds collected using different methods from one year to the next and increases the risk that trends in the number of breeding tarāpuka / black-billed gulls on the lower Ashburton River/Hakatere may be partially obscured by the increased variability introduced into the dataset as a consequence of differing field methodologies. For this reason, it is recommended that Environment Canterbury establishes a standard, detailed field protocol for quantifying the number of tarāpuka / black-billed gulls nesting on the lower Ashburton River/Hakatere each season and requires all future monitoring to be carried out according to this protocol.

2.2 Management Objective Two

Management objective two of the AHSMS aims to ensure that:

> ***There are stable or increasing populations of pohowera / banded dotterels, black-fronted dotterels, tōrea / SI pied oystercatchers, ngutu pare / wrybills and tarapirohe / black-fronted terns on the Arrowsmith, Hakatere and Ashburton reaches of the river.***

This management objective is translated into one performance measure which is designed to provide a quantitative measure of whether this management objective has been met. This performance measure is:

> ***2a: Annual shorebird counts show that shorebird numbers are stable or increasing on the Arrowsmith, Hakatere and Ashburton reaches.***

To quantify whether these performance measures are being achieved, performance monitoring action M2 of the AHSMS recommends that annual counts of shorebirds be carried out along the following three selected reaches of the Ashburton River/Hakatere:

- The Arrowsmith Reach, comprising 17 km of the upper Ashburton River/Hakatere between the base of the Arrowsmith Range and the confluence with Boundary Creek.

- The Hakatere Reach, comprising 9 km of the mid-Ashburton River/Hakatere between Buicks Bridge and Blowing Point

- 54 km of the South Branch of the Ashburton River/Hakatere, from the Rangitata Diversion Race to the

As with the tarāpuka / black-billed gull monitoring work, the high frequency of spring flooding on the lower Ashburton River / Hakatere in recent years has greatly hampered efforts to conduct shorebird counts on the lower reaches of the river (Colin O'Donnell, *personal communication*). Despite these difficulties, it is recommended that efforts to conduct annual surveys on the Arrowsmith Reach of the Ashburton River/ Hakatere between the base of the Arrowsmith Range and Boundary Creek; the Hakatere Reach of the Ashburton River between Buick's Bridge and Blowing Point; and the lower reach of the Ashburton River between SH1 and the sea be continued.

2.3 Management Objective Three

Management objective three of the AHSMS aims to ensure that:

> ***Disturbance of shorebirds and waterfowl at the Ashburton River mouth by people and vehicles is minimised year-round, and the river mouth continues to support a high diversity and abundance of shorebird and waterfowl.***

This management objective is further subdivided into two performance measures designed to provide quantitative measures of whether this management objective has been met. These performance measures are:

> ***3a: Monthly bird counts show that the diversity and abundance of shorebirds and waterfowl is stable or increasing over time.***
>
> ***3b: No adult mortality is being caused by local human-induced factors such as disturbance or illegal hunting. Additional efforts to manage the adverse impacts of this activity on the river mouth's avifauna be implemented.***
>
> ***3c: Environment Canterbury continues to engage a suitably experienced contractor to carry out these monthly counts, with no change to the survey methodology or reporting format or frequency.***

To quantify whether these performance measures are being achieved, performance monitoring action M3 of the AHSMS recommends that monthly counts of all shorebird and waterfowl species occurring in the Ashburton River/Hakatere river mouth, including on the shingle barrier spit separating the river mouth from the sea, be carried out.

3. Management Actions

3.1 Management Action A1

Management action A1 of the AHSMS involves convening an Ashburton River/Hakatere Management Group comprised of representatives from key stakeholder groups to coordinate and oversee the implementation of the AHSMS. In the AHSMS it was recommended that each year Environment Canterbury would prepare an annual report summarising the management outcomes and monitoring results for the Ashburton River/Hakatere and that the management group would meet at least twice a year, once in April to review the previous year's annual report and once in June to plan the upcoming year's work programme (McArthur & Bell 2016).

These regular meetings of the Ashburton River/Hakatere Management Group have proven useful for coordinating management and monitoring actions on the Ashburton River/Hakatere, and for facilitating communication between key stakeholder groups and agencies. For this reason, it is recommended that the management group continue to meet at least once per year between April and August, to review the management and monitoring actions carried out during the previous 12 months, to discuss emerging issues and to plan the following 12 months work. It is strongly recommended that ECan produces a brief, but concise annual report prior to each of these meetings, summarising the management and monitoring work carried out during the preceding 12 months. These reports will have three functions, namely they will:

1. Provide Ashburton River/Hakatere Management Group members with a concise and complete picture of the management and monitoring work carried out on the Ashburton River/Hakatere over the previous 12 months and whether the AHSMS is on track to achieving its objectives.

2. Identify any ongoing and emerging issues that need to be discussed by members of the Ashburton River/Hakatere Management Group as a matter of priority during subsequent meetings.

3. Provide a permanent and concise record of the management and monitoring work completed on the Ashburton River/Hakatere each year, to assist with future efforts to assess whether or not AHSMS management objectives have been achieved, and to review and update the AHSMS when required.

A recommended structure for these annual reports can be found in Appendix Two of this report.

Management Action A2

Management action A2 of the AHSMS involves creating and/or maintaining one or more gravel islands just downstream from the SH1 bridge, to provide safer breeding habitat for tarāpuka / black-billed gulls. In the 2016-2023 AHSMS it was recommended that these islands be engineered to ensure the islands were weed-free, separated from the adjacent riverbanks by relatively deep, free-flowing water channels, and were built to a height sufficient to reduce the likelihood that they would be inundated or submerged during a flood event (McArthur & Bell 2016).

During the lifespan of the 2023-2030 AHSMS is recommended that ECan constructs and maintains at least two large, raised gravel islands in the "Ashburton Reach" of the Ashburton River/Hakatere, one in the vicinity of the preferred nesting area immediately downstream of the SH1 bridge, and another in the vicinity of the preferred nesting area at the Ashburton River/Hakatere river mouth. It is recommended that these islands be built up to a height of at least 1.5m above the active bed of the river (i.e., modelled on height of the island in Figure 3.2), to provide nesting gulls with a high level of protection against spring floods. During years in which the bed of the Ashburton River/Hakatere is relatively weed free, it is also recommended that decoy gulls and nest materials be placed on these raised islands to maximise the chance that tarāpuka / black-billed gulls will choose to nest on them.

From late 2023 New Zealand is forecasted to re-enter an El Niño climatic cycle for the first time since 2016, and one of the strongest El Niño cycles observed in the past 80 years[2]. El Niño climatic conditions are predicted to bring dry, drought-like conditions to the eastern South Island, potentially bringing to the recent period of frequent flooding on the Ashburton River / Hakatere to an end, and instead causing periods of extreme low river flows during the summer months. Extreme low flows on the Ashburton River / Hakatere are predicted to lead to increases in mammalian depredation rates as previously isolated gravel islands become connected to the banks of the river as minor channels dry up. For this reason, it will be important to ensure that comparatively deep channels are excavated around the perimeter of these artificial gravel islands. It is also recommended that ECan engages in discussion with Rangitata Diversion Race Management Ltd (RDRML) to explore whether there are any opportunities for RDRML to manipulate the timing or quantity of water releases into the Ashburton River/Hakatere to increase the quantity of water flowing down the Ashburton River/Hakatere during times of extreme low flows, or to avoid further exacerbating the adverse impacts of spring flooding on nesting shorebirds.

[2] https://www.newstalkzb.co.nz/news/national/el-nino-incoming-nz-s-climate-to-take-rapid-turn-withinweeks/; accessed 23rd September 2023.

Management Action A3

Management action A3 of the 2016-2023 AHSMS involved carrying out mechanical clearance of woody weeds from an eight-hectare area of the bed of the Ashburton River/Hakatere immediately downstream of the SH1 bridge, to provide open gravel nesting habitat for tarāpuka / black-billed gulls. In the AHSMS it was recommended that weed control should be planned to be carried out annually if needed (McArthur & Bell 2016).

As the 2016-2023 AHSMS pointed out, a complete reliance on major flood events to keep the "Ashburton Reach" of the Ashburton River/Hakatere free of woody weeds is likely to result in severe periodic weed infestations similar to those observed during the 2-3 years prior to the July 2017 flood. It is now well known that these severe weed infestations can lead to rapid and substantial local declines in shorebird populations on the river. To prevent this from occurring in the future, it is recommended that ECan establishes a contingency fund to enable the Council to fund woody weed control to prevent major infestations from re-establishing. This work is likely only going to be required if the interval between major flood events extends to greater than 3-5 years.

Management Action A4

Management action A4 of the 2016-2023 AHSMS involved trapping mammalian predators in the vicinity of the SH1 tarāpuka / black-billed gull nesting colony. In the AHSMS it was recommended that traps be established at 100m spacings up to 2km upstream and downstream of the engineered islands and weed-controlled area established under management actions A2 and A3, and that the trapping network be designed to target the full suite of shorebird nest predators, including cats (*Felis catus*), mustelids (*Mustela* spp.), hedgehogs (*Erinaceus europaeus*), rats (*Rattus* spp.) and possums (*Trichosurus vulpecula*). It was further recommended that traps be serviced once every two weeks, between July and February inclusive (McArthur & Bell 2016).

In recent years, tarāpuka / black-billed gull nesting activity in the vicinity of the SH1 bridge has become more intermittent, possibly as a result of recent spring flooding and/or bird deterrent devices being installed on nearby commercial buildings to discourage gulls from roosting or nesting on them (Donna Field, *personal communication*). Tarāpuka / black-billed gulls continue to nest regularly at the Ashburton River/Hakatere river mouth, however (Keystone Ecology 2017; Bell & Harborne 2019; Crossland 2019; Crossland 2020; Crossland 2021; Crossland 2022; Crossland 2023). Given this, it is recommended that mammalian predator trapping be carried out within 2km of any tarāpuka / blackbilled gull colonies that form anywhere on the "Ashburton Reach" of the Ashburton River/Hakatere, rather than solely at those colonies that form in the vicinity of the SH1 bridge. It is further recommended that mammalian predator control be prioritised towards any colonies that form on the artificial raised gravel islands constructed as part of Management Action A2 (Table 4.3), as the productivity of these colonies are less likely to be adversely impacted by spring floods than those situated on lower-lying, natural islands. Mammalian predator control should involve establishing a single trap line along each bank of the river, with alternating DOC150 and DOC250 traps placed at 100m spacings and an additional Timms trap deployed at every second DOC trap. It is recommended that traps be baited with fresh rabbit meat and that traps be serviced fortnightly until all of the gull chicks have fledged.

Management Action A5

Management action A5 of the 2016-2023 AHSMS involved investigating the implementation of a total ban on vehicle and foot access within 200m of the SH1 tarāpuka / black-billed gull colony, to reduce the risk of either intentional or unintentional disturbance of the colony. In the AHSMS it was recommended that signage be installed at river access points 500m upstream and downstream of the colony and on the adjacent riverbed and temporary fencing be erected around the colony to identify its location to river users (McArthur & Bell 2016).

It is recommended that ECan continues to employ these measures as part of a broader community education and advocacy campaign designed to prevent or minimise losses of breeding tarāpuka / black-billed gulls, nests, eggs or chicks on the "Ashburton Reach" in the future. Specifically, it is recommended that ECan continues its existing arrangement with the Mid Canterbury Four Wheel Drive Club to maintain and run a 4WD park for off-road vehicle users on river berm land owned by ECan. Furthermore, it is recommended that ECan maintains a readiness to respond to the formation of tarāpuka / black-billed gull colonies on the "Ashburton Reach" of the Ashburton River/Hakatere by:

- Deploying large concrete blocks to temporarily block off near vehicle river access points that create the risk of directing vehicle traffic towards active gull colonies

- Deploying signage at nearby river access and vantage points informing the public of the significance of the gull nesting colonies, and of measures people should take to avoid disturbing nesting birds

- Where needed, installing temporary biodegradable fencing around active gull colonies to visually delimit the colonies and create a visual deterrent to prevent people and vehicles from venturing too close to the colonies

- Issuing media releases informing the general public of the presence of the colonies; the steps that ECan is taking to protect the colonies and the measures that river users should take to avoid disturbing nesting birds.

Resources will need to be put aside to allow for the regular checking, maintenance and repair of concrete blocks, signage and fencing in the vicinity of gull colonies to ensure they remain functional and in a good state of repair, and this infrastructure should be removed as soon as possible once all gull chicks have fledged, to avoid unnecessary restrictions to the subsequent recreational use of the riverbed.

Management Action A6

Management action A6 of the 2016-2023 AHSMS involved designing an education and advocacy programme to raise awareness in the Ashburton Community of the shorebird values of the Ashburton River/Hakatere, the threats they face and the measures they can take to avoid unintentionally disturbing birds while recreating on the river. In the 2016-2023 AHSMS it was recommended that such a programme could include press releases and social media posts, particularly in the lead up to each shorebird breeding season, and an annual 'open day' held on the river for recreational 4WD users (McArthur & Bell 2016).

It is recommended that ECan continues to employ these measures as part of a broader community education and advocacy campaign designed to prevent or minimise disturbance to nesting shorebirds on the "Ashburton Reach" of the Ashburton River/Hakatere. Specifically, it is recommended that ECan continues its existing arrangement with the Mid Canterbury Four Wheel Drive Club to maintain and run a 4WD park for off-road vehicle users on river berm land owned by ECan. Furthermore, it is recommended that ECan continues to communicate with the general public using both the conventional and social media; to deploy educational signage at river access and vantage points and to use events such as the "Bridge to Beach Poker Run" as opportunities to engage with members of the local off-roading community.

Management Action A7

Management action A7 of the AHSMS involves conducting woody weed surveillance in the "Arrowsmith Reach" of the Ashburton River/Hakatere. In the AHSMS it was recommended that ground surveys be carried out once every two years to check for new infestations of woody weeds including willow (*Salix* spp.), broom (*Cytisus scoparius*), sweet briar (*Rosa rubiginosa*), gorse (*Ulex europaeus*), Russell lupins (*Lupinus polyphyllus*) and false tamarisk (*Myricaria germanica*). It was further recommended that any new infestations found should be GPSed and a plan be developed for their control or eradication (McArthur & Bell 2016).

The "Arrowsmith Reach" of the Ashburton River/Hakatere remains largely weed-free and therefore provides high quality habitat for the threatened shorebird species that breed on the river. For this reason, it is recommended that ECan continues to carry out biennial weed surveys to detect, map and control any new infestations of woody weeds that establish along this reach of the river. It is also recommended that ECan and DOC work together to design and install signage and/or posters in huts or at key access points to the "Arrowsmith Reach", encouraging hunters and trampers to report any weed infestations they encounter on the river to ECan.

Management Action A8

Management action A8 of the AHSMS involves trapping mammalian predators on the "Hakatere Reach" of the Ashburton River/Hakatere. In the AHSMS it was recommended that the pre-existing animal control work being carried out on the "Hakatere Reach" be continued in its existing form on an annual, ongoing basis (McArthur & Bell 2016).

It is recommended that ECan continues to implement this mammalian predator trapping work in its current form, both to maintain the outcomes of the predator trapping work carried out to date, and to achieve further improvements in the health of local shorebird populations. It is also recommended that ECan carries out 6-montly audits of the trapping network to inspect whether the trap network is being maintained in good repair all year round. It is recommended that one audit be carried out no less than one month prior to the beginning of the shorebird nesting season (mid-September) to allow time for any problems identified to be rectified before shorebirds begin nesting.

Management Action A9

Management action A9 of the AHSMS involves carrying out woody weed control on the "Hakatere Reach" of the Ashburton River/Hakatere. In the AHSMS it was recommended that existing weed control work planned for the Hakatere Reach continues as planned, and that additional funding be sought to extend weed control downstream towards Blowing Point Bridge, targeting species including broom, Russell lupin, grey willow (*Salix cinerea*), gorse, sweet briar, poppies and false tamarisk (McArthur & Bell 2016).

It is recommended that ECan and DOC continue to work together to survey and control invasive woody weeds within this reach of the river.

Management Action B1

Management action B1 of the 2016-2023 AHSMS involved the progressive clearance of woody weeds from sequential 30ha block of the bed of the Ashburton River/Hakatere immediately downstream of the weed-controlled area created at the SH1 tarāpuka / black-billed gull colony under management action A3. In the 2016-2023 AHSMS it was recommended weeds be cleared using machinery rather than by using herbicides, with at least three 30ha blocks being treated on a ca. 3-year rotation (McArthur & Bell 2016).

As the AHSMS points out, a complete reliance on major flood events to keep the "Ashburton Reach" of the Ashburton River/Hakatere free of woody weeds is likely to result in severe periodic weed infestations similar to those observed during the 2-3 years prior to the July 2017 flood. It is now well known that these severe weed infestations can lead to rapid and substantial local declines in shorebird populations on the river. To prevent this from occurring in the future, it is recommended that ECan establishes a contingency fund to enable the Council to fund woody weed control to prevent major infestations from re-establishing in this reach of the river. This work is likely only going to be required if the interval between major flood events extends to greater than 3-5 years.

Management Action B2

Management action B2 of the 2016-2023 AHSMS involved the progressive extension of mammalian predator control in 5km increments immediately downstream of the SH1 tarāpuka / black-billed gull predator control area established under management action A4. In the AHSMS it was recommended that this predator trapping network will likewise consist of traps spaced 100m apart, using traps designed to target the full range of mammalian predators known to depredate shorebird nests. It was further recommended that traps be arranged in a single trap line on either side of the river, and that traps be serviced every two weeks between July and February inclusive (McArthur & Bell 2016).

To maintain and build upon these predator control efforts on the "Ashburton Reach" of the Ashburton River/Hakatere, it is recommended that ECan continues to support the local community-led trapping efforts at both the Hakatere Huts and at Ashton Beach, including extending the Hakatere Huts trap network downstream to include the northeastern portion of the Ashburton River/Hakatere river mouth immediately adjacent to the Hakatere Huts. It is further recommended that ECan utilizes the funding received to offset the potential adverse effects of the Waverly Wind Farm to expand predator trapping on the "Ashburton Reach" of the Ashburton River/Hakatere to control predators along the entire length of river between the SH1 bridge and Wakanui School Road. It is recommended that this be achieved by implementing two additional pieces of work. Firstly, ECan will set up and supervise a community group recruited from the Lake Hood and Ashburton communities to service a network of traps installed in the river berm on either side of the river from Lake Hood downstream to Wakanui School Road. Secondly, ECan will engage a contractor to carry out predator trapping on the river berm between SH1 and Lake Hood, with this trapping network being contiguous with that being serviced by the Lake Hood/Ashburton community group. It is recommended that ECan adopts a similar trap layout and servicing regime to that employed on the "Hakatere Reach" of the river, to maximise the likelihood that these trapping efforts will deliver similar improvements to local shorebird populations to that seen in the "Hakatere Reach". Both the "Hakatere Reach" and the stretch of river from SH1 to Wakanui School road each support approximately 20-30% of the pōhowera / banded dotterels counted on the Ashburton River/Hakatere during recent counts. Once these additional trapping efforts are implemented on the "Ashburton Reach" of the river therefore, between 40-60% of the pōhowera / banded dotterels breeding on the Ashburton River/Hakatere will be benefitting from these combined predator control efforts.

Management Action B3

Management action B3 of the AHSMS involves controlling karoro / black-backed gulls (*Larus dominicanus*) nesting between the Valetta Bridge and the sea. In the AHSMS it was recommended that gulls be controlled using a combination of egg-pricking and the poisoning of adult birds using alphachloralose paste (McArthur & Bell 2016).

Several very large karoro / black-back gull colonies remain on the lower Ashburton River/Hakatere and these likely pose a risk to other shorebird species nesting on the river. Karoro / black-backed gulls are likely to be reducing the productivity of other (threatened) shorebird species on the Ashburton River/Hakatere by preying on eggs and chicks, and the presence of large karoro / black-backed gull colonies on the river may also reduce the area of habitat available to these more threatened shorebird species due to competitive exclusion and predator avoidance behaviours (Bell & Harborne 2018). For

this reason, it is recommended that ECan continues to reduce the number of karoro / black-backed gulls nesting on the lower Ashburton River/Hakatere between the Valetta Bridge and the sea, by engaging suitably qualified and experienced contractors to undertake alphachloralose poisoning operations on active karoro / black-backed gull colonies.

Management Action B4

Management action B4 of the AHSMS involves investigating measures to reduce levels of off-road vehicle disturbance at the Ashburton River/Hakatere river mouth. In the 2016-2023 AHSMS it was recommended that a number of measures should be investigated, including the installation of signage at key access points to the river mouth; undertaking a community education and advocacy campaign; building relationships with special interest groups such as the Mid-Canterbury Four Wheel Drive Club and Fish & Game; reviewing legal access points to the river mouth and investigating options for their temporary or permanent closure; and developing an alternative area for use by recreational off-road vehicle enthusiasts (McArthur & Bell 2016).

These measures appear to have been successful at reducing levels of off-road vehicle disturbance at the Ashburton River/Hakatere river mouth (Crossland, 2021). For this reason, it is recommended that ECan continues to employ these measures as part of a broader community education and advocacy campaign designed to prevent or minimise disturbance to nesting shorebirds on the "Ashburton Reach" of the Ashburton River/Hakatere. Specifically, it is recommended that ECan continues to maintain its informal "internationally significant bird habitat" and associated vehicle access bypass track at the river mouth and investigates the feasibility of preparing and submitting an application to the Ramsar Secretariat to have the lower Ashburton River/Hakatere designated as a wetland of international importance under the Ramsar Convention on Wetlands. It is also recommended that ECan opposes efforts to develop the offroad motorbike area at the end of Lower Beach Road into a permanent motorbike park, and instead work with the relevant groups and agencies to identify an alternative location for a motorbike park, further away from the Ashburton River/Hakatere river mouth.

It is now firmly established that the Ashburton River/Hakatere river mouth provides roosting habitat for up to 25% of the national and global population of kawau tikitiki / spotted shags, and therefore supports the largest concentration of kawau tikitiki / spotted shags recorded anywhere in New Zealand (Crossland 2023). The national conservation status of kawau tikitiki / spotted shags has substantially worsened in recent years, shifting from "Not Threatened" to "Threatened – Nationally Vulnerable" during the most recent re-assessment carried out in 2021 (Robertson *et al.* 2021). This worsening status is due to a very significant, recent and ongoing decline in the number of breeding pairs occupying Banks Peninsula, a site used by 30-50% of the global population of this species[3] (Andrew Crossland, *personal communication*). Breeding habitat was lost as a result of landslides triggered by the devastating Canterbury earthquakes of 2010-2011, and the population has failed to recover since then. Populations in the North Island are also declining, with kawau tikitiki / spotted shags now on the verge of local extinction in the Hauraki Gulf, and a marked decline observed in Wellington Harbour over the past 20 years (Robertson *et al.* 2021; Shane Cotter, *personal communication*). The global

[3] It is these birds breeding on Banks Peninsula that roost on the shingle barrier spit at the Ashburton River/Hakatere river mouth.

population kawau tikitiki/spotted shags is now estimated to total 60,000 breeding birds, with an estimated rate of population decline of 60% over three generations.

The large number of kawau tikitiki / spotted shags that occur at the Ashburton River/Hakatere river mouth primarily use this site for roosting, therefore the key threat that they face at this site will be disturbance by 4WD vehicles, dogs and people traversing the shingle spit on foot. Given the worsening conservation status of this species; the significant decline that has recently been observed in the Banks Peninsula breeding population; and the very large number of individuals that use the shingle spit at the Ashburton River/Hakatere river mouth, it is recommended that ECan and Ashburton District Council work together to implement a total year-round ban on the use of motorised vehicles and the walking of dogs on the spit. It is also recommended that ECan and Ashburton District Council work together to investigate options for installing fencing, bollards or concrete blocks to close off vehicle access points onto the spit from both the Hakatere Huts and Ashton Beach, and that ECan installs educational signage describing the importance of the site for kawau tikitiki / spotted shags and providing clear guidance on the minimum distance that walkers should maintain between themselves and roosting shags, to prevent any accidental disturbance.

Management Action C1

Management action C1 of the AHSMS involves investigating measures to reduce levels of off-road vehicle disturbance in the "Ashburton Reach" of the Ashburton River/Hakatere. In the 2016-2023 AHSMS it was recommended that a number of measures should be investigated, including the installation of signage at key river access points; undertaking a community education and advocacy campaign; building relationships with special interest groups such as the Mid-Canterbury Four Wheel Drive Club and Fish & Game; and reviewing legal access points to the river and investigating options for their temporary or permanent closure (McArthur & Bell 2016).

These measures appear to have been successful at reducing levels of off-road vehicle disturbance in the "Ashburton Reach" of the Ashburton River/Hakatere (Crossland, 2021; Donna Field, *personal communication*). However, this reduction of 4WD activity in the river has also coincided with a period of La Niña climactic conditions in New Zealand, resulting in higher rainfall and river flows in the Ashburton River/Hakatere catchment. These higher river flows have made it more difficult for 4WD vehicles to access and traverse the lower reaches of the Ashburton River/Hakatere, so may also explain this observed reduction in 4WD activity in recent years (Donna Field, *personal observation*). From late 2023 New Zealand is forecasted to re-enter an El Niño climatic cycle for the first time since 2016, and one of the strongest El Niño cycles observed in the past 80 years. El Niño climatic conditions are predicted to bring dry, drought-like conditions to the eastern South Island, potentially bringing to the recent period of frequent flooding on the Ashburton River / Hakatere to an end, and instead causing periods of extreme low river flows during the summer months. These extreme low flows on the Ashburton River / Hakatere may lead to a future increase in 4WD vehicle use on the lower reaches of the river. For this reason, it is recommended that ECan continues to implement measures designed to prevent or minimise 4WD vehicle disturbance to nesting shorebirds on the "Ashburton Reach" of the Ashburton River/Hakatere. Specifically, it is recommended that ECan continues its existing arrangement with the Mid Canterbury Four Wheel Drive Club to maintain and run a 4WD park for offroad vehicle users on river berm land owned by ECan. Furthermore, it is recommended that ECan continues to communicate with the general public using both the conventional and social media; and

to deploy concrete blocks, temporary fencing and educational signage at river access and vantage points and at tarāpuka / black-billed gull colonies where appropriate.

Management Action C2

Management action C2 of the 2016-2023 AHSMS involved assessing the feasibility of gazetting the Ashburton River/Hakatere river mouth as a Scenic Reserve under the Reserves Act (1977). In the AHSMS it was recommended that ECan works with the Department of Conservation to conduct this feasibility assessment.

Since the implementation of the 2016-2023 AHSMS, two further options for recognising the shorebird values of the Lower Ashburton River/Hakatere and strengthening the management and protection of those values have emerged. One option is to apply to have the lower reaches of Ashburton River/Hakatere, from the North/South Branch Confluence to the river mouth, listed as a wetland of international importance under the Ramsar Convention on Wetlands. The Ramsar Convention is an international treaty for the conservation and sustainable use of wetlands to which New Zealand is a signatory (Ramsar Convention Secretariat 2016). Since coming into force in 1975, over 2,400 sites around the world have been identified as wetlands of international importance using one or more of the nine criteria listed in the convention, including seven sites in New Zealand (Ramsar Convention Secretariat 2021). The use of Ramsar Convention criteria to identify internationally important shorebird habitats has become a widely accepted and applied approach throughout the world (Weller et al. 2020), and the avifauna values of the lower reaches of the Ashburton River/Hakatere are likely to meet at least four of these nine criteria, namely:

- **Criterion 2:** A wetland should be considered internationally important of it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

- **Criterion 3:** A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

- **Criterion 4:** A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles or provides refuge during adverse conditions.

- **Criterion 6:** A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird. (Ramsar Convention Secretariat 2016)

For example, recent bird monitoring data collected as part of the implementation of the AHSMS clearly demonstrate that the Ashburton River/Hakatere river mouth provides roosting habitat for up to 25% of the global population of kawau tikitiki / spotted shags (Crossland 2023) and that the lower reaches of the Ashburton River/Hakatere from the North/South Branch confluence to the sea supports just over 1% of the global population of pōhowera / banded dotterels.

The second option for strengthening the management and protection of the shorebird values of the lower Ashburton River Hakatere is to develop the lower reaches of the river from the North/South Branch Confluence to the sea into a regional park administered by ECan. The Council currently operates three regional parks in the Canterbury region, one each on the banks of the Waimakariri and Ashley Rakahuri Rivers and another on the eastern shoreline of Lake Tekapo. Managing the lower reaches of the Ashburton River/Hakatere as a regional park would give ECan a greater ability to manage the recreational use of the river with the need to maintain its natural values, including its coastal and shorebird fauna.

As first steps towards implementing these two options, it is recommended that ECan carries out an investigation into the feasibility and utility of applying for Ramsar status for the lower Ashburton River/Hakatere between the North/South Branch confluence and the Ashburton River/Hakatere river mouth. This investigation should focus on consulting with the Department of Conservation and the other river stakeholders listed in the AHSMS to assess the willingness of these groups and organisations to support the application process. It is also recommended that ECan conducts a separate investigation into the feasibility, utility and cost of creating a regional park and employing a dedicated river ranger for the lower Ashburton River between the North/South Branch confluence and the Ashburton River/Hakatere river mouth. These two investigations will need to be carried out with some degree of integration, as the implications of a Ramsar wetland being managed as a regional park, and a regional park being designated as a Ramsar wetland, will need to be explored as part of these investigations.

The 2023-2030 AHSMS: A Summary

4.1 Management Objectives

Table 4.1 provides a summary of the revised set of management objectives and performance measures in this 2023-2030 AHSMS. A more detailed explanation for these suggested revisions can be found in the *Ashburton River/Hakatere Shorebird Habitat Management Strategy: A Review* (McArthur 2023).

Table 4.1: Management objectives and performance measures of the 2023-2030 AHSMS

Objective No.	Objective	Performance Measure No.	Performance Measure
1.	There is a large and productive tarāpuka / black-billed gull colony present on the "Ashburton Reach" of the Ashburton River/Hakatere during most years.	**1a.**	Numbers of tarāpuka / blackbilled gulls breeding on the "Ashburton Reach" are stable or increasing.
		1b.	An average of 0.8 chicks fledge per nest at any tarāpuka / black-billed gull colonies located on artificially engineered raised islands created on the "Ashburton Reach" of the river.
		1c.	No adult mortality is being caused by local human induced factors such as vandalism or disturbance. Additional efforts be made to further reduce disturbance caused by recreational users.
		1d.	Prioritise the construction and maintenance of raised, weed-free gravel islands both at the river mouth and downstream of the SH1 bridge.
		1e.	Environment Canterbury to establish a standard, detailed field protocol for quantifying the number of tarāpuka / black-billed gulls nesting on the lower Ashburton River / Hakatere each season and requires all

Objective No.	Objective	Performance Measure No.	Performance Measure
			future monitoring to be carried out according to this protocol.
2.	There are stable, or increasing populations of pōhowera / banded dotterels, black-fronted dotterels, tōrea / SI pied oystercatchers, ngutu pare / wrybill and tarapirohe / black-fronted terns on the "Arrowsmith", "Hakatere" and "Ashburton" reaches of the river.	**2a.**	Annual shorebird counts show that numbers of adult pōhowera / banded dotterels, black-fronted dotterels, tōrea / SI pied oystercatchers, ngutu pare / wrybill and tarapirohe / black-fronted terns counted on the "Arrowsmith", "Hakatere" and "Ashburton" reaches of the river are stable or increasing.
3.	Disturbance of shorebirds and waterfowl at the Ashburton River/Hakatere river mouth by people and vehicles is minimised year-round, and the river mouth continues to support a high diversity and abundance of shorebirds and waterfowl.	**3a.**	Monthly bird counts show that the diversity and abundance of shorebirds and waterfowl at the Ashburton River/Hakatere river mouth is stable or increasing over time.
		3b.	No adult mortality of shorebirds or waterfowl is being caused by local humaninduced factors such as disturbance or illegal hunting. Additional efforts to manage the adverse impacts of this activity on the river mouth's avifauna be implemented.
		3c.	Environment Canterbury continues to engage Andrew to carry out these monthly counts, with no change to the survey methodology or reporting format or frequency.

Performance Monitoring Actions

Table 4.2 provides a summary of the revised set of performance monitoring actions in the 2023-2030 AHSMS. A more detailed explanation for these suggested revisions can be found in the *Ashburton River/Hakatere Shorebird Habitat Management Strategy: A Review* (McArthur 2023).

Table 4.2: Performance monitoring actions of the 2023-2030 AHSMS

PMA No.	Performance Monitoring Action	Frequency	Detail
M1	"Ashburton Reach" tarāpuka / black-billed gull colony monitoring	Annual	Weekly checks of artificial raised gravel islands constructed in the "Ashburton Reach" of the river shall be carried out each year between October and January inclusive, and the number of adult gulls, active nests and fledglings present on each island shall be recorded. Numbers of adult gulls and active nests present within breeding colonies situated elsewhere within the "Ashburton Reach" shall also be recorded, as and when these colonies form. ECan will develop a detailed, standard monitoring protocol for fieldworkers to follow, to maximise the quality and consistency of the data being collected.
M2	Annual shorebird counts in the "Arrowsmith", "Hakatere" and "Ashburton" reaches	Annual	Annual counts of shorebirds present on the "Arrowsmith", "Hakatere" and "Ashburton" reaches of the Ashburton River/Hakatere shall be carried out between October and December inclusive. Separate shorebird counts will be recorded for each 1km section of the reaches being surveyed, to allow spatial patterns in the relative abundance of shorebirds to be mapped in greater detail. ECan will seek funding to engage a shorebird count coordinator to organise and lead these counts each year, to maximise the likelihood that these counts will be carried out during an appropriate window of fine weather and flood-free river conditions each year.
M3	Monthly shorebird and waterfowl counts at the Ashburton River/Hakatere river mouth	Monthly	Monthly counts of all shorebirds and waterfowl present at the Ashburton River/Hakatere river mouth will continue to be carried out using the standard methodology that has been developed by Andrew Crossland.

4.3 Management Actions

Table 4.3 provides a summary of the revised recommended set of management actions in the 2023-2030 AHSMS. A more detailed explanation for these suggested revisions can be found in the *Ashburton River/Hakatere Shorebird Habitat Management Strategy: A Review* (McArthur 2023) and a draft operational plan and budget for these management actions can be found in Appendix One.

Table 4.3 Management actions of the 2023-2030 AHSMS

MA No.	Management Action	Frequency	Detail
A1	Convene and administer the Ashburton River/Hakatere Management Group	Annual	The Ashburton River/Hakatere Management Group will meet at least once per year between April and August, to review the management and monitoring actions carried out during the previous 12 months, to discuss emerging issues and to plan the following 12 months work. Prior to each meeting, ECan will produce and circulate an annual report (see Appendix 2 for a recommended report structure) summarising the management and monitoring work carried out on the Ashburton River/Hakatere during the preceding 12 months.
A2	Community education and advocacy ("Ashburton Reach" and the Ashburton River/Hakatere river mouth)	Annual	ECan will continue to work with the Mid Canterbury Four Wheel Drive Club to maintain the 4WD park on river berm land. ECan will deploy concrete blocks, signage and temporary biodegradable fencing around tarāpuka / black-billed gull colonies to reduce the risk of recreational river users accidentally disturbing the nesting gulls. ECan will continue to communicate with the general public via media releases and social media and shall maintain educational signage at key river access points and vantage points along the length of the "Ashburton Reach". ECan will oppose the establishment of a motorbike park at Ashton Beach and shall work with affected parties to find a more suitable location.

MA No.	Management Action	Frequency	Detail
A3	Implement a total vehicle and dog ban on the shingle barrier spit at the Ashburton River/Hakatere river mouth to protect roosting kawau tikitiki/spotted shags	Annual	ECan and Ashburton District Council will work together to implement a total year-round ban on the use of motorised vehicles and the walking of dogs on the spit. ECan and Ashburton District Council will also work together to investigate options for installing fencing, bollards or concrete blocks to close off vehicle access points onto the spit from both the Hakatere Huts and Ashton Beach, and that ECan will install educational signage describing the importance of the site for kawau tikitiki / spotted shags and providing clear guidance on the minimum distance that walkers should maintain between themselves and roosting shags, to prevent any accidental disturbance.
A4	Mammalian predator trapping at "Ashburton Reach" tarāpuka / black-billed gull colonies	Annual, as required	ECan will carry out mammalian predator trapping within a 2km radius of any tarāpuka / black-billed gull colonies that form anywhere on the "Ashburton Reach" of the Ashburton River/Hakatere. Mammalian predator control will be prioritised towards any colonies that form on the artificial raised gravel islands constructed as part of Management Action A4, as the productivity of these colonies are less likely to be adversely impacted by spring floods. Mammalian predator control will involve establishing a single trap line along each bank of the river, with alternating DOC150 and DOC250 traps placed at 100m spacings and an additional Timms trap deployed at every second DOC trap. Traps be baited with fresh rabbit meat and that traps be serviced fortnightly until all of the gull chicks have fledged.

MA No.	Management Action	Frequency	Detail
A5	Construction and maintenance of artificial raised gravel islands for nesting tarāpuka / black-billed gulls in the ”Ashburton Reach”	Annual, as required	ECan will construct and maintains at least two large, raised gravel islands in the “Ashburton Reach” of the Ashburton River/Hakatere, one in the vicinity of the preferred nesting area immediately downstream of the SH1 bridge, and another in the vicinity of the preferred nesting area at the Ashburton River/Hakatere river mouth. These islands be built up to a height of at least 1.5m above the active bed of the river to provide nesting gulls with a high level of protection against spring floods. During years in which the bed of the Ashburton River/Hakatere is relatively weed free, ECan will place decoy gulls and nest materials on these raised islands to maximise the chance that tarāpuka / black-billed gulls will choose to nest on them.
A6	Engage with Rangitata Diversion Race Management Ltd to explore opportunities to manage water releases into the Ashburton River/Hakatere	Annual, as required	ECan will engage in discussion with Rangitata Diversion Race Management Ltd (RDRML) to explore whether there are any opportunities for RDRML to manipulate the timing or quantity of water releases into the Ashburton River/Hakatere to increase the quantity of water flowing down the Ashburton River/Hakatere during times of extreme low flows, or to avoid further exacerbating the adverse impacts of spring flooding on nesting shorebirds.
A7	Community-led mammalian predator trapping (“Ashburton Reach” from Lake Hood to Wakanui School Road)	Annual	ECan will establish and supervise a community group recruited from the Lake Hood and Ashburton communities to service a network of traps installed on the river berm on either side of the Ashburton River/Hakatere from Lake Hood downstream to Wakanui School Road. ECan will fund the purchase and installation of traps and bait, and the training of volunteers. Traps will be serviced by members of the community group on an ongoing basis, with biennial audits and trap maintenance inspections being carried out by ECan. Mammalian predator control will involve establishing a single trap line along each bank of the river, with alternating DOC150 and DOC250 traps placed at 100m spacings and an additional Timms trap deployed at every second DOC trap. Traps be baited with fresh rabbit meat and traps be serviced fortnightly between August and February inclusive.

MA No.	Management Action	Frequency	Detail
A8	Community-led mammalian predator trapping ("Ashburton Reach" at Hakatere Huts and Ashton Beach)	Annual	ECan will continue to support the local community-led trapping efforts at both the Hakatere Huts and at Ashton Beach, by continuing to supply volunteers with traps, signs and baits. ECan will also work with the Hakatere Huts trapping volunteers to extend the Hakatere Huts trap network downstream to include the north-eastern portion of the Ashburton River/Hakatere river mouth north to the base of the shingle barrier spit, to protect a concentration of dotterels and oystercatchers nesting on the shingle beaches in the vicinity of the shingle spit.
A9	Mammalian predator trapping ("Ashburton Reach" from SH1 bridge to Lake Hood)	Annual	ECan will engage a contractor to carry out annual predator trapping on the Ashburton River/Hakatere between the SH1 bridge and Lake Hood, with this trapping network to be contiguous with that being serviced by the community group outlined in management action A5 above. Mammalian predator control will involve establishing a single trap line along each bank of the river, with alternating DOC150 and DOC250 traps placed at 100m spacings and an additional Timms trap deployed at every second DOC trap. Traps be baited with fresh rabbit meat and traps be serviced fortnightly between August and February inclusive.
A10	Woody weed control in "Ashburton Reach" (contingency fund)	As required	ECan will establish a contingency fund to enable the Council to fund woody weed control to prevent major weed infestations from re-establishing on the "Ashburton Reach" of the Ashburton River/Hakatere. This work is likely only going to be required if the interval between major flood events on the river extends to greater than 3-5 years.

MA No.	Management Action	Frequency	Detail
A11	Mammalian predator trapping in the "Hakatere Reach"	Annual	ECan will continue to implement mammalian predator trapping work in the "Hakatere Reach" of the Ashburton River/Hakatere, both to maintain the outcomes of the predator trapping work carried out to date, and to achieve further improvements in the health of local shorebird populations. ECan will carry out biannual audits of the trapping network to inspect whether the trap network is being maintained in good repair all year around. One of these audits will be carried out no less than one month prior to the beginning of the shorebird nesting season (mid-September) to allow time for any problems identified to be rectified before shorebirds begin nesting.
A12	Woody weed control in the "Hakatere Reach"	Annual	ECan and DOC will continue to work together to survey and control invasive woody weeds within this reach of the river, targeting species including broom, Russell lupin, grey willow, gorse, sweet briar, poppies and false tamarisk.
A13	Weed surveillance in the "Arrowsmith Reach"	Biennial	ECan will carry out biennial weed surveys to detect, map and control any new infestations of woody weeds that establish in the "Arrowsmith Reach" of the Ashburton River/Hakatere. ECan and DOC work together to design and install signage and/or posters in huts or at key access points to the "Arrowsmith Reach", encouraging hunters and trampers to report any weed infestations they encounter on the river to ECan.
B1	Karoro / black-backed gull control on the lower Ashburton River/Hakatere	As required	ECan will reduce the number of karoro / black-backed gulls nesting on the lower Ashburton River/Hakatere between the Valetta Bridge and the sea, by engaging suitably qualified and experienced contractors to undertake alphachloralose poisoning operations on active karoro / black-backed gull colonies.

MA No.	Management Action	Frequency	Detail
B2	Investigation into the feasibility and utility of applying for Ramsar status for the lower Ashburton River between the North/South Branch confluence and the Ashburton River/Hakatere river mouth	One-off project	ECan will carry out an investigation into the feasibility and utility of applying for Ramsar status for the lower Ashburton River/Hakatere between the North/South Branch confluence and the Ashburton River/Hakatere river mouth. This investigation will focus on consulting with the Department of Conservation and the other river stakeholders listed in the AHSMS to assess the willingness of these groups and organisations to support the application process. This investigation will also examine what implications the creation of a regional park will have for this Ramsar application.
B3	Investigation into the feasibility, utility and cost of creating a regional park and employing a dedicated river ranger for the lower Ashburton River between the North/South Branch confluence and the Ashburton River/Hakatere river mouth	One-off project	ECan will carry out an investigation into the feasibility, utility and cost of creating a regional park and employing a dedicated river ranger for the lower Ashburton River between the North/South Branch confluence and the Ashburton River/Hakatere river mouth. This investigation will also examine what implications a Ramsar designation would have for the management of a regional park.

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Appendix Two

The annual report to the Ashburton River/Hakatere Management Group is designed to have three functions, namely:

1. To provide Ashburton River/Hakatere Management Group members with a concise and complete picture of the management and monitoring work carried out on the Ashburton River/Hakatere over the previous 12 months and whether the AHSMS is on track to achieving its objectives.

2. To identify any ongoing and emerging issues that need to be discussed by members of the Ashburton River/Hakatere Management Group as a matter of priority during subsequent meetings.

3. Provide a permanent and concise record of the management and monitoring work completed on the Ashburton River/Hakatere each year, to assist with future efforts to assess whether or not AHSMS management objectives have been achieved, and to review and update the AHSMS when required.

To minimise the work required to compile this report; to enable the report to be compiled progressively throughout the year as the AHSMS's management and monitoring actions are completed; and to achieve the functions listed above, it is recommended that the following structure be adopted for the annual report:

Executive Summary

A one-page summary of the number of AHSMS management and monitoring actions carried out over the past 12 months, and any important ongoing or emerging issues that need to be addressed by members of the Ashburton River/Hakatere Management Group.

Introduction

A one-page introduction briefly outlining the purpose of both the AHSMS and the functions of this annual report. This introduction only needs to be written once, and then copied into subsequent annual reports.

1. Management actions completed

A table listing each of the 16 AHSMS management actions listed in this report; itemising which of these management actions have been implemented over the past 12 months; providing hyperlinks to more detailed reporting copied into the appendix and summarising any ongoing or emerging issues

associated with each management action that require further discussion by the Ashburton River/Hakatere Management Group.

It is envisaged that Table 4.3 in this report can be used to populate the first four columns of this annual report table, with two additional columns detailing actions that have been implemented and any issues arising, e.g.:

MA No.	Management Action	Frequency	Detail	Implemented?	Issues arising
A4	Construction and maintenance of artificial raised gravel islands for nesting tarāpuka / black-billed gulls in the ”Ashburton Reach”	Annual, as required	ECan will construct and maintains at least two large, raised gravel islands in the “Ashburton Reach” of the Ashburton River/Hakatere, one in the vicinity of the preferred nesting area immediately downstream of the SH1 bridge, and another in the vicinity of the preferred nesting area at the Ashburton River/Hakatere river mouth.	Yes (See Appendix One for photos and brief report of island construction; See Appendix Three for tarāpuka / black-billed gull colony monitoring report)	One of two constructed islands not used for nesting; recommend the management group considers trialing the use of decoys and artificial nests to attract gulls

This table, and the Appendices to the annual report can be gradually populated throughout the 12 months leading up to the annual Ashburton River/Hakatere Management Group meeting, as various monitoring reports, trapping reports and other correspondence detailing the management of the Ashburton River/Hakatere are received.

2. Monitoring actions completed

A table listing each of the three AHSMS monitoring actions listed in this report; itemising which of these monitoring actions have been implemented over the past 12 months; providing hyperlinks to more detailed reporting copied into the appendix and summarising any ongoing or emerging issues associated with each monitoring action that require further discussion by the Ashburton River/Hakatere Management Group.
It is envisaged that Table 4.2 in this report can be used to populate the first four columns of this annual report table, with two additional columns detailing actions that have been implemented and any issues arising, e.g.:

PMA No.	Performance Monitoring Action	Frequency	Detail	Implemented?	Issues arising
M1	"Ashburton Reach" tarāpuka / black-billed gull colony monitoring	Annual	Weekly checks of artificial raised gravel islands constructed in the "Ashburton Reach" of the river shall be carried out each year between October and January inclusive, and the number of adult gulls, active nests and fledglings present on each island shall be recorded. Numbers of adult gulls and active nests present within breeding colonies situated elsewhere within the "Ashburton Reach" shall also be recorded, as and when these colonies form. ECan will develop a detailed, standard monitoring protocol for fieldworkers to follow, to maximise the quality and consistency of the data being collected.	Partially (See Appendix Three for tarāpuka / black-billed gull colony monitoring report)	Some weekly checks weren't conducted due to inaccessibility of artificial islands during spring floods and due to a shortage of volunteer labour. Gulls didn't nest on one of two artificial islands this year.

This table, and the Appendices to the annual report can be gradually populated throughout the 12 months leading up to the annual Ashburton River/Hakatere Management Group meeting, as various monitoring reports, trapping reports and other correspondence detailing the management of the Ashburton River/Hakatere are received.

3. Issues for discussion

A bullet-point list containing each of the ongoing or emerging issues listed in the tables of the preceding two sections of the report, with some more detailed explanation/background to each of these issues, and options to address each issue (if known). Consideration should be given to listing these issues in priority order with the most urgent/severe issues listed first.

Appendices

The appendices to this report will contain verbatim copies of monitoring reports, trapping summaries and other correspondence describing the management and monitoring actions carried out and monitoring results. This material can be pasted into the appendices of this annual report as they are received throughout the 12 months prior to the annual Ashburton River/Hakatere Management Group Meeting.

7. *Implication of Cats on native biodiversity and need for Mid-Canterbury Cat Management Policy*

Author Barry Maister
Affiliated Organisation - Methven and Foothills Birdsong Trust

Summary

1. The district has a stray/feral cat issue, which results in serious pressure on native fauna (invertebrates, skinks, birds).
2. It needs a Cat Management Policy to help reduce that Stray/Feral Cat population.
3. Companion cats need to be desexed and microchipped to reduce the number that "go feral".

Recommendation

1. **That** the Biodiversity Advisory Group recommends to Council that it introduces a formal Cat Management Policy.

Background

1. The Trust is trying to increase the amount of native birdsong heard in Methven. Five-minute bird counts have confirmed the paucity of native birds in Methven. Research has indicated widespread community support for the initiative, and it is estimated that there are +/- 500 companion cats in Methven. Vets say that while some are desexed, very few are microchipped and registered.

2. Consequently, there is widespread and indiscriminate breeding and many of these litters wind up straying or abandoned and fending for themselves. This is greatly exacerbated by completely uncontrolled breeding amongst stray and feral populations. It's estimated that each un-spayed female can produce more than 300 kittens in a lifetime and this number exacts a very heavy toll on all native fauna.

3. The group therefore is recommending to the group to explore a Cat Management Policy that mandates the desexing and chipping of companion cats to help save the remaining biodiversity in Mid-Canterbury. Many Councils have already undertaken this, including our neighbouring Selwyn District Council. A summary table of existing policies and those under development are presented in the table below.

4. Many cats wander beyond their owner's property up to 5 km. This creates a risk of them becoming injured, killed by vehicles, lost, or becoming a nuisance to neighbours. Feral and domestic cats feed on native biodiversity (lizards and birds) when away from home. Some enter high-value biodiversity sites and conservation reserves, especially along river margins with nesting bird sites, killing the chicks and feeding on adult birds.

5. People living around a new subdivision have reported their cats bringing in dead lizards which eventually stops after a few months, suggesting that the population of lizards displaced in the new development has disappeared. Managing these adverse effects of cats on native biodiversity calls for a district-wide cat management policy or a review of the existing animal control bylaw to incorporate a chapter on cats for desexing, microchipping, and registration with the New Zealand Companion Animal Register (NZCAR).

6. Microchipping and microchip registration support the community's ability to identify and return domestic cats to their owners. This reduces the period when cats are being separated from their owners. Desexing will reduce the number of unwanted litters of kittens, reducing the number of abandoned cats, which contributes to the population of stray and feral cats. These will in turn reduces the impact of the feral and domestic cats on Mid-Canterbury native biodiversity.

Table 1: Summary of existing policies and those under development for Cat management in New Zealand

Existing Policies	
Selwyn District Council, 2021	All domestic cats over the age of four months in Selwyn district must be microchipped and registered with the approved microchip registry New Zealand Companion Animals Register (NZCAR).
Ruapehu District Council, 2022	Microchip and desex and register all cats more than six months old to be to the NZCAR.
Whanganui District Council 2020	Desex all cats before 4 months old, and microchip and register to the NZCAR. Exclusion of cats kept for breeding purposes applies.
Whangārei District Council, 2022	Desex and microchip by six months of age and register to the NZCAR.
Palmerston North City Council, 2018	Cats over six months of age need to be microchipped and registered with the New Zealand Companion Animals Register, or other Council-approved microchip registry. Exclusion of cats kept for breeding purposes applies.
Hutt City Council, 2024	Amended Control of Animals Bylaw to include a section on the Keeping of Cats - Owners of cats over 12 weeks of age to microchip and register on the New Zealand Companion Animal Register (NZCAR); and desexed (unless kept for breeding purposes and registered with a nationally recognised cat breeders' body)
Wellington City Council 2016	All domestic cats over the age of 12 weeks must be microchipped and the cat's microchip registered with New Zealand Companion Animal Register. All domestic cats over six months must be desexed unless they are kept for breeding purposes and the owner is a currently registered breeder with a recognised New Zealand registering body.
Far North District Council, 2024	All cat over the age of 4 months is microchipped and the microchip registered with NZCAR and desexed unless it's used for breeding purposes and registered with a nationally recognised breeder body.

Buller District Council	Rules on cats in urban areas only (Westport and Reefton). No more than two cats in one house; any cat over six (6) months must be microchipped and registered in NZCAR, and desexed unless the cat is for breeding purposes or advised by the Vet that desexing will affect the cat's health.
Auckland City Council (Unitary Council) 2015	Guidelines on cat management include desexing, microchipping and registering with the NZCAR, and restriction of cats in some sensitive islands with high ecological values.
Policies in development	
Tasman District Council (Unitary Council)	Proposed to microchip and register cat on NZCAR. Consultation shows 89% of the community proposing desexing of the cats as well, except those used for registered breeding purposes.
Nelson City Council (Unitary Council)	Proposed to have all domestic cats over the age of six months to be microchipped and desexed unless they are kept for breeding purposes, or the operation poses a high risk for a cat and registered on NZCAR.
Auckland City Council (Unitary Council)	Currently consulting on "cat management for wildlife protection" through its Regional Pest Management Plan review.

8. *Updated threat classification of indigenous plants in the Ashburton District Council area*

Alice Shanks
Queen Elizabeth Trust and Canterbury Botanical Society

Christian Chukwuka, *PhD, CEnvP*
Ecologist/Biodiversity Advisor, Ashburton District Council

Recommendation

1. **That** the Biodiversity Advisory Group receives the report.

Background

1. The revised list for the 2023 New Zealand Vascular Plant Threat assessment was released in October 2024. We have provided the summary spreadsheet and the publication PDF for your reading.

2. Vascular plants are plants with a specialised system for water and nutrient transport from one part of the plants to the other. This includes all native trees, shrubs, grasses, and ferns. It excludes moss, algae lichens, and fungi (non-vascular plants).

3. New Zealand Vascular Plant Threat assessment is undertaken every five years and facilitated by the Department of Conservation using publicly available information on each species' biology and distribution and public call for information.

4. Gathered information is evaluated and assessed by expert panels. "Taxa are assessed according to the reported population size and trend since the last assessment (usually the past 5 years) and predicted future changes over the next 10 years or three generations, whichever is longer.[1]"

[1] https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs43entire.pdf

5. Main factors resulting in threat classification changes include browsing pressures from deer, pigs, goats, Tahr, chamois, wallabies and possums; weeds spread, encroachment and smothering of native plants; ongoing habitat loss through vegetation clearance; climate change causing drought and increasing fire risks; and impacts from myrtle rust disease on some plant species.

6. To summarise the 2023 assessment for Ashburton District (summary spreadsheet compiled by Alice Shanks is attached):

   i) 143 taxa in Ashburton District are now classified as Threatened, At Risk, Data Deficient or Extinct (Table 1.

   ii) The number of At Risk-Declining taxa has increased from 54 to 83.

   iii) The number of At Risk-Naturally Uncommon taxa has reduced from 34 to 25.

   iv) The number of Data Deficient taxa has reduced from 10 to 8.

   v) Trees plant form has increased from 6 to 43 trees around the district.

Table 1: Ashburton District Statistics:

2018	**2023**	**Threat classification**	**2018**	**2023**	**Plant form**
1	1	Extinct	6	43	trees
9	6	Threatened-Nationally Critical	18	20	shrubs
9	13	Threatened - Nationally Endangered	2	4	climbers
20	15	Threatened - Nationally Vulnerable	4	4	mistletoes
-----	0	Threatened - Nationally Increasing	66	74	herbs
54	83	At Risk- Declining	18	19	grasses
34	25	At Risk- Naturally Uncommon	10	11	sedges
1	----	At Risk- Recovering	7	8	rushes (other monocots)
2	0	At Risk- Relict	4	4	orchids
10	8	Data-deficient	3	1	lilies, monocots
			2	2	ferns
140	**151**			**151**	

Table 2: Plants Endemic to Ashburton

Species name	2023 Threat rank	Qualifiers
Craspedia diversicolor Whakanui woollyhead	Threatened - Nationally Critical	Population State unnatural Population Trend ongoing or predicted decline of 50-70% Population Size mature individuals <250 *(High confidence)*
Craspedia rugosa Heron Fan woollyhead	Threatened - Nationally Critical	Population State unnatural Population Trend ongoing or predicted decline of 10–30% Population Size mature individuals <250 *(High confidence)*
Pimelea dura	At Risk-Declining	Population State unnatural Population Trend ongoing or predicted decline of 10–30% Population Size area<=10000 m2*(Low confidence)*

7. ECAN staff have started compiling a Regional vascular Plant Threat list for Canterbury. Also, the Botanical Society's threat list for the Canterbury Plains Ecological Region will highlight the threat status of kānuka and mānuka on the Plains.

Key Changes since the last 2017 assessment for Mid-Canterbury

8. Tūmatakuru or matagouri *(Discaria toumatou)* - Not Threatened - formerly Declining. There is currently no obvious evidence for a decline in numbers and populations for matagouri and further retention as a declining species. The species has spread beyond its natural habitats (floodplains, rocky outcrops) onto hillslopes, where there was once forest and done well, especially where topdressing with superphosphate occurred. These made it hard to present a case for decline, even though there is a natural population decline due to herbicide use and vegetation clearance.

9. Kānuka and mānuka – Not threatened, formerly Nationally Vulnerable. These species have proved resilient to myrtle rust, which was the key reason it was listed as a threatened species in the past. This is followed by the taxonomic revision to one kānuka species with a north-to-south genetic cline has removed the need to list it. These species were reclassified based on more accurate and up-to-date information regarding Myrtle rust.

10. Regarding the rarity and representativeness of the plants within each Ecological District, the kanuka/manuka remnant is rare down here but abundant in North Island. While they are not threatened over there, they are in Canterbury and these need to be recognised as well.

11. The prostrate pōhuehue *Muehlenbeckia ephedriodes* – Declining, formerly Nationally Vulnerable. Changed status based on improved knowledge of the distribution and conservation efforts.

12. Other species of interest to Mid-Canterbury include

i) The twiggy shrub *Coprosma intertexta*- Declining. Mostly found in Ashburton District Roadside. This species continues to decline despite restoration efforts in recent

ii) The trailing sub-shrub *Coprosma acerosa* and *Coprosma brunnea* – At-Risk Declining

iii) Common native broom *Carmichaelia australis* now declining – in the last ten years roadside common broom on the Canterbury Plains marked with ADC significant vegetation markers have disappeared.

iv) *Carmichaelia torulosa*- Canterbury Pink Broom remains Nationally critical, the highest threat rank possible before extinction. The Mid-Canterbury population is reduced to about 9 locations . Council is launching a conservation effort to plant more of this species around all the reserves with native trees and all QEII sites to boost the population and will be partnering with Glenys Carr, QEII Trust Landowners, Wai-Ora Nursery and Environmental Canterbury Biodiversity team.

v) *Sophora prostrata*- prostrate kowhai is now At Risk - Declining (formerly Not Threatened) due to the aerial herbicide of "grey scrub" throughout Canterbury.

vi) The small daisy trees *Olearia odorata* and *O. lineata* - At Risk – Declining

vii) This assessment ranked more native grasses as Declining for the first time - wind grass, bamboo grass, hedgehog grass all occur around the Rakaia Gorge.

[Muehlenbeckia astonii does not grow any further south than Kaitiorete spit. - Threatened – Nationally Endangered}

Key implications for the District Biodiversity values

13. The changes in New Zealand's vascular plant threat status will affect how decisions are made within the ecological impact assessment for new subdivisions, land use change and infrastructure development within a native vegetation area.

14. Importantly, for resource management and consenting purposes, the presence of a "Threatened" or "At Risk" species in a site triggers the criterion for ecological significance in district and regional plans. This frequently results in tougher rules and mitigation approaches.

15. In terms of significant assessment, threatened species and their habitat or species providing habitats for threatened fauna are regarded significant within the "rarity and distinctiveness" criterion of the NPS-IB significant assessment and Canterbury RPS criteria.

16. Common species found in Canterbury high countries such as matagouri, can no longer be recognised as significant species within the EIA scenario. Management of these species now rests within the NPS-IB, indigenous vegetation outside the significant natural area, and District Plan vegetation clearance rules.

Updated Threat Classification of indigenous plants in the Ashburton District Council area

20 October 2024 Alice Shanks

2023 Reassessment

On 1 October 2024 the latest a reassessment of the conservation status of 2844 indigenous plant species in Aotearoa was published by the Department of Conservation. A panel of experts to revise the threat status of indigenous plants every 5 years (2008, 2012, 2015, 2018, no w2023), both named plant species and unnamed plant taxa with informal; ("tag") names.

The assessment considers the number of plants, the number of sub-populations with more than 250 individuals, the total area of occupancy and the trend in the population size. Taxa are assessed against the reported population size and trend since the last assessment and predicted future changes over the next 10 years or three generations, whichever is longer.

The 2023 assessment added a new category called "Threatened -Nationally Increasing" for At Risk species that have a static or increasing population.

More plants are threatened

It is a sobering analysis. The report states that "*92 vascular plant taxa are on the brink of extinction, including 9 that are functionally extinct, 6 that are presumed extinct in the wild and 3 that are possibly extinct but require dedicated surveys before their extinction can be presumed*."

In this assessment the main factors that resulted in a worse ranking is an increase in browsing by deer, pigs, goats, chamois, thar and wallabies, especially noticeable for alpine plants. Competition from weeds is an increasing threat, with the list of environmental weeds in New Zealand revised up to 386 plants this year (McAlpine, 2024). More weeds are expected to join that list in the future, from the pool of more than 24,000 introduced plants in New Zealand. The decline in natural habitats in the eastern South Island continues to increase the threat ranks of indigenous plant species that in drylands, shrublands and other non-forest ecosystems. Climate change and myrtle rust are expected to increase their detrimental impact on susceptible plant species.

Nationally, the swamp nettle *(Urtica perconfusa)* has benefited from an increase in riparian fencing, leading to a shift from At Risk – Declining to At Risk – Naturally Uncommon. However, the last known population in Ashburton appears to have become extinct. The discovery of a new populations in the Hakatere Conservation land has improved the threat rank of the montane daisy *Brachyscome pinnata.* Myrtle rust has not yet reduced mānuka and kānuka, the host plants for the pygmy mistletoe *Korthalsella salicornioides* so the former precautionary threat rank has been lifted.

Accurate status of local plants requires an Ashburton District assessment

Environment Canterbury have begun work on a Canterbury regional vascular plant assessment. A regional list will record local extinctions and declines, plants that are regionally common but nationally rare, and plants that are rare due to their natural scarcity in the Canterbury region (southern and northern distributional limits, eastern extensions, and specialist habitats that are rare in Ashburton, such as limestone outcrops).

Now that the National assessment is published the Canterbury Botanical Society will complete a vascular plant assessment for the Canterbury Plains Ecological Region, an area with extreme loss of indigenous plant species due to historic vegetation clearance and ongoing land use intensification.

Key changes for Ashburton

- More plants are declining, mainly herbs, shrubs, grasses, sedges in non-forest habitats.
- Matagouri no longer listed as At Risk-Declining
- Native brooms are in trouble – all but one of the broom species in Ashburton are listed: common native broom is on the list for the first time. The three dwarf broom species are all threatened, and Canterbury pink broom has the highest threat rank (Nationally Critical). The South Island Tyree broom is rare in the Ashburton District, The small number in the South branch of the Ashburton Hakatere river is an eastern extension from it stronghold on the West Coast.
- Species less vulnerable to myrtle rust no longer classified as threatened: rātā, climbing rātā, kānuka, mānuka. Rōhutu (*Lophomyrtus obcordata*) is susceptible to myrtle rust so it remains threatened.

Updated taxonomy relevant to Ashburton

- Kānuka in the Ashburton District is now all named *Kunzea ericoides*
- There are several botanical name changes in ferns and native grasses (see www.nzpcn.org.nz)
- The large-leaved tree daisies (*Olearia* species) are now referred to as *Macrolearia*
- The coastal herb *Tetragonia implexicoma* has reverted to *Tetragonia trigyna*
- The extinct native chickweed *Stellaria elatinoides* is now listed as *Stellaria multiflora* subsp. *multiflora.*

Table 1: Plants endemic to Ashburton

Species name	2023 Threat rank	Qualifiers
Craspedia diversicolor Whakanui woollyhead	Threatened - Nationally Critical	Population State unnatural Population Trend ongoing or predicted decline of 50-70% Population Size mature individuals <250 *(High confidence)*
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Table 2: Ashburton statistics:

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34	25	At Risk- Naturally Uncommon	10	11	sedges
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2	0	At Risk- Relict	4	4	orchids
10	8	Data-deficient	3	1	lilies, monocots
			2	2	ferns
140	**151**			**151**	

Assessment year	Threatened and At Risk plant species	Change since last assessment (excludes data-deficient)				
		Worse	Better	New listing	Neutral	No change
2018	130	39	9	4	9	79
2024	143	20	20	10	2	91

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Table 1: Ashburton Ecological Regions and Ecological Districts

Ecological region	Ecological Districts				
Canterbury Plains	Low Plains (LP)	High Plains (HP)			
Heron	Mt Hutt (MtH)	Mathais (MA)	Hakatere (HA)	Mt Arrowsmith (MtA)	Two Thumb (TT)
D'Archiac	Browning (BR)	Armoury (AR)			
Pareora	Orari (OR)				

Table 2: Threatened and At-Risk Vascular Plant species in the Ashburton District Council region

extracted from the 2023 New Zealand indigenous vascular plant assessment classification

	Ashburton District Plant species	Common name	Threat rank Category	Status	National Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref	Habitat	
herb	**Stellaria multiflora Hook subsp. muitiflora.**	a native chickweed	Extinct	Extinct										Plains 1921	dry alluvial grasslands
herb	**Cardamine alticola Heenan**	a bittercress	Threatened	Nationally Critical					MtH				9	Mt Hutt	Alpine rock cliffs, Mt Hutt Range
shrub	**Carmichaelia torulosa (Kirk) Heenan**	Canterbury pink broom	Threatened	Nationally Critical						HK			3	Headwaters of Hinds River	riparian lowland foothills
herb	**Craspedia rugosa Breitw. & K.A. Ford**	woollyhead	Threatened	Nationally Critical							HK		3	Cameron Fan	dry alluvial fan
herb	**Craspedia diversicolor Breitw. & K.A. Ford**	woollyhead	Threatened	Nationally Critical			LP						3	Wakanui beach	coastal banks Wakanui
herb	**Craspedia incana Allan**		Threatened	Nationally Critical					MtH					Mt Hutt	Alpine rock poutcrops
herb	**Crassula peduncularis (Sm.) F.Meigen**	a tiny succulent	Threatened	Nationally Critical						HK			3	Spider lakes	coastal montane damp hollows, ephemeral wetlands
rush	**Juncus holoschoenus R.Br.**	a native leafy rush	Threatened	Nationally Critical			LP						3	Locally extinct	coastal lowland wetland margins, poorly drained tussock grasslands
herb	**Raoulia (a) (CHR 79537; "K")**	a mat dairy	Threatened	Nationally Critical						HK			AS		Lake Heron river gravels

	Ashburton District Plant species	Common name	Threat rank Category	Status	National Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		Habitat
herb	**Brachyscome pinnata Hook. F.**	a montane daisy	Threatened	Nationally Endangered	Better	More knowledge									Heron basin grassland
sedge	**Carex cirrhosa Berggr.**	Curly Sedge	Threatened	Nationally Endangered			LP			HK			3	Beach	Lake and kettlehole margins
herb	**Crassula multicaulis (Petrie) A.P.Druce & Given**	a tiny succulent	Threatened	Nationally Endangered			LP						3	Rakaia township 1977	coastal montane damp hollows, ephemeral wetlands
herb	**Dysphania pusilla (Hook.f.) Mosyakin & Clemants**	a native fathen	Threatened	Nationally Endangered						HK			3	Spider lakes	inland, montane margins ephemeral wetlands , streams
herb	**Gingidia enysii var. enysii (Kirk) J.W.Dawson**	native aniseed	Threatened	Nationally Endangered											Limestone bluffs
herb	**Hypericum rubicundulum Heenan**	a native swamp St Johns wort	Threatened	Nationally Endangered						HK				Spider lakes	montane, subalpine inland ephemeral wetlands
shrub	**Pimelea declivis C.J. Burrows**	A limestone pimelea	Threatened	Nationally Endangered	Better	More knowledge								Limestone outcrops	
herb	**Pachycladon cheesemanii Heenan & A.D.Mitch.**	dryland cress	Threatened	Nationally Endangered					MtH				3	Mt Somers	Dry rocky bluffs , overhangs, scrub and tussock
herb	**Senecio dunedinensis Belcher**	a native groundsell	Threatened	Nationally Endangered									3		Scrub, dry rocky overhangs
herb	**Sonchus aff. novae-zelandiae (a) (CHR 517718; "grassland")**	A native puha	Threatened	Nationally Endangered	Worse										Limestone bluffs
rush	**Triglochin palustris L.**	A wetland reed	Threatened	Nationally Endangered	Better	Reinterpretation of data									High Country wetlands
lily	**Wurmbea novae-zelandiae (Hook.f. ex Kirk) Lekhak, Survesw. & S.R.Yadav**	Iphigenia	Threatened	Nationally Endangered						HK			3	Spider lakes	winter wet hollows, ephemeral wetlandsholl
herb	**Atriplex buchananii (Kirk) Cheeseman**	Buchanan's orache	Threatened	Nationally Vulnerable									2	South Rakaia huts	Coast
shrub	**Carmichaelia corrugata Colenso**	Ordered alphabetically	Threatened	Nationally Vulnerable			LP			HK			3	Wakanui beach	coastal and montane alluvial terraces
shrub	**Carmichaelia crassicaulis subsp. racemosa (Kirk) Heenan**	coral broom	Threatened	Nationally Vulnerable					MtH	HK			10	Mt Somers	montane subalpinerock outcrops, tallus
rush	**Centrolepis glabra (F.Muell. ex Sond.) Hieron.**		Threatened	Nationally Vulnerable	Worse	Actual decline				HK				Tarn edges	Spider lakes

	Ashburton District Plant species	Common name	Threat rank Category	Status	National Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		Habitat
herb	**Colobanthus aff. brevisepalus (a) (CHR 688765; "limestone")**	a limestone mat chickweed	Threatened	Nationally Vulnerable	Neutral	New							13		Limestone bluffs
herb	**Daucus glochidiatus (Labill.) Fisch., C.A.Mey. & Avé-Lall.**	Native dwarf carrot	Threatened	Nationally Vulnerable	Worse	Actual decline				HK			AS	Potts River outcrops	shrubland, damp banks , under open canopy
herb	**Geranium retrorsum L'Hér. ex DC.**	a native geranium	Threatened	Nationally Vulnerable			LP						AS	Plains	open grassland
rush	**Luzula celata Edgar**	a woodrush	Threatened	Nationally Vulnerable	worse	Actual decline				HK			3		river beds, ephemeral wetland margins
shrub	**Melicytus flexuosus Molloy & A.P.Druce**	leafless porcupine shrub	Threatened	Nationally Vulnerable							MtA			Mt Arrowsmith, 1910	forest margins
herb	**Montigena novae-zelandiae (Hook.f.) Heenan**	scree pea	Threatened	Nationally Vulnerable	Worse	Reinterpretation of data			MtH		MtA		3	One 1910 record **SP027012**	scree
herb	***Myosotis antarctica* subsp. *traillii* Kirk**	a native forget-me-not	Threatened	Nationally Vulnerable	Worse	Actual decline					MtA		3	Mt Arrowsmith	open rock
herb	**Myosotis uniflora Hook. f**	a native forget-me-not	Threatened	Nationally Vulnerable	Worse	Actual decline				HK			3	Hakatere	River terrace
grass	**Rytidosperma telmaticum Connor & Molloy**	a native danthonia grass	Threatened	Nationally Vulnerable	Worse	Reinterpretation of data				HK			3	Hakatere riverbed	ephemeral wetlands
orchid	***Spiranthes australis* (R.Br.) Lindl.**	Ladies tresses orchid	Threatened	Nationally Vulnerable	Worse	Decline trend		HP					AS	Ashburton Forks	
herb	**Lepidium tenuicaule Kirk**	shore cress	Threatened	Nationally Vulnerable									3	Near Ashburton, 1999	coastal turfs
herb	**Acaena buchananii Hook.f.**	a bidibidi	At Risk	Declining			LP							Wakanui coast, Mt Possession	Dry spurs, fescue tussock grassland terraces and moraines
herb	**Aciphylla subflabellata W.R.B.Oliv.**	tataramoa, grassland spaniard	At Risk	Declining				HP		HK			3	Extinct on Plains	Damp Poa cita grasslands/wetland
mistletoe	**Alepis flavida (Hook.f.) Tiegh.**	yellow mistletoe, pirita	At Risk	Declining					MtH				3	Staveley forest remnants	Mountain and black beech
grass	**Amphibromus fluitans Kirk**	water brome	At Risk	Declining	Better	More knowledge				HK			3	Spider lakes	Muddy lake and kettlehole margins
grass	**Anemanthele lessoniana (Steud.) Veldkamp**	wind grass	At Risk	Declining	Worse	Actual decline			MtH				3	Rakaia Gorge	Lowland dappled light forest
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
herb	**Anisotome pilifera (Hook.f.) Cockayne & Laing**		At Risk	Declining	Worse	Actual decline								Armory Range	Alpine rocky outcrops
grass	**Anthosachne falcis (Connor) Barkworth & S.W.L.Jacobs**	a native blue wheatgrass	At Risk	Declining						HK			3	Paddle Hill grassland	Dry depleted grasslands outwash and moraine
fern	**Botrychium australe R.Br.**	parsley fern	At Risk	Declining	Worse	Actual decline				HK			3	Spider lakes	short tussock grassland
sedge	**Carex talbotii Kottaim.**	Berggren's Sedge	At Risk	Declining						HK			3	Spider lakes	Kettleholes and lake margins
sedge	**Carex buchananii Berggr.**	Buchanan's sedge	At Risk	Declining				HP		HK			3	River edges	Stream /wetland margins
sedge	**Carex decurtata Cheeseman**	a sedge	At Risk	Declining	Neutral	Actual decline				HK			3	Ashburton lakes	Kettlehole ,argins, winter wet terraces, damp depressions
sedge	**Carex kaloides Petrie**	a sedge	At Risk	Declining						HK			3	Ashburton lakes	Montane - subalpine stream wetland margins
sedge	**Carex resectans Cheeseman**	desert sedge	At Risk	Declining	Worse	new				HK				Cameron valley	Dry grassland
sedge	**Carex rubicunda Petrie**	a sedge	At Risk	Declining	Better	More knowledge									
sedge	**Carex tenuiculmis (Petrie) Heenan & de Lange**	red leaved swamp sedge	At Risk	Declining						HK			3	Ashburton lakes	montane swamps, stream margins
sedge	**Carex uncifolia Cheeseman**	a sedge	At Risk	Declining	Better	More knowledge				HK			3	Ashburton Beach, 1921	damp seepages tussock grassland
shrub	**Carmichaelia australis R.Br.**	common broom	At Risk	Declining	Worse	Actual decline new									
shrub	**Carmichaelia monroi Hook.f.**	a dwarf mat broom	At Risk	Declining					MtH	HK			3	Plains	alluvial outwash, moraines , dry spurs
shrub	**Carmichaelia uniflora Kirk**	a dwarf mat broom	At Risk	Declining						HK			4	Cameron fan	alluvial terraces
climber	**Chenopodium allanii Aellen**	A fathen	At Risk	Declining	Worse	Actual decline							AS	Rakaia Gorge	lowland dry shrublands , bluffs
herb	**Colobanthus brevisepalus Kirk**	a mat chickweed	At Risk	Declining									13		Coastal gravels
herb	**Colobanthus aff. brevisepalus (a) (CHR688765); "limestone")**	A limestone mat chickweed													
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
shrub	**Coprosma acerosa A.Cunn.**	trailing mikimiki	At Risk	Declining					MtH						Montane rock outcrops
shrub	**Coprosma intertexta G.Simpson**	mikimiki					LP				HK		2	Maronan, Carew	riparian shrublands, rocky bluffs
shrub	**Coprosma obconica Kirk**	mikimiki	At Risk	Declining	Better	More knowledge			MtH				AS	Rakaia Gorge	lowland to montane fertile forests, shrublands
shrub	**Coprosma rubra Petrie**	mikimiki	At Risk	Declining	Worse	Actual decline new								River scrub	Mt Somers
grass	**Deschampsia cespitosa (L.) P.Beauv.**	native hair grass	At Risk	Declining						HK			3	Mt Posession	Coastal to Subalpine wetlands and margins
herb	**Epilobium tenuipes P.H.Raven & Engelhorn**	a willowherb	At Risk	Declining	Worse	Actual decline New				HK			3	Scots Saddle Alford	wetlands margins one record
herb	**Epilobium angustum (Cheeseman) P.H.Raven & Engelhorn**	a willowherb	At Risk	Declining	Worse	Actual decline				HK			3	Spider lakes	montane subalpine ephemeral wetlands margins
herb	**Epilobium chionanthum (Cheeseman) P.H.Raven & Engelhorn**	a willowherb	At Risk	Declining	Worse	Actual decline				HK			3	Mt Alford	wetlands margins one record
herb	**Epilobium insulare Hausskn.**	a willowherb	At Risk	Declining					MtH	HK			3	Mt Posession	lowland to subalpine bogs wetland margins
herb	**Eryngium vesiculosum Labill.**	sea holly	At Risk	Declining	Better	More knowledge	LP						2		coastal gravles
herb	**Euchiton delicatus (D.G.Drury) Holub**	a NZ cudweed	At Risk	Declining	Worse	Reinterpretation of data New									
herb	**Euchiton ensifer (D.G.Drury) Holub**	a NZ cudweed	At Risk	Declining	Better	More knowledge									
herb	**Euchiton polylepis (D.G.Drury) Breitw. & J.M.Ward**	a NZ cudweed	At Risk	Declining	Worse	Actual decline			MtH	HK			3		montane alpine ephemeral wetland, lake margins
sedge	**Ficinia spiralis (A.Rich.) Muasya & de Lange**	pingao	At Risk	Declining			LP						2	Rakaia Huts	coastal dunes
fern	**Isoetes kirkii A.Braun**	quillwort	At Risk	Declining						HK			3	Ashburton lakes 1992	Lake margins
rush	**Juncus caespiticius E.Mey.**	a native leafy rush	At Risk	Declining				HP					AS	Ashburton Forks	damp coastal banks, dune swales
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
mistletoe	**Korthalsella clavata (Kirk) Cheeseman**	a dwarf mistletoe	At Risk	Declining						HK			AS	Potts River	shrublands
herb	**Lagenophora barkeri Kirk**	a grassland daisy	At Risk	Declining	Worse	Actual decline					MtA		3		montane lake and tarn margins
herb	**Leptinella maniototo (Petrie) D.G.Lloyd & C.J.Webb**	wetland batchelors button	At Risk	Declining	Worse	Actual decline				HK				Lake Heron margins	Montane wetlands
herb	**Leptinella pusilla Hook.f.**	a grassland daisy	At Risk	Declining						HK			3		Dry stony alluvial terraces
herb	**Leptinella serrulata (D.G.Lloyd) D.G.Lloyd & C.J.Webb**	a grassland daisy	At Risk	Declining						HK			3	Plains, coast	Dry stony alluvial terraces
herb	**Leucopogon nanum M.I.Dawson & Heenan**	a small heath	At Risk	Declining						HK			3		Dry moraine, outwash
herb	**Linum monogynum G. Forst. var. monogynum**	rauhuia	At Risk	Declining										Wakanui coast	
herb	**Lobelia ionantha Heenan**	tarn lobelia	At Risk	Declining						HK			3	Spider lakes	ephemeral wetland margins
tree	**Lophomyrtus obcordata (Raoul) Burret**	rohutu	At Risk	Declining	Better	More knowledge							AS	Rakaia Gorge	forest understory
rush	**Luzula ulophylla (Buchenau) Cockayne & Laing**	a woodrush	At Risk	Declining						HK			4	Hakatere river terrace	inland dry deflation, stony outwash, riverbeds
herb	**Mentha cunninghamii Benth.**	native mint	At Risk	Declining					MtH					Rakaia faces	Damp grassland
grass	**Microlaena polynoda (Hook.f.) Hook.f.**	Bamboo grass	At Risk	Declining	Worse	Actual decline New								Rakaia gorge	Opn, dry forest
herb	**Montia angustifolia Heenan**	blinks	At Risk	Declining	Worse	Actual decline			MtH				3	Spider lakes	wetland marginsds
herb	**Muehlenbeckia ephedroides Hook.f.**	prostrate pohuehue	At Risk	Declining	Better	More knowledge							4	Coast, plains	coast, dry river terrace
herb	**Myosotis spathulata G. Forst.**	A tinyforget-me-not	At Risk	Declining	Worse	Actual decline New									Limestone, montane grassland
herb	**Myosurus minimus subsp. novae-zelandiae (W.R.B.Oliv.) Garn.-Jones**	NZ mousetail	Threatened	Declining	Better	More knowledge	LP			HK			3	Near Ashburton river, 1999	winter damp summer dry hollows, channels, wetlands
tree	**Olearia lineata (Kirk) Cockayne**	A swamp tree daisy	At Risk	Declining					MtH				3		terrace risers, alluvial fans, riparian
shrub	**Olearia odorata petrie**		At Risk	Declining	Worse	Actual decline New								Mt Harper	Along a stream
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
herb	**Oxybasis glauca subsp. ambigua (R.Br.) Mosyakin**	a native goosefoot	At Risk	Declining			LP						3		coastal
mistletoe	**Peraxilla tetrapetala (L.f.) Tiegh.**	a red beech mistletoe	At Risk	Declining					MtH				6	Foothill beech forest	mountain and black beech
shrub	**Pimelea dura C.J.Burrows**	a native daphne	At Risk	Declining	Neutral	Reinterpretation of data			MtH	HK	MtA		3		montane-subalpine fescue tussock grasslands
grass	**Poa billardierei (Spreng.) St.-Yves**	a native grass	At Risk	Declining			LP						2		sand dunes swales
herb	**Polygonum plebeium R.Br.**	a native wireweed	At Risk	Declining			LP						3	Ashburton 1903	wetland marginsds
orchid	**Pterostylis tanypoda D.L.Jones, Molloy & M.A.Clem.**	a greenhood orchid	At Risk	Declining						HK			3		tussock grasslands alluvial outwash and moraines
orchid	**Pterostylis tristis Colenso**	a greenhood orchid	At Risk	Declining						HK			3		tussock grasslands alluvial outwash and moraines
herb	**Ranunculus crithmifolius Hook.f.**	A montane buttercup	At Risk	Declining	Worse	Actual decline New								Hakatere	Tops of hill, open stonefields
herb	**Ranunculus godleyanus Hook.f.**	A montane buttercup	At Risk	Declining	Worse	Actual decline New								Hakatere	
herb	**Ranunculus haastii Hook.f.**	an alpine buttercup	At Risk	Declining					MtH				3	Mt Hutt Skifield	scree
herb	**Ranunculus macropus Hook.f.**	swamp buttercup	At Risk	Declining	Neutral	More knowledge		HP		HK			AS		lowland swamps
herb	**Raoulia aff. hookeri (a) (AK 239529; "coast")**	a mat dairy	At Risk	Declining			LP						2		riverbed
herb	**Raoulia australis Hook.f. ex Raoul**	scabweed	At Risk	Declining			LP	HP		HK			3		river beds, dry bare terraces
herb	**Raoulia beauverdii Cockayne**	scabweed	At Risk	Declining					MtH	HK			3		Montane bare ground
herb	**Raoulia parkii Buchanan**	a mat dairy	At Risk	Declining						HK			3	Ashburton Forks	open grassland
herb	**Raoulia monroi Hook.f.**	fan daisy	At Risk	Declining	Better	More knowledge	LP	HP		HK			AS	Cameron Fan	river beds, dry bare terraces
tree	**Raukaua edgerleyi (Hook.f.) Seem.**	raukawa	At Risk	Declining	Worse	Actual decline New								Sharplin Falls	One record on iNaturalist
grass	**Rytidosperma buchananii (Hook.f.) Connor & Edgar**	a native danthonia grass	At Risk	Declining						HK			3		alluvial grasslands, rocky areas
grass	**Rytidosperma exiguum (Kirk) H.P.Linder**	a native danthonia grass	At Risk	Declining						HK			3		dry alluvial outwash
grass	**Rytidosperma maculatum (Zotov) Connor & Edgar**	a native danthonia grass	At Risk	Declining	Neutral	More knowledge				HK			3		dry alluvial outwash
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
grass	**Rytidosperma merum Connor & Edgar**	a native danthonia grass	At Risk	Declining			LP	LP					AS	Hinds, Timaru Track	dry alluvial outwash
grass	**Rytidosperma thomsonii (Buchanan) Connor & Edgar**	a native danthonia grass	At Risk	Declining						HK			AS		dry alluvial outwash
climber	**Scandia geniculata (G.Forst.) J.W.Dawson**	climbing aniseed	At Risk	Declining	Worse	Actual decline New			MtH					Rakaia Faces	North shrubland
shrub	**Sophora prostrata Buchanan**	Prostrate kōwhai	At Risk	Declining	Worse	Actual decline New			MtH					Rakaia Faces	North rocky outcrops
herb	**Taraxacum zelandicum Dahlst.**	Native dancdelion	At Risk	Declining		More knowledge New									
mistletoe	**Tupeia antarctica (G.Forst.) Cham. & Schltdl.**	white mistletoe, tupeia	At Risk	Declining					MtH				3		hardwood forest
shrub	**Veronica lilliputiana Stearn**	a tarn hebe	At Risk	Declining									3		muddy wetland margins
shrub	**Aciphylla montana var. gracilis (W.R.B.Oliv.) J.W.Dawson**	Taramea, speargrass	At Risk	Naturally Uncommon					mtH					Mt Taylor	One record on iNaturalist
grass	**Agrostis pallescens Cheeseman**	a native browntop	At Risk	Naturally Uncommon						HK			3	Ashburton lakes 1992	Montane and alpine bogs
sedge	**Carex enysii Petrie**	Enys's Sedge	At Risk	Naturally Uncommon						HK			3	Ashburton lakes	stony moist ground, montane
grass	**Chionochloa vireta Connor**	snow tussock	At Risk	Naturally Uncommon							MtA		4	Laurence Valley	subalpine tussock grasslands
climber	**Clematis quadribracteolata Colenso**	clematis	At Risk	Naturally Uncommon						HK			2	Plains, Kaitorete	dry shrublands
herb	**Crassula ruamahanga A.P.Druce emend de Lange & Heenan**	a tiny succulent	At Risk	Naturally Uncommon			LP						3	Ashburton River 1919	Sea level to lowland damp habitat
herb	**Geranium aff. retrorsum (a) (AK 299877; Canterbury)**	geranium	At Risk	Naturally Uncommon											Low Plains roadsides
sedge	**Isolepis basilaris Hook.f.**	a dwarf spike sedge	At Risk	Naturally Uncommon	Better	More knowledge				HK			3	Wakanui 1999	recent alluvial gravels, lake margins
rush	**Juncus pusillus Buchenau**	a dwraf rush	At Risk	Naturally Uncommon						HK			3		wet margins
rush	**Luzula leptophylla Buchenau & Petrie**	a woodrush	At Risk	Naturally Uncommon						HK			3	Mt Somers, 1931	?
herb	**Montia erythrophylla Heenan (Heenan)**	blinks	At Risk	Naturally Uncommon					MtH	HK			15	M Hutt ski field	Scree
herb	**Myosotis explanate Cheeseman**	a native forget-me-not	At Risk	Naturally Uncommon							MtA		4	Mt Potts, 1951	rock crag
	Ashburton District Plant species	**Common name**	**Threat rank**		**National**										**Habitat**

			Category	Status	Change	Reason	LP	HP	MtH	HK	MtA	TT	Ref		
herb	**Myosotis lyallii subsp. elderi (L.B.Moore) Meudt & Prebble**	a native forget-me-not	Threatened	Naturally Uncommon	Better	More knowledge					MtA		3	Double Hill, Winterlow	fellfield, bogs
herb	**Myosotis suavis Petrie**	a native forget-me-not	Data Deficient	Naturally Uncommon		More knowledge				HK			4	Mt Potts	
grass	**Pentapogon youngii (Hook.f.) Buchanan**	a native grass	At Risk	Naturally Uncommon									6	Mt Somers	Lowland to alpine
shrub	**Pimelea pseudolyallii Allan**	a native daphne	At Risk	Naturally Uncommon				HP	MtH	HK	MtA		3		subalpine scrub
herb	**Plantago obconica Sykes**	a native ratstail	At Risk	Naturally Uncommon					MtH				3	Mt Somers	subalpine acidic bogs
tree	**Pseudopanax ferox Kirk**	fierce lancewood	At Risk	Naturally Uncommon					MtH				3	Rakaia Gorge	sunny rock bluffs
herb	**Ranunculus maculatus Cockayne & Allan**	a bog buttercup	At Risk	Naturally Uncommon					MtH	HK			3		subalpine bogs
herb	**Raoulia (c) (CHR 401140; "M")**	a mat dairy	At Risk	Naturally Uncommon						HK			AS	Home Creek	
herb	**Raoulia petriensis Kirk**	a mat daisy	At Risk	Naturally Uncommon					Mt	HK			AS	Mt Taylor	alpine rock and scree
grass	**Stenostachys enysii (Kirk) Barkworth & S.W.L.Jacobs**	a native grass	At Risk	Naturally Uncommon					MtH				3	Mt Somers	subalpine shady boulders
herb	**Tetragonia tetragonioides (Pall.) Kuntze**	NZ spinach	At Risk	Naturally Uncommon			LP						2	Wakanui	
orchid	**Thelymitra formosa Colenso**	a sun orchid	At Risk	Naturally Uncommon					MtH				2	Mt Somers	shrublands, clay banks lowland to sub-alpine
shrub	**Veronica amplexicaulis J.B.Armstr. f. amplexicaulis**	a hebe	At Risk	Naturally Uncommon									3		Mt Somer Mt Peel rocky sites, gorges
shrub	**Veronica tetrasticha Hook. f**	montane whipcord hebe	At Risk	Naturally Uncommon					MtH	HK	MtA		3		montane rock outcrops
herb	**Urtica perconfusa Grosse-Veldmann & Weigend**	swamp nettle	At Risk	Declining	Better	Actual improvement	LP						AS		Lowland high fertility wetlands, river margins
herb	**Ranunculus godleyanus Hook.f.**	an alpine buttercup	At Risk	Recovering							MtA		3		alpine rock
grass	**Agrostis imbecilla Zotov**	feeble bent	Data Deficient	Data Deficient					MtH				7	Mt Somers, 1984	Montane upward damp grassland
herb	**Brachyglottis aff. lagopus (CHR 402068, Somers)**	Yellow groundsell		Data Deficient											Mt Somers
herb	**Myosotis (i) (CHR 394402; Somers)**	a native forget-me-not	Data Deficient	Data Deficient					MtH				3	Mt Somers 1987	Stream bank in beech forest
climber	**Parsonsia capsularis var. tenuis G.Simpson & J.S.Thomson**	NZ jasmine	Data Deficient	Data Deficient					MtH				AS	Rakaia Gorge	
	Ashburton District Plant species	**Common name**	**Threat rank Category**	**Status**	**National Change**	**Reason**	**LP**	**HP**	**MtH**	**HK**	**MtA**	**TT**	**Ref**		**Habitat**

grass	**Poa intrusa Edgar**	a native grass	Data Deficient	Data Deficient					MtH		MtA		2	Mt Somers	
herb	**Ranunculus royi G.Simpson**	A grassland buttercup	Data Deficient	Data Deficient						HK				Paddle stream	Montane grassland
grass	**Rytidosperma corinum Connor & Edgar**	Rocky outcrop grass		Data Deficient		new									Limestone outcrop

Threatened and At Risk Vascular Plant species in the Ashburton District Council region

extracted from the 2023 New Zealand indigenous vascular plant classification (1)

Alphabetical by botanical name

Scientific name	A common name	Threat rank		Trend	Reason
Acaena buchananii	a bidibidi	At Risk	Declining		
Aciphylla montana var. gracilis	Taramea, speargrass	At Risk	Naturally Uncommon		
Aciphylla subflabellata	tataramoa, grassland spaniard	At Risk	Declining		
Agrostis imbecilla	feeble bent	Data Deficient			
Agrostis pallescens	a native browntop	At Risk	Naturally Uncommon		
Alepis flavida	yellow mistletoe, pirita	At Risk	Declining		
Amphibromus fluitans	water brome	At Risk	Declining	Better	More knowledge
Anemanthele lessoniana	wind grass	At Risk	Declining	Worse	Actual decline
Anisotome pilifera		At Risk	Declining	Worse	Actual decline
Anthosachne falcis	a native blue wheatgrass	At Risk	Declining		
Atriplex buchananii	Buchanan's orache	Threatened	Nationally Vulnerable		
Botrychium australe	parsley fern	At Risk	Declining	Worse	Actual decline
Brachyglottis aff. lagopus (CHR 402068, Somers)	a yellow grounsell	Data Deficient			
Brachyscome pinnata	a montane daisy	Threatened	Nationally Endangered	Better	More knowledge
Cardamine alticola	a bittercress	Threatened	Nationally Critical		
Carex buchananii	Buchanan's sedge	At Risk	Declining		
Carex cirrhosa	Curly Sedge	Threatened	Nationally Endangered		
Carex decurtata	a sedge	At Risk	Declining	Neutral	Actual decline
Carex enysii	Enys's Sedge	At Risk	Naturally Uncommon		
Carex kaloides	a sedge	At Risk	Declining		
Carex rescetans	Desert sedge	At Risk	Declining	Worse	new
Carex rubicunda	a sedge	At Risk	Declining	Better	More knowledge

Scientific name	A common name	Threat rank		Trend	Reason
Carex talbotii	Berggren's Sedge	At Risk	Declining		
Carex tenuiculmis	red leaved swamp sedge	At Risk	Declining		
Carex uncifolia	a sedge	At Risk	Declining	Better	More knowledge
Carmichaelia australis	common broom	At Risk	Declining	Worse	Actual decline new
Carmichaelia corrugata	dwarf broom	Threatened	Nationally Vulnerable		
Carmichaelia crassicaulis subsp. racemosa	coral broom	Threatened	Nationally Vulnerable		
Carmichaelia monroi	a dwarf mat broom	At Risk	Declining		
Carmichaelia torulosa	Canterbury pink broom	Threatened	Nationally Critical		
Carmichaelia uniflora Kirk	a dwarf mat broom	At Risk	Declining		
Centrolepis glabra	A wetland reed	Threatened	Nationally Vulnerable	Worse	Actual decline
Chenopodium allanii	a fathen	At Risk	Declining	Worse	Actual decline
Chionochloa vireta	snow tussock	At Risk	Naturally Uncommon		
Clematis quadribracteolata	clematis	At Risk	Naturally Uncommon		
***Colobanthus* aff. brevisepalus (a) (CHR 688765; "limestone")**	a limestone mat chickweed	Threatened	Nationally Vulnerable	Neutral	New
Colobanthus brevisepalus	a mat chickweed	At Risk	Declining		
Coprosma acerosa		At Risk	Declining		
Coprosma intertexta	mikimiki	At Risk	Declining		
Coprosma obconica	mikimiki	At Risk	Declining	Better	More knowledge
Coprosma rubra	mikimiki	At Risk	Declining	Worse	Actual decline new
Craspedia diversicolor	Whakanui woollyhead	Threatened	Nationally Critical		
Craspedia rugosa	Heron woollyhead	Threatened	Nationally Critical		
Crassula multicaulis	a tiny succulent	Threatened	Nationally Endangered		
Crassula peduncularis	a tiny succulent	Threatened	Nationally Endangered		
Crassula ruamahanga	a tiny succulent	At Risk	Naturally Uncommon		
Daucus glochidiatus	Native dwarf carrot	Threatened	Nationally Vulnerable	Worse	Actual decline
Deschampsia cespitosa	native hair grass	At Risk	Declining		

Scientific name	A common name	Threat rank		Trend	Reason
Dysphania pusilla	a native fathen	Threatened	Nationally Endangered		
Epilobium angustum	a willowherb	At Risk	Declining	Worse	Actual decline
Epilobium chionanthum	a willowherb	At Risk	Declining	Worse	Actual decline
Epilobium insulare	a willowherb	At Risk	Declining		
Epilobium tenuipes	a willowherb	At Risk	Declining	Worse	Actual decline
Eryngium vesiculosum	sea holly	At Risk	Declining	Better	More knowledge
Euchiton delicatus	a NZ cudweed	At Risk	Declining	Worse	Reinterpretation of data
Euchiton ensifer	a NZ cudweed	At Risk	Declining	Better	More knowledge
Euchiton polylepis	a NZ cudweed	At Risk	Declining	Worse	Actual decline
Ficinia spiralis	a cudweed	At Risk	Declining		
Geranium retrorsum	a native geranium	Threatened	Nationally Vulnerable		
***Geranium* aff. retrorsum (a) (AK 299877; Canterbury)**	a native geranium	At Risk	Naturally Uncommon		
Gingidia enysii var. enysii	native aniseed	Threatened	Nationally Endangered		
Hypericum rubicundulum	a native swamp St Johns wort	Threatened	Nationally Endangered		
Isoetes kirkii	Quillwort	At Risk	Declining		
Isolepis basilaris	a dwarf spike sedge	At Risk	Naturally Uncommon	Better	More knowledge
Juncus caespiticius	a native leafy rush	At Risk	Declining		
Juncus holoschoenus	a native leafy rush	Threatened	Nationally Critical		
Juncus pusillus	a dwraf rush	At Risk	Naturally Uncommon		
Korthalsella clavata	a dwarf mistletoe	At Risk	Declining		
Lagenophora barkeri	a grassland daisy	At Risk	Declining	Worse	Actual decline
Lepidium tenuicaule	shore cress	Threatened	Nationally Vulnerable		
Leptinella maniototo	wetland batchelors button	At Risk	Declining	Worse	Actual decline
Leptinella pusilla	a grassland daisy	At Risk	Declining		
Leptinella serrulata	a grassland daisy	At Risk	Declining		
Leucopogon nanum	a small heath	At Risk	Declining		
Linum monogynum var. monogynum		At Risk	Declining		

Scientific name	A common name	Threat rank		Trend	Reason
Lobelia ionantha	tarn lobelia	At Risk	Declining		
Lophomyrtus obcordata	rohutu	At Risk	Declining	Better	More knowledge
Luzula celata	a woodrush	Threatened	Nationally Vulnerable	worse	Actual decline
Luzula leptophylla	a woodrush	At Risk	Naturally Uncommon		
Luzula ulophylla	a woodrush	At Risk	Declining		
Melicytus flexuosus	leafless porcupine shrub	Threatened	Nationally Vulnerable		
Mentha cunninghamii	native mint	At Risk	Declining		
Microlaena polynoda	Bamboo grass	At Risk	Declining	Worse	Actual decline
Montia angustifolia	blinks	At Risk	Declining	Worse	Actual decline
Montia erythrophylla	blinks	At Risk	Naturally Uncommon		
Montigena novae-zelandiae	scree pea	Threatened	Nationally Vulnerable	Worse	Reinterpretation of data
Muehlenbeckia ephedroides	prostrate pohuehue	At Risk	Declining	Better	More knowledge
***Myosotis* (i) (CHR 394402; Somers)**	a native forget-me-not	Data Deficient			
Myosotis antarctica subsp. traillii	a native forget-me-not	Threatened	Nationally Vulnerable	Worse	Actual decline
Myosotis explanata	a native forget-me-not	At Risk	Naturally Uncommon		
Myosotis lyallii subsp. elderi	a native forget-me-not	Threatened	Naturally Uncommon	Better	More knowledge
Myosotis spathulata G. Forst.	A tinyforget-me-not	At Risk	Declining	Worse	Actual decline
Myosotis suavis	a native forget-me-not	Data Deficient	Naturally Uncommon		More knowledge
Myosotis uniflora	a native forget-me-not	Threatened	Nationally Vulnerable	Worse	Actual decline
Myosurus minimus subsp. novae-zelandiae	NZ mousetail	Threatened	Declining	Better	More knowledge
Olearia lineata	A swamp tree daisy	At Risk	Declining		
Olearia odorata petrie		At Risk	Declining	Worse	Actual decline
Oxybasis glauca* subsp. *ambigua	a native goosefoot	At Risk	Declining		

Scientific name	A common name	Threat rank		Trend	Reason
Pachycladon cheesemanii	dryland cress	Threatened	Nationally Endangered		
Parsonsia capsularis var. tenuis		Data Deficient	Data Deficient		
Pentapogon youngii	a native grass	At Risk	Naturally Uncommon		
Peraxilla tetrapetala	a red beech mistletoe	At Risk	Declining		
Pimelea declivis	A limestone pimelea	Threatened	Nationally Endangered	Better	More knowledge
Pimelea dura	a native daphne	At Risk	Declining	Neutral	Reinterpretation of data
Pimelea pseudolyallii	a native daphne	At Risk	Naturally Uncommon		
Plantago obconica	a native ratstail	At Risk	Naturally Uncommon		
Poa billardierei	a native grass	At Risk	Declining		
Poa intrusa	a native grass	Data Deficient			
Polygonum plebeium	a native wireweed	At Risk	Declining		
Pseudopanax ferox	fierce lancewood	At Risk	Naturally Uncommon		
Pterostylis tanypoda	a greenhood orchid	At Risk	Declining		
Pterostylis tristis	a greenhood orchid	At Risk	Declining		
Ranunculus crithmifolius	A montane buttercup	At Risk	Declining	Worse	Actual decline
Ranunculus godleyanus	an alpine buttercup	At Risk	Declining	Worse	Actual decline
Ranunculus haastii	an alpine buttercup	At Risk	Declining		
Ranunculus macropus	swamp buttercup	At Risk	Declining	Neutral	More knowledge
Ranunculus maculatus	a bog buttercup	At Risk	Naturally Uncommon		
Ranunculus royi G.Simpson		Data Deficient	Data Deficient		
***Raoulia* (a) (CHR 79537; "K")**	a mat dairy	Threatened	Nationally Critical		
***Raoulia* (c) (CHR 401140; "M")**	a mat dairy	At Risk	Naturally Uncommon		
***Raoulia* aff. hookeri (a) (AK 239529; "coast")**	a mat dairy	At Risk	Declining		
Raoulia australis	scabweed	At Risk	Declining		
Raoulia beauverdii	scabweed	At Risk	Declining		
Raoulia monroi	fan daisy	At Risk	Declining	Better	More knowledge
Raoulia parkii	a mat dairy	At Risk	Declining		
Raoulia petriensis	a mat daisy	At Risk	Naturally Uncommon		

Scientific name	A common name	Threat rank		Trend	Reason
Raukaua edgerleyi	raukawa	At Risk	Declining	Worse	Actual decline
Rytidosperma buchananii	a native danthonia grass	At Risk	Declining		
Rytidosperma corinum	Rocky outcrop grass	Data Deficient			new
Rytidosperma exiguum	a native danthonia grass	At Risk	Declining		
Rytidosperma maculatum	a native danthonia grass	At Risk	Declining	Neutral	More knowledge
Rytidosperma merum	a native danthonia grass	At Risk	Declining		
Rytidosperma telmaticum	a native danthonia grass	Threatened	Nationally Vulnerable	Worse	Reinterpretation of data
Rytidosperma thomsonii	a native danthonia grass	At Risk	Declining		
Scandia geniculata	climbing aniseed	At Risk	Declining	Worse	Actual decline
Senecio dunedinensis	a native groundsell	Threatened	Nationally Endangered		
***Sonchus* aff. novae-zelandiae (a) (CHR 517718; "grassland")**	A native puha	Threatened	Nationally Endangered	Worse	
Sophora prostrata Buchanan	Prostrate kōwhai	At Risk	Declining	Worse	Actual decline
Spiranthes australis	Ladies tresses orchid	Threatened	Nationally Vulnerable	Worse	Decline trend
Stellaria multiflora subsp. muitiflora.	a native chickweed	Extinct	Extinct		
Stenostachys enysii	a native grass	At Risk	Naturally Uncommon		
Taraxacum zelandicum	Native dancdelion	At Risk	Declining		More knowledge
Tetragonia tetragonioides	NZ spinach	At Risk	Naturally Uncommon		
Thelymitra formosa	a sun orchid	At Risk	Naturally Uncommon		
Triglochin palustris	A wetland reed	Threatened	Nationally Endangered	Reinterpretation of data	
Tupeia antarctica	white mistletoe, tupeia	At Risk	Declining		
Urtica perconfusa	swamp nettle	At Risk	Declining	Better	Actual improvement

Scientific name	A common name	Threat rank		Trend	Reason
Veronica amplexicaulis f. amplexicaulis	a hebe	At Risk	Naturally Uncommon		
Veronica lilliputiana Stearn	a tarn hebe	At Risk	Declining		
Veronica tetrasticha	montane whipcord hebe	At Risk	Naturally Uncommon		
Wurmbea novae-zelandiae	Iphigenia	Threatened	Nationally Endangered		

2024

NEW ZEALAND THREAT CLASSIFICATION SERIES 43

Conservation status of vascular plants in Aotearoa New Zealand, 2023

Peter J. de Lange, Jane Gosden, Shannel P. Courtney, Alexander J. Fergus, John W. Barkla, Sarah M. Beadel, Paul D. Champion, Rowan Hindmarsh-Walls, Troy Makan and Pascale Michel

Department of Conservation
Te Papa Atawhai

Te Kāwanatanga o Aotearoa
New Zealand Government

Corrigendum (2 October 2024) – Assessment of *Syzygium maire*

The assessment of swamp maire / maire tawake (*Syzygium maire*) was reported incorrectly in this publication. *S. maire* is in serious decline from much of its range. The species has proved extremely susceptible to myrtle rust disease caused by the invasive exotic rust *Austropuccinia psidii*. At the time of the panel assessments, available information placed *S. maire* in the category At Risk – Declining.

However, the panel felt that the decline was more serious than reflected by the available data; and elected to designate this species as Threatened – Nationally Vulnerable. Whilst the qualifier De [Designated] was recorded in the publication, the elevated threat status was accidentally omitted. The correct assessment for *Syzyium maire* is Unnatural; Threatened – Nationally Vulnerable (Decline rate 30–50%; > 100 000 mature individuals); qualified 'De'.

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
THREATENED			
NATIONALLY VULNERABLE			
Taxonomically determinate			
Syzygium maire (A.Cunn.) Sykes & Garn.-Jones	Myrtaceae	De, DPT, PD, RF	Better

Qualifier abbreviations: De = Designated, DP = Data Poor Trend, PD = Partial Decline, RF = Recruitment Failure

Cover: *Lepidium rekohuense*, Threatened – Nationally Critical. *Photo: Peter de Lange*

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 providing the NZTCS status of members of a group (e.g. algae, birds, spiders, fungi). There are currently 23 groups, each assessed once every 5 years. 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.

The views published in this report reflect the views of an independent panel and are not necessarily the views of the Department of Conservation. This publication is not a living document and the assessments were not made by the Department of Conservation.

This publication is available for download from the Department of Conservation website. Refer www.doc.govt.nz under *Publications*. The NZTCS database can be accessed at nztcs.org.nz. For all enquiries, email threatstatus@doc.govt.nz.

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In the interest of forest conservation, we support paperless electronic publishing.

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Conservation status of vascular plants in Aotearoa New Zealand, 2023

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Abstract

The conservation status of 2844 taxa of indigenous vascular plants in Aotearoa New Zealand was reassessed using the New Zealand Threat Classification System (NZTCS). A list of these taxa is presented, along with a statistical summary and brief notes on the most important changes since the previous assessment was made in 2017 and published in 2018. This list replaces all previous NZTCS lists for vascular plants. In total, 6 taxa (0.2%) were assessed as being Extinct, 409 (14.4%) as Threatened, 930 (32.7%) as At Risk, 1350 (47.4%) as Not Threatened and 33 (1.2%) as Non-resident Native. A further 116 taxa (4.1%) were assessed as Data Deficient (i.e. insufficient information was available to assess their conservation status). Of the taxa assessed in this report, 339 (11.9%) have not been formally described and/or named.

Keywords: Aotearoa New Zealand flora, indigenous vascular flora, New Zealand Threat Classification System, threat listing

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1. Background

The New Zealand Threat Classification System (NZTCS) was developed to complement the International Union for Conservation of Nature (IUCN) Red List system. Categories and criteria were defined to reflect Aotearoa New Zealand's unique environments and to account for the country's relatively small size and diversity of ecosystems, as well as the large number of taxa with naturally restricted ranges and/or small population sizes (de Lange & Norton 1998; Molloy et al. 2002; Townsend et al. 2008). The conservation status of vascular plants in Aotearoa New Zealand was first assessed using the NZTCS in 1999, when 511 taxa were listed (de Lange et al. 1999), and was then re-assessed in subsequent publications, with the latest assessment occurring in 2017 (de Lange et al. 2018).

The NZTCS methodology was refined in 2007 to ensure that all possible combinations of status and trend were covered within the different categories. The resulting manual (Townsend et al. 2008) was used to re-assess the conservation status of vascular plants in 2008 (de Lange et al. 2009), 2012 (de Lange et al. 2013), 2017 (de Lange et al. 2018) and 2024 (this report). Some minor changes to the categories, criteria and qualifiers proposed by Rolfe et al. (2021) and Michel (2021) were incorporated into this latest assessment, as follows:

- The status At Risk – Recovering (criterion A) for taxa with increasing populations that have 1000–5000 mature individuals or occupy less than 100 ha has been moved into the Threatened category and renamed Threatened – Nationally Increasing, with no change to the criteria. This was done to address the fact that when the growth of a population assessed as Recovering (criterion A) stabilised, the taxon moved to the category Threatened – Nationally Vulnerable, despite there being no deterioration in the taxon's population. The term Nationally Increasing does not imply that the population is increasing consistently across its entire geographical range but rather that the total population of the taxon in Aotearoa New Zealand is predicted to increase at >10% in three generations.
- The qualifier Climate Impact (CI) has been added to reflect newly recognised pressures from changing environments and to acknowledge taxa that are or will be adversely affected by long-term climate trends and/or extreme events.
- The qualifier Conservation Research Needed (CR) has been added to indicate the need for research to better understand the cause of decline and/or a solution for recovery.
- The qualifier Data Poor (DP) has been split into three new qualifiers that identify the knowledge gaps that result in their use: Data Poor Recognition (DPR) to indicate the difficulty in identifying the taxon in the field, Data Poor Size (DPS) to indicate a lack of data on population size and Data Poor Trend (DPT) to indicate a lack of data on population trend.
- The qualifier Population Fragmentation (PF) has been added, covering some taxa that previously triggered the qualifier Sparse, to indicate that gene flow between sub-populations is hampered as a direct or indirect result of human activity.

NZTCS assessments are reviewed approximately every 5 years by a panel facilitated by the New Zealand Department of Conservation Te Papa Atawhai (DOC). The assessment panel brings together experts in the fields of taxonomy, conservation biology and ecology in Aotearoa New Zealand, as well as people with a good technical knowledge of the NZTCS process to ensure consistent approaches across the various assessment panels. For this assessment, the expert panel consisted of eight members plus two administration/support staff, and all but three of the panel members were employees of organisations external to DOC.

A call for information was advertised through the New Zealand Plant Conservation Network, the New Zealand Botanical Society, DOC's 'Have your say' process, the NZTCS website and

expert networks. A total of seven submissions covering 124 species were received through this process. In addition, local workshops were run in Wellington, Christchurch and Auckland. This engagement process was initiated 3 months prior to the assessment meeting with the aim of collating data from local and regional monitoring programmes and experts before the national expert panel met.

When making their assessment, experts consider the previously published assessment as the starting point for the new assessment and evaluate any new information available, both published and unpublished. Taxa are assessed according to the reported population size and trend since the last assessment (usually the past 5 years) and predicted future changes over the next 10 years or three generations, whichever is longer.

Taxa are assigned to the Data Deficient category when insufficient data are available to assess their conservation status or are given the qualifier Data Poor Size or Data Poor Trend when assessments are made but with low confidence due to limited data being available.

Assessment criteria and categories are interpreted in the context of scientific evidence (e.g. population monitoring) and expert understanding of the ecology of each taxon/order (e.g. natural population fluctuations), and the manual requires that a precautionary approach is applied where a taxon is on the border of two possible threat categories, resulting in the higher threat category being chosen. Notes from the expert panel meeting and the rationales for the reclassification of taxa have been summarised in the present report. Full details can be found on the assessment page for each taxon on the NZTCS website (https://nztcs.org.nz/reports/1072).

2. Summary

This report presents the conservation status of 2844 taxa of indigenous vascular plants in Aotearoa New Zealand. It is the latest update in a regular series of re-assessments (de Lange et al. 2009, 2013, 2018). In 2017, de Lange et al. (2018) assessed the conservation status of 2798 native taxa of vascular plants in Aotearoa New Zealand using the criteria specified in the NZTCS manual (Townsend et al. 2008). Here, we report a new assessment of 2844 taxa, 80 of which were assessed for the first time.

2.1 Additional taxa

Eighty taxa were assessed for the first time in 2023. Newly listed taxa are indicated in section 3.

Nine of these new taxa have been formally named, while the remaining 71 are taxonomically unresolved units that are priorities for formal taxonomic assessment and publication. Unnamed taxonomic units have been part of the threat listing process since at least 1990 (Given 1990). Their inclusion does not necessarily mean that such units are 'real' because they have yet to be subjected to a formal taxonomic process. However, taxonomic resourcing and expertise is in crisis in Aotearoa New Zealand, as it is globally (Nelson et al. 2015), so their listing is considered precautionary both in terms of potential conservation management and in providing a taxonomic priority list for research, as the units have been assessed according to their degree of threat. The system used for the recognition of these units was devised by Manaaki Whenua – Landcare Research staff in collaboration with members of the former New Zealand Threatened Plant Committee (see de Lange et al. 1999) and requires that all postulates must be supported by herbarium evidence and their claim to distinction must be reviewed and agreed to by consensus of the threat listing panel.

This listing has added 71 new postulates to those units that were accepted by de Lange et al. (2018) as still requiring formal taxonomic assessment. These are postulates for which the panel has received expert evidence to suggest their potential distinctiveness. We encourage end users of this listing to prioritise these for taxonomic investigation.

2.2 Removed taxa

Twenty-nine of the taxa that were listed in the previous assessment (de Lange et al. 2018) have not been included in the 2023 list (Table 1). Of these, 24 are now considered to be conspecific with other taxa assessed here, 2 are not valid entities, 1 is known to be absent in Aotearoa New Zealand, and 2 were assessed as Introduced and Naturalised. Taxa are removed because of either a published taxonomic revision that the panel has considered and collectively agreed to follow or a lack of evidence supporting their continued recognition. Some examples are discussed below.

Taxonomic adjustment/revision

The previous threat listing panel (de Lange et al. 2018) accepted a range of segregates that needed to be subjected to a modern taxonomic revision. This was in part as a precaution due to the May 2017 detection in Aotearoa New Zealand of *Austropuccinia psidii*, the exotic invasive rust that causes myrtle rust disease, and because of concerns raised by some iwi over the genetic integrity of *Leptospermum scoparium* (kahikātoa/mānuka), a taonga (treasured) and rongoā (medicinal) species, and was in line with the precautionary approach advocated by Townsend et al. (2008). While further revisions are pending, the list of segregates has been considerably reduced (Table 1) following taxonomic assessment and publication (de Lange & Schmid 2021; de Lange et al. 2023; Schmid et al. 2023), with a number of the proposed segregates being included in the newly recognised *Leptospermum hoipolloi* and three formae within it (f. *hoipolloi*, f. *incanum* and f. *procumbens*), *L. repo*, and *L. tairawhitiense* (de Lange & Schmid 2021; de Lange et al. 2023; Schmid et al. 2023).

Myosotis traversii var. *cinerascens* is now regarded as nothotaxon *Myosotis ×cinerascens* (Meudt 2021). The threat listing of nothotaxa is not covered by Townsend et al. (2008) and the vascular plant threat listing panels do not assess hybrid taxa, so this *Myosotis* was removed from the 2022 assessment. *Myosotis ×cinerascens* is an extremely uncommon hybrid known from a handful of collections in a location where there is an overlap in the ranges of the putative parents *Myosotis traversii* var. *cantabrica* L.B.Moore and *Myosotis colensoi* (Kirk) J.F.Macbr.

Pseudognaphalium ephemerum was relegated to synonymy within a revived name and new combination *P. lanatum* (Smissen et al. 2022). In that paper, molecular data were provided demonstrating that Aotearoa New Zealand *Pseudognaphalium* comprised two races, one indigenous and one assumed naturalised. The indigenous race is now referred to as *P. lanatum*, the oldest available name for Aotearoa New Zealand plants, and *P. ephemerum* is included in that species because molecular data could not separate it out, or indeed any of the other postulated segregates recognised by Druce (1993), and nor was morphological stability evident in those segregates taken into cultivation. The other race is for now referred to as *P. luteoalbum* pending further investigation.

Table 1. Native taxa of vascular plants that were assessed by de Lange et al. (2018) but not included in the 2023 assessment.

ASSESSMENT NAME AND AUTHORITY	FAMILY	REASON FOR DELETION
Adiantum viridescens Colenso	Pteridaceae	Synonym of *Adiantum fulvum* Raoul
Asplenium aff. *haurakiense* (b) (AK 280527; Three Kings Is.)	Aspleniaceae	Synonym of *Asplenium haurakiense* (Brownsey) Ogle
Blechnum aff. *novae-zelandiae* (AK 329133-329134; Raoul I.)	Blechnaceae	Synonym of *Parablechnum novae-zelandiae* T.C.Chambers & P.A.Farrant
Brachyglottis aff. *elaeagnifolia* (WAIK 14519; Tuhua)	Asteraceae	Synonym of *Brachyglottis elaeagnifolia* (Hook.f.) B.Nord.
Corokia buddleioides var. *linearis* Cheeseman	Argophyllaceae	Synonym of *Corokia buddleioides* A.Cunn.
Geranium aff. *retrorsum* (b) (AK 306299; Oakley Creek)	Geraniaceae	Synonym of *Geranium* sp. (AK 306968; "Flora Vic. Sp.5"), Introduced and Naturalised, native of Australia
Hoheria aff. *sexstylosa* (AK 234306; Tararua Ranges)	Malvaceae	Indistinct; in part a synonym of *Hoheria sexstylosa* Colenso and also part of a hybrid swarm between *H. angustifolia* Raoul and *H. sexstylosa* Colenso
Koeleria aff. *novozelandica* (AK 252546; Awahokomo)	Poaceae	Synonym of *Koeleria novozelandica* Domin
Leptospermum aff. *scoparium* (e) (AK 228147; Three Kings)	Myrtaceae	Referred to *as Leptospermum hoipolloi* f. *incanum* (Cockayne) de Lange & L.M.H. Schmid
Leptospermum aff. *scoparium* (f) (AK 319498; North Cape)	Myrtaceae	Referred to as *Leptospermum hoipolloi* f. *procumbens* L.M.H. Schmid & de Lange
Leptospermum aff. *scoparium* (g) (AK 319494; Surville Cliffs)	Myrtaceae	Referred to as *Leptospermum hoipolloi* f. *procumbens* L.M.H. Schmid & de Lange
Leptospermum aff. *scoparium* var. *incanum* (h) (AK 309827; North Cape)	Myrtaceae	Referred to as *Leptospermum hoipolloi* f. *procumbens* L.M.H. Schmid & de Lange
Libertia aff. *ixioides* (c) (AK 319490; Surville Cliffs)	Iridaceae	Synonym of *Libertia ixioides* (G.Forst.) Spreng.
Microtis aff. *unifolia* (CHR 532775; Fox)	Orchidaceae	Synonym of *Microtis unifolia* J.R.Forst. & G.Forst.
Myosotis aff. *australis* (WELT SP090247; "small white")	Boraginaceae	Synonym of *Myosotis mooreana* C.A.Lehnebach
Myosotis australis R.Br.	Boraginaceae	Not found in Aotearoa New Zealand
Myosotis drucei (L.B.Moore) de Lange & Barkla	Boraginaceae	Synonym of *Myosotis antarctica* Hook.f. subsp. *antarctica*
Myosotis traversii var. *cinerascens* (Petrie) L.B.Moore	Boraginaceae	Hybrid (*Myosotis* ×*cinerascens*) so not assessed
Notogrammitis angustifolia subsp. *nothofageti* (Parris) Parris	Polypodiaceae	Synonym of *Notogrammitis angustifolia* (Jacq.) Parris
Olearia colensoi var. *argentea* Allan	Asteraceae	Synonym of *Macrolearia colensoi* (Hook.f.) Saldivia
Pachystegia minor var. (a) (CHR 504888; Ohau)	Asteraceae	Synonym of *Pachystegia minor* (Cheeseman) Molloy
Parapolystichum microsorum subsp. *pentangulare* (Colenso) Labiak, Sundue & R.C.Moran	Dryopteridaceae	Synonym of *Lastreopsis velutina* (A.Rich.) Tindale
Pimelea urvilleana subsp. *nesica* C.J.Burrows	Thymelaeaceae	Synonym of *Pimelea urvilleana* A.Rich.
Polystichum neozelandicum subsp. *zerophyllum* (Colenso) Perrie	Dryopteridaceae	Synonym of *Polystichum neozelandicum* Fée
Pseudognaphalium ephemerum de Lange	Asteraceae	Synonym of *Pseudognaphalium lanatum* (G.Forst) Smissen, Breitw. & de Lange
Pseudognaphalium luteoalbum (L.) Hilliard & B.L.Burtt	Asteraceae	Introduced and Naturalised
Spiranthes aff. *novae-zelandiae* (CHR 518297; Motutangi)	Orchidaceae	Synonym of *Spiranthes australis* (R.Br.) Lindl.
Trisetum aff. *lepidum* (AK 251835; Awahokomo)	Poaceae	Synonym of *Koeleria lepida* (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson
Veronica aff. *stricta* (a) (AK 236442; "tetraploid green")	Plantaginaceae	Synonym of *Veronica* aff. *bishopiana* (a) (AK 202263; Hikurangi Swamp)

Excluded through lack of evidence

The panel agreed to remove *Microtis* aff. *unifolia* (CHR 532775; Fox) from this threat listing. This plant had been postulated as being distinct by Australian orchidologist David Jones on the basis of a collection he had made by the Fox Glacier/Te Moeka o Tuawe public toilets in the late 1990s. Subsequent repeated searches of that location and sites nearby found *Microtis* specimens that were consistently referred to as *M. unifolia* by the late B.P.J. Molloy, who accompanied Jones on his original field work. Further, the basis for the postulated segregation of this *Microtis* from the range of variation in *M. unifolia* was never fully disclosed to the panel. A subsequent, although as yet unpublished, investigation of Aotearoa New Zealand *M. unifolia* by Australian orchidologist Peter Weston at the National Herbarium of New South Wales, which included fresh Aotearoa New Zealand samples sent for DNA extraction to Weston by P.J. de Lange, suggests that the application of names in this genus is problematic but that postulated segregates within the Aotearoa New Zealand species are doubtful.

The panel had two options with regard to *M.* aff. *unifolia* (CHR 532775; Fox): continue to recognise a unit that no one can confirm exists because the defining characters were never given, despite additional material collected from the same location having been placed in *M. unifolia* s.s., or reject the segregate on the basis of a lack of evidence. For this listing, we chose the latter option, considering this preferrable to retaining a postulate and so potentially obfuscating conservation resources and management priorities. It is clear, however, that *M. unifolia* would benefit from a nationwide revision based on a multi-marker DNA phylogeny to set a framework for testing postulated segregates.

2.3 Changed taxon names

Decisions were reached as to which names the panel would use through discussion, a review of the literature and evidence, and consensus-driven ruling. Where there was more than one published taxonomic opinion, any panel member(s) who authored one of those opinions abstained from the decision-making process. The panel recognises and accepts that alternative views exist and makes no claim that the names used in this publication should be enforced by others beyond the realms of threat listing and the uses of the lists published here.

In total, 177 taxa have changed name since the previous assessment (Table 2).

Of these, 139 taxa have undergone a simple one-for-one change because of taxonomic research since the 2018 publication. For example, *Abrotanella christensenii* has become *Solenogyne christensenii* (de Lange et al. 2020). A further 27 taxa have changed from a tag-name to a formally recognised name through taxonomic work. For example, five species of *Craspedia* that were included in the 2018 report as 'taxonomically indeterminate' entities have since been formally named (Breitwieser & Ford 2022; Breitwieser et al. 2022). The remaining 11 taxa either have greater taxonomic uncertainty or have had a refinement to their tag-name. For example, *Asplenium* aff. *trichomanes* (AK 168112; "hexaploid") is now known as *Asplenium* aff. *trichomanes* (WELT P031321; "hexaploid").

The situation with *Sonchus (Kirkianella) novae-zelandiae* is more complicated, meriting an explanation here. *Sonchus* (*Kirkianella*) *novae-zelandiae* is a daisy species that is mainly found in the South Island. Three potentially distinct entities have been recognised by field botanists within *S. novae-zelandiae*. Previously, the panel had accepted *S. novae-zelandiae* and *S.* aff. *novae zelandiae* (CHR 84044; "glaucous"), but a third entity, *S.* aff. *novae-zelandiae* (b) (CHR 440071; "calcicole"), was included for the first time in this assessment. In past assessments, there had been an assumption that the type of *S. novae-zelandiae* only applied to plants found in eastern South Island drylands, so the tag-name *S.* aff. *novae-zelandiae* (CHR 84044; "glaucous") was devised for plants growing in coastal areas of the Marlborough Sounds and on Manawatāwhi / Great Island and Manawatāwhi / Three Kings Islands.

However, it is now known that *S. novae-zelandiae* is referable to the plants that had been assessed as *S.* aff. *novae-zelandiae* (CHR 84044; "glaucous") (D.S. Glenny, Allan Herbarium, Manaaki Whenua – Landcare Research, pers. comm., 2022), meaning that those plants of the eastern South Island are in fact unnamed. Therefore, in this report, *S. novae-zelandiae* now refers to those coastal glaucous-leaved plants and the new tag-name *S.* aff. *novae-zelandiae* (a) (CHR 517718; "grassland") has been created to refer to the plants of the eastern South Island drylands.

Table 2. Name changes affecting native taxa of vascular plants in Aotearoa New Zealand between the publication of de Lange et al. (2018) and this report.

NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Abrotanella christensenii Petrie	*Solenogyne christensenii* (Petrie) de Lange, Jian Wang ter & Barkla	Asteraceae
Adiantum hispidulum Sw. var. *hispidulum*	*Adiantum hispidulum* Sw.	Pteridaceae
Anemone tenuicaulis (Cheeseman) Parkin & Sledge	*Anemonastrum tenuicaule* (Cheeseman) de Lange & Mosyakin	Ranunculaceae
Asplenium aff. *trichomanes* (AK 168112; "hexaploid")	*Asplenium* aff. *trichomanes* (WELT P031321; "hexaploid")	Aspleniaceae
Asplenium trichomanes subsp. *quadrivalens* D.E.Mey.	*Asplenium* aff. *trichomanes* (WELT P031318; "tetraploid")	Aspleniaceae
Blechnum blechnoides (Bory) Keyserl.	*Austroblechnum banksii* (Hook.f.) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum chambersii Tindale	*Austroblechnum lanceolatum* (R.Br.) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum colensoi (Hook.f.) N.A.Wakef.	*Austroblechnum colensoi* (Hook.f.) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum discolor (G.Forst.) Keyserl.	*Lomaria discolor* (G.Forst.) Willd.	Blechnaceae
Blechnum durum (T.Moore) C.Chr.	*Austroblechnum durum* (T.Moore) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum filiforme (A.Cunn.) Ettingsh.	*Icarus filiformis* (A.Cunn.) Gasper & Salino	Blechnaceae
Blechnum fluviatile (R.Br.) Lowe ex Salomon	*Cranfillia fluviatilis* (R.Br.) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum fraseri (A.Cunn.) Luerss.	*Diploblechnum fraseri* (A.Cunn.) De Vol	Blechnaceae
Blechnum kermadecense Perrie & Brownsey	*Doodia milnei* Carruth.	Blechnaceae
Blechnum membranaceum (Colenso ex Hook.) Mett. ex Diels	*Austroblechnum membranaceum* (Colenso ex Hook.) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum minus (R.Br.) Ettingsh.	*Parablechnum minus* (R.Br.) Gasper & Salino	Blechnaceae
Blechnum molle (Parris) Christenh.	*Doodia mollis* Parris	Blechnaceae
Blechnum montanum T.C.Chambers & P.A.Farrant	*Parablechnum montanum* (T.C.Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae
Blechnum neohollandicum Christenh.	*Doodia aspera* R.Br.	Blechnaceae
Blechnum nigrum (Colenso) Mett.	*Cranfillia nigra* (Colenso) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum norfolkianum (Heward) C.Chr.	*Austroblechnum norfolkianum* (Heward) Gasper & V.A.O.Dittrich	Blechnaceae
Blechnum novae-zelandiae T.C.Chambers & P.A.Farrant	*Parablechnum novae-zelandiae* (T.C.Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae
Blechnum parrisiae Christenh.	*Doodia australis* (Parris) Parris	Blechnaceae
Blechnum penna-marina subsp. *alpina* T.C.Chambers & P.A.Farrant	*Austroblechnum penna-marina* subsp. *alpina* (R.Br.) A.R.Field	Blechnaceae
Blechnum procerum (G.Forst.) Sw.	*Parablechnum procerum* (G.Forst.) C.Presl	Blechnaceae
Blechnum triangularifolium T.C.Chambers & P.A.Farrant	*Parablechnum triangularifolium* (T.C.Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae
Blechnum vulcanicum (Blume) Kuhn	*Cranfillia deltoides* (Colenso) de Lange & Parris	Blechnaceae
Blechnum zeelandicum Christenh.	*Doodia squarrosa* Colenso	Blechnaceae

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Table 2 continued

NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Brachyscome (a) (WELT SP010278; Ward)	*Brachyscome lucens* Molloy & Heenan	Asteraceae
Brachyscome (b) (CHR 518295; Pareora River) sensu de Lange et al. (2004)	*Brachyscome* aff. *montana* (CHR 688802; Taiko)	Asteraceae
Callitriche petriei R.Mason subsp. *petriei*	*Callitriche petriei* R.Mason	Plantaginaceae
Callitriche petriei subsp. *chathamensis* R.Mason	*Callitriche chathamensis* (R.Mason) Lansdown	Plantaginaceae
Cardamine (p) (CHR 640349; Turoa)	*Cardamine panatohea* Heenan & de Lange	Brassicaceae
Carex berggrenii Petrie	*Carex talbotii* Kottaim.	Cyperaceae
Carex kirkii Petrie	*Carex kirkii* Petrie var. *kirkii*	Cyperaceae
Celmisia lateralis Buchanan	*Celmisia lateralis* Buchanan var. *lateralis*	Asteraceae
Chaerophyllum colensoi var. *delicatulum* (Allan) K.F.Chung (CHR 73872; Hauhungaroa Range)	*Chaerophyllum colensoi* var. *delicatulum (*Allan) K.F.Chung	Apiaceae
Cheilanthes sieberi Kunze	*Cheilanthes sieberi* Kunze subsp. *sieberi*	Pteridaceae
Convolvulus verecundus Allan	*Convolvulus verecundus* Allan f. *verecundus*	Convolvulaceae
Craspedia (a) (CHR 511522; Clutha River)	*Craspedia argentea* Breitw. & K.A.Ford	Asteraceae
Craspedia (c) (CHR 529115; Kaitorete)	*Craspedia thinicola* Breitw. & K.A.Ford	Asteraceae
Craspedia (g) (CHR 469764; Pikikirunga)	*Craspedia huriawa* Breitw. & Courtney	Asteraceae
Craspedia (j) (CHR 516302; Lake Heron)	*Craspedia rugosa* Breitw. & K.A.Ford	Asteraceae
Craspedia (qq) (CHR 167368; Wakanui)	*Craspedia diversicolor* Breitw. & K.A.Ford	Asteraceae
Cyathea aff. *dealbata* (a) (WELT P027464; Te Paki)	*Alsophila* aff. *tricolor* (a) (WELT P027464; Te Paki)	Cyatheaceae
Cyathea colensoi (Hook.f.) Domin	*Alsophila colensoi* Hook.f.	Cyatheaceae
Cyathea cunninghamii Hook.f.	*Alsophila cunninghamii* (Hook.f.) R.M.Tryon	Cyatheaceae
Cyathea dealbata (G.Forst.) Sw.	*Alsophila tricolor* (Colenso) R.M.Tryon	Cyatheaceae
Cyathea kermadecensis W.R.B.Oliv.	*Alsophila kermadecensis* (W.R.B.Oliv.) R.M.Tryon	Cyatheaceae
Cyathea medullaris (G.Forst.) Sw.	*Sphaeropteris medullaris* (G.Forst.) Bernh.	Cyatheaceae
Cyathea milnei Hook. ex Hook.f.	*Alsophila milnei* (Hook. ex Hook.f.) R.M.Tryon	Cyatheaceae
Cyathea smithii Hook.f.	*Alsophila smithii* (Hook.f.) R.M.Tryon	Cyatheaceae
Deyeuxia aucklandica (Hook.f.) Zotov	*Pentapogon aucklandicus* (Hook.f.) de Lange & L.M.H.Schmid	Poaceae
Deyeuxia avenoides (Hook.f.) Buchanan	*Pentapogon avenoides* (Hook.f.) P.M.Peterson, Romasch. & Soreng	Poaceae
Deyeuxia lacustris Edgar & Connor	*Pentapogon lacustris* (Edgar & Connor) de Lange & L.M.H.Schmid	Poaceae
Deyeuxia quadriseta (Labill.) Benth.	*Pentapogon quadrisetus* (Labill.) P.M.Peterson, Romasch. & Soreng	Poaceae
Deyeuxia youngii (Hook.f.) Buchanan	*Pentapogon youngii* (Hook.f.) de Lange & L.M.H.Schmid	Poaceae
Dichelachne crinita (L.f.) Hook.f.	*Pentapogon crinitus* (L.f.) P.M.Peterson, Romasch. & Soreng	Poaceae
Dichelachne inaequiglumis (Hack.) Edgar & Connor	*Pentapogon inaequiglumis* (Hack. ex Cheeseman) P.M.Peterson, Romasch. & Soreng	Poaceae
Dichelachne lautumia Edgar & Connor	*Pentapogon lautumia* (Edgar & Connor) P.M.Peterson, Romasch. & Soreng	Poaceae
Dichelachne micrantha (Cav.) Domin	*Pentapogon micranthus* (Cav.) P.M.Peterson, Romasch. & Soreng	Poaceae
Dracophyllum longifolium (J.R.Forst. & G.Forst.) R.Br. var. *longifolium*	*Dracophyllum longifolium* (J.R.Forst. & G.Forst.) R.Br.	Ericaceae
Dracophyllum longifolium var. *septentrionale* W.R.B.Oliv.	*Dracophyllum septentrionale* (W.R.B.Oliv.) S.Venter.	Ericaceae
Dracophyllum uniflorum var. *frondosum* G.Simpson	*Dracophyllum frondosum* (G.Simpson) S.Venter	Ericaceae
Drosera hookeri R.P.Gibson, B.J.Conn & Conran sensu de Lange et al. (2018)	*Drosera gunniana* (Planch.) de Salas	Droseraceae

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NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Dysoxylum spectabilis (G.Forst.) Hook.f.	*Didymocheton spectabilis* (G.Forst.) Mabb. & Holzmeyer	Meliaceae
Galium aff. *perpusillum* (CHR 476063; Kaitōrete)	*Asperula* aff. *perpusilla* (CHR 476063; Kaitōrete)	Rubiaceae
Galium perpusillum (Hook.f.) Allan	*Asperula perpusilla* Hook.f.	Rubiaceae
Gentianella scopulorum Glenny	*Gentianella stevenii* U.B.Deshmukh & Kottaim.	Gentianaceae
Geranium (a) (CHR 518296; Pareora River) sensu de Lange et al. (2013)	*Geranium socolateum* Heenan & Molloy	Geraniaceae
Geranium (c) (CHR 546319; Von)	*Geranium cruentum* Heenan & G.M.Rogers	Geraniaceae
Haastia pulvinaris Hook.f. var. *pulvinaris*	*Haastia pulvinaris* Hook.f.	Asteraceae
Haastia pulvinaris var. *minor* Laing	*Haastia minor* (Laing) C.C.Nicholls, Breitw., J.M.Ward & Pesler	Asteraceae
Helichrysum aff. *intermedium* (a) (CHR 274826; Chalk Range)	*Helichrysum* aff. *simpsonii* (a) (CHR 274826; Chalk Range)	Asteraceae
Helichrysum aff. *intermedium* (b) (*Helichrysum selago* var. *acutum* Cheeseman; WELT SP058512)	*Helichrysum simpsonii* var. *acutum* (Cheeseman) de Lange & Blanchon	Asteraceae
Helichrysum aff. *intermedium* (c) (*Helichrysum selago* var. *tumidum* Cheeseman; WELT SP058412)	*Helichrysum simpsonii* subsp. *tumidum* (Cheeseman) de Lange & Blanchon	Asteraceae
Helichrysum intermedium G.Simpson	*Helichrysum simpsonii* Kottaim. subsp. *simpsonii*	Asteraceae
Hypolepis distans Hook.	*Hiya distans* (Hook.) Brownsey & Perrie	Dennstaedtiaceae
Lagenophora lanata A.Cunn.	*Lagenophora sublyrata* (Cass.) A.R.Bean & Jian Wang	Asteraceae
Lagenophora montana Hook.f. sensu de Lange et al. (2018)	*Lagenophora schmidiae* de Lange & Jian Wang ter	Asteraceae
Lemna aff. *disperma* (a) (AK 349142; New Zealand)	*Lemna disperma* Hegelm.	Araceae
Lepilaena bilocularis Kirk	*Althenia bilocularis* (Kirk) Cockayne	Potamogetonaceae
Leptospermum aff. *scoparium* (c) (AK 191319; "Waikato Peat Bog")	*Leptospermum repo* de Lange & L.M.H.Schmid	Myrtaceae
Leptospermum scoparium J.R.Forst. & G.Forst. var. *scoparium*	*Leptospermum scoparium* J.R.Forst. & G.Forst.	Myrtaceae
Limosella lineata Gluck	*Limosella australis* R.Br.	Plantaginaceae
Lycopodiella cernua (L.) Pic.Serm.	*Palhinhaea cernua* (L.) Vasc. & Franco.	Lycopodiaceae
Lycopodiella diffusa (R.Br.) B.Øllg.	*Lateristachys diffusa* (R.Br.) Holub	Lycopodiaceae
Lycopodiella lateralis (R.Br.) B.Øllg.	*Lateristachys lateralis* (R.Br.) Holub	Lycopodiaceae
Lycopodiella serpentina (Kunze) B.Øllg	*Brownseya serpentina* (Kunze) Li Bing Zhang, L.D.Sheph., D.K.Chen, X.M.Zhou & H.He	Lycopodiaceae
Lycopodium deuterodensum Herter	*Pseudolycopodium densum* (Rothm.) Holub	Lycopodiaceae
Lycopodium fastigiatum R.Br.	*Austrolycopodium fastigiatum* (R.Br.) Holub	Lycopodiaceae
Lycopodium scariosum G.Forst.	*Diphasium scariosum* (G.Forst.) Rothm.	Lycopodiaceae
Lycopodium volubile G.Forst.	*Pseudodiphasium volubile* (G.Forst.) Holub	Lycopodiaceae
Microsorum novae-zelandiae (Baker) Copel.	*Lecanopteris novae-zelandiae* (Baker) Perrie & Brownsey	Polypodiaceae
Microsorum pustulatum (G.Forst.) Copel. subsp. *pustulatum*	*Lecanopteris pustulata* (G.Forst.) Perrie & Brownsey subsp. *pustulata*	Polypodiaceae
Microsorum scandens (G.Forst.) Tindale	*Lecanopteris scandens* (G.Forst.) Perrie & Brownsey	Polypodiaceae
Myosotis (a) (CHR 320240; Mossburn)	*Myosotis ultramafica* Meudt, Prebble & Rance	Boraginaceae
Myosotis aff. *australis* (d) (WELT SP02612; "saxatilis Petrie")	*Myosotis saxatilis* Petrie	Boraginaceae
Myosotis aff. *brockiei* (a) (CHR 497375; Lake Otuhie)	*Myosotis brockiei* subsp. *dysis* Courtney & Meudt	Boraginaceae
Myosotis aff. *glauca* (a) (WELT SP104520; "Mata-Au")	*Myosotis hikuwai* Meudt, Prebble & G.M.Rogers	Boraginaceae
Myosotis antarctica Hook.f.	*Myosotis antarctica* Hook.f. subsp. *antarctica*	Boraginaceae
Myosotis brockiei L.B.Moore & M.J.A.Simpson	*Myosotis brockiei* L.B.Moore & M.J.A.Simpson subsp. *brockiei*	Boraginaceae

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NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Myosotis elderi L.B.Moore	*Myosotis lyallii* subsp. *elderi* (L.B.Moore) Meudt & Prebble	Boraginaceae
Myosotis goyenii Petrie	*Myosotis goyenii* Petrie subsp. *goyenii*	Boraginaceae
Myosotis lyallii Hook.f.	*Myosotis lyallii* Hook.f. subsp. *lyallii*	Boraginaceae
Myosotis pygmaea Colenso	*Myosotis antarctica* subsp. *traillii* Kirk	Boraginaceae
Myosotis traversii Hook.f. var. *traversii*	*Myosotis traversii* Hook.f. subsp. *traversii*	Boraginaceae
Myosotis traversii var. *cantabrica* L.B.Moore	*Myosotis traversii* subsp. *cantabrica* (L.B.Moore) Meudt	Boraginaceae
Notogrammitis angustifolia subsp. *angustifolia* (Jacq.) Parris	*Notogrammitis angustifolia* (Jacq.) Parris	Polypodiaceae
Notothlaspi (a) (CHR 363071; Red Hills)	*Notothlaspi viretum* Heenan	Brassicaceae
Olearia angustifolia Hook.f.	*Macrolearia angustifolia* (Hook.f.) Saldivia	Asteraceae
Olearia chathamica Kirk	*Macrolearia chathamica* (Kirk) Saldivia	Asteraceae
Olearia colensoi Hook.f. var. *colensoi*	*Macrolearia colensoi* (Hook.f.) Saldivia	Asteraceae
Olearia lyallii Hook.f.	*Macrolearia lyallii* (Hook.f.) Saldivia	Asteraceae
Olearia oporina Hook.f.	*Macrolearia oporina* (G.Forst.) Saldivia	Asteraceae
Olearia semidentata Decne.	*Macrolearia semidentata* (Decne.) Saldivia	Asteraceae
Oxybasis glauca subsp. *ambigua* (R.Br.) Mosyakin	*Oxybasis ambigua* (R.Br.) de Lange & Mosyakin	Amaranthaceae
Pachystegia aff. *insignis* (c) (CHR 565298; Lowry)	*Pachystegia hesperia* Heenan & Molloy	Asteraceae
Peperomia blanda var. *floribunda* (Miq.) H.Huber	*Peperomia leptostachya* Hook. & Arn.	Piperaceae
Phlegmariurus aff. *varius* (a) (WAIK 7743; "tree fern")	*Lycopodium novaezelandicum* Colenso	Lycopodiaceae
Pimelea urvilleana A.Rich. subsp. *urvilleana*	*Pimelea urvilleana* A.Rich.	Thymelaeaceae
Pisonia brunoniana Endl.	*Ceodes brunoniana* (Endl.) Skottsb.	Nyctaginaceae
Pittosporum aff. *cornifolium* (a) (AK 214230; Poor Knights)	*Pittosporum roimata* Gemmill & S.N.Carter	Pittosporaceae
Plectranthus parviflorus Willd.	*Coleus australis* (R.Br.) A.J.Paton	Lamiaceae
Pneumatopteris pennigera (G.Forst.) Holttum	*Pakau pennigera* (G.Forst.) S.E.Fawc. & A.R.Sm.	Thelypteridaceae
Polystichum cystostegium (Hook.) J.B.Armstr.	*Polystichum cystostegia* (Hook.) J.B.Armstr.	Dryopteridaceae
Polystichum neozelandicum Fée subsp. *neozelandicum*	*Polystichum neozelandicum* Fée	Dryopteridaceae
Potentilla anserinoides Raoul	*Argentina anserinoides* (Raoul) Holub	Rosaceae
Prumnopitys ferruginea (D.Don) de Laub.	*Pectinopitys ferruginea* (G.Benn. ex D.Don) C.N.Page	Podocarpaceae
Pseudognaphalium luteoalbum (L.) Hilliard & B.L.Burtt sensu de Lange et al. (2018)	*Pseudognaphalium lanatum* (G.Forst) Smissen, Breitw. & de Lange	Asteraceae
Pteris comans G.Forst. sensu de Lange et al. (2018)	*Pteris carsei* Braggins & Brownsey	Pteridaceae
Ranunculus aff. *stylosus* (CHR 515131; Manahune)	*Ranunculus callianthus* Molloy & Heenan	Ranunculaceae
Raoulia aff. *australis* (c) (CHR 468921; "tetraploid")	*Raoulia* aff. *australis* (c) (CHR 468921; "North")	Asteraceae
Sarcocornia quinqueflora (Bunge ex Ung.-Sternb.) A.J.Scott subsp. *quinqueflora*	*Salicornia quinqueflora* Bunge ex Ung.-Sternb. subsp. *quinqueflora*	Amaranthaceae
Schizaea australis Gaudich.	*Microschizaea australis* (Gaudich.) C.F.Reed	Schizaeaceae
Schizaea fistulosa Labill.	*Microschizaea fistulosa* (Labill.) C.F.Reed	Schizaeaceae
Selliera radicans Cav.	*Goodenia radicans* (Cav.) Pers.	Goodeniaceae
Selliera rotundifolia Heenan	*Goodenia heenanii* K.A.Sheph.	Goodeniaceae
Senecio aff. *glaucophyllus* (b) (CHR 85767; Cape Campbell)	*Senecio* aff. *matatini* (b) (CHR 85767; Cape Campbell)	Asteraceae
Senecio aff. *glaucophyllus* (c) (AK 286230; "South Marlborough limestone")	*Senecio* aff. *matatini* (c) (AK 286230; "South Marlborough limestone")	Asteraceae
Senecio aff. *glaucophyllus* (e) (CHR 437799; Mt Cass)	*Senecio* aff. *matatini* (a) (CHR 437799; Mt Cass)	Asteraceae
Senecio aff. *glaucophyllus* (g) (CHR 489460; NW Nelson)	*Senecio matatini* Liew, Courtney, de Lange & Pelser subsp. *matatini*	Asteraceae

Continued on next page

Table 2 continued

NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Senecio glaucophyllus Cheeseman subsp. *glaucophyllus*	*Senecio glaucophyllus* Cheeseman	Asteraceae
Senecio glaucophyllus subsp. *basinudus* Ornduff	*Senecio matatini* subsp. *basinudus* (Ornduff) Courtney, de Lange & Pelser	Asteraceae
Senecio glaucophyllus subsp. *discoideus* (Cheeseman) Ornduff	*Senecio matatini* subsp. *discoideus* (Cheeseman) Courtney, de Lange & Pelser	Asteraceae
Senecio glaucophyllus subsp. *toa* C.J.Webb	*Senecio matatini* subsp. *toa* (C.J.Webb) Courtney, de Lange & Pelser	Asteraceae
Senecio repangae de Lange & B.G.Murray subsp. *repangae*	*Senecio repangae* de Lange & B.G.Murray	Asteraceae
Senecio repangae subsp. *pokohinuensis* de Lange & B.G.Murray	*Senecio pokohinuensis* (de Lange & B.G.Murray) de Lange	Asteraceae
Sonchus aff. *novae-zelandiae* (CHR 84044; "glaucous")	*Sonchus novae-zelandiae* (Hook.f) Garn.-Jones	Asteraceae
Sonchus novae-zelandiae (Hook.f.) Garn.-Jones	*Sonchus* aff. *novae-zelandiae* (a) (CHR 517718; "grassland")	Asteraceae
Spiranthes novae-zelandiae Hook.f.	*Spiranthes australis* (R.Br.) Lindl.	Orchidaceae
Stellaria elatinoides Hook.f.	*Stellaria multiflora* Hook. subsp. *multiflora*	Caryophyllaceae
Taeniophyllum norfolkianum D.L.Jones, B.Gray & M.A.Clem.	*Taeniophyllum northlandicum* R.Rice & M.A.M.Renner	Orchidaceae
Taraxacum magellanicum Sch.Bip. sensu Cheeseman (1925)	*Taraxacum zealandicum* Dahlst.	Asteraceae
Tetragonia implexicoma (Miq.) Hook.f. sensu de Lange et al. (2018)	*Tetragonia trigyna* Banks & Sol. ex Hook.f.	Aizoaceae
Tetraria capillaris (F.Muell.) J.M.Black	*Netrostylis capillaris* (F.Muell.) R.L.Barrett, J.J.Bruhl & K.L.Wilson	Cyperaceae
Teucridium parvifolium Hook.f.	*Teucrium parvifolium* (Hook.f.) Kattari & Salmaki	Lamiaceae
Trichomanes caudatum Brack.	*Abrodictyum caudatum* (Brack.) Ebihara & K.Iwats.	Hymenophyllaceae
Trichomanes colensoi Hook.f.	*Polyphlebium colensoi* (Hook.f.) Ebihara & K.Iwats.	Hymenophyllaceae
Trichomanes elongatum A.Cunn.	*Abrodictyum elongatum* (A.Cunn.) Ebihara & K.Iwats.	Hymenophyllaceae
Trichomanes endlicherianum C.Presl	*Polyphlebium endlicherianum* (C.Presl) Ebihara & K.Iwats.	Hymenophyllaceae
Trichomanes humile G.Forst.	*Crepidomanes humile* (G.Forst.) Bosch	Hymenophyllaceae
Trichomanes strictum Menzies ex Hook. & Grev.	*Abrodictyum strictum* (Menzies ex Hook. & Grev.) Ebihara & K.Iwats.	Hymenophyllaceae
Trichomanes venosum R.Br.	*Polyphlebium venosum* (R.Br.) Copel.	Hymenophyllaceae
Trisetum antarcticum (G.Forst.) Trin.	*Koeleria antarctica* (G.Forst.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum arduanum Edgar & A.P.Druce	*Koeleria arduana* (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum drucei Edgar	*Koeleria drucei* (Edgar) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum lasiorhachis (Hack.) Edgar	*Koeleria lasiorhachis* (Hack.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum lepidum Edgar & A.P.Druce	*Koeleria lepida* (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum serpentinum Edgar & A.P.Druce	*Koeleria serpentina* (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum spicatum (L.) K.Richt.	*Koeleria spicata* (L.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum tenellum (Petrie) A.W.Hill	*Koeleria tenella* (Petrie) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trisetum youngii Hook.f.	*Koeleria youngii* (Hook.f.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae
Trithuria aff. *inconspicua* (CHR 502359; South Island)	*Trithuria brevistyla* (K.A.Ford) de Lange & Mosyakin	Hydatellaceae

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Table 2 continued

NAME AND AUTHORITY IN DE LANGE ET AL. (2018)	NAME AND AUTHORITY IN THIS REPORT	FAMILY
Utricularia dichotoma Labill.	*Utricularia dichotoma* subsp. *novae-zelandiae* (Hook.f.) R.W.Jobson	Lentibulariaceae
Weinmannia racemosa L.f.	*Pterophylla racemosa* (L.f.) Pillon & H.C.Hopkins	Cunoniaceae
Weinmannia sylvicola Sol. ex A.Cunn.	*Pterophylla sylvicola* (Sol. ex A.Cunn.) Pillon & H.C.Hopkins	Cunoniaceae

2.4 Trends

The conservation status of 2844 taxa of vascular plants is reported here. Of these, 6 taxa (0.2%) were assessed as being extinct, 409 (14.4%) as Threatened, 930 (32.7%) as At Risk, 1350 (47.4%) as Not Threatened and 33 (1.2%) as Non-resident Native (Table 3). A further 116 taxa (4.1%) were assessed as Data Deficient because insufficient information was available to assess their conservation status.

The conservation status of 336 taxa has changed since the previous assessment in 2017 (de Lange et al. 2018), with 110 having improved, 161 having worsened and the remaining 62 having had neutral changes into or out of Data Deficient (see Tables 4 and 5). In total, 120 (35.7%) of these changes were identified as actual changes in population levels or trends, with the remainder being driven by improved knowledge, occasionally from the re-interpretation of existing data or a change in the criteria used in the assessment (e.g. from number of individuals to area of occupancy) (Table 5).

Table 3. Comparison of the status of vascular plant taxa in Aotearoa New Zealand assessed in 2008 (de Lange et al. 2009), 2012 (de Lange et al. 2013), 2017 (de Lange et al. 2018) and 2023 (this report).

CONSERVATION STATUS	2008	2012	2017	2023
Extinct	7	8	7	6
Data Deficient	61	77	107	116
Threatened – Nationally Critical	141	155	213	198
Threatened – Nationally Endangered	55	62	77	93
Threatened – Nationally Vulnerable	47	72	113	117
Threatened – Nationally Increasing*	2	2	2	1
At Risk – Declining	87	102	158	253
At Risk – Recovering	6	5	6	1
At Risk – Relict	21	13	23	11
At Risk – Naturally Uncommon	615	628	661	665
Not Threatened	1462	1427	1384	1350
Non-resident Native – Vagrant	12	12	14	14
Non-resident Native – Coloniser	14	17	20	19
Total	**2530**	**2580**	**2785**	**2844**

* The status At Risk – Recovering (criterion A) defined in Townsend et al. (2008) and used in 2012 and 2017 has been renamed Threatened – Nationally Increasing in this assessment following Michel (2021).

Table 4. Summary of status changes of vascular plant taxa between 2017 (rows; de Lange et al. 2018) and 2023 (columns; this report). Numbers on the diagonal (shaded black) represent those taxa that have not changed status between 2017 and 2023, numbers to the right of the diagonal (shaded green) represent taxa with an improved status (e.g. one taxon has moved from Threatened – Nationally Critical in 2017 to Threatened – Nationally Vulnerable in 2023), numbers to the left of the diagonal (shaded pink) represent taxa with a poorer status, and numbers without shading represent taxa that either have moved into or out of Data Deficient, are Non-resident Native, have been newly added, or were removed from this assessment.

		CONSERVATION STATUS 2023															
		Total	**DD**	**Ext**	**NC**	**NE**	**NV**	**NI**	**Dec**	**Rec**	**Rel**	**NU**	**NT**	**Vag**	**Col**	**TI**	**NA†**
		2873*	**116**	**6**	**198**	**93**	**117**	**1**	**253**	**1**	**11**	**665**	**1350**	**14**	**19**	**24**	**5**
CONSERVATION STATUS 2017	Data Deficient (DD)	107	**69**		4		4		8			12	5			4	1
	Extinct (Ext)	7		**6**													1
	Threatened – Nationally Critical (NC)	213	3		**165**	12	9		5			9	1			8	1
	Threatened – Nationally Endangered (NE)	77	1		6	**59**	5		1			5					
	Threatened – Nationally Vulnerable (NV)	113			2	9	**60**		25		1	3	12			1	
	Threatened – Nationally Increasing (NI)‡	2						**1**	1								
	At Risk – Declining (Dec)	158			1	1	18		**130**			6	2				
	At Risk – Recovering (Rec)	6							4	**1**			1				
	At Risk – Relict (Rel)	23					1		5		**9**	8					
	At Risk – Naturally Uncommon (NU)	661	11		1	6	12		30		1	**589**	5			6	
	Not Threatened (NT)	1387§	8		1	1	1		44			16	**1309**			5	2
	Non-resident Native – Vagrant (Vag)	14												**14**			
	Non-resident Native – Coloniser (Col)	20			1										**19**		
	Taxonomically indistinct (TI)	5	1				2					1	1				
	New listing	80	23		17	5	5					16	14				

* The total in this table includes the 29 taxa that were not assessed or were deemed taxonomically indistinct in 2023.

† NA = not assessed.

‡ The status At Risk – Recovering (criterion A) defined in Townsend et al. (2008) and used in 2017 has been renamed Threatened – Nationally Increasing in this assessment following Michel (2021).

§ The total number of taxa assessed as Not Threatened in previous assessments includes 1384 taxa that were last assessed in 2017, 1 taxon that was last assessed in 2012 and 2 taxa that were last assessed in 2004.

Table 5. Summary of changes to the number of vascular plant taxa assigned to each conservation status between 2017 (de Lange et al. 2018) and 2023 (this report).

TYPE OF CHANGE, REASON, CONSERVATION STATUS	NO. TAXA
BETTER	**110**
Actual improvement	**3**
At Risk – Declining	1
At Risk – Naturally Uncommon	1
Not Threatened	1
More knowledge	**86**
Threatened – Nationally Endangered	10
Threatened – Nationally Vulnerable	12
At Risk – Declining	29
At Risk – Naturally Uncommon	16
Not Threatened	19
Reinterpretation of data	**19**
Threatened – Nationally Endangered	2
Threatened – Nationally Vulnerable	2
At Risk – Relict	1
At Risk – Naturally Uncommon	13
Not Threatened	1
Slower decline	**2**
At Risk – Declining	1
At Risk – Naturally Uncommon	1
WORSE	**161**
Actual decline	**114**
Threatened – Nationally Critical	7
Threatened – Nationally Endangered	13
Threatened – Nationally Vulnerable	22
At Risk – Declining	72*
Criteria changed	**1**
Threatened – Nationally Endangered	1
More knowledge	**23**
Threatened – Nationally Critical	4
Threatened – Nationally Endangered	3
Threatened – Nationally Vulnerable	5
At Risk – Declining	6
At Risk – Relict	1
At Risk – Naturally Uncommon	4
Reinterpretation of data	**23**
Threatened – Nationally Vulnerable	5
At Risk – Declining	6
At Risk – Naturally Uncommon	12
NEUTRAL	**62**
Actual decline	**1**
At Risk – Declining	1
Greater uncertainty	**23**
Data Deficient	23

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Table 5 continued

TYPE OF CHANGE, REASON, CONSERVATION STATUS	NO. TAXA
More knowledge	**34**
Threatened – Nationally Critical	4
Threatened – Nationally Vulnerable	5
At Risk – Declining	6
At Risk – Naturally Uncommon	13
Not Threatened	6
Reinterpretation of data	**4**
Data Deficient	1
Threatened – Nationally Critical	1
Threatened – Nationally Vulnerable	1
At Risk – Declining	1
NO CHANGE	**2431**
No change in status	**2430**
Data Deficient	69
Extinct	6
Threatened – Nationally Critical	165
Threatened – Nationally Endangered	59
Threatened – Nationally Vulnerable	60
At Risk – Declining	130
At Risk – Recovering	1
At Risk – Relict	9
At Risk – Naturally Uncommon	589
Not Threatened	1309
Non-resident Native – Vagrant	14
Non-resident Native – Coloniser	19
Status name changed	**1**
Nationally Increasing†	1
NEW LISTING	**80**
Data Deficient	23
Threatened – Nationally Critical	17
Threatened – Nationally Endangered	5
Threatened – Nationally Vulnerable	5
At Risk – Naturally Uncommon	16
Not Threatened	14
TOTAL	**2844**

* This table shows that a total of 31 taxa in the category At Risk – Declining have improved, while 84 have worsened. These numbers differ from those in Table 4, which shows that a total of 32 taxa have improved and 83 have worsened in this category. In this assessment, *Plagianthus regius* subsp. *chathamicus* was moved from the category At Risk – Recovering (criterion A) (which has been renamed Threatened – Nationally Increasing) to the category At Risk – Declining. This taxon was assessed in 2023 as having a larger population than previously believed (increasing from 1000–5000 to 5000–20 000 mature individuals) but a greater rate of decline (changing from stable to decreasing by 10–30%). The panel recorded this change as representing a worsened status because of an observed actual decline caused by habitat loss.

† Threatened – Nationally Increasing is a new name and category that replaces At Risk – Recovering (criterion A) (Michel 2021).

2.4.1 Main factors resulting in change

Browsing

Browsing pressure is one of the key factors of decline for the majority of the plants listed here (Leathwick & Byrom 2023). Over the last two decades, this pressure has increased with increasing populations of ungulates (e.g. deer (Cervidae), pigs (*Sus scrofa*), goats (*Capra hircus*), chamois (*Rupicapra rupicapra*) and tahr (*Hemitragus jemlahicus*)) and wallabies (Bennett's wallabies (*Notamacropus rufogriseus*) and dama wallabies (*N. eugenii*)) in Aotearoa New Zealand (Latham et al. 2019; Moloney et al. 2021) – for example, aerial surveys completed between 2016 and 2019 resulted in an estimate of 34 478 tahr (95% confidence interval: 26 522–44 821) on public conservation land, which is well over the limit of 10 000 animals specified in the Himalayan Tahr Control Plan (Ramsey & Forsyth 2019).

Given the increase in ungulate numbers, it follows that the panel noted browsing pressure as a cause of decline for many species, but particularly those in alpine areas, like the high-elevation *Ranunculus grahamii* of the Aoraki region and the endemic *Leucogenes tarahaoa* of Mount Peel. Similar patterns have also been reported for North Island forest species such as *Mida salicifolia*, *Olearia albida*, *Pittosporum cornifolium* and *Pittosporum kirkii* (Clarkson et al. 2012; Myron et al. 2021; de Lange 2023b, c) amongst others. It is not only North Island forest species that have suffered – one unexpected reported decline comes from the alpine zone of the Raukūmara Range, where the narrow-range endemic *Coriaria pottsiana* is now seriously threatened with extinction as a consequence of deer browsing (G.J. Atkins, independent advisor to Raukumara Pae Maunga, pers. comm., 2022). Other declines attributed to ungulates or seriously influenced by them have also been reported for a range of North Island lowland and coastal taxa, including the endemic genus *Clianthus*, shrubs like *Brachyglottis pentacopa*, *Brachyglottis perdicioides* and *Olearia pachyphylla*, and herbaceous plants such as *Jovellana sinclairii* and *Scandia rosifolia*.

Possums (*Trichosurus vulpecula*) and lagomorphs (hares (*Lepus europaeus*) and rabbits (*Oryctolagus cuniculus*)) also continue to cause declines in some species. For example, possums are extremely detrimental to the Threatened – Nationally Critical *Metrosideros bartlettii* (de Lange 2023a), numbers of which have declined from over 30 mature trees in 1991 to a reported 13 mature trees in 2015, with ongoing declines evident. In this case, not only was possum browsing imperilling this tree, but also two liverworts, *Frullania wairua* and *Siphonolejeunea raharahanehemiae*, which are believed to be endemic to the tree (von Konrat & Braggins 2005; Renner & de Lange 2020). Lagomorphs were noted by the panel as a cause of decline in multiple *Carmichaelia* species, *Montigena novae-zelandiae* (scree pea) and *Pachycladon cheesemanii*. Additionally, both possums and lagomorphs threaten *Pterostylis tasmanica* and continue to be the bane of *Clianthus* populations around Tairāwhiti/East Cape.

An increase in wallabies through South Canterbury and the Bay of Plenty (Sadleir & Warburton 2001; Latham et al. 2019) is also thought to be driving the decline of some vascular plant species in Aotearoa New Zealand – for example, increasing numbers of wallabies are present through the habitat of both *Azorella* (c) (CHR 617212A-B; Pareora) and *Veronica pareora* of South Canterbury. As the feral range of wallabies in Aotearoa New Zealand continues to expand, it is likely that more plant species will be affected in the future.

Weeds

The spread of introduced species in Aotearoa New Zealand is not limited to fauna. Another trend noted by the panel was the increasing threat of exotic plant species spreading into the wild and outcompeting native species for habitat. The spread of weeds in Aotearoa New Zealand and what we do about them was recently covered in a report by the Parliamentary Commissioner for the Environment titled *Space invaders: A review of how New Zealand*

manages weeds that threaten native ecosystems (Parliamentary Commissioner for the Environment 2021). While the current listing covers 2844 taxa, there are over 25 000 exotic plants in Aotearoa New Zealand, meaning the potential pool of weeds well outnumbers the country's indigenous flora (Parliamentary Commissioner for the Environment 2021; McAlpine & Howell 2024).

The weeds of naturally rare and threatened ecosystems are of particular concern (Williams et al. 2007; Holdaway et al. 2012), as these areas hold many of Aotearoa New Zealand's rare and threatened plants. For example, weedy grasses like *Festuca rubra* are a major threat to limestone ecosystems that hold numerous threatened species, including Threatened – Nationally Critical taxa such as *Ranunculus paucifolius* (Castle Hill buttercup) and *Cardamine magnifica* (Castle Hill bittercress) (de Lange et al. 2010; Heenan & Molloy 2019). Exotic pastoral grasses also choke the salt pan ecosystems of Central Otago where the Threatened – Nationally Critical cress *Lepidium kirkii* remains in dwindling numbers.

The much-photographed *Lupinus polyphyllus* (Russell lupin) is a major threat to the largest population of the Threatened – Nationally Critical *Chenopodium detestans* (New Zealand fishguts plant) in the Mackenzie Basin. Likewise, the spread of *L. polyphyllus* threatens the Threatened – Nationally Endangered *Craspedia* (p) (CHR 469073; Havelock River). *Lupinus polyphyllus* poses a long-term threat to many populations of threatened plants because its seeds can remain in the soil seed bank for decades.

Weeds are also proving a serious threat in coastal habitats, including sandy beaches. For example, the sandy beaches of Rēkohu/Wharekauri/Chatham Island are the international stronghold of *Atriplex billardierei* (de Lange et al. 2000), but this population is now being threatened by the spread of *Cakile edentula* and *Cakile maritima* over the last decade, both of which probably caused the decline and near extinction of this species in Australia. The spread of *Cortaderia jubata* and *Cortaderia selloana* (pampas grasses) and *Sporobolus africanus* (ratstail) has been a key factor in the decline of *Anthosachne kingiana* subsp. *multiflora*, *Austroderia splendens*, *Daucus glochidiatus*, *Echinopogon ovatus* and *Epilobium billardiereanum*, as well as a range of other lowland, seral and rock outcrop inhabiting species of the coast and lowlands of Aotearoa New Zealand. Similarly, the relentless spread of *Ehrharta erecta* poses a huge threat to indigenous plants from coastal to montane sites, on open or shaded ground, as it rapidly colonises ground and forms a smothering growth that eliminates other indigenous plants. For example, the loss of some North Island populations of *Myosotis brevis* and *Myosotis antarctica* subsp. *traillii* can be attributed to *Ehrharta erecta*, and this grass also contributes to recruitment failure in shrubs like *Melicytus crassifolius* and *Melicytus orarius* in the North Island, as well as posing a further threat to Wairarapa populations of *Simplicia felix*.

The spread of naturalised herbs and grasses into the alpine zone is also impacting a range of indigenous plants. In this report, the endemic *Taraxacum zealandicum* is listed for the first time, with the panel noting that it seems to have virtually vanished from the North Island as a consequence of weeds, including, it would seem, other exotic *Taraxacum* species invading its preferred habitats. The panel also noted that it seemed to be declining over parts of the northern South Island with, once again, the invasion of the alpine zone by weeds seeming to be the cause, although it is also possible that climate change may be playing a role in the decline.

It is clear that weeds are an ever-increasing threat to the indigenous flora of Aotearoa New Zealand and there is an urgent need to increase funding to investigate biocontrol methods for them, as well as to better understand their ecology.

Habitat loss

The ongoing deterioration of plant populations in the eastern South Island drylands was first noted by the panel in 2009 (de Lange et al. 2009) and continued to be noted nearly a

decade later (de Lange et al. 2018), with a 2019 study finding that modern rates of vegetation clearance are comparable to those that occurred with human settlement in the past (Monks et al. 2019). Therefore, the decline in natural habitat in the eastern South Island continues to influence the status of indigenous plants in this listing. For example, the eastern South Island taxa *Veronica armstrongii*, *Australopyrum calcis* subsp. *optatum* and *Carex albula* were all moved into the category Threatened – Nationally Critical in this assessment. Some of the habitat loss driving the declines in plant populations has been well documented elsewhere – for example, the loss of *Muehlenbeckia astonii* and the surrounding dryland ecosystem from large areas of Kaitorete Spit in 2018 (Monks et al. 2019).

Similar declines have undoubtedly occurred in the North Island, where the presence of some taxa is now relegated to historic gatherings from the early 1800s (e.g. *Dysphania pusilla*, *Myosurus minimus* subsp. *novae-zelandiae* and *Stellaria multiflora* subsp. *multiflora*) (Hooker 1864; Kirk 1899; Cheeseman 1906, 1925; Allan 1961).

Climate change

This is the first vascular plant listing where climate change has been listed as a qualifier against some species (Rolfe et al. 2021). In total, 39 species were assigned the new qualifier Climate Impact.

Many of the species that were assessed as being vulnerable to climate change in this report have predominantly coastal populations (e.g. *Atriplex billardierei*, *Atriplex hollowayi*, *Craspedia diversicolor*, *Euphorbia glauca*, *Lepidium rekohuense* and *Leptinella featherstonii*), as it is anticipated that coastal species will be affected by sea level rise and an increase in both storm surge frequency and damage. At the other topographical extreme, some subalpine and alpine species were also given the Climate Impact qualifier. For example, *Celmisia macmahonii* var. *macmahonii* is restricted to tiny areas of subalpine habitat in the Marlborough Sounds and therefore has nowhere to retreat to as temperatures rise.

Other climate impacts are less obvious. For example, during January 2023, extreme weather events resulted in high rainfall and flooding throughout the northern and eastern North Island. Following these events, field workers noted the sudden collapse and death of formerly thriving stands of *Streblus banksii* (G.J. Atkins, pers. comm., 2023). At this stage, it is unclear if these storm events and the response of indigenous plants to them is 'natural' or of greater concern, so future assessments may provide a clearer picture of climatic impacts. However, the panel was more confident in awarding the Climate Impact qualifier to *Myosotis uniflora* to acknowledge the increased risk of flooding events through its braided river habitats, and the rock-dwelling *Veronica lavaudiana* also earned the Climate Impact qualifier due to the increased risk of drought.

Since the full impacts of climate change on many Aotearoa New Zealand plants are currently unknown, the panel was conservative in using the qualifier Climate Impact. However, it is likely that use of this qualifier will become more widespread in future assessments as our knowledge of climate change impacts improves.

Myrtle rust disease

Austropuccinia psidii, the rust fungus responsible for myrtle rust disease, was detected in the Kermadec Islands in April 2017 and in Aotearoa New Zealand in May 2017. This rust is having a serious and unprecedented impact on Myrtaceae worldwide (Carnegie et al. 2015; Stewart et al. 2017; Carnegie & Pegg 2018; Fernandez-Winzer et al. 2019; Prasad et al. 2022; Paap et al. 2023), as it jumps through multiple hosts in this family, causing senescence and, over time, death of the infected host. Consequently, at the time of the 2017 threat assessments, the precautionary principle was invoked on advice from Australian ecologists and pathologists dealing with the impact of *A. psidii* on that continent (see de Lange et al. 2018). It was hoped

that the panel's assessments would be proved wrong. Six years on, there is now a gathering body of evidence as to which indigenous Myrtaceae are being affected in the natural environment. While it would be unwise to infer from these patterns that only some Myrtaceae are at risk, current data show that some genera and species are more seriously impacted than others. Therefore, the new threat assessments reflect those patterns.

Current data suggest that both species of *Lophomyrtus* are in serious decline, with *L. bullata* facing regional extirpation from some parts of the country (Prasad et al. 2022). Similarly, the sole indigenous representative of the genus *Syzygium*, *S. maire*, is experiencing serious losses, with observations that mature trees die within 3 years from when *A. psidii* infections are first observed (see https://inaturalist.nz/observations/103488141). There are also increasing numbers of observations and reports of death in *Metrosideros carminea*, *M. colensoi*, *M. diffusa*, *M. excelsa* and *M. fulgens* (see https://inaturalist.nz). Among the other *Metrosideros*, reports of wild infections are known for *M. kermadecensis*, while all of the other species are impacted in cultivation, and some such as *M. bartlettii* seriously so. So far it would seem that wild populations of *Neomyrtus* are not being impacted, and *Kunzea* and *Leptospermum* species are only rarely reported with *A. psidii* infections in the wild, despite being susceptible in cultivation. Based on this knowledge, the panel adjusted its threat assessments, accepting that it is only a matter of time before species downgraded in threat here will require reassessment as *A. psidii* increases its range and dominance.

2.4.2 Improved status

A total of 110 taxa have improved in status since the previous listing (de Lange et al. 2018). Improved status classifications resulted from actual improvements to taxa in the wild, increased knowledge on taxa, a reinterpretation of existing data or a slower rate of decline (Table 5). Three species had actual improvements in the wild.

Epilobium hirtigerum, a willowherb species, was moved from At Risk – Recovering to Not Threatened in this assessment, in part because it has become prevalent in urban areas and seems to be actively increasing its range. This species has long been known from the Aotearoa New Zealand flora (Raven & Raven 1976) but, up until the last two decades, had been so infrequently recorded from the wild that it had been listed as Data Deficient. Following its rediscovery within urban Auckland in the early 2000s, it was listed as Threatened – Nationally Critical (see de Lange et al. 2010). However, since those observations in the early 2000s, the species has been reported widely from numerous sites, although usually in urban settings, on wasteland or along roadsides. Interestingly, two flower colour morphs were reported by Raven & Raven (1976), rose-pink and white, with the former considered the more common in historic collections and from the South Island. All recent North Island observations are of white-flowered plants, and this colour morph is the most common in Australia (Raven & Raven 1976), where this species is also a common urban weed. Therefore, it is possible that the 'sudden appearance' of this distinctive plant in urban areas and associated wasteland in the 2000s may have stemmed from a fresh influx of trans-Tasman dispersed seed, which may also account for its extreme scarcity in herbaria and botanical literature/reports between 1950 and 2000, followed by its 'sudden' reappearance and apparent spread across the North Island. However, this requires further investigation.

Myosotidium hortensia (Chatham Island forget-me-not) was moved from Threatened – Nationally Vulnerable to At Risk – Declining because very large populations are present on inaccessible cliff faces and coastal slopes along the coastline of the southern tablelands of Rēkohu/Wharekauri/Chatham Island, and the species is also a feature of restoration plantings, many of which have been deemed successful because they have led to sustained recruitment over several generations. It is worth noting, however, that while the panel assessed an improved status for this species, it is still in decline outside natural refugia and restoration

plantings. Furthermore, the impacts of the rust *Pucciniastrum myosotidii*, which was described as an assumed endemic in 2014 (Padamsee & McKenzie 2014) but had not been observed on *Myosotidium* prior to 2006, having initially only been noted on cultivated plants, requires further investigation, as it has spread across the Chatham Islands since 2006 and is now commonly noted in wild *Myosotidium* populations here. It has been observed that this rust seriously damages foliage but does not seem to seriously affect flowering, fruiting or seed set, but its impact on seedling establishment has not yet been established.

Finally, *Urtica perconfusa* has benefited from an increase in riparian fencing, leading to a shift from At Risk – Declining to At Risk – Naturally Uncommon.

Moved out of Threatened – Nationally Critical

A total of 44 taxa were moved out of the Threatened – Nationally Critical category into another category. Most of these taxa remain Threatened (12 were assessed as Nationally Endangered and 9 as Nationally Vulnerable), while 14 were assessed as At Risk (9 as Naturally Uncommon and 5 as Declining) and 1 was assessed as Not Threatened. An additional 8 taxa were conspecific with another taxon already assessed here. Below, we discuss some examples of situations where there has been an improvement in the threat status of taxa previously assessed as Threatened – Nationally Critical.

Myosotis colensoi (Castle Hill forget-me-not) was moved from Threatened – Nationally Critical to Threatened – Nationally Endangered following the discovery of a new population (Wotton & Gosden 2023) on public conservation land. Additional surveys and a recount of another population in the Castle Hill basin provided evidence of a much larger national population than was known about at the time of the previous listing. *Myosotis colensoi* benefits from the weeding of exotic grasses and other herbs at one of its sub-populations (Brown et al. 2008). However, disturbance of the limestone habitat by pig rooting is a threat to unfenced sub-populations of this plant, and an increased frequency and duration of drought is a problem for all sites where this species occurs, warranting it remaining as a Threatened species.

New populations were also discovered for *Ourisia modesta* (e.g. Rance & Barkla 2022), *Leptinella nana* (pygmy button daisy) and *Scandia rosifolia*. As a result, *Ourisia modesta* was moved out of Threatened – Nationally Critical and into Threatened – Nationally Endangered. This species remains assessed as Threatened because of its small area of occupation nationally and the damage done by pigs. *Leptinella nana* was also moved from Threatened – Nationally Critical to Threatened – Nationally Endangered following the discovery of a significant new population in the Marlborough Sounds, with ongoing threats including hybridisation with other *Leptinella* species and the impacts of flooding. *Scandia rosifolia* is widely threatened by browsing animals but has recovered at sites where there has been active management of ungulates and possums, resulting in a status change from Threatened – Nationally Critical to Threatened – Nationally Vulnerable.

Korthalsella salicornioides, a mistletoe that parasitises *Kunzea* spp. (species of kānuka) and *Leptospermum* spp. (species of kahikātoa/mānuka), was moved out of Threatened – Nationally Critical following the reinterpretation and increased knowledge of myrtle rust impacts to Myrtaceae in Aotearoa New Zealand. Many of its host species are now ranked as Not Threatened, so *Korthalsella salicornioides* was moved into At Risk – Declining. However, despite the shift in status of its preferred hosts, this mistletoe is still experiencing decline as a consequence of land clearance of its preferred hosts, being particularly vulnerable to loss through the clearance of farmland, roadside and trackside vegetation that supports parasitised hosts.

Expanded monitoring of *Brachyscome pinnata* at its stronghold site in North Canterbury found >250 plants, and a reinterpretation of other data suggests that the species is more widespread than previously considered. However, it remains threatened by habitat loss and the increasing

spread of weeds in its intermontane dryland grassland habitats. Consequently, this species was moved from Threatened – Nationally Critical to Threatened – Nationally Endangered.

Population surveys showed that *Pimelea orthia* subsp. *protea* is locally abundant at its sole known location on the sand tombolo connecting Māhia Peninsula to the mainland, with many thousands of plants seen and excellent recruitment. However, while the numbers of plants and population structure resulted in this taxon being moved from Threatened – Nationally Critical to Threatened – Nationally Vulnerable, it remains threatened by coastal erosion, the spread of wilding pines (*Pinus radiata*) and the illegal dumping of garden waste into the dune habitat it occupies.

2.4.3 Worsened status

A total of 161 taxa have a worsened status since the previous listing (de Lange et al. 2018) (Table 5). Most of these taxa (114 taxa) have deteriorated as a result of an actual decline, while 22 taxa have changed because of more knowledge, a further 23 taxa have changed following a reinterpretation of data and 1 taxon has changed due to a criterion change.

Moved into Threatened – Nationally Critical

Threatened – Nationally Critical is the worst threat ranking a taxon can attain before becoming extinct. A total of 16 taxa were moved into Threatened – Nationally Critical from a less threatened category. Eight of these taxa were previously assigned a status in the category Threatened, two had a status in the category At Risk and the remaining six taxa were either Data Deficient, Not Threatened or Non-resident Native – Coloniser. Additionally, 17 taxa that were assessed for the first time during the current assessment were added to this category.

Veronica armstrongii has only been recorded from three locations in Canterbury, and one of these populations (in the Rangitata River catchment) is now extinct. Plants of this species are long lived and slow growing, and a survey of the remaining populations in early 2022 indicated a decline of 71% over the last 20 years. Projecting out over three generations (where one generation is estimated to be 40 years), a continuation of the observed decline would put this species on a path to extinction. Identified threats to *V. armstrongii* are browsing and trampling by stock (especially cattle), the presence of pigs in the species' stronghold, and habitat loss from agricultural conversion. For these reasons, *V. armstrongii* was moved from Threatened – Nationally Endangered to Threatened – Nationally Critical.

Similarly, a 2019 re-survey of *Australopyrum calcis* subsp. *optatum* (Canterbury limestone wheatgrass) at one of its former strongholds found an 81% decline at the original survey sites over the previous 10–15 years. Furthermore, the number of sub-populations with >10 plants at the stronghold had decreased from 20 to 4. Major threats for this species include habitat degradation, trampling from stock and an increase in weeds through its habitat. The major decline at a former site and the presence of stock and invasive plants at the sites of all known populations led to this taxon being moved from Threatened – Nationally Endangered to Threatened – Nationally Critical.

Carex albula occurs in eastern South Island drylands. There are thought to be less than 250 plants of this species between the Mackenzie Basin and Central Otago and, like many endemic plants of the eastern South Island drylands, this species is threatened by loss of habitat. Consequently, it was moved from Threatened – Nationally Vulnerable to Threatened – Nationally Critical.

The plight of the orchid *Pterostylis micromega* seems to be tied to ecosystem management and competition from weeds. The summary of threats for this species provided in de Lange et al. (2010) remains the same, although there has been an acceleration of the impacts of weeds such as *Osmunda regalis* in the willow carr habitat where *P. micromega* has been found in the

northern Waikato. *Osmunda regalis* rapidly smothers the shrub layer in these situations, which not only prevents light from reaching the forest floor but also covers the ground in a dense layer of dead and decaying fronds. Outside these situations, *P. micromega* plants continue to be lost through succession from open sedgeland to denser vegetation, possibly as a consequence of a lack of fires or other processes opening up the wetland vegetation – quite telling in this regard is the finding of *P. micromega* plants growing in the footprints and trails of past visitors to the wetlands it grows in. While some large populations of *P. micromega* are known, the long-term trajectory for these is grim in the absence of active management, so this species was moved from Threatened – Nationally Endangered to Threatened – Nationally Critical.

The situation for the grass *Pentapogon micranthus* also appears to have worsened, leading to its movement from Threatened – Nationally Vulnerable to Threatened – Nationally Critical. In part, this may be due to its superficial similarity to two naturalised species, *Pentapogon rarus* and *Pentapogon sieberianus*, which occupy similar habitats, but irrespective of this, authentic observations of *P. micranthus* are now few and far between. The species does seem to have a 'stronghold' along the coastal cliffs and roadsides of Tairāwhiti/East Cape, and occasional plants are still seen in scattered sites from the Waikato north. The main threat (aside from ignorance of the species resulting in its loss through spraying, etc.) seems to be the influx of introduced 'weedy' plants into the seral habitats it favours and, ironically, natural succession (this species requires frequent disturbance to flourish). Outside Aotearoa New Zealand, this species is abundant in Australia as well as on Norfolk Island.

As already noted, the Raukūmara Range endemic *Coriaria pottsiana*, which was hitherto considered At Risk – Naturally Uncommon, is now in serious decline due to trampling and browsing pressure from deer and, in places, possums. *Coriaria pottsiana* is a narrow-range endemic with populations centred on the high points of the Raukūmara Range. Over the last 30 years or so, the deer population in this range has increased exponentially to the detriment of this and many other indigenous plants and animals. It had previously been assumed that *C. pottsiana* was secure in its alpine habitat and, being a member of a genus that is renowned for its toxicity to mammals (Connor 1977), was safe from browsing animals. However, this has proved not to be the case, and recent field work by local botanists has reported significant browsing and trampling damage to this species.

On the Chatham Islands, the fortunes of *Austroderia turbaria* continue to wax and wane in relation to the active management of plants and browsing animals, causing it to be moved from Threatened – Nationally Endangered to Threatened – Nationally Critical. This species is browsed by feral livestock, wild pigs and buff weka (*Gallirallus australis hectori*), which are naturalised on the Chatham Islands. While wild animals routinely browse accessible plants, restoration plantings have been hampered by buff weka, which pull out freshly planted specimens, sometimes severing the roots. It is not clear if buff weka eat the plants or are merely foraging in the freshly disturbed ground for invertebrates, but either way they can do considerable damage to *A. turbaria* plantings.

Plants that have remained in Threatened – Nationally Critical and worsened

Of the 213 indigenous vascular plant taxa listed as Threatened – Nationally Critical in 2018, 165 have remained in this category, and the panel noted that the situation for many of these taxa has worsened.

A recent assessment of the most threatened vascular flora by panel member Shannel Courtney found that 92 vascular plant taxa are on the brink of extinction, including 9 that are functionally extinct, 6 that are presumed extinct in the wild and 3 that are possibly extinct but require dedicated surveys before their extinction can be presumed. It is also interesting to note that 19 (21%) of the taxa facing imminent extinction are endemic to limestone substrate. Below, we highlight a few examples, including one taxonomically unresolved *Ranunculus*.

Craspedia diversicolor was once widespread across the Canterbury Plains but is now reduced to two remaining plants at one site in the wild (Breitwieser & Ford 2022). Fortunately, a dedicated team of volunteers from the South Canterbury Branch of Forest & Bird worked with botanists from Manaaki Whenua – Landcare Research to increase the captive population by undertaking manual cross-pollination of the original plants held at the Manaaki Whenua – Landcare Research nursery with the wild plants. The resulting *C. diversicolor* seedlings have been grown on and planted at two other sites and hopefully will go on to establish self-sustaining populations.

Lepidium rekohuense, a Chatham Islands endemic, had been successfully managed from 5 plants in 1996 to nearly 600 plants when hands-on management ceased in about 2016. However, by January 2019, there was only one diseased plant left. Luckily, there was seed held in storage and three plants were discovered in November 2019 at a site where seed had been broadcast 10 or so years earlier. Since then, intensive in situ management and translocations have succeeded in increasing the known plants to 80 (as of November 2023), but storm damage and higher than normal seas – possibly as a result of climate change – have rendered the only known natural population scarcely viable. The future for this species resides in translocations to a range of sites in the hope that some will prove secure. At several of these sites, initially promising results have subsequently failed due to high sea levels, and at the time of writing (November 2023), *L. rekohuense* remains far from secure.

The buttercup *Ranunculus callianthus* (assessed in 2018 as *Ranunculus* aff. *stylosus* (CHR 515131; Manahune)) occurs in South Canterbury limestone habitats. In the 12 years prior to 2019, *R. callianthus* experienced a 74% decline in the number of plants due to an influx of invasive weeds following a shift from long-term sheep to dairy/beef farming.

Ranunculus aff. *royi* (c) (CHR 513327; Waihao) is another limestone-dwelling buttercup from South Canterbury. However, it is believed that this taxon has become extinct in the wild since the previous assessment in 2018.

Other plants with worsened statuses

Two species of *Celmisia* (mountain daisies) were moved from At Risk – Naturally Uncommon to Threatened – Nationally Endangered in this assessment. Both species have localised distributions in subalpine habitats – one is endemic to Te Pātaka-o-Rākaihautū/Banks Peninsula (*C. mackaui*) and the other is restricted to the Marlborough Sounds (*C. macmahonii* var. *macmahonii*) – and were reassessed, in part, for reasons related to climate change. *Celmisia mackaui* is very localised on Te Pātaka-o-Rākaihautū/Banks Peninsula, preferring damp, south-facing habitats that are increasingly affected by drought. *Celmisia macmahonii* var. *macmahonii* is restricted to two peaks in the Marlborough Sounds and has nowhere to retreat to as temperatures increase. Furthermore, the presence of goats at one of the two locations appears to be resulting in the loss of plants. Sites containing *C. macmahonii* var. *macmahonii* are rarely visited by botanists, but a visit in February 2023 yielded a single plant.

Pomaderris hamiltonii has the misfortune of mostly growing along roadsides, where it is usually found on banks, or on the margins of drains. Some populations are also known from coastal cliff faces and exposed clay banks in car parks or within urban areas. The conservation status of this species has seesawed in relation to the frequency of roadside clearance, which is usually related to the need to advocate for the plant's presence, importance and ecological requirements to those responsible for roading. Spraying roadside margins has wiped out populations and, conversely, failure to trim vegetation has hastened population senescence. Since the last assessment, the stronghold of *P. hamiltonii* (the region around Matakana/Ōmaha/Warkworth) has seen increased housing and roadworks to the detriment of the species. Recent surveys have failed to locate the species on Great Barrier Island (Aotea Island), and the populations on the southwestern side of the Firth of Thames have

declined as a result of succession and/or spraying. Collectively, these have seriously affected the species, resulting in a major shift from At Risk – Naturally Uncommon to Threatened – Nationally Vulnerable. This change in status was also picked up at a regional level, with the species being assessed as Regionally Vulnerable by Simpkins et al. (2022).

2.4.4 Data Deficient

A total of 116 taxa are currently considered Data Deficient (see section 3.1, Table 3). Taxa are placed in Data Deficient when the panel does not have enough information to assess the status. To move a taxon from Data Deficient into another category ideally requires information on the distribution and abundance of the taxon, often from on the ground surveys, but other records (e.g. publications, Botanical Society newsletters and reports, herbarium records, the National Vegetation Survey databank, iNaturalist) can all provide useful supporting information. Thirty-three of the 107 taxa that were assessed as Data Deficient in 2018 were assigned to another category in this assessment based on data sourced from multiple repositories combined with field surveys.

3. Conservation status of all known indigenous taxa of vascular plants in Aotearoa New Zealand

Taxa were assessed according to the criteria of Townsend et al. (2008) and have been grouped by conservation status and then alphabetically by scientific name. Data Deficient appears first. Categories are then ordered by degree of loss, from Extinct to Not Threatened, followed by Non-resident Native. Brief descriptions of the NZTCS categories and criteria for assessments are also provided. See Townsend et al. (2008), Michel (2021) and Rolfe et al. (2021) for details.

The full data for the assessments listed below can be viewed and downloaded at https://nztcs.org.nz/reports/1072.

Qualifiers are abbreviated as follows:

CD	Conservation Dependent
CI	Climate Impact
CR	Conservation Research needed
De	Designated
DPR	Data Poor Recognition
DPS	Data Poor Size
DPT	Data Poor Trend
EF	Extreme Fluctuations
EW	Extinct in the Wild
IE	Island Endemic
Inc	Increasing
NO	Naturalised Overseas
OL	One Location
PD	Partial Decline
PE	Possibly Extinct

PF	Population Fragmentation
RC	Recovering
RF	Recruitment Failure
RR	Range Restricted
SO	Secure Overseas
SO?	Secure Overseas?
S?O	Secure? Overseas
Sp	Sparse
St	Stable
TO	Threatened Overseas
T?O	Threatened? Overseas

3.1 Data Deficient (116)

Taxa that cannot be assessed 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	FAMILY	QUALIFIERS	STATUS CHANGE
DATA DEFICIENT (116)			
Taxonomically determinate (43)			
Aciphylla squarrosa var. *flaccida* Kirk	Apiaceae	RR	Neutral
Aciphylla trifoliolata Petrie	Apiaceae	RR	Neutral
Agrostis imbecilla Zotov	Poaceae	Sp	No change
Agrostis oresbia Edgar	Poaceae		Neutral
Alseuosmia banksii var. *linariifolia* (A.Cunn.) R.O.Gardner	Alseuosmiaceae		Neutral
Archeria traversii var. *australis* Hook.f.	Ericaceae		No change
Cardamine cubita Molloy, Heenan & Smissen	Brassicaceae	CR	No change
Cardamine sinuatifolia Heenan	Brassicaceae		Neutral
Cardamine unicaulis Heenan	Brassicaceae		No change
Carex kirkii var. *elatior* Kük.	Cyperaceae		Neutral
Carex subtilis K.A.Ford	Cyperaceae	SO	Neutral
Celmisia graminifolia Hook.f.	Asteraceae	RR	No change
Celmisia hieraciifolia var. *gracilis* Allan	Asteraceae		No change
Celmisia hieraciifolia var. *oblonga* Kirk	Asteraceae		No change
Centipeda elatinoides (Less.) Benth. & Hook. ex O.Hoffm.	Asteraceae	SO	No change
Chaerophyllum ramosum (Hook.f.) K.F.Chung	Apiaceae	DPR	Neutral
Corybas papillosus (Colenso) Lehnebach	Orchidaceae		No change
Corybas sanctigeorgianus Lehnebach	Orchidaceae		No change
Corybas sulcatus (M.A.Clem. & D.L.Jones) G.N.Backh.	Orchidaceae	SO?	No change
Epilobium krulleanum Hausskn.	Onagraceae		No change
Euchiton paludosus (Petrie) Holub	Asteraceae	Sp	No change
Festuca luciarum Connor	Poaceae	CI, RR, Sp	Neutral
Geranium cruentum Heenan & G.M.Rogers	Geraniaceae		Neutral
Hymenophyllum polyanthos (Sw.) Sw.	Hymenophyllaceae		Neutral

Continued on next page

Data Deficient continued

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Isolepis pottsii (V.J.Cook) Soják	Cyperaceae		Neutral
Koeleria riguorum Edgar & Gibb	Poaceae		Neutral
Lachnagrostis billardierei subsp. *tenuiseta* (D.I.Morris) S.W.L.Jacobs	Poaceae	SO	No change
Lachnagrostis glabra (Petrie) Edgar	Poaceae		No change
Luzula banksiana var. *rhadina* (Buchenau) Edgar	Juncaceae		Neutral
Microtis arenaria Lindl.	Orchidaceae	SO	No change
Myosotis venosa Colenso	Boraginaceae	Sp	Neutral
Parsonsia capsularis var. *ochracea* (Colenso) Allan	Apocynaceae		No change
Parsonsia capsularis var. *rosea* (Raoul) Cockayne	Apocynaceae		No change
Parsonsia capsularis var. *tenuis* G.Simpson & J.S.Thomson	Apocynaceae		No change
Pimelea hirta C.J.Burrows	Thymelaeaceae	CR	No change
Pimelea nitens subsp. *nitens* C.J.Burrows & Courtney	Thymelaeaceae		No change
Pimelea oreophila subsp. *ephaistica* C.J.Burrows	Thymelaeaceae		No change
Poa intrusa Edgar	Poaceae		No change
Pteris epaleata D.J.Ohlsen	Pteridaceae	SO	New listing
Ranunculus royi G.Simpson	Ranunculaceae		No change
Ranunculus simulans Garn.-Jones	Ranunculaceae	Sp	No change
Rytidosperma corinum Connor Edgar	Poaceae		Neutral
Thelymitra colensoi Hook.f.	Orchidaceae		No change
Taxonomically unresolved (73)			
Aciphylla aff. *ferox* (a) (CHR 401658; Gordon)	Apiaceae		No change
Aciphylla aff. *similis* (a) (CHR 580050B; Alexander)	Apiaceae		No change
Agrostis (a) (CHR 402485; Dunstan Range)	Poaceae	OL	Neutral
Alseuosmia aff. *banksii* (a) (AK 351926; "bullate")	Alseuosmiaceae		No change
Alseuosmia aff. *banksii* (b) (AK 252824; "tāwheowheo")	Alseuosmiaceae		No change
Alseuosmia aff. *banksii* (d) (AK 176319; "karaka")	Alseuosmiaceae		No change
Alseuosmia aff. *banksii* (e) (AK 279415; "horoeka")	Alseuosmiaceae		No change
Alseuosmia aff. *banksii* (f) (AK 138943; "maire")	Alseuosmiaceae		No change
Asperula aff. *perpusilla* (a) (CHR 249195; "calcicole")	Rubiaceae		New listing
Azorella (a) (CHR 190698; Ruahine)	Apiaceae		No change
Azorella (b) (CHR 617254; Miromiro)	Apiaceae		Neutral
Azorella (c) (CHR 617212A-B; Pareora)	Apiaceae	CR	No change
Azorella (e) (CHR 514973; Livingstone Range)	Apiaceae		No change
Azorella aff. *hookeri* (a) (CHR 505513; "calcicole")	Apiaceae	RR	New listing
Azorella aff. *polaris* (a) (CHR 308229; "subantarctic")	Apiaceae		No change
Brachyglottis aff. *lagopus* (CHR 402068; Somers)	Asteraceae		New listing
Brachyscome aff. *montana* (CHR 688802; Taiko)	Asteraceae	RR	Neutral
Caladenia minor Hook.f.	Orchidaceae		No change
Cardamine (m) (OTA 36555; "Eweburn")	Brassicaceae		No change
Cardamine (n) (CHR 94174; Fiordland)	Brassicaceae		No change
Cardamine (q) (CHR 591775; west Otago)	Brassicaceae		No change
Cardamine (r) (CHR 387497; "Ultra")	Brassicaceae		No change
Cardamine aff. *alalata* (a) (CHR 110802; western Southland)	Brassicaceae		No change
Carex aff. *wakatipu* (d) (CHR 194195; "large")	Cyperaceae		New listing
Carex aff. *wakatipu* (e) (CHR 472041; Bendigo)	Cyperaceae		New listing
Cassinia retorta A.Cunn. ex DC.	Asteraceae		New listing

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Celmisia aff. *discolor* (CHR 197967; Fiordland)	Asteraceae	RR	No change
Colobanthus aff. *affinis* (CHR 404117; Kōpeka)	Caryophyllaceae		New listing
Coprosma aff. *neglecta* (b) (AK 250769; Whangaroa)	Rubiaceae	RR	Neutral
Corybas aff. *oblongus* (WAIK 8626; "swamp")	Orchidaceae		No change
Corybas aff. *trilobus* (d) (WELT SP104146; "tridodd")	Orchidaceae		Neutral
Craspedia (aaa) (CHR 511789; Takitimu lowlands)	Asteraceae		New listing
Craspedia (bbb) (CHR 668902; Tautuku)	Asteraceae		New listing
Craspedia (oo) (CHR 396082; "short hairs")	Asteraceae		Neutral
Craspedia (pp) (CHR 673757; Skippers)	Asteraceae		No change
Craspedia (tt) (CHR 395562; Wye)	Asteraceae		New listing
Craspedia aff. *uniflora* (CHR 179342A; "N Canterbury white")	Asteraceae		New listing
Elaeocarpus dentatus var. *obovatus* Cheeseman	Elaeocarpaceae		No change
Euchiton aff. *limosus* (a) (CHR 221324; "shrubby")	Asteraceae		No change
Geranium aff. *potentilloides* (CHR 595730; "maculate")	Geraniaceae		New listing
Haastia recurva var. *wallii* Cockayne	Asteraceae		No change
Helichrysum intermedium var. *humile* G.Simpson	Asteraceae		New listing
Leptinella intermedia (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	PE	No change
Luzula (a) (CHR 401653; "serpentine")	Juncaceae		New listing
Luzula (b) (CHR 401778; Wairau)	Juncaceae		New listing
Luzula (c) (CHR 401666; Richmond)	Juncaceae		New listing
Luzula aff. *rufa* (CHR 401089; Cobb)	Juncaceae	OL	No change
Melicytus aff. *alpinus* (c) (CHR 541568; Otago)	Violaceae		No change
Melicytus aff. *alpinus* (d) (CHR 541567; "dark")	Violaceae		No change
Melicytus aff. *alpinus* (f) (CHR 530143; "Brockie")	Violaceae	OL	No change
Melicytus aff. *alpinus* (k) (CHR 644097; Southland)	Violaceae		New listing
Melicytus aff. *crassifolius* (d) (CHR 537233; "inland erect")	Violaceae		New listing
Muehlenbeckia aff. *complexa* (AK 368445; "coastal swamps")	Polygonaceae		New listing
Myosotis (i) (CHR 394402; Somers)	Boraginaceae		No change
Myosotis aff. *australis* (c) (CHR 572827; Lammerlaw)	Boraginaceae	Sp	No change
Myosotis aff. *forsteri* (CHR 80168; South Ruahine)	Boraginaceae		No change
Notogrammitis aff. *ciliata* (a) (AK 289892; Mt William)	Polypodiaceae		No change
Notogrammitis aff. *ciliata* (b) (CHR 402521; "crenulate")	Polypodiaceae		No change
Notogrammitis aff. *givenii* (a) (CHR 276979; "subantarctic")	Polypodiaceae		No change
Notogrammitis aff. *rawlingsii* (b) (AK 236942; Auckland)	Polypodiaceae		No change
Poa aff. *colensoi* (a) (AK 265464; Mt Moehau)	Poaceae	RR	Neutral
Poa aff. *novae-zelandiae* (c) (CHR 369907; "scree")	Poaceae		New listing
Poa aff. *sublimis* (CHR 402510; Eyre Mountains)	Poaceae	OL	No change
Pterostylis aff. *banksii* (a) (WAIK 12546; "late flowering")	Orchidaceae		No change
Pterostylis aff. *montana* (a) (AK 3500; Chatham Is.)	Orchidaceae		No change
Ranunculus (b) (CHR 324466; Burgoo Stream)	Ranunculaceae	RR	Neutral
Ranunculus (c) (CHR 472008; Garvie Range)	Ranunculaceae		No change
Raoulia aff. *australis* (c) (CHR 468921; "North")	Asteraceae		No change
Raoulia aff. *bryoides* (AK 323119; "L")	Asteraceae		No change
Thelymitra aff. *brevifolia* (a) (AK 347116; Northland)	Orchidaceae		No change
Veronica aff. *epacridea* (a) (CHR 470336; Mt Dobson)	Plantaginaceae		No change
Veronica aff. *melanocaulon* (CHR 617227; Isolation Creek)	Plantaginaceae		New listing
Viola aff. *cunninghamii* (b) (CHR 506492; "scree")	Violaceae		New listing

3.2 Extinct (6)

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	FAMILY	QUALIFIERS	STATUS CHANGE
EXTINCT (6)			
Taxonomically determinate (6)			
Lepidium amissum de Lange & Heenan	Brassicaceae		No change
Lepidium obtusatum Kirk	Brassicaceae		No change
Logania depressa Hook.f.	Loganiaceae		No change
Myosotis laingii Cheeseman	Boraginaceae		No change
Stellaria multiflora Hook. subsp. *multiflora*	Caryophyllaceae	SO	No change
Trilepidea adamsii (Cheeseman) Tiegh.	Loranthaceae		No change

3.3 Threatened (409)

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

3.3.1 Nationally Critical (198)

Criteria for Nationally Critical:

A – very small population (natural or unnatural)

A(1) The total population size is < 250 mature individuals; or

A(2) There are ≤ 2 sub-populations *and* ≤ 200 mature individuals in the larger sub-population; or

A(3) The total area of occupancy is ≤ 1 ha (0.01 km^2)

B – small population with a high ongoing or predicted decline of 50–70%

B(1) The total population size is 250–1000 mature individuals; or

B(2) There are ≤ 5 sub-populations *and* ≤ 300 mature individuals in the largest sub-population; or

B(3) The total area of occupancy is ≤ 10 ha (0.1 km^2)

C – population (irrespective of size or number of sub-populations) with a very high ongoing or predicted decline of > 70%

NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
THREATENED (409)				
NATIONALLY CRITICAL (198)				
Taxonomically determinate (153)				
Abrodictyum caudatum (Brack.) Ebihara & K.Iwats.	Hymenophyllaceae	A(3)	DPR, DPS, DPT, SO	No change
Acaena rorida B.H.Macmill.	Rosaceae	A(3)	DPT, OL	No change
Ackama nubicola de Lange	Cunoniaceae	A(3)	CD, DPS, OL, RF	No change
Anisotome acutifolia (Kirk) Cockayne	Apiaceae	A(3)	CD, IE, OL, RR	No change
Anisotome patula (Kirk) Cockayne	Apiaceae	A(1)	RR	Worse
Atriplex cinerea Poir.	Amaranthaceae	A(3)	SO	No change
Atriplex hollowayi de Lange & D.A.Norton	Amaranthaceae	A(1)	CD, EF, OL	No change
Australopyrum calcis subsp. *optatum* Connor & Molloy	Poaceae	B(3)	RR	Worse
Austroderia turbaria (Connor) N.P.Barker & H.P.Linder	Poaceae	B(1)	IE, RF, RR	Worse
Botrychium lunaria (L.) Sw.	Ophioglossaceae	A(3)	CD, EF, RR, TO	No change
Brachyglottis cockaynei (G.Simpson & J.S.Thomson) B.Nord.	Asteraceae	A(1)	DPR, RR, Sp	No change
Brachyglottis pentacopa (D.G.Drury) B.Nord.	Asteraceae	A(3)	OL	No change
Brachyglottis perdicioides (Hook.f.) B.Nord.	Asteraceae	C	DPT, RR, Sp	No change
Brachyscome linearis (Petrie) Druce	Asteraceae	A(3)	DPT, RR, Sp	No change
Brachyscome lucens Molloy & Heenan	Asteraceae	A(3)	DPR, DPT, OL	No change
Caleana minor R.Br.	Orchidaceae	A(1)	CD, EF, OL, SO	No change
Calochilus herbaceus Lindl.	Orchidaceae	A(1)	EF, SO, Sp	No change
Cardamine alticola Heenan	Brassicaceae	A(2)	DPS, DPT	No change
Cardamine bilobata Kirk	Brassicaceae	A(1)	CD, OL	No change
Cardamine caesiella Heenan	Brassicaceae	A(2)	CR, DPR, DPS, DPT	No change
Cardamine dactyloides Heenan	Brassicaceae	A(3)	DPR, RR, Sp	No change
Cardamine dilatata Heenan	Brassicaceae	A(1)	DPS, DPT, RR	No change
Cardamine integra Heenan	Brassicaceae	A(1)	DPS, DPT, OL	No change
Cardamine magnifica Heenan	Brassicaceae	C	CD, DPT, OL	New listing
Cardamine mutabilis Heenan	Brassicaceae	A(3)	CD, DPT, RR, Sp	No change
Cardamine pachyphylla Heenan	Brassicaceae	A(1)	DPR, DPS, DPT	No change
Cardamine panatohea Heenan & de Lange	Brassicaceae	A(3)	DPR, DPS, DPT, RR	No change
Cardamine porphyroneura Heenan	Brassicaceae	A(3)	DPR, DPT, OL	No change
Cardamine sciaphila Heenan	Brassicaceae	A(1)	DPS, DPT, RR	No change
Carex albula Allan	Cyperaceae	A(1)	DPR, DPS, DPT, PF, Sp	Worse
Carex dolomitica Heenan & de Lange	Cyperaceae	A(3)	CD, OL	No change
Carmichaelia carmichaeliae (Hook.f.) Heenan	Fabaceae	C	DPS, DPT, RF, RR	No change
Carmichaelia curta Petrie	Fabaceae	C	DPS, RF	No change
Carmichaelia hollowayi G.Simpson	Fabaceae	A(1)	CD, DPT, RF, RR	No change
Carmichaelia torulosa (Kirk) Heenan	Fabaceae	B(1)	DPT, RF	No change
Ceratocephala pungens Garn.-Jones	Ranunculaceae	A(3)	DPS, DPT, EF, PD	No change
Chaerophyllum basicola (Heenan & Molloy) K.F.Chung	Apiaceae	A(3)	CD, DPT, RR	No change
Chenopodium detestans Kirk	Amaranthaceae	A(3)	DPT, EF, TO	No change
Clianthus maximus Colenso	Fabaceae	C	CD, RF, Sp	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Clianthus puniceus (G.Don) Sol. ex Lindl.	Fabaceae		EW	No change
Convolvulus verecundus f. *glaberrimus* Heenan & Molloy	Convolvulaceae	A(1)	CD, DPT, OL	New listing
Coriaria pottsiana W.R.B.Oliv.	Coriariaceae	C	DPS, DPT, RR, Sp	Worse
Corybas carsei (Cheeseman) Hatch	Orchidaceae	A(3)	CD, OL, TO	No change
Corybas dienemus D.L.Jones	Orchidaceae	A(3)	DPR, DPS, DPT, SO	No change
Craspedia argentea Breitw. & K.A.Ford	Asteraceae	A(1)	OL	No change
Craspedia diversicolor Breitw. & K.A.Ford	Asteraceae	A(1)	CD, CI, OL	No change
Craspedia huriawa Breitw. & Courtney	Asteraceae	A(3)	OL	No change
Craspedia incana Allan	Asteraceae	A(1)	DPR, DPS, DPT, OL	No change
Craspedia rugosa Breitw. & K.A.Ford	Asteraceae	A(1)	DPT, OL	No change
Crassula peduncularis (Sm.) F.Meigen	Crassulaceae	A(3)	DPR, DPS, DPT, EF, RR, SO	No change
Crepidomanes humile (G.Forst.) Bosch	Hymenophyllaceae	A(3)	DPR, DPS, DPT, OL, SO	No change
Davallia tasmanii subsp. *cristata* von Konrat, Braggins & de Lange	Davalliaceae	A(1)	OL, RF, RR	No change
Epilobium pictum Petrie	Onagraceae	C	DPS, DPT, NO, Sp	No change
Gastrodia cooperae Lehnebach & J.R.Rolfe	Orchidaceae	A(1)	DPR, DPS, DPT	No change
Gentianella calcis Glenny & Molloy subsp. *calcis*	Gentianaceae	A(3)	CD, OL	No change
Gentianella calcis subsp. *manahune* Glenny & Molloy	Gentianaceae	A(3)	DPT, OL	No change
Gentianella calcis subsp. *taiko* Glenny & Molloy	Gentianaceae	A(3)	DPT, RR	No change
Gentianella calcis subsp. *waipara* Glenny & Molloy	Gentianaceae	A(3)	DPT, RR	No change
Gentianella stevenii U.B.Deshmukh & Kottaim.	Gentianaceae	A(3)	CD, EF, OL	No change
Gunnera hamiltonii Kirk	Gunneraceae	A(3)	CD, RF, RR	No change
Hibiscus diversifolius Jacq. subsp. *diversifolius*	Malvaceae	B(3)	RR, SO	No change
Hibiscus richardsonii Sweet ex Lindl.	Malvaceae	A(3)	DPS, DPT, EF, Sp, TO	No change
Hypericum minutiflorum Heenan	Hypericaceae	A(3)	EF, RR	No change
Juncus holoschoenus R.Br.	Juncaceae	C	CD, EF, OL, SO?	No change
Lagenophora schmidiae de Lange & Jian Wang ter	Asteraceae	A(3)	DPR, DPS, DPT, Sp	No change
Lepidium aegrum Heenan & de Lange	Brassicaceae	A(3)	CD, DPT, OL	No change
Lepidium banksii Kirk	Brassicaceae	A(3)	CD, CI, DPT, EF, RR	No change
Lepidium castellanum de Lange & Heenan	Brassicaceae	A(1)	CD, DPS, DPT, EF, IE, RR	No change
Lepidium juvencum Heenan & de Lange	Brassicaceae	A(1)	CD, DPS, DPT, RR	No change
Lepidium kirkii Petrie	Brassicaceae	C	EF	No change
Lepidium limenophylax de Lange, B.D.Rance & D.A.Norton	Brassicaceae	A(3)	CD, DPT, RR	No change
Lepidium oblitum Houliston, Heenan & de Lange	Brassicaceae	A(3)	CD, DPT, IE, RR	No change
Lepidium panniforme de Lange & Heenan	Brassicaceae	A(1)	CD, DPT, IE, OL, RR	No change
Lepidium rekohuense de Lange & Heenan	Brassicaceae	C	CD, CI, IE, RR	No change
Lepidium seditiosum de Lange, Heenan & J.Rolfe	Brassicaceae	A(3)	CD, DPT, IE	No change
Lepidium sisymbrioides Hook.f.	Brassicaceae	A(1)	DPS	No change
Lepidium solandri Kirk	Brassicaceae	B(1)	DPS, RR	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Leptinella conjuncta Heenan	Asteraceae	A(3)	DPT, RR	No change
Leptinella dispersa subsp. *rupestris* (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	A(3)	CI, DPR, DPT, RF, RR, Sp	No change
Leptinella filiformis (Hook.f.) D.G.Lloyd & C.J.Webb	Asteraceae	A(3)	CD, DPT, OL	No change
Leptinella rotundata (Cheeseman) D.G.Lloyd & C.J.Webb	Asteraceae	A(3)	DPS, DPT, RF, Sp	Worse
Libertia cranwelliae Blanchon, B.G.Murray & Braggins	Iridaceae	A(1)	DPT, OL	No change
Libertia flaccidifolia Blanchon & J.S.Weaver	Iridaceae	C	DPT	No change
Linum monogynum var. *chathamicum* Cockayne	Linaceae	B(3)	CI, EF, IE, RR	No change
Lobelia fugax Heenan, Courtney & P.N.Johnson	Campanulaceae	A(3)	CD, EF, RR, Sp	No change
Lophomyrtus bullata Burret	Myrtaceae	C	RF	No change
Mazus novaezeelandiae subsp. *impolitus* f. *hirtus* Heenan	Phrymaceae	A(3)	Sp	No change
Metrosideros bartlettii J.W.Dawson	Myrtaceae	C	CD, RF, RR	No change
Montia drucei (Heenan) Heenan	Montiaceae	A(1)	RR, Sp	No change
Myosotis albosericea Hook.f.	Boraginaceae	A(3)	OL	No change
Myosotis amabilis Cheeseman	Boraginaceae	A(3)	DPS, DPT, RR, Sp	No change
Myosotis angustata Cheeseman	Boraginaceae	A(1)	DPT, RR	No change
Myosotis cheesemanii Petrie	Boraginaceae	A(1)	DPS, DPT, RR, Sp	No change
Myosotis glabrescens L.B.Moore	Boraginaceae	A(1)	DPT, RR	Neutral
Myosotis goyenii subsp. *infima* Meudt & Heenan	Boraginaceae	A(1)	DPT, RF, RR	New listing
Myosotis lytteltonensis (Laing & A.Wall) de Lange	Boraginaceae	A(1)	DPT, RR, Sp	No change
Myosotis matthewsii L.B.Moore	Boraginaceae	A(1)	EF, OL	No change
Myosotis oreophila Petrie	Boraginaceae	A(3)	DPT, EF, Sp	No change
Myosotis pansa (L.B.Moore) Meudt, Prebble, R.J.Stanley & Thorsen subsp. *pansa*	Boraginaceae	C	DPS, DPT, PF, RR, Sp	Worse
Myosotis petiolata Hook.f.	Boraginaceae	A(1)	OL	No change
Myosotis pottsiana (L.B.Moore) Meudt, Prebble, R.J.Stanley & Thorsen	Boraginaceae	A(1)	EF, Sp	No change
Myosotis saxosa Hook.f.	Boraginaceae	A(3)	DPT, RR, St	No change
Myosotis umbrosa Meudt, Prebble & Thorsen	Boraginaceae	A(1)	DPS, DPT, RR, Sp	No change
Myosotis venticola Meudt & Prebble	Boraginaceae	A(1)	DPR, DPS, DPT, RR, Sp	New listing
Notothlaspi viretum Heenan	Brassicaceae	A(3)	OL	No change
Olearia adenocarpa Molloy & Heenan	Asteraceae	B(2)	CD, RF	No change
Olearia pachyphylla Cheeseman	Asteraceae	A(3)	CD, CI, OL	No change
Pachycladon exile (Heenan) Heenan & A.D.Mitch.	Brassicaceae	A(1)	CD, DPT, EF, OL	No change
Pachycladon fasciarium Heenan	Brassicaceae	A(1)	CD, OL	No change
Pennantia baylisiana (W.R.B.Oliv.) G.T.S.Baylis	Pennantiaceae	A(1)	CD, IE, OL	No change
Pentapogon lacustris (Edgar & Connor) de Lange & L.M.H. Schmid	Poaceae	A(3)	CD, DPR, RR, Sp	No change
Pentapogon micranthus (Cav.) P.M.Peterson, Romasch. & Soreng	Poaceae	C	DPR, DPS, DPT, SO, Sp	Worse
Pimelea actea C.J.Burrows	Thymelaeaceae	A(1)	DPT, OL	No change
Pimelea cryptica C.J.Burrows & Enright	Thymelaeaceae	A(1)	DPR, DPS, DPT, Sp	Neutral

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Pimelea eremitica C.J.Burrows	Thymelaeaceae	A(1)	DPR, OL	No change
Pimelea ignota C.J.Burrows & Courtney	Thymelaeaceae	A(1)	CD, CR, DPT, OL, RF	No change
Pimelea mimosa C.J.Burrows	Thymelaeaceae	A(3)	CD, OL	No change
Pimelea orthia C.J.Burrows & Thorsen subsp. *orthia*	Thymelaeaceae	B(3)	Sp	No change
Pittosporum serpentinum (de Lange) de Lange	Pittosporaceae	C	OL, RF, Sp	No change
Poa aucklandica subsp. *rakiura* Edgar	Poaceae	A(3)	OL	No change
Poa spania Edgar & Molloy	Poaceae	A(1)	CD, DPT, OL, Sp	No change
Pomaderris apetala subsp. *maritima* N.G.Walsh & F.Coates	Rhamnaceae	A(1)	CD, RF, SO	No change
Pomaderris phylicifolia Lodd. ex Link subsp. *phylicifolia*	Rhamnaceae	B(3)	DPR, DPS, DPT, EF, SO	No change
Pseudowintera insperata Heenan & de Lange	Winteraceae	A(1)	Sp	No change
Pterostylis micromega Hook.f.	Orchidaceae	C	DPR, DPT, EF, PF, RR	Worse
Puccinellia raroflorens Edgar	Poaceae	A(3)	CD, DPT, RR	No change
Pyrrosia serpens (G.Forst.) Ching	Polypodiaceae	A(3)	DPS, DPT, OL, SO	New listing
Ranunculus callianthus Molloy & Heenan	Ranunculaceae	C	OL	No change
Ranunculus paucifolius Kirk	Ranunculaceae	A(1)	CD, OL, RF	No change
Ranunculus viridis H.D.Wilson & Garn.-Jones	Ranunculaceae	A(1)	OL	No change
Rytidosperma horrens Connor & Molloy	Poaceae	A(3)	DPT, RR	No change
Schoenus carsei Cheeseman	Cyperaceae	A(3)	DPR, DPS, DPT, RR, TO	No change
Sebaea ovata (Labill.) R.Br.	Gentianaceae	A(1)	CD, SO	No change
Senecio esperensis (Sykes) de Lange	Asteraceae	A(3)	CD, DPT, EF, IE, OL	No change
Senecio kermadecensis Belcher	Asteraceae	B(3)	EF, IE, RR	No change
Senecio scaberulus (Hook.f.) D.G.Drury	Asteraceae	B(1)	DPR, DPS, DPT, EF	No change
Simplicia buchananii (Zotov) Zotov	Poaceae	A(1)	DPR, DPS, DPT, RR, Sp	No change
Simplicia felix de Lange, J.R.Rolfe, Smissen & Ogle	Poaceae	B(2)	DPR, DPS, DPT, RR	No change
Simplicia laxa Kirk	Poaceae	A(3)	DPR, DPS, DPT, RR, Sp	No change
Solenogyne christensenii (Petrie) de Lange, Jian Wang ter & Barkla	Asteraceae	A(1)	DPT, EF, OL	No change
Taeniophyllum northlandicum R.Rice & M.A.M.Renner	Orchidaceae	A(3)	DPT	Neutral
Tecomanthe speciosa W.R.B.Oliv.	Bignoniaceae	A(1)	CD, IE, OL, RF	No change
Thelymitra matthewsii Cheeseman	Orchidaceae	A(3)	DPT, EF, RR, TO	No change
Thelymitra sanscilia Irwin ex Hatch	Orchidaceae	A(3)	DPR, DPS, DPT, EF, Sp	No change
Trithuria inconspicua Cheeseman	Hydatellaceae	B(3)	RR	No change
Utricularia australis R.Br.	Lentibulariaceae	C	RF, RR, SO?	No change
Veronica adamsii Cheeseman	Plantaginaceae	A(3)	DPT, OL	No change
Veronica armstrongii Johnson ex J.B.Armstr.	Plantaginaceae	C	PD, PF, RR	Worse
Veronica barkeri Cockayne	Plantaginaceae	B(1)	CD, IE, RF	No change
Veronica calycina R.Br.	Plantaginaceae	A(3)	DPR, DPS, DPT, SO	No change
Veronica jovellanoides Garn.-Jones & de Lange	Plantaginaceae	A(1)	DPT, EF, OL	No change
Veronica pareora (Garn.-Jones & Molloy) Garn.-Jones	Plantaginaceae	C	DPT, RR, Sp	No change
Veronica saxicola (de Lange) Heenan	Plantaginaceae	A(1)	DPT, OL	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Taxonomically unresolved (45)				
Acaena aff. *rorida* (OTA 59561; Pool Burn)	Rosaceae	A(3)	DPR, DPT, OL	No change
Asplenium aff. *trichomanes* (WELT P031318; "tetraploid")	Aspleniaceae	A(3)	DPR, DPT, RR, SO, Sp	No change
Brachyglottis rotundifolia var. *ambigua* (AK 251870) (Cheeseman) B.Nord.	Asteraceae	A(1)	DPS, RR, Sp	No change
Brachyscome aff. *humilis* (AK 231703; West Dome)	Asteraceae	A(3)	DPS, DPT, RR, Sp	No change
Caladenia aff. *lyallii* (CHR 616285; Bacon Creek)	Orchidaceae	A(1)	DPR, DPT, Sp	New listing
Celmisia aff. *gracilenta* (b) (CHR 469722; Mangaweka)	Asteraceae		CD, EW	No change
Celmisia aff. *similis* (AK 285874; Bald Knob Ridge)	Asteraceae	A(3)	OL	No change
Coprosma aff. *acerosa* (c) (WELT SP079167; Red Rocks)	Rubiaceae		EW	No change
Corybas aff. *rivularis* (AK 251833; Kaitarakihi)	Orchidaceae	A(3)	RR, Sp	No change
Corybas aff. *rivularis* (e) (AK 288094; Pollok)	Orchidaceae	A(1)	DPT, OL	Neutral
Craspedia (e) (CHR 514391; "tarn")	Asteraceae	A(3)	CD, OL	No change
Craspedia (ee) (CHR 547118B; Lake Clara)	Asteraceae	A(3)	OL	No change
Craspedia (f) (CHR 514362; Hacket)	Asteraceae	A(3)	EF, OL	No change
Craspedia (gg) (CHR 472168; Mararoa)	Asteraceae	A(3)	DPR, DPS, DPT, OL	No change
Craspedia (h) (CHR 260312; Gouland Downs)	Asteraceae	A(3)	DPR, EF, OL	No change
Craspedia (i) (CHR 395643; Fyfe River)	Asteraceae	A(3)	CD, OL	No change
Craspedia (l) (CHR 479212; Charleston)	Asteraceae	A(3)	DPR, DPT, OL	No change
Craspedia (w) (CHR 395679; Burgoo)	Asteraceae	A(3)	DPR, DPS, DPT, OL	No change
Craspedia (y) (CHR 516260; Cape Saunders)	Asteraceae	A(3)	DPR, DPS, DPT, OL	No change
Craspedia (yy) (CHR 638352; Thorns Creek basin)	Asteraceae	A(3)	DPR, DPS, DPT, OL, RR	New listing
Craspedia aff. *uniflora* (CHR 273160; Marfells)	Asteraceae	A(3)	DPR, DPT, OL	New listing
Craspedia aff. *uniflora* (CHR 277529; Ward Beach)	Asteraceae	A(3)	DPR, DPT, OL	New listing
Craspedia aff. *uniflora* (CHR 489433; Awahokomo)	Asteraceae	C	CD, DPT, OL	New listing
Craspedia aff. *uniflora* (CHR 547140B; "Hacket limestone")	Asteraceae	A(3)	DPR, DPT, OL	New listing
Gentianella aff. *calcis* subsp. *waipara* (CHR 569771; Earthquakes)	Gentianaceae	A(3)	DPS, DPT, OL	No change
Hibiscus aff. *diversifolius* (AK 347684; Surville)	Malvaceae		EW	No change
Isoetes aff. *kirkii* (CHR 247118A; Lake Omapere)	Isoetaceae		EW	No change
Lachnagrostis (a) (CHR 666728; "ultramafic")	Poaceae	A(3)	DPT	New listing
Limosella (b) (CHR 515038; Manutahi)	Plantaginaceae	A(1)	DPS, DPT, RR	No change
Melicytus aff. *alpinus* (j) (CHR 640797; Hokonui Hills)	Violaceae	A(1)	DPS, DPT, OL	Neutral
Melicytus aff. *alpinus* (m) (AK 230926; Wairarapa)	Violaceae	C	DPT, OL	Worse
Melicytus aff. *crassifolius* (a) (CHR 279358; "cliff")	Violaceae	A(1)	DPS, DPT, RR	No change
Melicytus aff. *crassifolius* (b) (CHR 616706; Cape Saunders)	Violaceae	A(2)	DPR, DPT, RR	New listing
Melicytus aff. *crassifolius* (c) (CHR 852289B; Stag and Spey)	Violaceae	A(1)	DPT, RR	New listing

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Pellaea aff. *falcata* (b) (AK 330788; "Auckland volcanoes")	Pteridaceae	A(3)	DPR, DPS, DPT	No change
Ranunculus (a) (AK 276181; Hope)	Ranunculaceae	A(1)	CD, OL	No change
Ranunculus aff. *carsei* (CHR 311686; Cobb)	Ranunculaceae	A(1)		New listing
Ranunculus aff. *royi* (a) (AK 295116; Lake Rakeinui)	Ranunculaceae	A(3)	DPS, DPT, IE, OL	No change
Ranunculus aff. *royi* (c) (CHR 513327; Waihao)	Ranunculaceae		EW, OL	No change
Raoulia (a) (CHR 79537; "K")	Asteraceae	A(1)	DPR, DPS, DPT, RR, Sp	No change
Rhabdothamnus aff. *solandri* (a) (AK 319367; Surville Cliffs)	Gesneriaceae	A(3)	DPS, DPT, RR	No change
Senecio aff. *matatini* (d) (CHR 682195; Tablelands)	Asteraceae	A(1)	RR	New listing
Sonchus aff. *novae-zelandiae* (b) (CHR 440071; "calcicole")	Asteraceae	A(1)	DPR, RR	New listing
Thelymitra (a) (WELT SP79140; Ahipara)	Orchidaceae	A(3)	DPR, DPS, DPT, RR, Sp	No change
Veronica aff. *bishopiana* (a) (AK 202263; Hikurangi Swamp)	Plantaginaceae	A(1)	DPR, DPS, DPT, RF, Sp	No change

3.3.2 Nationally Endangered (93)

Criteria for Nationally Endangered:

A – small population (natural and unnatural) that has a low to high ongoing or predicted decline of 10–50%

A(1) The total population size is 250–1000 mature individuals; or
A(2) There are ≤ 5 sub-populations *and* ≤ 300 mature individuals in the largest sub-population; or
A(3) The total area of occupancy is ≤ 10 ha (0.1 km^2)

B – small, stable population (unnatural)

B(1) The total population size is 250–1000 mature individuals; or
B(2) There are ≤ 5 sub-populations and ≤ 300 mature individuals in the largest sub-population; or
B(3) The total area of occupancy is ≤ 10 ha (0.1 km^2)

C – moderate population and high ongoing or predicted decline of 50–70%

C(1) The total population size is 1000–5000 mature individuals; or
C(2) There are ≤ 15 sub-populations and ≤ 500 mature individuals in the largest sub-population; or
C(3) The total area of occupancy is ≤ 100 ha (1 km^2)

NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
THREATENED (409)				
NATIONALLY ENDANGERED (93)				
Taxonomically determinate (74)				
Asplenium pauperequitum Brownsey & P.J.Jacks.	Aspleniaceae	A(1)	EF, RR	No change
Atriplex billardierei (Moq.) Hook.f.	Amaranthaceae	A(3)	DPS, DPT, EF, TO	No change
Australopyrum calcis Connor & Molloy subsp. *calcis*	Poaceae	B(1)	CD, OL	No change
Brachyglottis compacta (Kirk) B.Nord.	Asteraceae	A(3)	DPS, DPT, RR	Worse
Brachyglottis turneri (Cheeseman) C.J.Webb	Asteraceae	A(3)	DPS, RR, Sp	No change
Brachyscome pinnata Hook.f.	Asteraceae	B(1)	DPR, DPT, RR	Better
Caladenia atradenia D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	A(1)	DPS, DPT, PF, Sp	Worse
Cardamine bisetosa Heenan	Brassicaceae	B(1)	DPR, DPS, DPT, RR	No change
Cardamine coronata Heenan	Brassicaceae	B(1)	DPR, DPS, DPT, RR	No change
Cardamine thalassica Heenan	Brassicaceae	B(1)	DPR, DPS, DPT	No change
Carex cirrhosa Berggr.	Cyperaceae	A(3)	RR	No change
Carex strictissima (Kük.) K.A.Ford	Cyperaceae	A(3)	DPS, DPT	No change
Carmichaelia muritai (A.W.Purdie) Heenan	Fabaceae	A(1)	CD, CI, DPT, RR	No change
Carmichaelia stevensonii (Cheeseman) Heenan	Fabaceae	A(1)	CD, RR	No change
Celmisia mackaui Raoul	Asteraceae	A(1)	CI, DPS, DPT, OL, RF	Worse
Celmisia macmahonii Kirk var. *macmahonii*	Asteraceae	A(3)	CI, DPT, OL	Worse
Centrolepis strigosa (R.Br.) Roem. & Schult.	Restionaceae	B(3)	DPT, RR, SO, Sp	No change
Chaerophyllum colensoi var. *delicatulum* (Allan) K.F.Chung	Apiaceae	A(3)	CD, DPR, DPT, EF, RR	No change
Clematis marmoraria Sneddon	Ranunculaceae	A(3)	DPT, OL	Worse
Coprosma talbrockiei L.B.Moore & R.Mason	Rubiaceae	B(1)	RR, Sp	Better
Coprosma waima A.P.Druce	Rubiaceae	B(1)	CD, DPS, DPT, RR, Sp	No change
Craspedia thinicola Breitw. & K.A.Ford	Asteraceae	A(2)	CD, CI, OL	No change
Craspedia uniflora G.Forst. var. *uniflora*	Asteraceae	A(3)	DPR, DPS, DPT, PF	Worse
Crassula multicaulis (Petrie) A.P.Druce & Given	Crassulaceae	B(3)	EF, RR, Sp	No change
Dicranopteris linearis (Burm.f.) Underw.	Gleicheniaceae	B(3)	RR, SO	No change
Dysphania pusilla (Hook.f.) Mosyakin & Clemants	Amaranthaceae	A(3)	DPR, DPT, EF, Sp	No change
Geranium rubricum Heenan & Courtney	Geraniaceae	B(3)	DPT, OL	No change
Gingidia enysii var. *enysii* (Kirk) J.W.Dawson	Apiaceae	A(3)	CD, RR	
Gingidia haematitica Heenan	Apiaceae	B(3)	CD, OL, St	Better
Helichrysum dimorphum Cockayne	Asteraceae	A(1)	DPT, Sp	No change
Hypericum rubicundulum Heenan	Hypericaceae	A(3)	DPR, DPS, DPT, RR	No change
Lepidium crassum Heenan & de Lange	Brassicaceae	B(3)	CD, DPT, RR	No change
Lepidium flexicaule Kirk	Brassicaceae	A(3)	CD, DPT, EF, PD, TO	No change
Lepidium oleraceum G.Forst. ex Sparrm.	Brassicaceae	A(3)	CD, DPT, RR, Sp	No change
Leptinella nana (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	A(3)	CD, DPT, EF, Sp	Better
Leptinella tenella (A.Cunn.) D.G.Lloyd & C.J.Webb	Asteraceae	A(3)	DPR, DPS, DPT, RR, Sp	Worse
Leucogenes tarahaoa Molloy	Asteraceae	A(3)	OL	Worse
Melicytus drucei Molloy & B.D.Clarkson	Violaceae	C(1)	CD, DPT, RR	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Microlaena carsei Cheeseman	Poaceae	A(3)	DPR, DPT, Sp	No change
Muehlenbeckia astonii Petrie	Polygonaceae	C(1)	CD, PF, RF	No change
Myosotis colensoi (Kirk) J.F.Macbr.	Boraginaceae	A(3)	CD, DPS, DPT, PD, RR, Sp	Better
Myosotis hikuwai Meudt, Prebble & G.M.Rogers	Boraginaceae	A(3)	DPS, DPT, OL	Better
Myosotis laeta Cheeseman	Boraginaceae	B(3)	RF, RR	No change
Myosotis pansa subsp. *praeceps* Meudt, Prebble, R.J.Stanley & Thorsen	Boraginaceae	B(3)	DPR, DPS, DPT, EF, Sp	Worse
Myrsine umbricola Heenan & de Lange	Primulaceae	A(1)	DPS, DPT, RF, RR	Worse
Olearia crebra E.K.Cameron & Heenan	Asteraceae	B(1)	DPS, DPT, RR	No change
Olearia gardneri Heads	Asteraceae	A(1)	CD, DPS, DPT, PF, RF	No change
Olearia hectorii Hook.f.	Asteraceae	C(1)	CD, CR, DPT, PD, PF, RF	No change
Olearia polita H.D.Wilson & Garn.-Jones	Asteraceae	B(1)	CD, PF, RR	No change
Ourisia modesta Diels	Plantaginaceae	B(3)	DPS, Sp	Better
Pachycladon cheesemanii Heenan & A.D.Mitch.	Brassicaceae	C(1)	DPR, DPS, DPT, PF, Sp	No change
Parsonsia praeruptis Heads & de Lange	Apocynaceae	C(3)	DPS, DPT, OL, RF	Better
Pentapogon lautumia (Edgar & Connor) P.M.Peterson, Romasch. & Soreng	Poaceae	B(3)	DPR, DPS, DPT, RR	No change
Phylloglossum drummondii Kunze	Lycopodiaceae	A(3)	DPS, DPT, EF, PD, SO	No change
Pimelea declivis C.J.Burrows	Thymelaeaceae	A(3)	DPT	Better
Pimelea tomentosa (J.R.Forst. & G.Forst.) Druce	Thymelaeaceae	A(1)	PD	Worse
Pittosporum patulum Hook.f.	Pittosporaceae	C(1)	CD, De, DPT, PD, PF, RF, Sp	Worse
Pittosporum pimeleoides subsp. *majus* (Cheeseman) R.C.Cooper	Pittosporaceae	A(3)	DPS, DPT, OL, RF	No change
Pomaderris paniculosa subsp. *novaezelandiae* (L.B.Moore) N.G.Walsh	Rhamnaceae	A(1)	DPS, DPT, RR, Sp	No change
Pouzolzia australis (Endl.) Friis & Wilmot-Dear	Urticaceae	B(3)	RR, TO	No change
Ranunculus acraeus Heenan & P.J.Lockh.	Ranunculaceae	A(1)	DPT, RF	No change
Ranunculus brevis Garn.-Jones	Ranunculaceae	A(3)	DPS, DPT, RR, Sp	No change
Scutellaria novae-zelandiae Hook.f.	Lamiaceae	A(3)	CD, RR, Sp	Better
Senecio dunedinensis Belcher	Asteraceae	A(3)	DPR, DPS, DPT, EF, Sp	No change
Senecio hauwai Sykes	Asteraceae	A(3)	DPS, DPT, PF, RR, Sp	No change
Senecio repangae de Lange & B.G.Murray	Asteraceae	C(3)	DPS, DPT, PD, PF, Sp	Worse
Solanum aviculare G.Forst. var. *aviculare*	Solanaceae	C(1)	PF, SO	Worse
Tmesipteris horomaka Perrie, Brownsey & Lovis	Psilotaceae	B(3)	DPR, RR	No change
Triglochin palustris L.	Juncaginaceae	B(3)	DPS, DPT, RR, SO, Sp	Better
Veronica cupressoides Hook.f.	Plantaginaceae	C(1)	CR, PF, RF	No change
Veronica maccaskillii (Allan) Heenan	Plantaginaceae	C(1)	DPT, RR	No change
Veronica perbella (de Lange) Garn.-Jones	Plantaginaceae	A(3)	DPT, RR, Sp	No change
Veronica salicornioides Hook.f.	Plantaginaceae	B(1)	PF, RR	No change
Wurmbea novae-zelandiae (Hook.f. ex Kirk) Lekhak, Survesw. & S.R.Yadav	Colchiaceae	A(3)	DPR, DPS, DPT, RR	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Taxonomically unresolved (19)				
Anisotome aff. *haastii* (a) (CHR 245140; North Marlborough)	Apiaceae	A(3)	DPS, DPT, RR	Worse
Carex aff. *wakatipu* (c) (CHR 275182; Flaxbourne)	Cyperaceae	B(3)	DPS, DPT, RR	New listing
Chaerophyllum aff. *colensoi* (b) (CHR 675129; Livingstone)	Apiaceae	B(1)	DPS, DPT, OL, RR	New listing
Chaerophyllum aff. *novae-zelandiae* (CHR 573578; Waitaki)	Apiaceae	A(3)	DPS, DPT, RR	No change
Christella aff. *dentata* (b) (AK 126902; "thermal")	Thelypteridaceae	B(3)	DPR, RR	No change
Coprosma aff. *acerosa* (b) (CHR 285650; Cobb)	Rubiaceae	B(3)	OL	No change
Corokia aff. *cotoneaster* (b) (CHR 497632; Paritutu)	Argophyllaceae	A(3)	DPS, DPT, RF	No change
Craspedia (b) (CHR 516324; Leatham)	Asteraceae	B(3)	CD, RR	No change
Craspedia (p) (CHR 469073; Havelock River)	Asteraceae	A(3)	DPS, DPT, OL	No change
Craspedia (xx) (CHR 638353; Mytton)	Asteraceae	B(3)	DPR, DPT, OL	New listing
Craspedia aff. *uniflora* (b) (CHR 393850; Haldon Hills)	Asteraceae	B(3)	DPR, DPS, DPT, RR	Better
Craspedia aff. *uniflora* (CHR 659765; "S Canterbury limestone")	Asteraceae	A(1)	DPT, RR	New listing
Gingidia aff. *enysii* (a) (CHR 283817; Mt Brown)	Apiaceae	A(3)	CR, DPT, RR	No change
Gingidia aff. *enysii* (b) (CHR 515371; Clarence)	Apiaceae	B(3)	CD, RR	No change
Melicytus (a) (CHR 355077; Matiri Range)	Violaceae	A(1)	CD, DPR, RF, Sp	No change
Myosotis (J) (WELT SP104464; "Takitimu")	Boraginaceae	B(1)	DPS, DPT, RR	New listing
Pimelea aff. *aridula* (b) (AK 230900; Cook Strait)	Thymelaeaceae	B(1)	DPS, DPT, OL	No change
Ranunculus aff. *royi* (b) (CHR 594945; Chatham Island)	Ranunculaceae	A(3)	DPS, DPT, IE, OL	Worse
Sonchus aff. *novae-zelandiae* (a) (CHR 517718; "grassland")	Asteraceae	C(1)	DPS, DPT, EF, Sp	Worse

3.3.3 Nationally Vulnerable (117)

Criteria for Nationally Vulnerable:

A – small population (unnatural), increasing >10%

A(1) The total population size is 250–1000 mature individuals; or
A(2) There are ≤ 5 sub-populations *and* ≤ 300 mature individuals in the largest sub-population; or
A(3) The total area of occupancy is ≤ 10 ha (0.1 km^2)

B – moderate population (unnatural), stable ± 10%

B(1) The total population size is 1000–5000 mature individuals; or
B(2) There are ≤ 15 sub-populations and ≤ 500 mature individuals in the largest sub-population; or
B(3) The total area of occupancy is ≤ 100 ha (1 km^2)

C – moderate population and population trend that has a low to high ongoing or predicted decline of 10–50%

C(1) The total population size is 1000–5000 mature individuals; or
C(2) There are ≤ 15 sub-populations and ≤ 500 mature individuals in the largest sub-population; or
C(3) The total area of occupancy is ≤ 100 ha (1 km^2)

D – moderate to large population and moderate to high ongoing or predicted decline of 30–70%

D(1) The total population size is 5000–20 000 mature individuals; or
D(2) There are ≤15 sub-populations and ≤1000 mature individuals in the largest sub-population; or
D(3) The total area of occupancy is ≤1000 ha (10 km^2)

E – large population and high ongoing or predicted decline of 50–70%

E(1) The total population size is 20 000–100 000 mature individuals; or
E(2) The total area of occupancy is ≤10 000 ha (100 km^2)

NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
THREATENED (409)				
NATIONALLY VULNERABLE (117)				
Taxonomically determinate (95)				
Achnatherum petriei (Buchanan) S.W.L.Jacobs & J.Everett	Poaceae	D(3)	DPR, DPS, DPT, RR, Sp	Worse
Alectryon excelsus subsp. *grandis* (Cheeseman) de Lange & E.K.Cameron	Sapindaceae	A(1)	CD, DPS, IE, RC	No change
Atriplex buchananii (Kirk) Cheeseman	Amaranthaceae	C(3)	CR, DPT, PD, RR, Sp	No change
Brachyglottis huntii (F.Muell.) B.Nord.	Asteraceae	C(3)	DPS, DPT, IE, RF	No change
Brachyglottis kirkii (Hook.f. ex Kirk) C.J.Webb var. *kirkii*	Asteraceae	D(1)	CD, DPT	No change
Brownseya serpentina (Kunze) Li Bing Zhang, L.D.Sheph., D.K.Chen, X.M.Zhou & H.He	Lycopodiaceae	C(3)	DPS, DPT, RR, TO	No change
Calochilus paludosus R.Br.	Orchidaceae	C(3)	DPS, DPT, SO, Sp	Worse
Calochilus robertsonii Benth.	Orchidaceae	C(1)	CD, DPS, DPT, SO, Sp	Worse
Cardamine parvula Heenan	Brassicaceae	B(1)	DPR, DPS, DPT, OL	No change
Cardamine serpentina Heenan	Brassicaceae	B(1)	DPR, DPS, DPT, Sp	No change
Cardamine verna Heenan	Brassicaceae	B(1)	DPR, DPS, DPT, RR	No change
Carex capillacea Boott	Cyperaceae	C(3)	DPR, DPS, DPT, SO, Sp	No change
Carex cremnicola K.A.Ford	Cyperaceae	D(3)	DPR, DPS, RR, Sp	No change
Carex inopinata V.J.Cook	Cyperaceae	B(3)	DPR, DPS, DPT, PF, Sp	No change
Carex litorosa L.H.Bailey	Cyperaceae	D(1)	CI, DPR, DPS, DPT, RR	Worse
Carmichaelia appressa G.Simpson	Fabaceae	C(3)	CI, DPT, OL, RF, RR	Worse
Carmichaelia astonii G.Simpson	Fabaceae	C(1)	CD, DPS, DPT, RF, RR	No change
Carmichaelia corrugata Colenso	Fabaceae	D(3)	DPR, DPS, DPT, PF, RF, Sp	No change
Carmichaelia crassicaulis Hook.f. subsp. *crassicaulis*	Fabaceae	E(1)	RF	Worse
Carmichaelia crassicaulis subsp. *racemosa* (Kirk) Heenan	Fabaceae	C(1)	DPS, DPT, RF, Sp	No change
Carmichaelia juncea Hook.f.	Fabaceae	C(1)	DPS, DPT, EF, PF	No change
Carmichaelia kirkii Hook.f.	Fabaceae	C(1)	DPS, DPT, RF	No change
Carmichaelia nana (Hook.f.) Hook.f.	Fabaceae	E(1)	DPR, DPS, DPT, RF	No change
Centrolepis glabra (F.Muell. ex Sond.) Hieron.	Restionaceae	C(3)	DPS, DPT, SO, Sp	Worse

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Chionochloa beddiei Zotov	Poaceae	C(1)	RF, RR, Sp	Worse
Corunastylis nuda (Hook.f.) D.L.Jones & M.A.Clem.	Orchidaceae	C(1)	DPR, DPS, DPT, SO, Sp	Worse
Crassula manaia A.P.Druce & Sykes	Crassulaceae	C(2)	DPR, DPS, DPT, EF, RR, Sp	No change
Dactylanthus taylorii Hook.f.	Mystropetalaceae	C(1)	CD, PD, PF, RF	No change
Daucus glochidiatus (Labill.) Fisch., C.A.Mey. & Avé-Lall.	Apiaceae	D(3)	DPR, DPT, EF, SO, Sp	Worse
Euphorbia glauca G.Forst.	Euphorbiaceae	D(1)	CI, DPS, DPT, PD, PF	Worse
Euphrasia repens Hook.f.	Orobanchaceae	C(3)	DPS, DPT, RR, Sp	Worse
Geranium retrorsum L'Hér. ex DC.	Geraniaceae	C(1)	DPR, DPS, DPT, SO	No change
Geranium socolateum Heenan & Molloy	Geraniaceae	C(1)	DPT, RR	Neutral
Gingidia enysii var. *peninsulare* J.W.Dawson	Apiaceae	C(1)	DPS, DPT, OL	Worse
Gratiola concinna Colenso	Plantaginaceae	C(3)	DPR, DPS, DPT, RR	Better
Gunnera densiflora Hook.f.	Gunneraceae	B(3)	DPS, DPT	Better
Helichrysum simpsonii subsp. *tumidum* (Cheeseman) de Lange & Blanchon	Asteraceae	C(3)	DPT, RR	No change
Juncus pauciflorus R.Br.	Juncaceae	C(3)	DPR, DPS, DPT, PF, SO, Sp	No change
Kunzea sinclairii (Kirk) W.Harris	Myrtaceae	C(3)	DPT, IE, RR	Better
Kunzea toelkenii de Lange	Myrtaceae	C(3)	CI, De, RR	Better
Lachnagrostis tenuis (Cheeseman) Edgar	Poaceae	C(3)	CI, DPR, EF, RR	No change
Lepidium naufragorum Garn.-Jones & D.A.Norton	Brassicaceae	B(1)	CD, DPS, DPT, RR	No change
Lepidium tenuicaule Kirk	Brassicaceae	C(3)	DPT, RR	Worse
Leptinella traillii subsp. *pulchella* (Kirk) D.G.Lloyd & C.J.Webb	Asteraceae	C(3)	DPR, DPS, DPT, RR, Sp	No change
Libertia peregrinans Cockayne & Allan	Iridaceae	D(3)	DPT	No change
Lobelia physaloides A.Cunn.	Campanulaceae	D(1)	DPS, DPT, PD	No change
Luzula celata Edgar	Juncaceae	D(1)	DPS, DPT, RR	Worse
Lycopodium novaezelandicum Colenso	Lycopodiaceae	B(1)	DPR, DPS, DPT, Sp	Neutral
Machaerina complanata (Berggr.) T.Koyama	Cyperaceae	C(2)	DPT, PF, RF	No change
Mazus novaezeelandiae subsp. *impolitus* Heenan f. *impolitus*	Phrymaceae	C(3)	De, DPS, DPT, RR	Better
Melicytus flexuosus Molloy & A.P.Druce	Violaceae	D(1)	CD, DPS, RF	No change
Melicytus improcerus Heenan, Courtney & Molloy	Violaceae	C(1)	CD, RR	Better
Melicytus venosus Courtney, Heenan, Molloy & de Lange	Violaceae	C(3)	CD, DPT, PD, RR, Sp	No change
Montigena novae-zelandiae (Hook.f.) Heenan	Fabaceae	D(1)	DPS, DPT, RF, Sp	Worse
Muehlenbeckia complexa var. *grandifolia* Carse	Polygonaceae	B(1)	DPR, DPS, DPT, Sp	Neutral
Myosotis antarctica subsp. *traillii* Kirk	Boraginaceae	D(1)	CI, DPT, Sp	Worse
Myosotis brevis de Lange & Barkla	Boraginaceae	C(3)	DPS, DPT, EF, Sp	No change
Myosotis brockiei subsp. *dysis* Courtney & Meudt	Boraginaceae	B(3)	DPS, OL	No change
Myosotis chaffeyorum C.A.Lehnebach	Boraginaceae	B(1)	DPR, RR, Sp	Better
Myosotis glauca (G.Simpson & J.S.Thomson) de Lange & Barkla	Boraginaceae	B(3)	DPT, PF, Sp	No change
Myosotis uniflora Hook.f.	Boraginaceae	C(1)	CI, DPS, DPT, Sp	Worse
Olearia fimbriata Heads	Asteraceae	D(1)	RF	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Ophioglossum petiolatum Hook.	Ophioglossaceae	B(3)	RF, SO, Sp	Better
Pachycladon stellatum (Allan) Heenan & A.D.Mitch.	Brassicaceae	D(3)	CD, DPS, DPT, Sp	Better
Paspalum orbiculare G.Forst.	Poaceae	D(3)	DPR, DPS, DPT, PF, SO	No change
Picris burbidgeae S.Holzapfel	Asteraceae	C(3)	DPS, DPT, EF, PD, SO, Sp	No change
Pimelea aridula subsp. *oliga* C.J.Burrows	Thymelaeaceae	C(1)	DPR, DPS, DPT, RF, RR	No change
Pimelea mesoa subsp. *macra* C.J.Burrows	Thymelaeaceae	B(3)	OL	No change
Pimelea orthia subsp. *protea* C.J.Burrows & Thorsen	Thymelaeaceae	B(3)	DPT, OL	Better
Pimelea sericeovillosa subsp. *pulvinaris* (C.J.Burrows) C.J.Burrows	Thymelaeaceae	C(1)	DPS, DPT, PF	No change
Pimelea xenica C.J.Burrows	Thymelaeaceae	C(3)	DPR, DPS, DPT, Sp	No change
Pittosporum dallii Cheeseman	Pittosporaceae	C(1)	CD, DPT, RF, RR	No change
Pittosporum obcordatum Raoul	Pittosporaceae	B(1)	DPS, DPT, PD, PF, RF	No change
Pittosporum turneri Petrie	Pittosporaceae	B(1)	CD, DPT, PD, RF	No change
Pittosporum virgatum Kirk	Pittosporaceae	C(1)	DPS, DPT, PD, Sp	No change
Pomaderris hamiltonii L.B.Moore	Rhamnaceae	C(1)	DPS, DPT, RR, Sp	Worse
Prasophyllum hectorii (Buchanan) Molloy, D.L.Jones & M.A.Clem.	Orchidaceae	D(3)	DPT, PF, RR	Worse
Pterostylis irwinii D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	B(3)	DPR, DPS, DPT, EF, Sp	Better
Pterostylis puberula Hook.f.	Orchidaceae	C(3)	CD, EF, Sp	No change
Pterostylis tasmanica D.L.Jones	Orchidaceae	C(3)	DPS, DPT, EF, SO, Sp	No change
Ranunculus grahamii Petrie	Ranunculaceae	D(3)	RR	Worse
Ranunculus recens Kirk	Ranunculaceae	C(3)	CD, DPT, RR, Sp	No change
Rorippa divaricata (Hook.f.) Garn.-Jones & Jonsell	Brassicaceae	C(1)	DPS, DPT, EF, PD, PF	No change
Rytidosperma telmaticum Connor & Molloy	Poaceae	C(3)	RR	Worse
Scandia rosifolia (Hook.f.) J.W.Dawson	Apiaceae	D(1)	DPS, DPT, PD	Better
Senecio glaucophyllus Cheeseman	Asteraceae	B(3)	DPS, DPT, RR, Sp	No change
Sonchus novae-zelandiae (Hook.f) Garn.-Jones	Asteraceae	B(3)	RR	No change
Spiranthes australis (R.Br.) Lindl.	Orchidaceae	C(3)	DPS, DPT, EF, Sp	Worse
Tetrachondra hamiltonii Petrie ex Oliv.	Tetrachondraceae	C(3)	DPR, DPT, Sp	No change
Thelymitra aemula Cheeseman	Orchidaceae	C(1)	DPR, DPS, DPT, PF, Sp	Worse
Todea barbara (L.) T.Moore	Osmundaceae	C(1)	DPT, SO	No change
Trithuria brevistyla (K.A.Ford) de Lange & Mosyakin	Hydatellaceae	B(3)	DPT, RR	No change
Utricularia delicatula Cheeseman	Lentibulariaceae	C(3)	DPR, DPS, DPT, PD, RR	Worse
Veronica bishopiana Petrie	Plantaginaceae	C(3)	RR, Sp	No change
Veronica breviracemosa W.R.B.Oliv.	Plantaginaceae	A(1)	CD, EF, IE, OL	No change
Taxonomically unresolved (22)				
Aciphylla (c) (CHR 572242; Mt St Patrick)	Apiaceae	C(1)	DPS, DPT, RR	Neutral
Aciphylla aff. *ferox* (CHR 617083; Mt Cass)	Apiaceae	B(3)	DPR, DPT	Worse
Aciphylla aff. *glaucescens* (d) (CHR 275220; Chalk Range)	Apiaceae	B(3)	DPR, DPS, DPT, RR	New listing

Continued on next page

NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Aciphylla aff. *squarrosa* (a) (AK 44773; Volcanic Plateau)	Apiaceae	C(1)	DPS, DPT	Worse
Asperula aff. *perpusilla* (CHR 476063; Kaitōrete)	Rubiaceae	C(3)	DPS, DPT, PF, RR	Neutral
Azorella aff. *haastii* (CHR 212602; Fiordland)	Apiaceae	B(3)	DPS, RR	New listing
Beilschmiedia aff. *tawa* (AK 230588; Poor Knights Is.)	Lauraceae	A(3)	CR, DPS, DPT, IE	No change
Brachyglottis aff. *lagopus* (AK 373206; Rochfort)	Asteraceae	B(3)	DPS, OL	New listing
Brachyscome aff. *sinclairii* (a) (CHR 365394; Chalk Range)	Asteraceae	C(3)	DPR, DPT, RR	New listing
Colobanthus aff. *brevisepalus* (a) (CHR 688765; "limestone")	Caryophyllaceae	C(1)	DPR, DPT, RR	New listing
Coprosma aff. *acerosa* (a) (AK 158739; Central North Island)	Rubiaceae	D(3)	DPS, DPT, RF	Worse
Craspedia (ii) (CHR 489432; Mt Cass)	Asteraceae	C(3)	DPR, DPS, DPT, RR	No change
Craspedia (k) (CHR 283173; "coast")	Asteraceae	B(3)	DPT, RR	No change
Craspedia (nn) (CHR 567299; "Rex")	Asteraceae	C(3)	DPR, DPS, DPT, RR, Sp	No change
Craspedia aff. *minor* (AK 228074; Chatham Island)	Asteraceae	C(3)	DPS, DPT, IE, RR	Worse
Leptinella aff. *pectinata* (a) (CHR 580894; Nevis)	Asteraceae	B(3)	DPT, OL	Better
Melicytus aff. *alpinus* (a) (CHR 541565; Rangipō)	Violaceae	B(1)	DPR, DPS, DPT, RF	No change
Pimelea aff. *villosa* (AK 216133; southern New Zealand)	Thymelaeaceae	C(3)	DPR, DPS, DPT, PF, RF, RR	Better
Scandia aff. *rosifolia* (AK 344466; "inland")	Apiaceae	C(1)	DPR, DPS, DPT	Worse
Senecio aff. *matatini* (a) (CHR 437799; Mt Cass)	Asteraceae	C(1)	DPR, DPS, DPT, RR, Sp	Neutral
Senecio aff. *matatini* (b) (CHR 85767; Cape Campbell)	Asteraceae	C(3)	DPR, DPS, DPT, RR, Sp	Worse
Senecio aff. *matatini* (c) (AK 286230; "South Marlborough limestone")	Asteraceae	C(3)	DPS, DPT, RR, Sp	Worse

3.3.4 Nationally Increasing (1)

This is a new name and category for At Risk – Recovering (criterion A) of Townsend et al. (2008).

Taxa that have undergone a documented decline within the last 1000 years to a population size of 1000–5000 mature individuals or a total area of occupancy of ≤100 ha (1 km^2) 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.

Taxa that are increasing but have a population size of <1000 mature individuals (or a total area of occupancy of <10 ha) are listed in one of the other Threatened categories, depending on their population size (for more details, see Townsend et al. (2008)).

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
THREATENED (409)			
NATIONALLY INCREASING (1)			
Taxonomically determinate (1)			
Pittosporum rangitahua E.K.Cameron & Sykes	Pittosporaceae	CD, IE, OL	No change

3.4 At Risk (930)

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

3.4.1 Declining (253)

Criteria for At Risk – Declining:

A – moderate to large population and low ongoing or predicted decline of 10–30%

A(1) The total population size is 5000–20 000 mature individuals; or

A(2) The total area of occupancy is ≤1000 ha (10 km^2)

B – large population and low to moderate ongoing or predicted decline of 10–50%

B(1) The total population size is 20 000–100 000 mature individuals; or

B(2) The total area of occupancy is ≤10 000 ha (100 km^2)

C – very large population and low to high ongoing or predicted decline of 10–70%

C(1) The total population size is >100 000 mature individuals; or

C(2) The total area of occupancy is >10 000 ha (100 km^2)

NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
AT RISK (930)				
DECLINING (253)				
Taxonomically determinate (238)				
Acaena buchananii Hook.f.	Rosaceae	B(2)	DPS, DPT	No change
Acaena microphylla var. *pauciglochidiata* Bitter	Rosaceae	B(2)	DPT, RR, Sp	No change
Acaena pallida (Kirk) Allan	Rosaceae	B(2)	DPS, DPT, RR, SO	No change
Aciphylla dieffenbachii (F.Muell.) Kirk	Apiaceae	A(1)	CD, EF, IE, RR	Better
Aciphylla lecomtei J.W.Dawson	Apiaceae	B(2)	DPS, DPT, RR	No change
Aciphylla multisecta Cheeseman	Apiaceae	C(2)	CD, DPS, DPT, RR, Sp	No change
Aciphylla squarrosa J.R.Forst. & G.Forst. var. *squarrosa*	Apiaceae	C(2)	DPS, DPT	No change
Aciphylla subflabellata W.R.B.Oliv.	Apiaceae	B(1)	DPT	No change
Aciphylla takahea W.R.B.Oliv.	Apiaceae	C(2)	DPS, DPT, RR, Sp	No change
Aciphylla traversii (F.Muell.) Hook.f.	Apiaceae	A(1)	CD, IE, RR	Worse
Agathis australis (D.Don) Lindl. ex Loudon	Araucariaceae	C(1)	CI, CR, DPT	Better
Alepis flavida (Hook.f.) Tiegh.	Loranthaceae	C(1)	CD, DPS, DPT	No change
Alseuosmia turneri R.O.Gardner	Alseuosmiaceae	C(2)	CD, DPS, DPT, RR	Worse
Amphibromus fluitans Kirk	Poaceae	A(2)	DPR, DPS, TO	Better
Anemanthele lessoniana (Steud.) Veldkamp	Poaceae	A(2)	DPS, DPT, Sp	Worse
Anisotome capillifolia (Cheeseman) Cockayne	Apiaceae	C(2)	DPS, DPT, PD, RF	No change
Anisotome cauticola J.W.Dawson	Apiaceae	B(2)	DPS, DPT, RR, Sp	No change
Anisotome lyallii Hook.f.	Apiaceae	B(2)	DPS, DPT, RR	Worse
Anisotome pilifera (Hook.f.) Cockayne & Laing	Apiaceae	B(1)	DPT, PD	No change
Anogramma leptophylla (L.) Link	Pteridaceae	C(2)	DPR, DPT, SO, Sp	Better

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Anthosachne falcis (Connor) Barkworth & S.W.L.Jacobs	Poaceae	B(2)	DPT, Sp	No change
Anthosachne kingiana subsp. *multiflora* (Banks & Sol. ex Hook.f.) Govaerts	Poaceae	A(1)	DPS, DPT, SO	No change
Arthropodium bifurcatum Heenan, A.D.Mitch. & de Lange	Asparagaceae	B(2)	DPR, DPT, PD	Worse
Asplenium subglandulosum (Hook. & Grev.) Salvo, Prada & T.E.Díaz	Aspleniaceae	A(2)	CI, DPS, DPT, SO, Sp	Worse
Astelia chathamica (Skottsb.) L.B.Moore	Asteliaceae	A(1)	CD, IE, RR	Worse
Austroderia splendens (Connor) N.P.Barker & H.P.Linder	Poaceae	C(1)	DPR, DPS, DPT	Worse
Azorella lyallii (Armstr.) G.M.Plunkett & A.N.Nicolas	Apiaceae	A(1)	CD	Worse
Botrychium australe R.Br.	Ophioglossaceae	A(1)	DPS, DPT, SO, Sp	Worse
Brachyglottis buchananii (J.B.Armstr.) B.Nord.	Asteraceae	C(1)	DPR, DPS, DPT	Worse
Brachyglottis greyi (Hook.f.) B.Nord.	Asteraceae	A(2)	DPS, DPT, RR	Worse
Brachyglottis sciadophila (Raoul) B.Nord.	Asteraceae	A(1)	DPS, DPT	No change
Bulbinella modesta L.B.Moore	Asphodelaceae	C(2)	DPS, DPT, RR, Sp	No change
Caladenia alata R.Br.	Orchidaceae	B(2)	DPR, DPS, DPT, SO, Sp	Worse
Carex buchananii Berggr.	Cyperaceae	B(1)	DPS, DPT	No change
Carex cyanea K.A.Ford	Cyperaceae	C(2)	DPT, Sp	No change
Carex decurtata Cheeseman	Cyperaceae	A(1)	DPS, Sp	Neutral
Carex fascicularis Boott	Cyperaceae	B(2)	DPS, DPT, SO, Sp	No change
Carex fretalis Hamlin	Cyperaceae	B(2)	DPS, DPT, Sp	No change
Carex kaloides Petrie	Cyperaceae	B(2)	DPS, DPT, Sp	No change
Carex muelleri Petrie	Cyperaceae	B(1)	DPR, DPS, DPT	Worse
Carex parvispica K.A.Ford	Cyperaceae	B(2)	DPR, DPS, DPT, Sp	No change
Carex resectans Cheeseman	Cyperaceae	C(2)	DPR, DPS, DPT	Worse
Carex rubicunda Petrie	Cyperaceae	A(2)	DPR, DPS, DPT, PF, RR	Better
Carex talbotii Kottaim.	Cyperaceae	C(2)	DPR, Sp	No change
Carex tenuiculmis (Petrie) Heenan & de Lange	Cyperaceae	A(1)	DPS, DPT, Sp	No change
Carex ternaria Boott	Cyperaceae	C(2)	DPR, DPS, DPT, RR	Worse
Carex trifida Cav.	Cyperaceae	B(1)	DPT, PD, SO	Worse
Carex uncifolia Cheeseman	Cyperaceae	A(2)	DPR, DPS, DPT, RR, Sp	Better
Carmichaelia australis R.Br.	Fabaceae	B(1)	DPR, DPS, DPT, PF	Worse
Carmichaelia monroi Hook.f.	Fabaceae	B(1)	DPS, DPT, RF	No change
Carmichaelia petriei Kirk	Fabaceae	B(1)	DPS, DPT, RF	No change
Carmichaelia uniflora Kirk	Fabaceae	C(2)	DPS, DPT, RF	No change
Carmichaelia vexillata Heenan	Fabaceae	C(1)	DPS, DPT, RF	No change
Celmisia holosericea (G.Forst.) Hook.f.	Asteraceae	B(2)	DPS, DPT	No change
Chenopodium allanii Aellen	Amaranthaceae	A(1)	DPR, DPS, DPT, Sp	Worse
Chionochloa flavicans Zotov f. *flavicans*	Poaceae	C(1)	DPS, DPT, RR	Worse
Chionochloa juncea Zotov	Poaceae	A(2)	OL	No change
Chionochloa ovata (Buchanan) Zotov	Poaceae	C(2)	CD, DPS, DPT, RR, Sp	No change
Colobanthus brevisepalus Kirk	Caryophyllaceae	C(2)	DPS, DPT, Sp	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Connorochloa tenuis (Buchanan) Barkworth, S.W.L.Jacobs & H.Q.Zhang	Poaceae	A(2)	DPR, DPS, DPT	Neutral
Convolvulus verecundus Allan f. *verecundus*	Convolvulaceae	B(2)	DPS, DPT, PF	Better
Coprosma acerosa A.Cunn.	Rubiaceae	C(1)	CI, PD	No change
Coprosma brunnea (Kirk) Cockayne ex Cheeseman	Rubiaceae	B(1)	DPS, DPT, Sp	No change
Coprosma intertexta G.Simpson	Rubiaceae	A(1)	Sp	No change
Coprosma obconica Kirk	Rubiaceae	A(1)	PF, Sp	Better
Coprosma pedicellata Molloy, de Lange & B.D.Clarkson	Rubiaceae	A(1)	DPT, PF, RR	No change
Coprosma rubra Petrie	Rubiaceae	C(1)	DPR, DPS, DPT, PF	Worse
Coprosma virescens Petrie	Rubiaceae	C(2)	DPT	No change
Coprosma wallii Petrie	Rubiaceae	A(1)	PD, RF	No change
Corunastylis pumila (Hook.f.) D.L.Jones & M.A.Clem.	Orchidaceae	A(1)	DPS, DPT, SO, Sp	Worse
Corybas rotundifolius (Hook.f.) Rchb.f.	Orchidaceae	B(2)	DPR, DPS, DPT, Sp	Worse
Craspedia uniflora var. *grandis* Allan	Asteraceae	B(2)	DPS, DPT, PD	No change
Craspedia uniflora var. *maritima* Allan	Asteraceae	A(2)	PD, RR, Sp	No change
Crassula kirkii (Allan) A.P.Druce & Given	Crassulaceae	A(2)	DPR, DPS, DPT, Sp	Worse
Cyclosorus interruptus (Willd.) H.Itô	Thelypteridaceae	B(2)	DPT, PF, RR, SO, Sp	No change
Cyperus insularis Heenan & de Lange	Cyperaceae	C(1)	DPR, DPS, DPT, PD, RR	No change
Deschampsia cespitosa (L.) P.Beauv.	Poaceae	A(2)	DPS, DPT, PD, SO	No change
Dracophyllum densum W.R.B.Oliv.	Ericaceae	C(1)	DPS, DPT, RR	No change
Dracophyllum fiordense W.R.B.Oliv.	Ericaceae	C(2)	Sp	No change
Drymoanthus flavus St George & Molloy	Orchidaceae	A(1)	DPS, DPT, Sp	No change
Echinopogon ovatus (G.Forst.) P.Beauv.	Poaceae	B(1)	DPR, DPS, DPT, PF, SO?	Worse
Eleocharis neozelandica C.B.Clarke ex Kirk	Cyperaceae	A(1)	CI, DPS, DPT, EF, RR	No change
Empodisma robustum Wagstaff & B.R.Clarkson	Restionaceae	B(2)		No change
Epilobium angustum (Cheeseman) P.H.Raven & Engelhorn	Onagraceae	B(2)	DPS, DPT, RR	Worse
Epilobium billardiereanum DC.	Onagraceae	B(2)	DPR, DPS, DPT, SO	Worse
Epilobium chionanthum Hausskn.	Onagraceae	B(2)	DPR, DPS, DPT, PF, RR	Worse
Epilobium hectorii Hausskn.	Onagraceae	C(2)	DPR, DPS, DPT	Worse
Epilobium insulare Hausskn.	Onagraceae	A(2)	DPS, DPT, RR, Sp	No change
Epilobium tenuipes Hook.f.	Onagraceae	C(2)	DPR, DPS, DPT, PF	Worse
Eryngium vesiculosum Labill.	Apiaceae	A(2)	CI, DPS, DPT, RR, SO, Sp	Better
Euchiton ensifer (D.G.Drury) Holub	Asteraceae	A(2)	DPS, DPT, PD, RR, Sp	Better
Euchiton polylepis (D.G.Drury) Breitw. & J.M.Ward	Asteraceae	A(2)	Sp	Worse
Euphrasia wettsteiniana Du Rietz	Orobanchaceae	A(2)	DPR, DPS, DPT, RR	Better
Ficinia spiralis (A.Rich.) Muasya & de Lange	Cyperaceae	B(2)	CI, PD, RR	No change
Geranium sessiliflorum var. *arenarium* G.Simpson & J.S.Thomson	Geraniaceae	A(1)	CD, DPS, DPT, RR	No change
Geranium solanderi Carolin	Geraniaceae	C(2)	DPR, DPS, DPT, SO	No change
Gingidia amphistoma Heenan	Apiaceae	C(2)	DPS, DPT	Worse

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Gingidia montana (J.R.Forst. & G.Forst.) J.W.Dawson	Apiaceae	C(1)	DPR, DPS, DPT, PF	Worse
Goodenia heenanii K.A.Sheph.	Goodeniaceae	A(2)	DPT, RR	No change
Gunnera arenaria Cheeseman	Gunneraceae	A(2)	CD, DPT, RR	No change
Hierochloe cuprea Zotov	Poaceae	C(1)	DPR, DPT	Worse
Hypericum involutum (Labill.) Choisy	Hypericaceae	B(2)	DPS, DPT, SO	No change
Isoetes kirkii A.Braun	Isoetaceae	B(2)	RR	No change
Isolepis lenticularis R.Br.	Cyperaceae		De, DPR, PD, SO	Better
Jovellana sinclairii (Hook.) Kraenzl.	Calceolariaceae	B(2)	DPS, DPT	No change
Juncus caespiticius E.Mey.	Juncaceae	C(1)	CI, DPR, DPS, DPT, PD, SO	No change
Koeleria antarctica (G.Forst.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	B(1)	Sp	No change
Koeleria arduana (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	B(2)	DPR, DPS, DPT	Worse
Korthalsella clavata (Kirk) Cheeseman	Viscaceae	B(2)	DPS, DPT, Sp	No change
Korthalsella salicornioides (A.Cunn.) Tiegh.	Viscaceae	C(1)	DPT, Sp	Better
Kunzea amathicola de Lange & Toelken	Myrtaceae	C(1)		Better
Kunzea linearis (Kirk) de Lange & Toelken	Myrtaceae	C(1)		Better
Lachnagrostis ammobia Edgar	Poaceae	B(2)	DPS, DPT, Sp	No change
Lagenophora barkeri Kirk	Asteraceae	A(1)	DPR, DPS, DPT, PD, Sp	Worse
Leionema nudum (Hook.) Paul G.Wilson	Rutaceae	C(1)	DPS, DPT, PF	Worse
Lepidosperma neozelandicum (Kük.) R.L.Barrett & K.L.Wilson	Cyperaceae	B(2)	DPR, DPS, DPT, PD	No change
Leptinella maniototo (Petrie) D.G.Lloyd & C.J.Webb	Asteraceae	A(2)	DPS	Worse
Leptinella pusilla Hook.f.	Asteraceae	C(2)	DPT	No change
Leptinella serrulata (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	C(2)	DPR, DPT, PD, Sp	No change
Leptospermum hoipolloi f. *incanum* (Cockayne) de Lange & L.M.H.Schmid	Myrtaceae	C(1)	DPS, DPT	Better
Leptospermum hoipolloi f. *procumbens* L.M.H.Schmid & de Lange	Myrtaceae	A(2)	DPT, Sp	Better
Leptospermum repo de Lange & L.M.H.Schmid	Myrtaceae	B(2)		Better
Leucopogon nanum M.I.Dawson & Heenan	Ericaceae	B(2)	DPR, DPS, DPT, Sp	No change
Linum monogynum G.Forst. var. *monogynum*	Linaceae	C(1)	DPS, DPT	No change
Lobelia carens Heenan	Campanulaceae	A(2)	DPS, DPT	No change
Lobelia ionantha Heenan	Campanulaceae	C(2)		No change
Lophomyrtus obcordata (Raoul) Burret	Myrtaceae	C(1)	DPT	Better
Loxsoma cunninghamii R.Br. ex Hook.	Loxsomataceae	C(1)	DPS, DPT, PF	Worse
Luzula ulophylla (Buchenau) Cockayne & Laing	Juncaceae	C(2)	DPS, DPT	No change
Macrolearia chathamica (Kirk) Saldivia	Asteraceae	A(1)	DPT, IE, PD	Better
Mazus arenarius Heenan, P.N.Johnson & C.J.Webb	Phrymaceae	A(2)	DPS, DPT, RR, Sp	No change
Mazus novaezeelandiae W.R.Barker subsp. *novaezeelandiae*	Phyrmaceae	A(1)	DPS, DPT	No change
Melicytus crassifolius (Hook.f.) Garn.-Jones	Violaceae	A(1)		No change
Melicytus novae-zelandiae (A.Cunn.) P.S.Green subsp. *novae-zelandiae*	Violaceae	C(1)	DPS, DPT	Worse
Melicytus obovatus (Kirk) Garn.-Jones	Violaceae	B(2)	DPS, DPT, RR, Sp	Worse

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Melicytus orarius Heenan, de Lange, Courtney & Molloy	Violaceae	A(1)	CI, DPS, DPT, PF	No change
Mentha cunninghamii Benth.	Lamiaceae	C(2)	PD	No change
Metrosideros carminea W.R.B.Oliv.	Myrtaceae	C(1)		Better
Metrosideros robusta A.Cunn.	Myrtaceae	C(1)	CD, DPT	Better
Microlaena polynoda (Hook.f.) Hook.f.	Poaceae	C(1)		Worse
Microtis parviflora R.Br.	Orchidaceae	A(1)	DPR, DPS, DPT, SO?	Worse
Mida salicifolia A.Cunn.	Nanodeaceae	C(1)	DPS, DPT	No change
Montia angustifolia Heenan	Montiaceae	A(2)	DPR, DPS, DPT, RR, Sp	Worse
Muehlenbeckia ephedroides Hook.f.	Polygonaceae	A(1)	DPS, DPT	Better
Myoporum semotum Heenan & de Lange	Scrophulariaceae	A(1)	DPR, DPS, DPT	No change
Myosotidium hortensia (Decne.) Baill.	Boraginaceae	A(1)	CD, DPT, IE	Better
Myosotis spatulata G.Forst.	Boraginaceae	B(2)	DPS, DPT, EF, RR, Sp	Worse
Myosotis tenericaulis Petrie	Boraginaceae	A(2)	DPR, DPS, DPT, Sp	Worse
Myosurus minimus subsp. *novae-zelandiae* (W.R.B.Oliv.) Garn.-Jones	Ranunculaceae	A(2)	DPS, EF, RR, Sp	Better
Myrsine argentea Heenan & de Lange	Primulaceae	A(2)	CD, OL	No change
Myrsine chathamica F.Muell.	Primulaceae	C(1)	DPT	Worse
Myrsine coxii Cockayne	Primulaceae	A(1)	DPS, DPT, IE, RF	No change
Olearia albida (Hook.f.) Hook.f.	Asteraceae	B(2)	CI, DPR, DPS, DPT, PF	Worse
Olearia angulata Kirk	Asteraceae	B(2)	DPR, DPS, DPT, PF, RF, Sp	Worse
Olearia cheesemanii Cockayne & Allan	Asteraceae	B(2)	DPS, DPT, PF, RR, Sp	Worse
Olearia fragrantissima Petrie	Asteraceae	A(1)	PD	No change
Olearia lineata (Kirk) Cockayne	Asteraceae	B(1)	RF	No change
Olearia odorata Petrie	Asteraceae	B(1)	DPS, DPT, PF	Worse
Olearia quinquevulnera Heenan	Asteraceae	B(2)	DPT, PF, Sp	Worse
Olearia solandri (Hook.f.) Hook.f.	Asteraceae	C(1)	DPT, PD, PF	Worse
Olearia telmatica Heenan & de Lange	Asteraceae	A(2)	CI, DPR, DPS, DPT, IE, PF, RF, RR	Better
Olearia traversiorum (F.Muell.) Hook.f.	Asteraceae	B(1)	DPR, DPS, DPT, IE, NO, RF	Better
Oxybasis ambigua (R.Br.) de Lange & Mosyakin	Amaranthaceae	B(1)	CI, DPR, DPS, DPT, PF, SO, Sp	No change
Pachycladon enysii (Cheeseman) Heenan & A.D.Mitch.	Brassicaceae	B(1)	DPS, DPT, Sp	Worse
Pachycladon fastigiatum (Hook.f.) Heenan & A.D.Mitch.	Brassicaceae	C(1)	DPS, DPT	Worse
Pachycladon wallii (Carse) Heenan & A.D.Mitch.	Brassicaceae	A(2)	DPS, DPT, RR, Sp	No change
Parsonsia capsularis var. *grandiflora* Carse	Apocynaceae	C(1)	CD, DPR, DPS, DPT, PF	Worse
Pentapogon inaequiglumis (Hack. ex Cheeseman) P.M.Peterson, Romasch. & Soreng	Poaceae	A(1)	DPR, DPS, DPT, SO, Sp	Worse
Pentapogon quadrisetusus (Labill.) P.M.Peterson, Romasch. & Soreng	Poaceae	C(1)	DPS, DPT, EF, SO	No change
Peperomia tetraphylla (G.Forst.) Hook. & Arn.	Piperaceae	A(2)	DPS, DPT, PF, SO, Sp	Worse
Peraxilla colensoi (Hook.f.) Tiegh.	Loranthaceae	C(1)	CD	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Peraxilla tetrapetala (L.f.) Tiegh.	Loranthaceae	C(1)	CD	No change
Pimelea aridula Cheeseman subsp. *aridula*	Thymelaeaceae	A(1)	RR, Sp	No change
Pimelea dura C.J.Burrows	Thymelaeaceae	B(2)	DPR, DPS, DPT, RR	Neutral
Pimelea longifolia Sol. ex Wikstr.	Thymelaeaceae	C(2)	DPS, DPT, PD, PF	No change
Pimelea lyallii Hook.f.	Thymelaeaceae	A(2)	CD, DPS, DPT, RR, Sp	No change
Pimelea mesoa C.J.Burrows subsp. *mesoa*	Thymelaeaceae	B(2)	DPR, DPS, DPT	Worse
Pimelea prostrata subsp. *ventosa* C.J.Burrows	Thymelaeaceae	A(1)	Sp	No change
Pimelea sericeovillosa Hook.f. subsp. *sericeovillosa*	Thymelaeaceae	B(2)	DPS, DPT	No change
Pimelea traversii subsp. *boreus* C.J.Burrows	Thymelaeaceae	A(2)	CD, DPS, DPT, RR, Sp	Better
Pimelea villosa Sol. ex Sm.	Thymelaeaceae	B(1)	PD, RF	No change
Pittosporum cornifolium A.Cunn.	Pittosporaceae	B(1)	CD, DPS, DPT, PF	Worse
Pittosporum kirkii Hook.f. ex Kirk	Pittosporaceae	C(1)	PD	No change
Plagianthus regius subsp. *chathamicus* (Cockayne) de Lange	Malvaceae	A(1)	CD, DPS, DPT, IE, PF	Worse
Poa billardierei (Spreng.) St.-Yves	Poaceae	B(1)	CI, DPS, DPT, PD, RR, SO	No change
Poa maniototo Petrie	Poaceae	C(1)	DPT	Worse
Poa ramosissima Hook.f.	Poaceae	A(2)	RR	Worse
Polygonum plebeium R.Br.	Polygonaceae	A(2)	DPR, DPS, DPT, SO	No change
Pomaderris edgerleyi Hook.f.	Rhamnaceae	B(2)	DPS, DPT, PF	No change
Pomaderris rugosa Cheeseman	Rhamnaceae	B(2)	DPS, DPT, RR, Sp	Worse
Pseudopanax discolor (Kirk) Harms	Araliaceae	B(2)	DPT	Worse
Pseudopanax laetus (Kirk) Philipson	Araliaceae	B(2)	DPS, DPT	No change
Pterostylis paludosa D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	B(2)	DPS, DPT, PF, RR	No change
Pterostylis tanypoda D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	C(1)	DPR, DPS, DPT, Sp	No change
Pterostylis tristis Colenso	Orchidaceae	B(1)	DPR, DPS, DPT, Sp	No change
Ptisana salicina (Sm.) Murdock	Marattiaceae	C(1)	SO	No change
Puccinellia chathamica (Cheeseman) Allan & Jansen	Poaceae	B(2)	CI, DPS, DPT, EF, RR	Worse
Ranunculus buchananii Hook.f.	Ranunculaceae	C(2)	DPS, DPT, RR	No change
Ranunculus crithmifolius Hook.f.	Ranunculaceae	A(1)	DPR, DPS, DPT, Sp	Worse
Ranunculus godleyanus Hook.f.	Ranunculaceae	A(1)	DPT, RR	Worse
Ranunculus haastii Hook.f.	Ranunculaceae	C(1)	DPS, DPT, RF	No change
Ranunculus macropus Hook.f.	Ranunculaceae	C(2)	DPR, DPS, DPT, RR, Sp	Neutral
Ranunculus pilifer (F.J.F.Fisher) Heenan & P.J.Lockh.	Ranunculaceae	B(2)	DPT, RF, RR	No change
Ranunculus ternatifolius Kirk	Ranunculaceae	A(2)	DPT, Sp	Better
Ranunculus urvilleanus Cheeseman	Ranunculaceae	A(1)	DPR, DPS, DPT, RR	No change
Raoulia australis Hook.f. ex Raoul	Asteraceae	C(1)	DPS, DPT	No change
Raoulia beauverdii Cockayne	Asteraceae	B(1)	DPR, DPS, DPT, Sp	No change
Raoulia monroi Hook.f.	Asteraceae	B(2)	DPT, PD, RR, Sp	Better
Raoulia parkii Buchanan	Asteraceae	C(2)	Sp	No change
Raukaua edgerleyi (Hook.f.) Seem.	Araliaceae	C(1)	CD, DPS, DPT, PF	Worse

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Rytidosperma buchananii (Hook.f.) Connor & Edgar	Poaceae	C(2)	DPR, DPT	No change
Rytidosperma exiguum (Kirk) H.P.Linder	Poaceae	B(2)	DPS, DPT	No change
Rytidosperma maculatum (Zotov) Connor & Edgar	Poaceae	C(2)	DPR, DPT	Neutral
Rytidosperma merum Connor & Edgar	Poaceae	A(2)	DPS, Sp	No change
Rytidosperma thomsonii (Buchanan) Connor & Edgar	Poaceae	B(2)	DPS	No change
Scandia geniculata (G.Forst.) J.W.Dawson	Apiaceae	B(2)	DPS, DPT, PF	Worse
Selliera microphylla Colenso	Goodeniaceae	B(2)	CR, DPR, DPS, DPT	Worse
Senecio biserratus Belcher	Asteraceae	B(1)	SO	No change
Senecio carnosulus (Kirk) C.J.Webb	Asteraceae	A(2)	DPS, DPT, EF, Sp	No change
Sonchus kirkii Hamlin	Asteraceae	A(2)	CI	No change
Sophora prostrata Buchanan	Fabaceae	C(1)	DPT, RF	Worse
Syzygium maire (A.Cunn.) Sykes & Garn.-Jones	Myrtaceae	C(1)	De, DPT, PD, RF	Better
Taraxacum zealandicum Dahlst.	Asteraceae	B(1)	DPR, DPS, DPT, PF, Sp	Worse
Teucrium parvifolium (Hook.f.) Kattari & Salmaki	Lamiaceae	A(1)	Sp	No change
Thelypteris confluens (Thunb.) C.V.Morton	Thelypteridaceae	B(2)	DPS, DPT, TO	Worse
Tupeia antarctica (G.Forst.) Cham. & Schltdl.	Loranthaceae	C(1)	CD, PD	No change
Urtica aspera Petrie	Urticaceae	A(2)	DPT, Sp	Worse
Urtica australis Hook.f.	Urticaceae	B(2)	PD	Worse
Veronica lavaudiana Raoul	Plantaginaceae	B(1)	CI, RR	No change
Veronica lilliputiana Stearn	Plantaginaceae	A(2)		No change
Veronica macrocarpa var. *latisepala* (Kirk) Cheeseman	Plantaginaceae	A(1)	DPR, DPS, DPT	Worse
Veronica obtusata Cheeseman	Plantaginaceae	A(2)	CI, DPS, DPT, RR, Sp	Worse
Veronica scopulorum (Bayly, de Lange & Garn.-Jones) Garn.-Jones	Plantaginaceae	A(1)	DPS, DPT, RR	No change
Veronica scrupea Garn.-Jones	Plantaginaceae	A(1)	DPS, DPT, RR	No change
Veronica speciosa R.Cunn. ex A.Cunn.	Plantaginaceae	A(1)	RR	No change
Wahlenbergia congesta (Cheeseman) N.E.Br.	Campanulaceae	B(2)	DPS, DPT, Sp	No change
Zostera muelleri subsp. *novazelandica* (Setch.) S.W.L.Jacobs	Zosteraceae	C(2)	EF, SO	No change
Zoysia minima (Colenso) Zotov	Poaceae	B(2)	DPS, DPT	No change
Taxonomically unresolved (15)				
Arthropodium aff. *cirratum* (AK 309832; Surville Cliffs)	Asparagaceae	A(2)	DPT, OL	Worse
Astelia aff. *nervosa* (a) (AK 108205; Mount Stokes)	Asteliaceae	B(2)	DPT, RR, Sp	Worse
Cardamine (o) (CHR 513346; "northern robust")	Brassicaceae	B(2)	DPR, DPS, DPT, Sp	Neutral
Coprosma aff. *macrocarpa* (AK 309497; Surville)	Rubiaceae	A(2)	DPT, RR	No change
Gratiola aff. *concinna* (AK 251855; South Island)	Plantaginaceae	B(2)	DPR, DPS, DPT, RR, Sp	Neutral
Hydrocotyle aff. *robusta* (b) (CHR 596579; Chatham Is.)	Araliaceae	A(2)	DPS, DPT, IE	No change
Pellaea aff. *falcata* (a) (AK 281415; Kermadec)	Pteridaceae	A(2)	DPR, DPS, DPT, PF	Worse
Pentapogon aff. *quadriseta* (AK 252511; Volcanic Plateau)	Poaceae	B(2)	DPS, DPT, RR, Sp	No change

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NAME AND AUTHORITY	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
Pseudopanax aff. *lessonii* (AK 46066; Surville Cliffs)	Araliaceae	A(2)	DPT	Worse
Ranunculus aff. *reflexus* (CHR 394270; Mt Peel)	Ranunculaceae	C(2)	DPR, DPS, DPT	Neutral
Raoulia aff. *australis* (a) (CANU 33934; "North octaploid")	Asteraceae	B(2)	DPS, DPT	No change
Raoulia aff. *hookeri* (a) (AK 239529; "coast")	Asteraceae	C(1)	CD, CI, DPT	No change
Thelymitra (b) (CHR 518036; "darkie")	Orchidaceae	C(2)	DPR, DPS, DPT, PF	Worse
Veronica aff. *albicans* (a) (AK 252966; Mt Burnett)	Plantaginaceae	A(2)	CD, OL	No change
Veronica aff. *diosmifolia* (a) (AK 215221; "summer flowering tetraploid")	Plantaginaceae	B(2)	DPR, DPS, DPT	Worse

3.4.2 Recovering (1)

Taxa that have undergone a documented decline within the last 1000 years to a population size of 5000–20 000 mature individuals or a total area of occupancy of ≤ 1000 ha (10 km^2) *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.

Taxa that are increasing but have a population size of < 5000 mature individuals (or total area of occupancy of < 100 ha) are listed in one of the Threatened categories, depending on their population size (for more details, see the description of Nationally Increasing above and Townsend et al. (2008)).

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
AT RISK (930)			
RECOVERING (1)			
Taxonomically determinate (1)			
Sonchus grandifolius Kirk	Asteraceae	CD, EF, IE, RR	No change

3.4.3 Relict (11)

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 The total population is 5000–20 000 mature individuals *and* stable (± 10%); or
B The total population is > 20 000 mature individuals *and* 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	FAMILY	CRITERIA	QUALIFIERS	STATUS CHANGE
AT RISK (930)				
RELICT (11)				
Taxonomically determinate (11)				
Adiantum formosum R.Br.	Pteridaceae	A	RR, SO	No change
Atriplex australasica Moq.	Amaranthaceae	B	RR, SO	No change
Carex sectoides (Kük.) Edgar	Cyperaceae	B	DPS, DPT, RR	Worse
Carmichaelia williamsii Kirk	Fabaceae	A	PD	No change
Ceodes brunoniana (Endl.) Skottsb.	Nyctaginaceae	B	Inc, RC, TO	No change
Lepidium oligodontum de Lange & Heenan	Brassicaceae		CD, EF, RR	Better
Leptinella featherstonii F.Muell.	Asteraceae	B	CD, CI, IE, RR	No change
Myrsine aquilonia de Lange & Heenan	Primulaceae	A	PD	No change
Sicyos mawhai I.Telford & P.Sebastian	Cucurbitaceae	A	CD, DPS, DPT, PD, RR	No change
Sporadanthus ferrugineus de Lange, Heenan & B.D.Clarkson	Restionaceae	B	RR	No change
Streblus banksii (Cheeseman) C.J.Webb	Moraceae	A	CD, PD, Sp	No change

3.4.4 Naturally Uncommon (665)

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

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
AT RISK (930)			
NATURALLY UNCOMMON (665)			
Taxonomically determinate (559)			
Abrotanella muscosa Kirk	Asteraceae	DPS, DPT, RR	No change
Abrotanella patearoa Heads	Asteraceae	DPS, DPT, RR	No change
Abrotanella rostrata Swenson	Asteraceae	DPS, DPT, Sp	No change
Abrotanella rosulata (Hook.f.) Hook.f.	Asteraceae	RR	No change
Abrotanella spathulata (Hook.f.) Hook.f.	Asteraceae	RR	No change
Acaena emittens B.H.Macmill.	Rosaceae	Sp	No change
Acaena minor (Hook.f.) Allan var. *minor*	Rosaceae	RR, SO	No change
Acaena minor var. *antarctica* (Cockayne) Allan	Rosaceae	RR, SO	No change
Achyranthes velutina Hook. & Arn.	Amaranthaceae	DPS, Inc, SO	No change
Aciphylla cartilaginea Petrie	Apiaceae	DPS, DPT, RR	No change
Aciphylla crosby-smithii Petrie	Apiaceae	DPS, DPT, RR, Sp	No change
Aciphylla dissecta (Kirk) W.R.B.Oliv.	Apiaceae	DPS, DPT, RR	No change
Aciphylla indurata Cheeseman	Apiaceae	DPR, DPS, DPT	Neutral
Aciphylla leighii Allan	Apiaceae	RR	No change
Aciphylla montana var. *gracilis* (W.R.B.Oliv.) J.W.Dawson	Apiaceae	DPS, DPT, RR	No change
Aciphylla pinnatifida Petrie	Apiaceae	DPS, DPT, Sp	Worse
Aciphylla simplex Petrie	Apiaceae	DPS, DPT, RR, Sp	No change
Aciphylla spedenii Cheeseman	Apiaceae	DPT, RR, Sp	No change
Aciphylla stannensis J.W.Dawson	Apiaceae	DPS, DPT, RR	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Aciphylla traillii Kirk	Apiaceae	RR	No change
Agrostis magellanica Lam.	Poaceae	DPS, SO	Worse
Agrostis pallescens Cheeseman	Poaceae	DPR, DPS, DPT	No change
Agrostis subulata Hook.f.	Poaceae	DPR, DPS, DPT, RR	No change
Alsophila kermadecensis (W.R.B.Oliv.) R.M.Tryon	Cyatheaceae	IE, OL	No change
Alsophila milnei (Hook ex Hook.f.) R.M.Tryon	Cyatheaceae	IE	No change
Althenia bilocularis (Kirk) Cockayne	Potamogetonaceae	DPR, EF, RR, SO, Sp	Better
Anaphalioides subrigida (Colenso) Anderb.	Asteraceae	DPS, DPT, RR, Sp	No change
Anisotome antipoda Hook.f.	Apiaceae	CD, PD, RR	No change
Anisotome lanuginosa (Kirk) J.W.Dawson	Apiaceae	DPS, DPT, Sp	No change
Anisotome latifolia Hook.f.	Apiaceae	CD, PD, RR	No change
Anthosachne aprica (Á.Löve & Connor) C.Yen & J.L.Yang	Poaceae	DPS, DPT, Sp	No change
Anthosachne sacandros (Connor) Barkworth & S.W.L.Jacobs	Poaceae	DPS, DPT, RR, Sp	No change
Apium prostratum subsp. *denticulatum* P.S.Short	Apiaceae	RR	No change
Arachniodes aristata (G.Forst.) Tindale	Dryopteridaceae	OL, SO	No change
Argyrotegium nitidulum (Hook.f.) J.M.Ward & Breitw.	Asteraceae	RR, TO	No change
Ascarina lucida var. *lanceolata* (Hook.f.) Allan	Chloranthaceae	IE, OL	No change
Asplenium chathamense Brownsey	Aspleniaceae	IE	No change
Asplenium cimmeriorum Brownsey & de Lange	Aspleniaceae	DPS, DPT, RR, Sp	No change
Asplenium scleroprium Hombr.	Aspleniaceae	DPS, DPT, Sp	No change
Asplenium shuttleworthianum Kunze	Aspleniaceae	RR, Sp, TO	No change
Astelia subulata (Hook.f.) Cheeseman	Asteliaceae	RR, Sp	No change
Austroblechnum norfolkianum (Heward) Gasper & V.A.O.Dittrich	Blechnaceae	TO	No change
Azorella allanii (Cheeseman) G.M.Plunkett & A.N.Nicolas	Apiaceae	DPS, DPT, RR	No change
Azorella exigua (Hook.f.) Drude	Apiaceae	RR	No change
Azorella pallida (Kirk) Kirk	Apiaceae	Sp	Neutral
Azorella polaris (Hombr. & Jacq.) G.M.Plunkett & A.N.Nicolas	Apiaceae	CD, PD, RR, SO	No change
Azorella robusta (Kirk) G.M.Plunkett & A.N.Nicolas	Apiaceae	CD, RR	No change
Azorella schizeilema G.M.Plunkett & A.N.Nicolas	Apiaceae	IE, RR	No change
Brachyglottis arborescens W.R.B.Oliv.	Asteraceae	CD, IE	No change
Brachyglottis bifistulosa (Hook.f.) B.Nord.	Asteraceae	DPS, DPT, RR, Sp	No change
Brachyglottis laxifolia (Buchanan) B.Nord.	Asteraceae	DPS, DPT, RR, St	No change
Brachyglottis myrianthos (Cheeseman) D.G.Drury	Asteraceae	DPS, DPT, RR, Sp	Better
Brachyglottis stewartiae (J.B.Armstr.) B.Nord.	Asteraceae	RR	No change
Brachyglottis traversii (F.Muell.) B.Nord.	Asteraceae	DPS, DPT, RR	No change
Brachyscome humilis G.Simpson & J.S.Thomson	Asteraceae	DPS, DPT, Sp	No change
Brachyscome longiscapa G.Simpson & J.S.Thomson	Asteraceae	DPS, DPT, Sp	No change
Brachyscome montana G.Simpson	Asteraceae	DPS, DPT	Neutral
Bromus arenarius Labill.	Poaceae	DPR, DPS, DPT, EF, PF, Sp, TO	No change
Bulbinella gibbsii var. *gibbsii* Cockayne	Asphodelaceae	RR	No change
Bulbinella rossii (Hook.f.) Cheeseman	Asphodelaceae	CD, PD, RR	No change
Bulbinella talbotii L.B.Moore	Asphodelaceae	RR, Sp	No change
Bulbophyllum tuberculatum Colenso	Orchidaceae	DPS, DPT, Sp	No change
Caladenia bartlettii (Hatch) D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	DPR, DPS, DPT, Sp	No change
Caladenia variegata Colenso	Orchidaceae	DPR, DPS, DPT, Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Callitriche antarctica Engelm. ex Hegelm.	Plantaginaceae	DPR, DPS, DPT, RR, SO	No change
Callitriche aucklandica R.Mason	Plantaginaceae	IE, RR, Sp	No change
Callitriche chathamensis (Mason) Lansdown	Plantaginaceae	DPR, DPS, DPT, IE, PF, RR	No change
Calystegia marginata R.Br.	Convolvulaceae	DPR, DPS, DPT, SO, Sp	No change
Canavalia rosea (Sw.) DC.	Fabaceae	OL, SO	No change
Cardamine depressa Hook.f. subsp. *depressa*	Brassicaceae	IE	No change
Cardamine depressa subsp. *stellata* (Hook.f.) Heenan	Brassicaceae	DPS, DPT, IE, OL	No change
Cardamine eminentia Heenan	Brassicaceae	Sp	No change
Cardamine exigua Heenan	Brassicaceae	DPS, DPT	No change
Cardamine grandiscapa Heenan	Brassicaceae	DPR, DPS, DPT, RR	No change
Cardamine lacustris (Garn.-Jones & P.N.Johnson) Heenan	Brassicaceae	EF, Sp	No change
Cardamine latior Heenan	Brassicaceae	IE, OL	No change
Cardamine megalantha Heenan	Brassicaceae	DPR, DPS, DPT, OL	Better
Cardamine reptans Heenan	Brassicaceae	DPS, DPT, Sp	No change
Cardamine subcarnosa (Hook.f.) Allan	Brassicaceae	DPS, DPT, IE, OL	No change
Cardamine unguiculus Heenan	Brassicaceae	DPS, DPT, Sp	No change
Carex applanata Thorsen & de Lange	Cyperaceae	DPS, DPT, RR	No change
Carex astonii Hamlin	Cyperaceae	RR, Sp	No change
Carex auceps (de Lange & Heenan) K.A.Ford & Heenan	Cyperaceae	IE, PD	Better
Carex aucklandica (Hamlin) K.A.Ford	Cyperaceae	RR	No change
Carex calcis K.A.Ford	Cyperaceae	RR, Sp	No change
Carex carsei Petrie	Cyperaceae	DPS, DPT	Better
Carex chathamica Petrie	Cyperaceae	DPR, DPS, DPT, IE, RR	No change
Carex dallii Kirk	Cyperaceae	DPS, DPT, Sp	No change
Carex devia Cheeseman	Cyperaceae	RR	No change
Carex druceana Hamlin	Cyperaceae	DPS, DPT	No change
Carex edgariae Hamlin	Cyperaceae	DPS, DPT, Sp	No change
Carex elingamita Hamlin	Cyperaceae	CD, IE	No change
Carex enysii Petrie	Cyperaceae	DPS, DPT, Sp	No change
Carex erebus K.A.Ford	Cyperaceae	RR, SO	No change
Carex filamentosa Petrie	Cyperaceae	DPS, DPT, RR, Sp	No change
Carex hectorii Petrie	Cyperaceae	DPS, DPT, Sp	No change
Carex impexa K.A.Ford	Cyperaceae	DPS, DPT, RR	No change
Carex kermadecensis Petrie	Cyperaceae	CD, IE	No change
Carex kirkii Petrie var. *kirkii*	Cyperaceae		No change
Carex lachenalii subsp. *parkeri* (Petrie) Toivonen	Cyperaceae	DPS, DPT, Sp	No change
Carex longifructus (Kük.) K.A.Ford	Cyperaceae	DPS, DPT, Sp	No change
Carex obtusifolia (Heenan) K.A.Ford	Cyperaceae	DPS, DPT, Sp	No change
Carex ophiolithica de Lange & Heenan	Cyperaceae	OL	No change
Carex perplexa (Heenan & de Lange) K.A.Ford	Cyperaceae	OL	No change
Carex pleiostachys C.B.Clarke	Cyperaceae	DPS, DPT, RR, Sp	No change
Carex pterocarpa Petrie	Cyperaceae	RR, Sp	No change
Carex purpurata (Petrie) K.A.Ford	Cyperaceae	DPS, DPT, Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Carex trachycarpa Cheeseman	Cyperaceae	DPS, DPT, Sp	No change
Carex traversii Kirk	Cyperaceae	DPS, DPT, RR, Sp	No change
Carex ventosa C.B.Clarke	Cyperaceae	DPR, DPS, DPT, IE, RR	No change
Carmichaelia compacta Petrie	Fabaceae	RR	No change
Cassinia amoena Cheeseman	Asteraceae	OL	No change
Celmisia adamsii Kirk var. *adamsii*	Asteraceae	DPT, Sp	No change
Celmisia adamsii var. *rugulosa* Cheeseman	Asteraceae	RR	No change
Celmisia argentea Kirk	Asteraceae	DPS, RR	Worse
Celmisia clavata G.Simpson & J.S.Thomson	Asteraceae	RR	No change
Celmisia cockayneana Petrie	Asteraceae	DPS, DPT, Sp	No change
Celmisia cordatifolia Buchanan var. *cordatifolia*	Asteraceae	Sp	No change
Celmisia cordatifolia var. *brockettii* W.Martin	Asteraceae	CR, DPT, OL	Neutral
Celmisia cordatifolia var. *similis* W.Martin	Asteraceae	DPT, OL	Neutral
Celmisia gibbsii Cheeseman	Asteraceae	Sp	No change
Celmisia glandulosa var. *latifolia* Cockayne	Asteraceae	OL	No change
Celmisia haastii var. *tomentosa* G.Simpson & J.S.Thomson	Asteraceae	RR	No change
Celmisia hookeri Cockayne	Asteraceae	Sp	No change
Celmisia inaccessa Given	Asteraceae	DPS, DPT, RR	No change
Celmisia insignis W.Martin	Asteraceae	RR	No change
Celmisia lindsayi Hook.f.	Asteraceae	RR, Sp	No change
Celmisia macmahonii var. *hadfieldii* W.Martin	Asteraceae	RR	No change
Celmisia major Cheeseman var. *major*	Asteraceae	DPT, PF	No change
Celmisia major var. *brevis* Allan	Asteraceae	OL	No change
Celmisia markii W.G.Lee & Given	Asteraceae	DPS, DPT, RR	No change
Celmisia morganii Cheeseman	Asteraceae	DPS, DPT, RR	No change
Celmisia philocremna Given	Asteraceae	DPS, RR, Sp	No change
Celmisia polyvena G.Simpson & J.S.Thomson	Asteraceae	DPS, DPT, RR	No change
Celmisia rigida (Kirk) Cockayne	Asteraceae	DPS, Sp	No change
Celmisia rupestris Cheeseman	Asteraceae	DPS, DPT, Sp	No change
Celmisia rutlandii Kirk	Asteraceae	DPS, DPT, Sp	No change
Celmisia spectabilis subsp. *lanceolata* (Hook.f.) Given	Asteraceae	RR, Sp	No change
Celmisia spedenii G.Simpson	Asteraceae	RR	No change
Celmisia thomsonii Cheeseman	Asteraceae	RR, Sp	No change
Celmisia verbascifolia subsp. *membranacea* (Kirk) Given	Asteraceae	DPS, Sp	Worse
Cenchrus caliculatus Cav.	Poaceae	RR, TO	No change
Centipeda minima (L.) A.Braun & Asch. subsp. *minima*	Asteraceae	DPR, DPS, DPT, EF, SO, Sp	Better
Chionochloa antarctica (Hook.f.) Zotov	Poaceae	RR	No change
Chionochloa bromoides (Hook.f.) Zotov	Poaceae	RR	No change
Chionochloa crassiuscula (Kirk) Zotov	Poaceae	RR, St	No change
Chionochloa crassiuscula subsp. *directa* Connor	Poaceae	DPS, RR	No change
Chionochloa defracta Connor	Poaceae	RR, St	No change
Chionochloa flavescens subsp. *lupeola* Connor	Poaceae	DPS, DPT, RR	No change
Chionochloa flavicans f. *temata* Connor	Poaceae	OL	No change
Chionochloa lanea Connor	Poaceae	DPS, DPT, RR	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Chionochloa nivifera Connor & K.M.Lloyd	Poaceae	DPS, DPT, RR	No change
Chionochloa rubra subsp. *rubra* var. *inermis* Connor	Poaceae	OL, St	No change
Chionochloa spiralis Zotov	Poaceae	DPT, PD, RR	No change
Chionochloa vireta Connor	Poaceae	DPT, RR, Sp	No change
Christella dentata (Forssk.) Brownsey & Jermy	Thelypteridaceae	PD, SO	No change
Clematis quadribracteolata Colenso	Ranunculaceae	DPR, DPS, DPT, Sp	No change
Colobanthus hookeri Cheeseman	Caryophyllaceae	CI, DPT, RR	No change
Colobanthus squarrosus Cheeseman subsp. *squarrosus*	Caryophyllaceae	RR	No change
Colobanthus squarrosus subsp. *drucei* Sneddon	Caryophyllaceae	RR	No change
Convolvulus fractosaxosus Petrie	Convolvulaceae	DPS, DPT, Sp	No change
Coprosma acutifolia Hook.f.	Rubiaceae	CD, IE, OL	No change
Coprosma chathamica Cockayne	Rubiaceae	IE, RR	No change
Coprosma distantia (de Lange & R.O.Gardner) de Lange	Rubiaceae	OL, RF	No change
Coprosma dodonaeifolia W.R.B.Oliv.	Rubiaceae	RR	No change
Coprosma macrocarpa Cheeseman subsp. *macrocarpa*	Rubiaceae	CD, IE	No change
Coprosma neglecta Cheeseman	Rubiaceae	RR	No change
Coprosma perpusilla subsp. *subantarctica* Orchard	Rubiaceae	RR, SO	No change
Coprosma petiolata Hook.f.	Rubiaceae	CD, IE	No change
Coprosma propinqua var. *martinii* W.R.B.Oliv.	Rubiaceae	IE	No change
Coprosma spathulata subsp. *hikuruana* de Lange & Heenan	Rubiaceae	OL	No change
Cordyline obtecta (Graham) Baker	Asparagaceae	RR, SO, Sp	No change
Coriaria arborea var. *kermadecensis* W.R.B.Oliv.	Coriariaceae	IE, OL	No change
Corokia macrocarpa Kirk	Argophyllaceae	IE, RR	No change
Corybas cryptanthus Hatch	Orchidaceae	DPS, DPT, Sp	No change
Corybas hypogaeus (Colenso) Lehnebach	Orchidaceae	DPS, DPT, Sp	No change
Corybas obscurus Lehnebach	Orchidaceae	DPS, DPT	No change
Corybas rivularis (A.Cunn.) Rchb.f.	Orchidaceae	DPS, DPT, RR, Sp, St	No change
Craspedia robusta var. *pedicellata* (Kirk) Allan	Asteraceae	RR, Sp	No change
Craspedia uniflora var. *subhispida* Allan	Asteraceae	DPS, DPT, IE, OL	No change
Crassula mataikona A.P.Druce	Crassulaceae	DPR, DPS, DPT, Sp	No change
Crassula ruamahanga A.P.Druce emend. de Lange & Heenan	Crassulaceae	DPS, DPT, Sp	No change
Damnamenia vernicosa (Hook.f.) Given	Asteraceae	RR	No change
Danhatchia australis (Hatch) Garay & Christenson	Orchidaceae	DPS, DPT, EF, Sp, TO	No change
Davallia tasmanii Field subsp. *tasmanii*	Davalliaceae	IE	No change
Deschampsia gracillima Kirk	Poaceae	SO?	No change
Deschampsia pusilla Petrie	Poaceae	Sp	No change
Dicksonia lanata subsp. *hispida* (Colenso ex Hook.) Perrie & Brownsey	Dicksoniaceae	DPS, DPT	No change
Digitaria setigera Roem. & Schult.	Poaceae	SO	No change
Disphyma australe subsp. *stricticaule* Chinnock	Aizoaceae	IE	No change
Disphyma papillatum Chinnock	Aizoaceae	IE, RR	No change
Doodia milnei Carruth.	Blechnaceae	IE, RR	No change
Doodia mollis Parris	Blechnaceae	DPR, Sp	No change
Doodia squarrosa Colenso	Blechnaceae	DPR, DPT, Sp	No change
Dracophyllum arboreum Cockayne	Ericaceae	IE, Inc	No change
Dracophyllum cockayneanum Du Rietz	Ericaceae	IE	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Dracophyllum frondosum (G.Simpson) S.Venter	Ericaceae	DPS, DPT, Sp	No change
Dracophyllum marmoricola S.Venter	Ericaceae	RR	No change
Dracophyllum ophioliticum S.Venter	Ericaceae	OL	No change
Dracophyllum patens W.R.B.Oliv.	Ericaceae	RR	No change
Dracophyllum pearsonii Kirk	Ericaceae	DPS, Sp	No change
Dracophyllum scoparium Hook.f.	Ericaceae	RR	No change
Dracophyllum septentrionale (W.R.B.Oliv.) S.Venter.	Ericaceae	DPT, RR	No change
Dracophyllum trimorphum W.R.B.Oliv.	Ericaceae	RR, Sp	No change
Dracophyllum urvilleanum A.Rich.	Ericaceae	PD	No change
Drosera pygmaea DC.	Droseraceae	DPS, DPT, SO	Better
Elingamita johnsonii G.T.S.Baylis	Primulaceae	CD, IE, St	No change
Epacris sinclairii Hook.f.	Ericaceae	RR	No change
Epilobium astonii (Allan) P.H.Raven & Engelhorn	Onagraceae	RR	No change
Epilobium brevipes Hook.f.	Onagraceae	DPS, DPT, Sp	No change
Epilobium cockayneanum Petrie	Onagraceae	CR, DPR, DPS, DPT, Sp	Neutral
Epilobium confertifolium Hook.f.	Onagraceae	RR	No change
Epilobium elegans Petrie	Onagraceae	DPR, Sp	Neutral
Epilobium forbesii Allan	Onagraceae	DPS, DPT, RR, Sp	No change
Epilobium gracilipes Kirk	Onagraceae	DPS, DPT, RR	No change
Epilobium margaretiae Brockie	Onagraceae	RR, Sp	No change
Epilobium matthewsii Petrie	Onagraceae	DPS, DPT, RR, Sp	No change
Epilobium petraeum Heenan	Onagraceae	RR, Sp	No change
Epilobium purpuratum Hook.f.	Onagraceae	RR, Sp	No change
Epilobium vernicosum Cheeseman	Onagraceae	RR	No change
Epilobium wilsonii Petrie	Onagraceae	DPS, DPT, RR, Sp	No change
Euchiton delicatus (D.G.Drury) Holub	Asteraceae	DPT, SO?, Sp	Worse
Euphrasia cheesemanii Wettst.	Orobanchaceae	RR	Worse
Euphrasia disperma Hook.f.	Orobanchaceae	DPR, DPS, DPT, RR, Sp	No change
Euphrasia drucei Ashwin	Orobanchaceae	DP, OL, Sp	No change
Euphrasia integrifolia Petrie	Orobanchaceae	DPS, DPT, RR, Sp	No change
Ewartiothamnus sinclairii (Hook.f.) Anderb.	Asteraceae	Sp	No change
Festuca actae Connor	Poaceae	OL	No change
Festuca coxii (Petrie) Hack.	Poaceae	IE, RR	No change
Festuca madida Connor	Poaceae	DPR, DPS, DPT	Worse
Festuca matthewsii subsp. *pisamontis* Connor	Poaceae	RR	No change
Festuca ultramafica Connor	Poaceae	RR, Sp	No change
Fimbristylis velata R.Br.	Cyperaceae	DPR, DPS, DPT, EF, SO, Sp	No change
Forstera cristis Glenny & Courtney	Stylidiaceae	DPS, DPT, RR, Sp	No change
Fuchsia procumbens A.Cunn.	Onagraceae	DPS, DPT, Sp	No change
Geniostoma ligustrifolium var. *crassum* Cheeseman	Loganiaceae	OL	No change
Geniostoma ligustrifolium var. *majus* Cheeseman	Loganiaceae	IE	No change
Gentianella angustifolia Glenny	Gentianaceae	RR, Sp	No change
Gentianella antarctica (Kirk) T.N.Ho & S.W.Liu	Gentianaceae	IE, OL	No change
Gentianella antipoda (Kirk) T.N.Ho & S.W.Liu	Gentianaceae	IE, Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Gentianella astonii (Petrie) T.N.Ho & S.W.Liu subsp. *astonii*	Gentianaceae	DPS, DPT, RR	No change
Gentianella astonii subsp. *arduana* Glenny & Molloy	Gentianaceae	DPS, DPT, RR, Sp	No change
Gentianella cerina (Hook.f.) T.N.Ho & S.W.Liu	Gentianaceae	IE, RR	No change
Gentianella chathamica (Cheeseman) T.N.Ho & S.W.Liu subsp. *chathamica*	Gentianaceae	IE, RR	No change
Gentianella chathamica subsp. *nemorosa* Glenny	Gentianaceae	DPS, DPT, Sp	No change
Gentianella concinna (Hook.f.) T.N.Ho & S.W.Liu	Gentianaceae	IE, RR	No change
Gentianella decumbens Glenny	Gentianaceae	RR	No change
Gentianella filipes (Cheeseman) T.N.Ho & S.W.Liu	Gentianaceae	DPS, DPT, RR	No change
Gentianella gibbsii (Petrie) T.N.Ho & S.W.Liu	Gentianaceae	OL	No change
Gentianella lilliputiana (C.J.Webb) Glenny	Gentianaceae	DPT, Sp	No change
Gentianella lineata (Kirk) T.N.Ho & S.W.Liu	Gentianaceae		Better
Gentianella luteoalba Glenny	Gentianaceae	DPS, DPT, RR	No change
Gentianella magnifica (Kirk) Glenny	Gentianaceae	DPS, DPT, RR	No change
Gentianella saxosa (G.Forst.) Holub	Gentianaceae	DPS, DPT, RR	No change
Gentianella stellata Glenny	Gentianaceae	RR	No change
Geranium microphyllum Hook.f.	Geraniaceae	RR	No change
Geranium traversii Hook.f.	Geraniaceae	IE, RR	No change
Geum albiflorum (Hook.f.) Scheutz	Rosaceae	IE, RR	No change
Geum divergens Cheeseman	Rosaceae	RR	No change
Geum pusillum Petrie	Rosaceae	DPS, RR, Sp	No change
Gingidia baxterae (J.W.Dawson) C.J.Webb	Apiaceae	DPS, DPT, Sp	No change
Gingidia flabellata (Kirk) J.W.Dawson	Apiaceae	DPS, DPT, RR	No change
Gingidia grisea Heenan	Apiaceae	DPS, DPT, RR	No change
Gingidia trifoliolata (Hook.f.) J.W.Dawson	Apiaceae	CD, DPS, DPT, RR, Sp	No change
Halocarpus kirkii (F.Muell. ex Parl.) Quinn	Podocarpaceae	DPS, DPT, Sp	Better
Haloragis erecta subsp. *cartilaginea* (Cheeseman) Orchard	Haloragaceae	RR	No change
Helichrysum plumeum Allan	Asteraceae	RR, Sp	No change
Helichrysum simpsonii var. *acutum* (Cheeseman) de Lange & Blanchon	Asteraceae	RR	No change
Hierochloe brunonis Hook.f.	Poaceae	DPS, DPT, RR, Sp	No change
Hoheria equitum Heads	Malvaceae	RR	No change
Homalanthus polyandrus (Müll.Arg.) G.Nicholson	Euphorbiaceae	IE	No change
Hymenophyllum australe Willd.	Hymenophyllaceae	RR, SO, Sp	No change
Hymenophyllum cupressiforme Labill.	Hymenophyllaceae	DPS, SO	No change
Hymenophyllum pluviatile Perrie & Brownsey	Hymenophyllaceae	DPS, DPT	No change
Hypolepis amaurorachis (Kunze) Hook.	Dennstaedtiaceae	EF, PD, SO, Sp	No change
Hypolepis dicksonioides (Endl.) Hook.	Dennstaedtiaceae	EF, SO, Sp	No change
Imperata cheesemanii Hack.	Poaceae	IE	No change
Ipomoea cairica (L.) Sweet	Convolvulaceae	DPS, DPT, SO	No change
Ipomoea pes-caprae subsp. *brasiliensis* (L.) Ooststr.	Convolvulaceae	CI, RR, SO	No change
Isolepis basilaris Hook.f.	Cyperaceae	EF, RR, Sp	Better
Isolepis crassiuscula Hook.f.	Cyperaceae	RR, SO	No change
Juncus pusillus Buchenau	Juncaceae	DPS, DPT, RR, SO, Sp	No change
Juncus scheuchzerioides Gaudich.	Juncaceae	RR, SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Kelleria lyallii (Hook.f.) Berggr.	Thymelaeaceae	DPS, DPT, RR, Sp	No change
Kelleria paludosa Heads	Thymelaeaceae	RR	Worse
Kelleria tessellata Heads	Thymelaeaceae	DPS, DPT, Sp	No change
Kelleria villosa var. *barbata* Heads	Thymelaeaceae	RR, Sp	No change
Koeleria drucei (Edgar) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	DPR, DPS, DPT, RR, Sp	No change
Koeleria serpentina (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	RR, Sp	No change
Kunzea salterae de Lange	Myrtaceae	DPR, RR	Better
Kunzea tenuicaulis de Lange	Myrtaceae	RR	Better
Kunzea triregensis de Lange	Myrtaceae	IE	Better
Lachnagrostis elata Edgar	Poaceae	DPR, DPS, DPT, Sp	Worse
Lachnagrostis leptostachys (Hook.f.) Zotov	Poaceae	RR, Sp	No change
Lachnagrostis pilosa subsp. *nubifera* Edgar	Poaceae	DPS, DPT, IE, RR	No change
Lachnagrostis uda Edgar	Poaceae	DPR, DPS, DPT, RR, Sp	No change
Lagenophora stipitata (Labill.) Druce	Asteraceae	DPR, DPS, DPT, SO	No change
Lagenophora sublyrata (Cass.) A.R.Bean & Jian Wang	Asteraceae	DPR, DPS, DPT, SO, Sp	No change
Leptecophylla robusta (Hook.f.) C.M.Weiller	Ericaceae	IE, RR	No change
Leptinella albida (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	DPS, RR, Sp	No change
Leptinella atrata subsp. *luteola* (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	RR, Sp	No change
Leptinella calcarea (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae	RR	No change
Leptinella dispersa (D.G.Lloyd) D.G.Lloyd & C.J.Webb subsp. *dispersa*	Asteraceae	DPR, DPS, DPT, Sp	No change
Leptinella lanata Hook.f.	Asteraceae	DPS, RR	No change
Leptinella minor Hook.f.	Asteraceae	OL	No change
Leptinella plumosa Hook.f.	Asteraceae	RR, SO	No change
Leptinella potentillina F.Muell.	Asteraceae	RR	No change
Leptinella pyrethrifolia var. *linearifolia* (Cheeseman) D.G.Lloyd & C.J.Webb	Asteraceae	OL	No change
Leptinella traillii (Kirk) D.G.Lloyd & C.J.Webb subsp. *traillii*	Asteraceae	Sp	No change
Leptospermum tairawhitiense G.J.Atkins, de Lange & M.A.M.Renner	Myrtaceae	DPS, DPT	Better
Leucogenes neglecta Molloy	Asteraceae	RR, Sp	No change
Leucopogon parviflorus (Andrews) Lindl.	Ericaceae	RR, SO	No change
Leucopogon xerampelinus de Lange, Heenan & M.I.Dawson	Ericaceae	OL	No change
Libertia edgariae Blanchon, B.G.Murray & Braggins	Iridaceae	DPR, DPS, DPT	No change
Lignocarpa diversifolia (Cheeseman) J.W.Dawson	Apiaceae	DPS, DPT, Sp	No change
Lindsaea viridis Colenso	Lindsaeaceae	DPS, DPT, Sp	No change
Lobelia arenaria (Hook.f.) Heenan & de Lange	Campanulaceae	DPT	No change
Lobelia fatiscens Heenan	Campanulaceae	DPS, DPT	Better
Luzula crenulata Buchenau	Juncaceae	RR	No change
Luzula leptophylla Buchenau & Petrie	Juncaceae	DPR, DPS, DPT, RR, Sp	No change
Luzula traversii var. *tenuis* Edgar	Juncaceae	DPS, DPT, RR	No change
Macrolearia angustifolia (Hook.f.) Saldivia	Asteraceae	RR	No change
Macrolearia lyallii (Hook.f.) Saldivia	Asteraceae	RR	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Macrolearia oporina (G.Forst.) Saldivia	Asteraceae	RR	No change
Macrolearia semidentata (Decne.) Saldivia	Asteraceae	IE, RR	No change
Macrothelypteris torresiana (Gaudich.) Ching	Thelypteridaceae	EF, SO, Sp	No change
Melicytus chathamicus (F.Muell.) Garn.-Jones	Violaceae	IE, RR	No change
Meryta sinclairii (Hook.f.) Seem.	Araliaceae	CD, IE	No change
Metrosideros kermadecensis W.R.B.Oliv.	Myrtaceae	IE, OL	Better
Montia campylostigma (Heenan) Heenan	Montiaceae	DPR, DPS, DPT, Sp	Worse
Montia erythrophylla Heenan (Heenan)	Montiaceae	DPS, DPT, RR, Sp	No change
Montia racemosa (Buchanan) Heenan	Montiaceae	RR, Sp	No change
Myoporum rapense subsp. *kermadecense* (Sykes) Chinnock	Scrophulariaceae	IE	No change
Myosotis antarctica subsp. *antarctica* Hook.f.	Boraginaceae	Sp, TO	No change
Myosotis arnoldii L.B.Moore	Boraginaceae	RR	No change
Myosotis brockiei L.B.More & M.J.A.Simpson subsp. *brockiei*	Boraginaceae	RR	No change
Myosotis bryonoma Meudt, Prebble & Thorsen	Boraginaceae	DPS, DPT, RR, Sp	No change
Myosotis capitata Hook.f.	Boraginaceae	RR	No change
Myosotis concinna Cheeseman	Boraginaceae	RR	No change
Myosotis eximia Petrie	Boraginaceae	DPS, DPT, RR	No change
Myosotis explanata Cheeseman	Boraginaceae	DPS, DPT, RR	No change
Myosotis goyenii Petrie subsp. *goyenii*	Boraginaceae	Sp	No change
Myosotis lyallii Hook.f. subsp. *lyallii*	Boraginaceae	DPS, Sp	No change
Myosotis lyallii subsp. *elderi* (L.B.Moore) Meudt & Prebble	Boraginaceae	DPR, DPS, DPT, Sp	Better
Myosotis monroi Cheeseman	Boraginaceae	RR	No change
Myosotis mooreana C.A.Lehnebach	Boraginaceae	DPS, RR, Sp	Better
Myosotis rakiura L.B.Moore	Boraginaceae	RR	No change
Myosotis retrorsa Meudt, Prebble & Hindmarsh-Walls	Boraginaceae	Sp	No change
Myosotis saxatilis Petrie	Boraginaceae	DPS, DPT, Sp	No change
Myosotis suavis Petrie	Boraginaceae	DPR	Neutral
Myosotis ultramafica Meudt, Prebble & Rance	Boraginaceae	RR	Neutral
Myriophyllum robustum Hook.f.	Haloragaceae	CI, Sp	Better
Myrsine kermadecensis Cheeseman	Primulaceae	CD, IE	No change
Myrsine oliveri Allan	Primulaceae	CD, IE	No change
Nephrolepis brownii (Desv.) Hovenkamp & Miyam.	Nephrolepidaceae	RR, SO	No change
Nephrolepis flexuosa Colenso	Nephrolepidaceae	DPR, PD, RR, SO	No change
Nestegis apetala (Vahl) L.A.S.Johnson	Oleaceae	CD, PD, TO	Better
Notogrammitis gunnii (Parris) Parris	Polypodiaceae	DPR, DPS, DPT, SO, Sp	Neutral
Notogrammitis rawlingsii (Parris) Parris	Polypodiaceae	Sp	No change
Notogrammitis rigida (Hombr.) Parris	Polypodiaceae		No change
Olearia allomii Kirk	Asteraceae	DPS, DPT, IE, RR	No change
Olearia coriacea Kirk	Asteraceae	DPS, DPT, Sp	No change
Olearia crosby-smithiana Petrie	Asteraceae	DPS, DPT, Sp	No change
Oplismenus hirtellus (L.) P.Beauv. subsp. *hirtellus*	Poaceae	RR, SO	No change
Ourisia confertifolia Arroyo	Plantaginaceae	RR, Sp	No change
Ourisia remotifolia Arroyo	Plantaginaceae	RR, Sp	No change
Ourisia spathulata Arroyo	Plantaginaceae	RR	No change
Ourisia vulcanica L.B.Moore	Plantaginaceae	Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Oxalis thompsoniae B.J.Conn & P.G.Richards	Oxalidaceae	DPS, DPT, SO, Sp	No change
Pachycladon crenatum Philipson	Brassicaceae	DPS, DPT, RR	No change
Pachystegia minor (Cheeseman) Molloy	Asteraceae	RR	No change
Pachystegia rufa Molloy	Asteraceae	RR	No change
Parapolystichum kermadecense (Perrie & Brownsey) Perrie & L.D.Sheph.	Dryopteridaceae	IE, OL	No change
Pelargonium inodorum Willd.	Geraniaceae	DPS, DPT, EF, SO, Sp	Worse
Pellaea calidirupium Brownsey & Lovis	Pteridaceae	DPS, DPT, SO, Sp	Worse
Pentapogon youngii (Hook.f.) de Lange & L.M.H.Schmid	Poaceae	DPS, DPT, Sp	No change
Picris angustifolia DC. subsp. *angustifolia*	Asteraceae	DPR, DPS, DPT, EF, SO, Sp	No change
Picris angustifolia subsp. *merxmuelleri* Lack & S.Holzapfel	Asteraceae	DPS, DPT, SO	No change
Pimelea acra C.J.Burrows & de Lange	Thymelaeaceae	RR	No change
Pimelea barbata C.J.Burrows subsp. *barbata*	Thymelaeaceae	DPS, DPT, RR	No change
Pimelea barbata subsp. *omoia* C.J.Burrows	Thymelaeaceae	DPS, DPT, RR	No change
Pimelea microphylla Colenso	Thymelaeaceae	RR, Sp	No change
Pimelea nitens subsp. *aspera* C.J.Burrows & Courtney	Thymelaeaceae	DPS, DPT, RR, Sp	No change
Pimelea poppelwellii Petrie	Thymelaeaceae	DPS, DPT, RR, Sp	No change
Pimelea pseudolyallii Allan	Thymelaeaceae	DPS, DPT, Sp	No change
Pimelea sericeovillosa subsp. *alta* C.J.Burrows	Thymelaeaceae	DPS, DPT, RR, Sp	No change
Pimelea sporadica C.J.Burrows	Thymelaeaceae	RR	No change
Pimelea suteri Kirk	Thymelaeaceae	RR	No change
Pimelea telura C.J.Burrows	Thymelaeaceae	IE	No change
Pimelea traversii subsp. *exedra* C.J.Burrows	Thymelaeaceae	DPS, DPT, Sp	No change
Piper excelsum subsp. *delangei* (R.O.Gardner) de Lange	Piperaceae	CD, IE	No change
Piper excelsum subsp. *peltatum* (R.O.Gardner) de Lange	Piperaceae	Sp	No change
Piper excelsum subsp. *psittacorum* (Endl.) de Lange	Piperaceae	OL, SO	No change
Piper melchior (Sykes) M.A.Jaram	Piperaceae	CD, IE	No change
Pittosporum ellipticum Kirk	Pittosporaceae	Sp	No change
Pittosporum fairchildii Cheeseman	Pittosporaceae	CD, IE	No change
Pittosporum huttonianum Kirk	Pittosporaceae		No change
Pittosporum pimeleoides A.Cunn. ex Putt. subsp. *pimeleoides*	Pittosporaceae	Sp	No change
Planchonella costata (Endl.) Pierre	Sapotaceae	CD, PD, TO	Better
Plantago aucklandica Hook.f.	Plantaginaceae	IE, RR	No change
Plantago brownii F.Dietr.	Plantaginaceae	RR, SO	No change
Plantago obconica Sykes	Plantaginaceae	DPS, DPT, RR, Sp	No change
Plantago picta Colenso	Plantaginaceae	DPS, DPT, RR, Sp	No change
Pleurophyllum criniferum Hook.f.	Asteraceae	PD, RR	No change
Pleurophyllum hookeri Buchanan	Asteraceae	RR, SO	No change
Pleurophyllum speciosum Hook.f.	Asteraceae	PD, RR	No change
Poa acicularifolia Buchanan subsp. *acicularifolia*	Poaceae	RR	No change
Poa acicularifolia subsp. *ophitalis* Edgar	Poaceae	RR, Sp	No change
Poa antipoda Petrie	Poaceae	RR, Sp	No change
Poa aucklandica Petrie subsp. *aucklandica*	Poaceae	DPS, IE, OL	No change
Poa aucklandica subsp. *campbellensis* (Petrie) Edgar	Poaceae	IE, OL	No change
Poa celsa Edgar	Poaceae	Sp	Worse

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Poa chathamica Petrie	Poaceae	IE, RR	No change
Poa foliosa (Hook.f.) Hook.f.	Poaceae	RR, SO	No change
Poa incrassata Petrie	Poaceae	RR, Sp	No change
Poa litorosa Cheeseman	Poaceae	RR, SO?	Worse
Poa polyphylla Hack.	Poaceae	IE, RR	No change
Poa pygmaea Buchanan	Poaceae	RR, Sp	No change
Poa senex Edgar	Poaceae	DPS, DPT, RR	No change
Poa sudicola Edgar	Poaceae	RR	No change
Poa tennantiana Petrie	Poaceae	RR	No change
Poa xenica Edgar & Connor	Poaceae	DP, RR	No change
Poranthera alpina Cheeseman ex Hook.f.	Phyllanthaceae	RR	No change
Poranthera microphylla Brongn.	Phyllanthaceae	RR, SO, Sp	No change
Pseudopanax chathamicus Kirk	Araliaceae	IE	No change
Pseudopanax ferox Kirk	Araliaceae	PD, Sp	No change
Pseudopanax gilliesii Kirk	Araliaceae	DPS, DPT, RR, Sp	No change
Pseudopanax kermadecensis (W.R.B.Oliv.) Philipson	Araliaceae	CD, IE	No change
Pseudopanax macintyrei (Cheeseman) Wardle	Araliaceae	DPS, DPT, RR, Sp	No change
Pseudowintera traversii (Buchanan) Dandy	Winteraceae	DPS, DPT	No change
Pterostylis auriculata Colenso	Orchidaceae	DPR, DPS, DPT, PF, Sp	No change
Pterostylis cernua D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	Sp	No change
Pterostylis foliata Hook.f.	Orchidaceae	SO, Sp	No change
Pterostylis humilis R.S.Rogers	Orchidaceae	Sp	No change
Pterostylis porrecta D.L.Jones, Molloy & M.A.Clem.	Orchidaceae	Sp	No change
Pterostylis silvicultrix (F.Muell.) Molloy, D.L.Jones & M.A.Clem.	Orchidaceae	IE	No change
Puccinellia antipoda (Petrie) Allan & Jansen	Poaceae	IE, OL	No change
Puccinellia walkeri (Kirk) Allan	Poaceae	DPS, DPT, Sp	No change
Rachelia glaria J.M.Ward & Breitw.	Asteraceae	DPS, RR, Sp	No change
Ranunculus kirkii Petrie	Ranunculaceae	RR	No change
Ranunculus maculatus Cockayne & Allan	Ranunculaceae	RR	No change
Ranunculus pinguis Hook.f.	Ranunculaceae	RR	No change
Ranunculus ranceorum de Lange	Ranunculaceae	EF, RR, Sp	No change
Ranunculus scrithalis Garn.-Jones	Ranunculaceae	DPS, DPT, RR, Sp	No change
Ranunculus stylosus H.D.Wilson & Garn.-Jones	Ranunculaceae	OL	No change
Ranunculus subscaposus Hook.f.	Ranunculaceae	RR	No change
Raoulia cinerea Petrie	Asteraceae	RR, Sp	No change
Raoulia goyenii Kirk	Asteraceae	RR, Sp	No change
Raoulia hectorii var. *mollis* Buchanan	Asteraceae	RR	No change
Raoulia hookeri var. *laxa* Allan	Asteraceae	DPT	No change
Raoulia petriensis Kirk	Asteraceae	RR, Sp	No change
Raoulia rubra Buchanan	Asteraceae	RR	No change
Rhopalostylis baueri (Seem.) H.Wendl. & Drude	Arecaceae	RR, SO	No change
Ruppia megacarpa R.Mason	Ruppiaceae	RR, SO	No change
Rytidosperma nudum (Hook.f.) Connor & Edgar	Poaceae	RR	No change
Rytidosperma petrosum Connor & Edgar	Poaceae	RR, Sp	No change
Rytidosperma pulchrum (Zotov) Connor & Edgar	Poaceae	RR, Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Samolus repens var. *strictus* Cockayne	Primulaceae	DPR, DPS, DPT, SO	No change
Scaevola gracilis Hook.f.	Goodeniaceae	RR, SO?	No change
Schizacme ciliata K.L.Gibbons	Loganiaceae	DPR, DPS, DPT	No change
Schizacme helmsii (Kirk) K.L.Gibbons	Loganiaceae	DPR, DPS, DPT, RR, Sp	Better
Schizaea dichotoma (L.) Sm.	Schizaeaceae	S?O, Sp	No change
Schoenus caespitans Petrie	Cyperaceae	DPS, DPT, Sp	No change
Schoenus fluitans Hook.f.	Cyperaceae	DPS, DPT, RR, SO, Sp	No change
Senecio banksii Hook.f.	Asteraceae	DPS, DPT, RR, Sp	No change
Senecio colensoi Hook.f.	Asteraceae	DPS, DPT, RR, Sp	No change
Senecio marotiri C.J.Webb	Asteraceae	EF, Sp	No change
Senecio matatini Liew, Courtney, de Lange & Pelser subsp. *matatini*	Asteraceae	DPT, RR	No change
Senecio matatini subsp. *basinudus* (Ornduff) Courtney, de Lange & Pelser	Asteraceae	DPR, DPS, DPT, RR	No change
Senecio matatini subsp. *toa* (C.J.Webb) Courtney, de Lange & Pelser	Asteraceae		No change
Senecio pokohinuensis (de Lange & B.G.Murray) de Lange	Asteraceae	IE, Sp	No change
Senecio radiolatus F.Muell. subsp. *radiolatus*	Asteraceae	CD, IE	Better
Senecio radiolatus subsp. *antipodus* (Kirk) C.J.Webb	Asteraceae	CD, DPS, DPT, EF, IE	No change
Senecio sterquilinus Ornduff	Asteraceae	CD, DPR, EF, RR	Better
Sicyos australis Endl.	Cucurbitaceae	EF, RR, SO	No change
Solanum aviculare var. *latifolium* G.T.S.Baylis	Solanaceae	RR, Sp	No change
Sophora fulvida (Allan) Heenan & de Lange	Fabaceae	RR	No change
Sophora longicarinata G.Simpson & J.S.Thomson	Fabaceae	RR	No change
Sophora molloyi Heenan & de Lange	Fabaceae	RR, Sp	No change
Sporadanthus traversii (F.Muell.) Buchanan	Restionaceae	IE, OL	No change
Sprengelia incarnata Sm.	Ericaceae	RR, SO	No change
Stellaria decipiens Hook.f. var. *decipiens*	Caryophyllaceae	IE	No change
Stellaria decipiens var. *angustata* Kirk	Caryophyllaceae	IE, RR, Sp	No change
Stenostachys deceptorix Connor	Poaceae	DPS, DPT, RR, Sp	No change
Stenostachys enysii (Kirk) Barkworth & S.W.L.Jacobs	Poaceae	DPS, DPT, Sp	No change
Stenostachys laevis (Petrie) Connor	Poaceae	Sp	No change
Sticherus tener (R.Br.) Ching	Gleicheniaceae	DPR, DPS, DPT, SO, Sp	Better
Sticherus urceolatus M.Garrett & Kantvilas	Gleicheniaceae	DPT, RR, SO	Better
Streblus smithii (Cheeseman) Corner	Moraceae	CD, IE	No change
Stuckenia pectinata (L.) Börner	Potamogetonaceae	SO	No change
Tetragonia tetragonoides (Pall.) Kuntze	Aizoaceae	EF, RR, SO, Sp	No change
Thelymitra formosa Colenso	Orchidaceae	EF, Sp	No change
Thelymitra ixioides Sw.	Orchidaceae	S?O, Sp	No change
Thelymitra tholiformis Molloy & Hatch	Orchidaceae	Sp	No change
Thismia rodwayi F.Muell.	Burmanniaceae	DPS, DPT, Sp, T?O	No change
Thyridia repens (R.Br.) W.R.Barker & Beardsley	Phrymaceae	DPS, DPT, EF, PD, RR, SO	No change
Townsonia deflexa Cheeseman	Orchidaceae	DPS, DPT, Sp	No change
Urtica perconfusa Grosse-Veldmann & Weigend	Urticaceae	Sp	Better

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Veronica amplexicaulis f. *hirta* (Garn.-Jones & Molloy) Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica amplexicaulis J.B.Armstr. f. *amplexicaulis*	Plantaginaceae	DPS, DPT, Sp	No change
Veronica angustissima (Cockayne) Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica annulata (Petrie) Cockayne ex Cheeseman	Plantaginaceae	RR, Sp, St	No change
Veronica arganthera (Garn.-Jones, Bayly, W.G.Lee & Rance) Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica baylyi Garn.-Jones	Plantaginaceae	RR	No change
Veronica benthamii Hook.f.	Plantaginaceae	RR	No change
Veronica biggarii Cockayne	Plantaginaceae	RR	No change
Veronica birleyi N.E.Br.	Plantaginaceae	DPS, DPT, Sp	Worse
Veronica bollonsii Cockayne	Plantaginaceae	RR	No change
Veronica calcicola (Bayly & Garn.-Jones) Garn.-Jones	Plantaginaceae	RR	No change
Veronica chathamica Buchanan	Plantaginaceae	IE, RR	No change
Veronica cheesemanii subsp. *flabellata* (Garn.-Jones) Garn.-Jones	Plantaginaceae	RR	No change
Veronica chionohebe Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica ciliolata subsp. *fiordensis* (Ashwin) Meudt	Plantaginaceae	DPS, DPT, RR, SO, Sp	No change
Veronica colensoi Hook.f.	Plantaginaceae	RR, Sp	No change
Veronica dieffenbachii Benth.	Plantaginaceae	IE, RR	No change
Veronica dilatata (G.Simpson & J.S.Thomson) Garn.-Jones	Plantaginaceae	Sp	No change
Veronica evenosa Petrie	Plantaginaceae	RR	No change
Veronica gibbsii Kirk	Plantaginaceae	DPS, DPT, RR, Sp	No change
Veronica hulkeana subsp. *evestita* (Garn.-Jones) Garn.-Jones	Plantaginaceae	DPS, DPT, RR	No change
Veronica insularis Cheeseman	Plantaginaceae	IE, RR	No change
Veronica kellowiae Garn.-Jones	Plantaginaceae	Sp	No change
Veronica macrocalyx J.B.Armstr. var. *macrocalyx*	Plantaginaceae	DPS, DPT, Sp	No change
Veronica melanocaulon Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica notialis Garn.-Jones	Plantaginaceae	DPS, DPT, Sp	No change
Veronica ochracea (Ashwin) Garn.-Jones	Plantaginaceae	Sp	No change
Veronica petriei (Buchanan) Kirk	Plantaginaceae	DPS, DPT	No change
Veronica pimeleoides subsp. *faucicola* (Kellow & Bayly) Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica planopetiolata G.Simpson & J.S.Thomson	Plantaginaceae	DPS, DPT, RR, Sp	No change
Veronica pubescens subsp. *rehuarum* (Bayly & de Lange) Garn.-Jones	Plantaginaceae	IE, OL	No change
Veronica pubescens subsp. *sejuncta* (Bayly & de Lange) Garn.-Jones	Plantaginaceae	RR	No change
Veronica punicea Garn.-Jones	Plantaginaceae	OL	No change
Veronica rigidula Cheeseman var. *rigidula*	Plantaginaceae	Sp	No change
Veronica rigidula var. *sulcata* (Bayly & Kellow) Garn.-Jones	Plantaginaceae	CD, RR	Better
Veronica rivalis Garn.-Jones	Plantaginaceae	DPT, PD, Sp	No change
Veronica senex (Garn.-Jones) Garn.-Jones	Plantaginaceae	RR, Sp	No change
Veronica societatis (Bayly & Kellow) Garn.-Jones	Plantaginaceae	OL	Better
Veronica spectabilis (Garn.-Jones) Garn.-Jones	Plantaginaceae	DPS, DPT, RR, Sp	No change
Veronica stenophylla var. *hesperia* (Bayly & Garn.-Jones) Garn.-Jones	Plantaginaceae	DPT, RR, Sp	No change
Veronica stenophylla var. *oliveri* (Bayly & Garn.-Jones) Garn.-Jones	Plantaginaceae	IE, OL, RR	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Veronica stricta var. *egmontiana* (L.B.Moore) Garn.-Jones	Plantaginaceae	RR	No change
Veronica strictissima (Kirk) Garn.-Jones	Plantaginaceae	RR	No change
Veronica tairawhiti (B.D.Clarkson & Garn.-Jones) Garn.-Jones	Plantaginaceae	DPT, RR, Sp	No change
Veronica tetrasticha Hook.f.	Plantaginaceae	DPS, DPT, Sp	No change
Veronica townsonii Cheeseman	Plantaginaceae	RR, Sp	No change
Veronica trifida Petrie	Plantaginaceae	RR, Sp	No change
Veronica truncatula Colenso	Plantaginaceae	DPS, DPT, RR, Sp	No change
Veronica tumida Kirk	Plantaginaceae	DPS, DPT, Sp	No change
Veronica urvilleana (W.R.B.Oliv.) Garn.-Jones	Plantaginaceae	RR	No change
Veronica zygantha Garn.-Jones	Plantaginaceae	DPS, DPT, RR, Sp	No change
Wahlenbergia akaroa J.A.Petterson	Campanulaceae	DPR, DPS, DPT, OL	No change
Wahlenbergia albomarginata subsp. *flexilis* (Petrie) J.A.Petterson	Campanulaceae	RR, Sp	No change
Wahlenbergia albomarginata subsp. *olivina* J.A.Petterson	Campanulaceae	RR, Sp	No change
Wahlenbergia cartilaginea Hook.f.	Campanulaceae	Sp	No change
Wahlenbergia matthewsii Cockayne	Campanulaceae	RR	No change
Wahlenbergia pygmaea subsp. *drucei* J.A.Petterson	Campanulaceae	OL	No change
Xeronema callistemon f. *bracteosa* (L.B.Moore) de Lange & E.K.Cameron	Xeronemataceae	CD, IE, OL, Sp	No change
Xeronema callistemon W.R.B.Oliv. f. *callistemon*	Xeronemataceae	CD, IE, RR	No change
Zannichellia palustris L.	Potamogetonaceae	DPR, SO	No change
Zotovia acicularis Edgar & Connor	Poaceae	DPS, DPT, RR, Sp	No change
Taxonomically unresolved (106)			
Aciphylla aff. *glaucescens* (a) (CHR 471593; Tararua)	Apiaceae	DPS, DPT	No change
Alseuosmia aff. *banksii* (c) (AK 272552; "toro")	Alseuosmiaceae	DPS, DPT	No change
Alsophila aff. *tricolor* (a) (WELT P027464; Te Paki)	Cyatheaceae	RR	No change
Anisotome (a) (CHR 358582; NW Nelson)	Apiaceae	CR, DPS, DPT	No change
Anisotome (b) (CHR 511716); "Otago bog")	Apiaceae	DPS, DPT	No change
Anisotome aff. *flexuosa* (a) (CHR 387435; Red Hills)	Apiaceae	DPS, DPT, RR, Sp	No change
Asplenium aff. *haurakiense* (a) (AK 329221; Raoul I.)	Aspleniaceae	RR	No change
Astelia aff. *graminea* (CHR 129122; Red Hills)	Asteliaceae	DPS, RR	No change
Astelia aff. *nervosa* (b) (CHR 355412; Stewart Island)	Asteliaceae	DPR, DPS, DPT, RR	No change
Austroderia aff. *fulvida* (a) (CHR 477325; Puketī)	Poaceae	DPS, DPT	No change
Carex aff. *testacea* (CHR 282870; "mountain")	Cyperaceae	DPR, DPS, DPT, RR	New listing
Carex aff. *wakatipu* (a) (CHR 249755; "small 2 style")	Cyperaceae	DPS, DPT, RR	No change
Carex aff. *wakatipu* (b) (CHR 510696; "small 3 style")	Cyperaceae	DPS, DPT, RR	No change
Carpha aff. *alpina* (CHR 476087; "strict")	Cyperaceae	DPR	New listing
Celmisia aff. *gracilenta* (a) (CHR 282958; Te Mata Peak)	Asteraceae	DPT, RR, St	No change
Celmisia aff. *major* (AK 255352; Pupū)	Asteraceae	Sp	No change
Chaerophyllum (a) (CHR 364086; "minute flower")	Apiaceae	DPS, DPT, Sp	No change
Chaerophyllum aff. *colensoi* (a) (CHR 215836; "bog")	Apiaceae	DPR, DPT, Sp	Neutral
Chaerophyllum aff. *novae-zelandiae* (CHR 514182; Weld)	Apiaceae	DPS, DPT, RR	No change
Colobanthus (b) (AK 232645; Red Hills)	Caryophyllaceae	DPS, DPT, RR	No change
Colobanthus (c) (CHR 365413; "marble")	Caryophyllaceae		No change
Colobanthus aff. *buchananii* (CHR 471657)	Caryophyllaceae	DPR, DPS, DPT	New listing
Colobanthus aff. *wallii* (AK 232551; "serpentine")	Caryophyllaceae	DPS, DPT, RR, Sp	No change
Coprosma aff. *acerosa* (d) (AK 36799; Taranaki)	Rubiaceae	RR, Sp	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Coprosma aff. *cheesemanii* (CHR 389574; "rimicola")	Rubiaceae	DPS, RR	New listing
Coprosma aff. *colensoi* (CHR 286993; "decipiens")	Rubiaceae	DPR, DPS, DPT, Sp	New listing
Coprosma aff. *neglecta* (a) (AK 221468; Maunganui Bluff)	Rubiaceae	RR	No change
Coprosma aff. *propinqua* var. *martinii* (AK 281352; Chatham Islands)	Rubiaceae	IE, RR	No change
Coriaria (a) (CHR 469745; Remutaka)	Coriariaceae	DPS, DPT, Sp	No change
Corokia aff. *cotoneaster* (a) (AK 138427; Surville)	Argophyllaceae	RR	No change
Corybas aff. *rivularis* (CHR 534752; "rest area")	Orchidaceae	DPS, DPT, Sp	No change
Corybas aff. *sulcatus* (CHR 300648; Chatham Islands)	Orchidaceae	DPR, DPS, RR	No change
Corybas aff. *trilobus* (b) (CHR 534742; Trotters Gorge)	Orchidaceae	DPS, DPT, Sp	No change
Corybas aff. *trilobus* (c) (CHR 537604; Remutaka)	Orchidaceae	Sp	No change
Craspedia (cc) (CHR 358403; Garibaldi Range)	Asteraceae	RR	No change
Craspedia (CHR 439583; "grey green")	Asteraceae		New listing
Craspedia (dd) (CHR 516296; Mt Hikurangi)	Asteraceae	OL	No change
Craspedia (kk) (CHR 401260; No Man)	Asteraceae	DPS, DPT	No change
Craspedia (mm) (CHR 489351; Mt Owen)	Asteraceae	DPT, RR	No change
Craspedia (n) (CHR 369978; Henderson)	Asteraceae	CD, OL	No change
Craspedia (o) (CHR 471883; Loveridge)	Asteraceae	OL, St	No change
Craspedia (q) (AK 251905; Anglem)	Asteraceae	DPS, DPT, OL	Better
Craspedia (r) (CHR 313349; Punakaiki)	Asteraceae	RR, St	No change
Craspedia (s) (CHR 401645; "serpentine")	Asteraceae	RR, Sp	No change
Craspedia (ss) (AK 331075; Volcanic Plateau)	Asteraceae	RR, St	No change
Craspedia (t) (CHR 365392; Chalk)	Asteraceae	RR	No change
Craspedia (u) (CHR 277655; "marble")	Asteraceae	RR	No change
Craspedia (uu) (CHR 402229; Tararua)	Asteraceae		New listing
Craspedia (ww) (CHR 638345; West Dome)	Asteraceae		New listing
Craspedia (x) (CHR 355129; "calcicole")	Asteraceae	RR	No change
Craspedia (zz) (CHR 458463; "LH Peel")	Asteraceae		New listing
Dichondra aff. *brevifolia* (a) (AK 166328; Volcanic Plateau)	Convolvulaceae	DPS	No change
Dichondra aff. *brevifolia* (c) (AK 250307; "large flower")	Convolvulaceae	DPS, DPT	No change
Epilobium aff. *glabellum* (CHR 387893; "pink")	Onagraceae	DPS, DPT, RR	No change
Euchiton aff. *paludosus* (a) (CHR 116609; "green")	Asteraceae	DPR, DPS, DPT	Neutral
Euphrasia (a) (CHR 471903; "white")	Orobanchaceae	EF, OL	No change
Geranium aff. *retrorsum* (a) (AK 299877; Canterbury)	Geraniaceae	DPS, DPT	No change
Hedycarya aff. *arborea* (a) (AK 183168; "northern offshore islands")	Monimiaceae	RR	No change
Helichrysum aff. *simpsonii* (a) (CHR 274826; Chalk Range)	Asteraceae	RR	No change
Hibiscus aff. *trionum* (AK 297935; "NZ diploid")	Malvaceae	DPS, DPT, EF	No change
Hydrocotyle aff. *novae-zeelandiae* var. *montana* (a) (CHR 252511; "alpine North Island")	Araliaceae	DPR, DPS, DPT	No change
Hydrocotyle aff. *novae-zeelandiae* var. *montana* (b) (CHR 312011; "coast")	Araliaceae	DPS, DPT	No change
Hydrocotyle aff. *robusta* (a) (CHR 354383; Ototoa)	Araliaceae	DPS, DPT, Sp	No change
Hydrocotyle aff. *robusta* (c) (CHR 558642; Te Paki)	Araliaceae	DPS, DPT	No change
Isolepis aff. *habra* (AK 227177; Chatham Is.)	Cyperaceae		No change
Lachnagrostis aff. *littoralis* (AK 329744; Kermadec Islands)	Poaceae	IE	No change
Leptinella aff. *squalida* (c) (AK 347054; Volcanic Plateau)	Asteraceae	DPR, DPS, DPT	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Libertia aff. *peregrinans* (AK 14642; "nonaploid")	Iridaceae	DPS, DPT, RR, Sp	No change
Melicytus (b) (CHR 494260; Kaikōura)	Violaceae	Sp	New listing
Melicytus aff. *alpinus* (g) (CHR 514919B; Livingstone)	Violaceae	DPS, DPT, RR	No change
Melicytus aff. *alpinus* (l) (CHR 387356; Tinline)	Violaceae	RR	New listing
Melicytus ramiflorus subsp. (b) (AK 234207; Raoul)	Violaceae	IE	No change
Microseris aff. *scapigera* (CHR 78205; Brothers Islands)	Asteraceae	CD	No change
Muehlenbeckia aff. *ephedroides* (CHR 595606 A/B; "upright")	Polygonaceae		Worse
Myosotis (c) (CHR 198630; Fiordland)	Boraginaceae	DPS, DPT, Sp	Neutral
Myosotis (f) (CHR 405203; Livingstone)	Boraginaceae	DPS, DPT	No change
Ourisia aff. *caespitosa* (a) (CHR 395703; Hope Range)	Plantaginaceae	RR, Sp	No change
Ourisia aff. *caespitosa* (b) (AK 347055; Volcanic Plateau)	Plantaginaceae	DPS, DPT	No change
Oxalis aff. *rubens* (AK 234308; "scree")	Oxalidaceae	DPS, DPT, Sp	No change
Persicaria aff. *decipiens* (c) (AK 185274; "giant")	Polygonaceae	S?O	No change
Pittosporum roimata Gemmill & S.N.Carter (AK 155344; Poor Knights Islands)	Pittosporaceae		No change
Phormium aff. *tenax* (a) (AK 226788; "Northern Islands")	Asphodelaceae		No change
Phormium aff. *tenax* (b) (AK 309500; Surville)	Asphodelaceae	RR	No change
Phyllocladus aff. *trichomanoides* (a) (AK 138493; Surville Cliffs)	Phyllocladaceae	OL	No change
Poa aff. *colensoi* (c) (CHR 395599; Rastus Burn)	Poaceae		New listing
Poa aff. *novae-zelandiae* (b) (AK 331047; Central North Island)	Poaceae	DPR, DPS, DPT, RR	No change
Polystichum aff. *vestitum* (AK 230427-8; Chatham Islands)	Dryopteridaceae	IE, RR	No change
Pterostylis aff. *graminea* (CHR 513330; "sphagnum")	Orchidaceae	RR, Sp	No change
Raoulia (c) (CHR 401140; "M")	Asteraceae	DPS, DPT, Sp	No change
Rhabdothamnus aff. *solandri* (b) (AK 296774; Maunganui Bluff)	Gesneriaceae		No change
Ripogonum aff. *scandens* (AK 228215; Chatham Islands)	Ripogonaceae	IE	No change
Rubus aff. *schmidelioides* (CHR 325720; "strawberry")	Rosaceae	RR	No change
Senecio aff. *dunedinensis* (CHR 550250; Leatham)	Asteraceae	RR, Sp	No change
Senecio aff. *glomeratus* (CHR 592398; Chatham Islands)	Asteraceae	IE, RR	No change
Senecio aff. *minimus* (a) (AK 318727; Northland)	Asteraceae	Inc	No change
Senecio aff. *sterquilinus* (a) (CHR 478505; West Coast)	Asteraceae	RR	No change
Stellaria aff. *parviflora* (AK 169580; Poor Knights)	Caryophyllaceae	Sp	No change
Thelymitra (c) (AK 229531; "rough leaf")	Orchidaceae	Sp	No change
Thelymitra aff. *longifolia* (a) (CHR 537579; Whakapapa)	Orchidaceae	DPR, DPS, DPT, RR	No change
Veronica aff. *albicans* (b) (AK 273484; "glaucophylla NWN")	Plantaginaceae	DPR, DPS, DPT, RR	New listing
Veronica aff. *albicans* (c) (CHR 33032; "*Hebe recurva*")	Plantaginaceae	OL, RR	New listing
Veronica aff. *ligustrifolia* (a) (AK 207101; Surville Cliffs)	Plantaginaceae	Sp	No change
Veronica aff. *stenophylla* (b) (AK 288154; Mangaweka)	Plantaginaceae	DPS, DPT	No change
Veronica aff. *treadwellii* (a) (CHR 394533; Bald Knob Ridge)	Plantaginaceae	OL	Better
Viola aff. *cunninghamii* (a) (CHR 636937; South Marlborough)	Violaceae	DPS, DPT, RR	New listing
Vittadinia aff. *australis* (CHR 208561; South Marlborough)	Asteraceae	DPS, DPT, RR	New listing

3.5 Not Threatened (1350)

Resident native taxa that have large, stable populations.

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
NOT THREATENED (1350)			
Taxonomically determinate (1307)			
Abrodictyum elongatum (A.Cunn.) Ebihara & K.Iwats.	Hymenophyllaceae		No change
Abrodictyum strictum (Menzies ex Hook. & Grev.) Ebihara & K.Iwats.	Hymenophyllaceae		No change
Abrotanella caespitosa Petrie ex Kirk	Asteraceae		No change
Abrotanella fertilis Swenson	Asteraceae		No change
Abrotanella inconspicua Hook.f.	Asteraceae		No change
Abrotanella linearis Berggr.	Asteraceae		No change
Abrotanella pusilla (Hook.f.) Hook.f.	Asteraceae		No change
Acaena anserinifolia (J.R.Forst. & G.Forst.) J.B.Armstr.	Rosaceae		No change
Acaena caesiiglauca (Bitter) Bergmans	Rosaceae		No change
Acaena dumicola B.H.Macmill.	Rosaceae		No change
Acaena fissistipula Bitter	Rosaceae		No change
Acaena glabra Buchanan	Rosaceae		No change
Acaena inermis Hook.f.	Rosaceae		No change
Acaena juvenca B.H.Macmill.	Rosaceae		No change
Acaena microphylla Hook.f. var. *microphylla*	Rosaceae	SO	No change
Acaena novae-zelandiae Kirk	Rosaceae	SO	No change
Acaena profundeincisa (Bitter) B.H.Macmill.	Rosaceae		No change
Acaena saccaticupula Bitter	Rosaceae		No change
Acaena tesca B.H.Macmill.	Rosaceae		No change
Acianthus sinclairii Hook.f.	Orchidaceae		No change
Aciphylla anomala Allan	Apiaceae	DPS, DPT	No change
Aciphylla aurea W.R.B.Oliv.	Apiaceae		No change
Aciphylla colensoi Hook.f.	Apiaceae		No change
Aciphylla congesta Cheeseman	Apiaceae	RR	No change
Aciphylla crenulata J.B.Armstr.	Apiaceae	DPS, DPT	No change
Aciphylla divisa (Cheeseman) Cheeseman	Apiaceae	DPS	No change
Aciphylla dobsonii Hook.f.	Apiaceae	DPS	No change
Aciphylla ferox W.R.B.Oliv.	Apiaceae	DPS	No change
Aciphylla glaucescens W.R.B.Oliv.	Apiaceae	DPS, DPT	No change
Aciphylla hectorii Buchanan	Apiaceae	DPS, DPT	No change
Aciphylla hookeri Kirk	Apiaceae	DPS, DPT	No change
Aciphylla horrida W.R.B.Oliv.	Apiaceae		No change
Aciphylla kirkii Buchanan	Apiaceae	DPS, DPT	No change
Aciphylla lyallii Hook.f.	Apiaceae	DPS, DPT	No change
Aciphylla monroi Hook.f.	Apiaceae		No change
Aciphylla montana Armstr. var. *montana*	Apiaceae	DPS, DPT	No change
Aciphylla polita (Kirk) Cheeseman	Apiaceae		No change
Aciphylla scott-thomsonii Cockayne & Allan	Apiaceae		No change
Aciphylla similis Cheeseman	Apiaceae	DPS	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Ackama rosifolia A.Cunn.	Cunoniaceae		No change
Acrothamnus colensoi (Hook.f.) Quinn	Ericaceae		No change
Actinotus novae-zelandiae (Petrie) Petrie	Apiaceae	DPS, DPT	No change
Adenochilus gracilis Hook.f.	Orchidaceae		No change
Adiantum aethiopicum L.	Pteridaceae	DPS, DPT, SO	No change
Adiantum cunninghamii Hook.	Pteridaceae		No change
Adiantum diaphanum Blume	Pteridaceae	SO	No change
Adiantum fulvum Raoul	Pteridaceae		No change
Adiantum hispidulum Sw.	Pteridaceae	SO	No change
Agrostis dyeri Petrie	Poaceae		No change
Agrostis muelleriana Vickery	Poaceae	SO	No change
Agrostis muscosa Kirk	Poaceae		No change
Agrostis personata Edgar	Poaceae		No change
Agrostis petriei Hack.	Poaceae	De, DPR, DPS, DPT, Sp	Better
Alectryon excelsus Gaertn. subsp. *excelsus*	Sapindaceae		No change
Alseuosmia banksii A.Cunn. var. *banksii*	Alseuosmiaceae		No change
Alseuosmia macrophylla A.Cunn.	Alseuosmiaceae		No change
Alseuosmia pusilla Colenso	Alseuosmiaceae		No change
Alseuosmia quercifolia A.Cunn.	Alseuosmiaceae		No change
Alsophila colensoi Hook.f.	Cyatheaceae		No change
Alsophila cunninghamii (Hook.f.) R.M.Tryon	Cyatheaceae	SO	No change
Alsophila smithii (Hook.f.) R.M.Tryon	Cyatheaceae		No change
Alsophila tricolor (Colenso) R.M.Tryon	Cyatheaceae		No change
Alternanthera denticulata R.Br.	Amaranthaceae	SO	No change
Alternanthera nahui Heenan & de Lange	Amaranthaceae	SO?	No change
Anaphalioides alpina (Cockayne) Glenny	Asteraceae		No change
Anaphalioides bellidioides (G.Forst.) Glenny	Asteraceae		No change
Anaphalioides hookeri (Allan) Anderb.	Asteraceae		No change
Anaphalioides trinervis (G.Forst.) Anderb.	Asteraceae		No change
Androstoma empetrifolium Hook.f.	Ericaceae		No change
Anemonastrum tenuicaule (Cheeseman) de Lange & Mosyakin	Ranunculaceae	DPS, DPT, Sp	No change
Anisotome aromatica Hook.f.	Apiaceae	DPT	No change
Anisotome brevistylis (Hook.f.) Poppelw.	Apiaceae		No change
Anisotome deltoidea (Cheeseman) Cheeseman	Apiaceae		No change
Anisotome filifolia (Hook.f.) Cockayne & Laing	Apiaceae		No change
Anisotome flexuosa J.W.Dawson	Apiaceae		No change
Anisotome haastii (F.Muell.) Cockayne & Laing	Apiaceae		No change
Anisotome imbricata (Hook.f.) Cockayne var. *imbricata*	Apiaceae		No change
Anisotome imbricata var. *prostrata* J.W.Dawson	Apiaceae		No change
Anthosachne solandri (Steud.) Barkworth & S.W.L.Jacobs	Poaceae	DPS, DPT	No change
Apium prostratum subsp. *prostratum* var. *filiforme* (A.Rich.) Kirk	Apiaceae	SO	No change
Apodasmia similis (Edgar) B.G.Briggs & L.A.S.Johnson	Restionaceae		No change
Aporostylis bifolia (Hook.f.) Rupp & Hatch	Orchidaceae		No change
Archeria racemosa Hook.f.	Ericaceae	DPS, DPT	No change
Archeria traversii Hook.f. var. *traversii*	Ericaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Argentina anserinoides (Raoul) Holub	Rosaceae	DPS, DPT	No change
Argyrotegium mackayi (Buchanan) J.M.Ward & Breitw.	Asteraceae		No change
Aristotelia fruticosa Hook.f.	Elaeocarpaceae		No change
Aristotelia serrata (J.R.Forst. & G.Forst.) W.R.B.Oliv.	Elaeocarpaceae		No change
Arthropodium candidum Raoul	Asparagaceae		No change
Arthropodium cirratum (G.Forst.) R.Br.	Asparagaceae		No change
Arthropteris tenella (G.Forst.) J.Sm. ex Hook.f.	Tectariaceae	SO	No change
Ascarina lucida Hook.f. var. *lucida*	Chloranthaceae		No change
Asperula perpusilla Hook.f.	Rubiaceae		No change
Asplenium appendiculatum (Labill.) C.Presl subsp. *appendiculatum*	Aspleniaceae	SO	No change
Asplenium appendiculatum subsp. *maritimum* (Brownsey) Brownsey	Aspleniaceae		No change
Asplenium bulbiferum G.Forst.	Aspleniaceae		No change
Asplenium decurrens Willd.	Aspleniaceae	SO	No change
Asplenium flabellifolium Cav.	Aspleniaceae	SO	No change
Asplenium flaccidum G.Forst.	Aspleniaceae	SO	No change
Asplenium gracillimum Colenso	Aspleniaceae	SO	No change
Asplenium haurakiense (Brownsey) Ogle	Aspleniaceae		No change
Asplenium hookerianum Colenso	Aspleniaceae	TO	No change
Asplenium lamprophyllum Carse	Aspleniaceae		No change
Asplenium lepidotum Perrie & Brownsey	Aspleniaceae	RR	Better
Asplenium lyallii (Hook.f.) T.Moore	Aspleniaceae		No change
Asplenium oblongifolium Colenso	Aspleniaceae		No change
Asplenium obtusatum G.Forst.	Aspleniaceae	SO	No change
Asplenium polyodon G.Forst.	Aspleniaceae	SO	No change
Asplenium richardii (Hook.f.) Hook.f.	Aspleniaceae		No change
Astelia banksii A.Cunn.	Asteliaceae		No change
Astelia fragrans Colenso	Asteliaceae		No change
Astelia graminea L.B.Moore	Asteliaceae		No change
Astelia grandis Hook.f. ex Kirk	Asteliaceae		No change
Astelia hastata Colenso	Asteliaceae		No change
Astelia linearis Hook.f. var. *linearis*	Asteliaceae	DPS, DPT	No change
Astelia linearis var. *novae-zelandiae* Skottsb.	Asteliaceae		No change
Astelia microsperma Colenso	Asteliaceae		No change
Astelia nervosa Hook.f.	Asteliaceae		No change
Astelia nivicola Cockayne ex Cheeseman var. *nivicola*	Asteliaceae		No change
Astelia nivicola var. *moriceae* L.B.Moore	Asteliaceae		No change
Astelia petriei Cockayne	Asteliaceae		No change
Astelia skottsbergii L.B.Moore	Asteliaceae		No change
Astelia solandri A.Cunn.	Asteliaceae		No change
Astelia trinervia Kirk	Asteliaceae		No change
Australina pusilla (Poir.) Gaudich. subsp. *pusilla*	Urticaceae	SO	No change
Austroblechnum banksii (Hook.f.) Gasper & V.A.O.Dittrich	Blechnaceae	SO	No change
Austroblechnum colensoi (Hook.f.) Gasper & V.A.O.Dittrich	Blechnaceae		No change
Austroblechnum durum (T.Moore) Gasper & V.A.O.Dittrich	Blechnaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Austroblechnum lanceolatum (R.Br.) Gasper & V.A.O.Dittrich	Blechnaceae	SO	No change
Austroblechnum membranaceum (Colenso ex Hook.) Gasper & V.A.O.Dittrich	Blechnaceae		No change
Austroblechnum penna-marina subsp. *alpina* (R.Br.) A.R.Field	Blechnaceae	SO	No change
Austroderia fulvida (Buchanan) N.P.Barker & H.P.Linder	Poaceae		No change
Austroderia richardii (Endl.) N.P.Barker & H.P.Linder	Poaceae		No change
Austroderia toetoe (Zotov) N.P.Barker & H.P.Linder	Poaceae		No change
Austrolycopodium fastigiatum (R.Br.) Holub	Lycopodiaceae	SO	No change
Austrostipa stipoides (Hook.f.) S.W.L.Jacobs & J.Everett	Poaceae	SO	No change
Avicennia marina subsp. *australasica* (Walp.) J.Everett	Acanthaceae	SO	No change
Azolla rubra R.Br.	Salviniaceae	SO	No change
Azorella cockaynei Diels	Apiaceae		No change
Azorella colensoi (Domin) G.M.Plunkett & A.N.Nicolas	Apiaceae	DPS, DPT	No change
Azorella haastii (Hook.f.) Drude subsp. *haastii*	Apiaceae		No change
Azorella haastii subsp. *cyanopetala* (Domin) G.M.Plunkett & A.N.Nicolas	Apiaceae		No change
Azorella hookeri Drude	Apiaceae		No change
Azorella hydrocotyloides (Hook.f.) Kirk	Apiaceae		No change
Azorella nitens Petrie	Apiaceae		No change
Azorella roughii (Hook.f.) Kirk	Apiaceae		No change
Beilschmiedia tarairi (A.Cunn.) Benth. & Hook.f. ex Kirk	Lauraceae		No change
Beilschmiedia tawa (A.Cunn.) Benth. & Hook.f. ex Kirk	Lauraceae		No change
Bolboschoenus caldwellii (V.J.Cook) Soják	Cyperaceae	SO	No change
Bolboschoenus fluviatilis (Torr.) Soják	Cyperaceae	SO	No change
Bolboschoenus medianus (V.J.Cook) Soják	Cyperaceae	SO	No change
Botrychium biforme Colenso	Ophioglossaceae		No change
Brachyglottis adamsii (Cheeseman) B.Nord.	Asteraceae		No change
Brachyglottis bellidioides (Hook.f.) B.Nord. var. *bellidioides*	Asteraceae	DPT	No change
Brachyglottis bellidioides var. *crassa* (G.Simpson & J.S.Thomson) B.Nord.	Asteraceae	DPS, DPT	No change
Brachyglottis bellidioides var. *orbiculata* (G.Simpson & J.S.Thomson) B.Nord.	Asteraceae	DPS, DPT	No change
Brachyglottis bidwillii (Hook.f.) B.Nord.	Asteraceae		No change
Brachyglottis cassinioides (Hook.f.) B.Nord.	Asteraceae		No change
Brachyglottis elaeagnifolia (Hook.f.) B.Nord.	Asteraceae		No change
Brachyglottis haastii (Hook.f.) B.Nord.	Asteraceae	DPS, DPT	No change
Brachyglottis hectorii (Buchanan) B.Nord.	Asteraceae		No change
Brachyglottis kirkii var. *angustior* (Allan) C.J.Webb	Asteraceae		No change
Brachyglottis lagopus (Raoul) B.Nord.	Asteraceae		No change
Brachyglottis monroi (Hook.f.) B.Nord.	Asteraceae	DPS, DPT	No change
Brachyglottis repanda J.R.Forst. & G.Forst.	Asteraceae		No change
Brachyglottis revoluta (Kirk) B.Nord.	Asteraceae		No change
Brachyglottis rotundifolia J.R.Forst & G.Forst var. *rotundifolia*	Asteraceae		No change
Brachyglottis southlandica (Cockayne) B.Nord.	Asteraceae	DPS, DPT	No change
Brachyscome radicata Hook.f.	Asteraceae		No change
Brachyscome sinclairii Hook.f.	Asteraceae		No change
Bulbinella angustifolia (Cockayne & Laing) L.B.Moore	Asphodelaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Bulbinella gibbsii var. *balanifera* L.B.Moore	Asphodelaceae		No change
Bulbinella hookeri (Colenso ex Hook.) Mottet	Asphodelaceae		No change
Bulbophyllum pygmaeum (Sm.) Lindl.	Orchidaceae		No change
Caladenia chlorostyla D.L.Jones, Molloy & M.A.Clem.	Orchidaceae		No change
Caladenia lyallii Hook.f.	Orchidaceae	SO?	No change
Caladenia nothofageti D.L.Jones, Molloy & M.A.Clem.	Orchidaceae		No change
Callitriche muelleri Sond.	Plantaginaceae	SO	No change
Callitriche petriei R.Mason	Plantaginaceae		No change
Caltha novae-zelandiae Hook.f.	Ranunculaceae		No change
Caltha obtusa Cheeseman	Ranunculaceae		No change
Calystegia sepium subsp. *roseata* Brummitt	Convolvulaceae	SO	No change
Calystegia soldanella (L.) R.Br.	Convolvulaceae	SO	No change
Calystegia tuguriorum (G.Forst.) R.Br. ex Hook.f.	Convolvulaceae	SO	No change
Cardamine alalata Heenan	Brassicaceae		No change
Cardamine basicola Heenan	Brassicaceae		No change
Cardamine chlorina Heenan	Brassicaceae		No change
Cardamine corymbosa Hook.f.	Brassicaceae		No change
Cardamine dimidia Heenan	Brassicaceae		No change
Cardamine dolichostyla Heenan	Brassicaceae		No change
Cardamine forsteri Govaerts	Brassicaceae		No change
Cardamine glara Heenan	Brassicaceae	DPS, DPT, RR, Sp	No change
Cardamine heleniae Heenan	Brassicaceae		Neutral
Cardamine intonsa Heenan	Brassicaceae		No change
Cardamine polyodontes Heenan	Brassicaceae		No change
Carex acicularis Boott	Cyperaceae		No change
Carex appressa R.Br.	Cyperaceae	SO	No change
Carex astricta K.A.Ford	Cyperaceae		No change
Carex banksiana K.A.Ford	Cyperaceae		No change
Carex breviculmis R.Br.	Cyperaceae	SO	No change
Carex cheesemaniana (Boeckeler) K.A.Ford	Cyperaceae	SO	No change
Carex cockayneana Kük.	Cyperaceae		No change
Carex colensoi Boott	Cyperaceae		No change
Carex comans Berggr.	Cyperaceae		No change
Carex coriacea Hamlin	Cyperaceae		No change
Carex corynoidea K.A.Ford	Cyperaceae		No change
Carex crispa K.A.Ford	Cyperaceae		No change
Carex diandra Schrank	Cyperaceae	SO	No change
Carex dipsacea Berggr.	Cyperaceae		No change
Carex dissita Sol. ex Boott	Cyperaceae		No change
Carex drucei (Hamlin) K.A.Ford	Cyperaceae		No change
Carex echinata Murray	Cyperaceae	SO	No change
Carex edura K.A.Ford	Cyperaceae		No change
Carex egmontiana (Hamlin) K.A.Ford	Cyperaceae		No change
Carex erythrovaginata K.A.Ford	Cyperaceae		No change
Carex flagellifera Colenso	Cyperaceae		No change
Carex flaviformis Nelmes	Cyperaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Carex forsteri Wahlenb.	Cyperaceae		No change
Carex gaudichaudiana Kunth	Cyperaceae	SO	No change
Carex geminata Schkuhr	Cyperaceae		No change
Carex goyenii Petrie	Cyperaceae		No change
Carex hamlinii K.A.Ford	Cyperaceae		No change
Carex healyi K.A.Ford	Cyperaceae		No change
Carex horizontalis (Colenso) K.A.Ford	Cyperaceae		No change
Carex imbecilla K.A.Ford	Cyperaceae		No change
Carex inversa R.Br.	Cyperaceae	SO	No change
Carex lambertiana Boott	Cyperaceae		No change
Carex lectissima K.A.Ford	Cyperaceae		No change
Carex lessoniana Steud.	Cyperaceae		No change
Carex libera (Kük.) Hamlin	Cyperaceae		No change
Carex maorica Hamlin	Cyperaceae		No change
Carex megalepis K.A.Ford	Cyperaceae		No change
Carex minor (Kük.) K.A.Ford	Cyperaceae		No change
Carex ochrosaccus (C.B.Clarke ex Cheeseman) Hamlin	Cyperaceae		No change
Carex penalpina K.A.Ford	Cyperaceae		No change
Carex petriei Cheeseman	Cyperaceae		No change
Carex pumila Thunb.	Cyperaceae	SO	No change
Carex punicea K.A.Ford	Cyperaceae		No change
Carex pyrenaica var. *cephalotes* (F.Muell.) Kük.	Cyperaceae		No change
Carex raoulii Boott	Cyperaceae		No change
Carex secta Boott	Cyperaceae		No change
Carex silvestris (Hamlin) K.A.Ford	Cyperaceae		No change
Carex sinclairii Boott	Cyperaceae		No change
Carex solandri Boott	Cyperaceae		No change
Carex spinirostris Colenso	Cyperaceae		No change
Carex subdola Boott	Cyperaceae		No change
Carex subviridis K.A.Ford	Cyperaceae		No change
Carex testacea Sol. ex Boott	Cyperaceae		No change
Carex uncinata L.f.	Cyperaceae	SO	No change
Carex virgata Sol. ex Boott	Cyperaceae		No change
Carex wakatipu Petrie	Cyperaceae		No change
Carex zotovii (Hamlin) K.A.Ford	Cyperaceae		No change
Carmichaelia arborea (G.Forst.) Druce	Fabaceae		No change
Carmichaelia glabrescens (Petrie) Heenan	Fabaceae		No change
Carmichaelia odorata Benth.	Fabaceae		No change
Carpha alpina R.Br.	Cyperaceae		No change
Carpodetus serratus J.R.Forst. & G.Forst.	Rousseaceae		No change
Cassytha paniculata R.Br.	Lauraceae	SO	No change
Celmisia allanii W.Martin	Asteraceae		No change
Celmisia alpina (Kirk) Cheeseman	Asteraceae		No change
Celmisia angustifolia Cockayne	Asteraceae		No change
Celmisia armstrongii Petrie	Asteraceae		No change
Celmisia bellidioides Hook.f.	Asteraceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Celmisia bonplandii (Buchanan) Allan	Asteraceae		No change
Celmisia brevifolia Cockayne	Asteraceae		No change
Celmisia coriacea (G.Forst.) Hook.f.	Asteraceae		No change
Celmisia dallii Buchanan	Asteraceae		No change
Celmisia densiflora Hook.f.	Asteraceae		No change
Celmisia discolor Hook.f.	Asteraceae		No change
Celmisia dubia Cheeseman	Asteraceae	DPS, DPT	No change
Celmisia durietzii Cockayne & Allan	Asteraceae		No change
Celmisia glandulosa Hook.f. var. *glandulosa*	Asteraceae		No change
Celmisia glandulosa var. *longiscapa* Cockayne	Asteraceae		No change
Celmisia gracilenta Hook.f.	Asteraceae		No change
Celmisia haastii var. *haastii* Hook.f.	Asteraceae		No change
Celmisia hectorii Hook.f.	Asteraceae		No change
Celmisia hieraciifolia var. *hieraciifolia* Hook.f.	Asteraceae		No change
Celmisia incana Hook.f.	Asteraceae		No change
Celmisia laricifolia Hook.f.	Asteraceae		No change
Celmisia lateralis Buchanan var. *lateralis*	Asteraceae		No change
Celmisia lateralis var. *villosa* Cheeseman	Asteraceae		New listing
Celmisia lyallii Hook.f.	Asteraceae		No change
Celmisia monroi Hook.f.	Asteraceae		No change
Celmisia parva Kirk	Asteraceae	DPS, DPT	No change
Celmisia petriei Cheeseman	Asteraceae		No change
Celmisia prorepens Petrie	Asteraceae		No change
Celmisia ramulosa Hook.f. var. *ramulosa*	Asteraceae		No change
Celmisia ramulosa var. *tuberculata* G.Simpson & J.S.Thomson	Asteraceae		No change
Celmisia semicordata Petrie subsp. *semicordata*	Asteraceae		No change
Celmisia semicordata subsp. *aurigans* Given	Asteraceae		No change
Celmisia semicordata subsp. *stricta* (Cockayne) Given	Asteraceae		No change
Celmisia sessiliflora Hook.f.	Asteraceae		No change
Celmisia similis Given	Asteraceae		No change
Celmisia sinclairii Hook.f.	Asteraceae		No change
Celmisia spectabilis Hook.f. subsp. *spectabilis*	Asteraceae		No change
Celmisia spectabilis subsp. *magnifica* (Allan) Given	Asteraceae		No change
Celmisia traversii Hook.f.	Asteraceae		No change
Celmisia verbascifolia Hook.f. subsp. *verbascifolia*	Asteraceae		No change
Celmisia vespertina Given	Asteraceae	DPS, DPT	No change
Celmisia viscosa Hook.f.	Asteraceae		No change
Celmisia walkeri Kirk	Asteraceae		No change
Centella uniflora (Colenso) Nannf.	Apiaceae	SO	No change
Centipeda aotearoana N.G.Walsh	Asteraceae		No change
Centipeda cunninghamii (DC.) A.Braun & Asch.	Asteraceae	SO	No change
Centrolepis ciliata (Hook.f.) Druce	Restionaceae		No change
Centrolepis pallida (Hook.f.) Cheeseman	Restionaceae		No change
Chaerophyllum colensoi (Hook.f.) K.F.Chung var. *colensoi*	Apiaceae		No change
Chaerophyllum novae-zelandiae K.F.Chung	Apiaceae		No change
Cheilanthes distans (R.Br.) Mett.	Pteridaceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Cheilanthes sieberi Kunze subsp. *sieberi*	Pteridaceae	SO	No change
Chenopodium triandrum G.Forst.	Amaranthaceae		No change
Chenopodium trigonon Schult. subsp. *trigonon*	Amaranthaceae	SO	No change
Chiloglottis cornuta Hook.f.	Orchidaceae	SO	No change
Chionochloa acicularis Zotov	Poaceae	DPS, DPT	No change
Chionochloa australis (Buchanan) Zotov	Poaceae		No change
Chionochloa cheesemanii (Hack.) Zotov	Poaceae		No change
Chionochloa conspicua (G.Forst.) Zotov subsp. *conspicua*	Poaceae		No change
Chionochloa conspicua subsp. *cunninghamii* (Hook.f.) Zotov	Poaceae		No change
Chionochloa crassiuscula subsp. *torta* Connor	Poaceae		No change
Chionochloa flavescens subsp. *brevis* Connor	Poaceae		No change
Chionochloa flavescens subsp. *hirta* Connor	Poaceae		No change
Chionochloa flavescens Zotov subsp. *flavescens*	Poaceae		No change
Chionochloa macra Zotov	Poaceae		No change
Chionochloa oreophila (Petrie) Zotov	Poaceae		No change
Chionochloa pallens subsp. *cadens* Connor	Poaceae		No change
Chionochloa pallens subsp. *pilosa* Connor	Poaceae		No change
Chionochloa pallens Zotov subsp. *pallens*	Poaceae		No change
Chionochloa rigida (Raoul) Zotov subsp. *rigida*	Poaceae		No change
Chionochloa rigida subsp. *amara* Connor	Poaceae		No change
Chionochloa rubra subsp. *cuprea* Connor	Poaceae		No change
Chionochloa rubra subsp. *occulta* Connor	Poaceae		No change
Chionochloa rubra Zotov subsp. *rubra* var. *rubra*	Poaceae		No change
Chionochloa teretifolia (Petrie) Zotov	Poaceae		No change
Clematis afoliata Buchanan	Ranunculaceae	DPS, DPT	No change
Clematis cunninghamii Turcz.	Ranunculaceae		No change
Clematis foetida Raoul	Ranunculaceae		No change
Clematis forsteri J.F.Gmel.	Ranunculaceae		No change
Clematis marata J.B.Armstr.	Ranunculaceae		No change
Clematis paniculata J.F.Gmel.	Ranunculaceae		No change
Clematis petriei Allan	Ranunculaceae	Sp	No change
Colobanthus acicularis Hook.f.	Caryophyllaceae		No change
Colobanthus affinis (Hook.) Hook.f.	Caryophyllaceae	SO	No change
Colobanthus apetalus (Labill.) Druce	Caryophyllaceae	SO	No change
Colobanthus buchananii Kirk	Caryophyllaceae		No change
Colobanthus canaliculatus Kirk	Caryophyllaceae		No change
Colobanthus monticola Petrie	Caryophyllaceae		No change
Colobanthus muelleri Kirk	Caryophyllaceae	DPS, DPT	No change
Colobanthus muscoides Hook.f.	Caryophyllaceae	SO	No change
Colobanthus strictus Cheeseman	Caryophyllaceae		No change
Colobanthus wallii Petrie	Caryophyllaceae	DPS, DPT	No change
Convolvulus waitaha (Sykes) Heenan, Molloy & de Lange	Convolvulaceae		No change
Coprosma arborea Kirk	Rubiaceae		No change
Coprosma areolata Cheeseman	Rubiaceae		No change
Coprosma atropurpurea (Cockayne & Allan) L.B.Moore	Rubiaceae		No change
Coprosma cheesemanii W.R.B.Oliv.	Rubiaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Coprosma ciliata Hook.f.	Rubiaceae		No change
Coprosma colensoi Hook.f.	Rubiaceae		No change
Coprosma crassifolia Colenso	Rubiaceae		No change
Coprosma crenulata W.R.B.Oliv.	Rubiaceae		No change
Coprosma cuneata Hook.f.	Rubiaceae		No change
Coprosma decurva Heads	Rubiaceae		No change
Coprosma depressa Colenso ex Hook.f.	Rubiaceae		No change
Coprosma dumosa (Cheeseman) G.T.Jane	Rubiaceae		No change
Coprosma elatirioides de Lange & A.S.Markey	Rubiaceae		No change
Coprosma foetidissima J.R.Forst. & G.Forst.	Rubiaceae		No change
Coprosma fowerakeri D.A.Norton & de Lange	Rubiaceae		No change
Coprosma grandifolia Hook.f.	Rubiaceae		No change
Coprosma linariifolia Hook.f.	Rubiaceae		No change
Coprosma lucida J.R.Forst. & G.Forst.	Rubiaceae		No change
Coprosma macrocarpa subsp. *minor* A.P.Druce ex R.O.Gardner & Heads	Rubiaceae		No change
Coprosma microcarpa Hook.f.	Rubiaceae		No change
Coprosma niphophila Orchard	Rubiaceae	SO	No change
Coprosma parviflora Hook.f.	Rubiaceae		No change
Coprosma perpusilla Colenso subsp. *perpusilla*	Rubiaceae	SO	No change
Coprosma petriei Cheeseman	Rubiaceae		No change
Coprosma propinqua A.Cunn. var. *propinqua*	Rubiaceae		No change
Coprosma propinqua var. *latiuscula* Allan	Rubiaceae	DPS, DPT	No change
Coprosma pseudociliata G.T.Jane	Rubiaceae		No change
Coprosma pseudocuneata W.R.B.Oliv. ex Garn.-Jones & Elder	Rubiaceae		No change
Coprosma repens Hook.f.	Rubiaceae		No change
Coprosma rhamnoides A.Cunn.	Rubiaceae		No change
Coprosma rigida Cheeseman	Rubiaceae		No change
Coprosma robusta Raoul	Rubiaceae		No change
Coprosma rotundifolia A.Cunn.	Rubiaceae		No change
Coprosma rugosa Cheeseman	Rubiaceae		No change
Coprosma serrulata Hook.f. ex Buchanan	Rubiaceae		No change
Coprosma spathulata A.Cunn. subsp. *spathulata*	Rubiaceae		No change
Coprosma tenuicaulis Hook.f.	Rubiaceae		No change
Coprosma tenuifolia Cheeseman	Rubiaceae		No change
Cordyline australis (G.Forst.) Endl.	Asparagaceae		No change
Cordyline banksii Hook.f.	Asparagaceae		No change
Cordyline indivisa (G.Forst.) Steud.	Asparagaceae		No change
Cordyline pumilio Hook.f.	Asparagaceae		No change
Coriaria angustissima Hook.f.	Coriariaceae		No change
Coriaria arborea R.Linds. var. *arborea*	Coriariaceae		No change
Coriaria kingiana Colenso	Coriariaceae		No change
Coriaria plumosa W.R.B.Oliv.	Coriariaceae		No change
Coriaria pteridoides W.R.B.Oliv.	Coriariaceae		No change
Coriaria sarmentosa G.Forst.	Coriariaceae		No change
Corokia buddleioides A.Cunn.	Argophyllaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Corokia cotoneaster Raoul	Argophyllaceae		No change
Corybas acuminatus M.A.Clem. & Hatch	Orchidaceae		No change
Corybas cheesemanii (Hook.f. ex Kirk) Kuntze	Orchidaceae		No change
Corybas confusus Lehnebach	Orchidaceae		No change
Corybas hatchii Lehnebach	Orchidaceae		No change
Corybas iridescens Irwin & Molloy	Orchidaceae		No change
Corybas macranthus (Hook.f.) Rchb.f.	Orchidaceae		No change
Corybas oblongus (Hook.f.) Rchb.f.	Orchidaceae		No change
Corybas orbiculatus (Colenso) L.B.Moore	Orchidaceae		No change
Corybas papa Molloy & Irwin	Orchidaceae		No change
Corybas trilobus (Hook.f.) Rchb.f.	Orchidaceae		No change
Corybas vitreus Lehnebach	Orchidaceae		No change
Corybas walliae Lehnebach	Orchidaceae		No change
Corynocarpus laevigatus J.R.Forst. & G.Forst.	Corynocarpaceae		No change
Cotula australis (Spreng.) Hook.f.	Asteraceae	SO	No change
Cotula coronopifolia L.	Asteraceae	SO	No change
Cranfillia deltoides (Colenso) de Lange & Parris	Blechnaceae	SO	No change
Cranfillia fluviatilis (R.Br.) Gasper & V.A.O.Dittrich	Blechnaceae	SO	No change
Cranfillia nigra (Colenso) Gasper & V.A.O.Dittrich	Blechnaceae		No change
Craspedia lanata (Hook.f.) Allan var. *lanata*	Asteraceae		No change
Craspedia lanata var. *elongata* Allan	Asteraceae		No change
Craspedia minor (Hook.f.) Allan	Asteraceae		No change
Craspedia robusta (Hook.f.) Cockayne var. *robusta*	Asteraceae		No change
Craspedia viscosa Colenso	Asteraceae		No change
Crassula colligata Toelken subsp. *colligata*	Crassulaceae	EF, SO	No change
Crassula helmsii (Kirk) Cockayne	Crassulaceae	SO, Sp	No change
Crassula moschata G.Forst.	Crassulaceae	SO	No change
Crassula sieberiana (Schult. & Schult.f.) Druce	Crassulaceae	SO	No change
Crassula sinclairii (Hook.f.) A.P.Druce & Given	Crassulaceae		No change
Cyperus ustulatus A.Rich.	Cyperaceae		No change
Cyrtostylis oblonga Hook.f.	Orchidaceae		No change
Cyrtostylis rotundifolia Hook.f.	Orchidaceae		No change
Cystopteris tasmanica Hook.	Cystopteridaceae	SO	No change
Dacrycarpus dacrydioides (A.Rich.) de Laub.	Podocarpaceae		No change
Dacrydium cupressinum Sol. ex G.Forst.	Podocarpaceae		No change
Dendrobium cunninghamii Lindl.	Orchidaceae		No change
Deparia petersenii subsp. *congrua* (Brack.) M.Kato	Athyriaceae	SO	No change
Deschampsia chapmanii Petrie	Poaceae		No change
Deschampsia tenella Petrie	Poaceae		No change
Dianella haematica Heenan & de Lange	Hemerocallidaceae		No change
Dianella latissima Heenan & de Lange	Hemerocallidaceae		No change
Dianella nigra Colenso	Hemerocallidaceae		No change
Dichondra brevifolia Buchanan	Convolvulaceae		No change
Dichondra repens J.R.Forst. & G.Forst.	Convolvulaceae	SO	No change
Dicksonia fibrosa Colenso	Dicksoniaceae		No change
Dicksonia lanata Colenso ex Hook. subsp. *lanata*	Dicksoniaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Dicksonia squarrosa (G.Forst.) Swartz	Dicksoniaceae		No change
Didymocheton spectabilisis (G.Forst.) Mabb. & Holzmeyer	Meliaceae		No change
Diphasium scariosum (G.Forst.) Rothm.	Lycopodiaceae	SO	No change
Diplazium australe (R.Br.) N.A.Wakef.	Athyriaceae	SO	No change
Diploblechnum fraseri (A.Cunn.) De Vol	Blechnaceae	SO	No change
Discaria toumatou Raoul	Rhamnaceae	DPT	Better
Disphyma australe (W.T.Aiton) N.E.Br. subsp. *australe*	Aizoaceae		No change
Dodonaea viscosa Jacq.	Sapindaceae	SO	No change
Dolichoglottis lyallii (Hook.f.) B.Nord.	Asteraceae	DPS, DPT	No change
Dolichoglottis scorzoneroides (Hook.f.) B.Nord.	Asteraceae	DPS, DPT	No change
Donatia novae-zelandiae Hook.f.	Stylidiaceae	SO	No change
Doodia australis (Parris) Parris	Blechnaceae	SO	No change
Dracophyllum acerosum Berggr.	Ericaceae		No change
Dracophyllum elegantissimum S.Venter	Ericaceae		No change
Dracophyllum filifolium Hook.f.	Ericaceae		No change
Dracophyllum kirkii Berggr.	Ericaceae		No change
Dracophyllum latifolium A.Cunn.	Ericaceae		No change
Dracophyllum lessonianum A.Rich.	Ericaceae		No change
Dracophyllum longifolium (J.R.Forst. & G.Forst.) R.Br.	Ericaceae		No change
Dracophyllum menziesii Hook.f.	Ericaceae	DPT	No change
Dracophyllum muscoides Hook.f.	Ericaceae		No change
Dracophyllum oliveri Du Rietz	Ericaceae		No change
Dracophyllum palustre Cockayne ex W.R.B.Oliv.	Ericaceae		No change
Dracophyllum politum (Cheeseman) Cockayne	Ericaceae		No change
Dracophyllum pronum W.R.B.Oliv.	Ericaceae		No change
Dracophyllum prostratum Kirk	Ericaceae		No change
Dracophyllum pubescens Cheeseman	Ericaceae		No change
Dracophyllum recurvum Hook.f.	Ericaceae		No change
Dracophyllum rosmarinifolium (G.Forst.) R.Br.	Ericaceae		No change
Dracophyllum sinclairii Cheeseman	Ericaceae		No change
Dracophyllum strictum Hook.f.	Ericaceae		No change
Dracophyllum subulatum Hook.f.	Ericaceae		No change
Dracophyllum townsonii Cheeseman	Ericaceae		No change
Dracophyllum traversii Hook.f.	Ericaceae		No change
Drosera arcturi Hook.	Droseraceae	SO	No change
Drosera auriculata Backh. ex Planch.	Droseraceae	SO	No change
Drosera binata Labill.	Droseraceae	SO	No change
Drosera spatulata Labill.	Droseraceae	SO	No change
Drosera stenopetala Hook.f.	Droseraceae		No change
Drymoanthus adversus (Hook.f.) Dockrill	Orchidaceae		No change
Earina autumnalis (G.Forst.) Hook.f.	Orchidaceae		No change
Earina mucronata Lindl.	Orchidaceae		No change
Elaeocarpus dentatus (J.R.Forst. & G.Forst.) Vahl var. *dentatus*	Elaeocarpaceae		No change
Elaeocarpus hookerianus Raoul	Elaeocarpaceae		No change
Elatine gratioloides A.Cunn.	Elatinaceae	SO	No change
Elatostema rugosum A.Cunn.	Urticaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Eleocharis acuta R.Br.	Cyperaceae	SO	No change
Eleocharis gracilis R.Br.	Cyperaceae	SO	No change
Eleocharis pusilla R.Br.	Cyperaceae	SO	No change
Eleocharis sphacelata R.Br.	Cyperaceae	SO	No change
Empodisma minus (Hook.f.) L.A.S.Johnson & D.F.Cutler	Restionaceae	SO	No change
Entelea arborescens R.Br.	Malvaceae		No change
Epacris alpina Hook.f.	Ericaceae		No change
Epacris pauciflora A.Rich.	Ericaceae		No change
Epilobium alsinoides A.Cunn.	Onagraceae		No change
Epilobium atriplicifolium A.Cunn.	Onagraceae		No change
Epilobium brunnescens (Cockayne) P.H.Raven & Engelhorn subsp. *brunnescens*	Onagraceae		No change
Epilobium brunnescens subsp. *minutiflorum* (Cockayne) P.H.Raven & Engelhorn	Onagraceae		No change
Epilobium chlorifolium Hausskn.	Onagraceae		No change
Epilobium cinereum A.Rich.	Onagraceae	SO	No change
Epilobium crassum Hook.f.	Onagraceae	DPS, DPT	No change
Epilobium glabellum G.Forst.	Onagraceae		No change
Epilobium hirtigerum A.Cunn.	Onagraceae	EF, SO	Better
Epilobium komarovianum H.Lév.	Onagraceae		No change
Epilobium macropus Hook.	Onagraceae		No change
Epilobium melanocaulon Hook.	Onagraceae		No change
Epilobium microphyllum A.Rich.	Onagraceae		No change
Epilobium nerteroides A.Cunn.	Onagraceae		No change
Epilobium nummulariifolium A.Cunn.	Onagraceae		No change
Epilobium pallidiflorum A.Cunn.	Onagraceae	SO	No change
Epilobium pedunculare A.Cunn.	Onagraceae		No change
Epilobium pernitens Cockayne & Allan	Onagraceae		No change
Epilobium porphyrium G.Simpson	Onagraceae		No change
Epilobium pubens A.Rich.	Onagraceae		No change
Epilobium pycnostachyum Hausskn.	Onagraceae		No change
Epilobium rostratum Cheeseman	Onagraceae		No change
Epilobium rotundifolium G.Forst.	Onagraceae		No change
Epilobium rubromarginatum Cockayne	Onagraceae	DPS, DPT	No change
Epilobium tasmanicum Hausskn.	Onagraceae	SO	No change
Euchiton audax (D.G.Drury) Holub	Asteraceae		No change
Euchiton involucratus (G.Forst.) Holub	Asteraceae	SO	No change
Euchiton japonicus (Thunb.) Holub	Asteraceae	SO	No change
Euchiton lateralis (C.J.Webb) Breitw. & J.M.Ward	Asteraceae		No change
Euchiton limosus (D.G.Drury) Holub	Asteraceae		No change
Euchiton ruahinicus (D.G.Drury) Breitw. & J.M.Ward	Asteraceae		No change
Euchiton sphaericus (Willd.) Holub	Asteraceae	SO	No change
Euchiton traversii (Hook.f.) Holub	Asteraceae	SO	No change
Euphrasia australis Petrie	Orobanchaceae		No change
Euphrasia cockayneana Petrie	Orobanchaceae		No change
Euphrasia cuneata G.Forst.	Orobanchaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Euphrasia dyeri Wettst.	Orobanchaceae		No change
Euphrasia laingii Petrie	Orobanchaceae		No change
Euphrasia monroi Hook.f.	Orobanchaceae		No change
Euphrasia petriei Ashwin	Orobanchaceae		No change
Euphrasia revoluta Hook.f.	Orobanchaceae		No change
Euphrasia townsonii Petrie	Orobanchaceae		No change
Euphrasia zelandica Wettst.	Orobanchaceae		No change
Exocarpos bidwillii Hook.f.	Santalaceae		No change
Festuca deflexa Connor	Poaceae		No change
Festuca matthewsii (Hack.) Cheeseman subsp. *matthewsii*	Poaceae		No change
Festuca matthewsii subsp. *aquilonia* Connor	Poaceae		No change
Festuca matthewsii subsp. *latifundii* Connor	Poaceae		No change
Festuca multinodis Petrie & Hack.	Poaceae		No change
Festuca novae-zelandiae (Hack.) Cockayne	Poaceae		No change
Ficinia nodosa (Rottb.) Goetgh., Muasya & D.A.Simpson	Cyperaceae	SO	No change
Forstera mackayi Allan	Stylidiaceae		No change
Forstera purpurata Glenny	Stylidiaceae		No change
Forstera sedifolia G.Forst.	Stylidiaceae		No change
Forstera tenella Hook.f.	Stylidiaceae		No change
Freycinetia banksii A.Cunn.	Pandanaceae		No change
Fuchsia excorticata (J.R.Forst. & G.Forst.) L.f.	Onagraceae		No change
Fuchsia perscandens Cockayne & Allan	Onagraceae		No change
Fuscospora cliffortioides (Hook.f.) Heenan & Smissen	Nothofagaceae		No change
Fuscospora fusca (Hook.f.) Heenan & Smissen	Nothofagaceae		No change
Fuscospora solandri (Hook.f.) Heenan & Smissen	Nothofagaceae		No change
Fuscospora truncata (Colenso) Heenan & Smissen	Nothofagaceae		No change
Gahnia lacera (A.Rich.) Steud.	Cyperaceae		No change
Gahnia pauciflora Kirk	Cyperaceae		No change
Gahnia procera J.R.Forst. & G.Forst.	Cyperaceae		No change
Gahnia rigida Kirk	Cyperaceae		No change
Gahnia setifolia (A.Rich.) Hook.f.	Cyperaceae		No change
Gahnia xanthocarpa (Hook.f.) Hook.f.	Cyperaceae		No change
Gaimardia setacea Hook.f.	Centrolepidaceae	SO	No change
Galium propinquum A.Cunn.	Rubiaceae	SO	No change
Galium trilobum Colenso	Rubiaceae		No change
Gastrodia cunninghamii Hook.f.	Orchidaceae		No change
Gastrodia minor Petrie	Orchidaceae		No change
Gastrodia molloyi Lehnebach & J.R.Rolfe	Orchidaceae		No change
Gastrodia sesamoides R.Br.	Orchidaceae	SO	No change
Gaultheria antipoda G.Forst.	Ericaceae		No change
Gaultheria colensoi Hook.f.	Ericaceae		No change
Gaultheria crassa Allan	Ericaceae		No change
Gaultheria depressa Hook.f. var. *depressa*	Ericaceae	SO	Neutral
Gaultheria depressa var. *novae-zealandiae* D.A.Franklin	Ericaceae		No change
Gaultheria macrostigma (Colenso) D.J.Middleton	Ericaceae		No change
Gaultheria nubicola D.J.Middleton	Ericaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Gaultheria oppositifolia Hook.f.	Ericaceae		No change
Gaultheria paniculata B.L.Burtt & A.W.Hill	Ericaceae		No change
Gaultheria parvula D.J.Middleton	Ericaceae		No change
Gaultheria rupestris (L.f.) D.Don	Ericaceae		No change
Geniostoma ligustrifolium A.Cunn. var. *ligustrifolium*	Loganiaceae		No change
Gentianella amabilis (Petrie) Glenny	Gentianaceae		No change
Gentianella bellidifolia (Hook.f.) Holub	Gentianaceae		No change
Gentianella corymbifera (Kirk) Holub subsp. *corymbifera*	Gentianaceae		No change
Gentianella corymbifera subsp. *gracilis* Glenny	Gentianaceae		No change
Gentianella divisa (Kirk) Glenny	Gentianaceae		No change
Gentianella grisebachii (Hook.f.) T.N.Ho	Gentianaceae		No change
Gentianella impressinervia Glenny	Gentianaceae		No change
Gentianella montana (G.Forst.) Holub subsp. *montana* var. *montana*	Gentianaceae		No change
Gentianella montana subsp. *ionostigma* Glenny	Gentianaceae		No change
Gentianella montana subsp. *montana* var. *stolonifera* (Cheeseman) Glenny	Gentianaceae		No change
Gentianella patula (Kirk) Holub	Gentianaceae		No change
Gentianella serotina (Cockayne) T.N.Ho & S.W.Liu	Gentianaceae		No change
Gentianella spenceri (Kirk) T.N.Ho & S.W.Liu	Gentianaceae		No change
Gentianella tenuifolia (Petrie) T.N.Ho & S.W.Liu	Gentianaceae		No change
Gentianella vernicosa (Cheeseman) T.N.Ho & S.W.Liu	Gentianaceae		No change
Geranium brevicaule Hook.f.	Geraniaceae	SO	No change
Geranium homeanum Turcz.	Geraniaceae	SO	No change
Geranium potentilloides L'Hér ex DC.	Geraniaceae	SO	No change
Geum cockaynei (F.Bolle) Molloy & C.J.Webb	Rosaceae		No change
Geum leiospermum Petrie	Rosaceae		No change
Geum uniflorum Buchanan	Rosaceae		No change
Gingidia decipiens (Hook.f.) J.W.Dawson	Apiaceae		No change
Gleichenia alpina R.Br.	Gleicheniaceae	SO	No change
Gleichenia dicarpa R.Br.	Gleicheniaceae	SO	No change
Gleichenia inclusisora Perrie, L.D.Sheph. & Brownsey	Gleicheniaceae	DPR	Better
Gleichenia microphylla R.Br.	Gleicheniaceae	SO	No change
Glossostigma cleistanthum W.R.Barker	Phrymaceae	DPS, DPT, SO	No change
Glossostigma diandrum (L.) Kuntze	Phrymaceae		No change
Glossostigma elatinoides Benth. ex Hook.f.	Phrymaceae	SO	No change
Gonocarpus aggregatus (Buchanan) Orchard	Haloragaceae		No change
Gonocarpus incanus (A.Cunn.) Orchard	Haloragaceae		No change
Gonocarpus micranthus Thunb. subsp. *micranthus*	Haloragaceae	SO	No change
Gonocarpus montanus (Hook.f.) Orchard	Haloragaceae		No change
Goodenia radicans (Cav.) Pers.	Goodeniaceae		No change
Gratiola sexdentata R.Cunn. ex A.Cunn.	Plantaginaceae		No change
Griselinia littoralis (Raoul) Raoul	Griseliniaceae		No change
Griselinia lucida (J.R.Forst. & G.Forst.) G.Forst.	Griseliniaceae		No change
Gunnera dentata Kirk	Gunneraceae		No change
Gunnera monoica Raoul	Gunneraceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Gunnera prorepens Hook.f.	Gunneraceae		No change
Haastia minor (Laing) C.C.Nicholls, Breitw., J.M.Ward & Pelser	Asteraceae		No change
Haastia pulvinaris Hook.f.	Asteraceae		No change
Haastia recurva Hook.f. var. *recurva*	Asteraceae		No change
Haastia sinclairii Hook.f. var. *sinclairii*	Asteraceae		No change
Haastia sinclairii var. *fulvida* Allan	Asteraceae		No change
Halocarpus bidwillii (Kirk) Quinn	Podocarpaceae	DPS, DPT	No change
Halocarpus biformis (Hook.) Quinn	Podocarpaceae	DPS, DPT	No change
Haloragis erecta (Banks ex Murray) Oken subsp. *erecta*	Haloragaceae		No change
Hectorella caespitosa Hook.f.	Portulacaceae		No change
Hedycarya arborea J.R.Forst. & G.Forst.	Monimiaceae		No change
Helichrysum coralloides (Hook.f.) Benth. & Hook.f.	Asteraceae		No change
Helichrysum depressum (Hook.f.) Benth. & Hook.f.	Asteraceae		No change
Helichrysum filicaule Hook.f.	Asteraceae		No change
Helichrysum lanceolatum (Buchanan) Kirk	Asteraceae		No change
Helichrysum parvifolium Yeo	Asteraceae		No change
Helichrysum simpsonii Kottaim. subsp. *simpsonii*	Asteraceae		No change
Herpolirion novae-zelandiae Hook.f.	Asparagaceae	SO	No change
Hierochloe equiseta Zotov	Poaceae		No change
Hierochloe fusca Zotov	Poaceae		No change
Hierochloe novae-zelandiae Gand.	Poaceae		No change
Hierochloe recurvata (Hack.) Zotov	Poaceae		No change
Hierochloe redolens (Vahl) Roem. & Schult.	Poaceae	SO	No change
Histiopteris incisa (Thunb.) J.Sm.	Dennstaedtiaceae	SO	No change
Hiya distans (Hook.) Brownsey & Perrie	Dennstaedtiaceae	TO	No change
Hoheria angustifolia Raoul	Malvaceae		No change
Hoheria glabrata Sprague & Summerh.	Malvaceae		No change
Hoheria lyallii Hook.f.	Malvaceae		No change
Hoheria ovata Simpson & J.S.Thomson	Malvaceae		No change
Hoheria populnea A.Cunn.	Malvaceae		No change
Hoheria sexstylosa Colenso	Malvaceae		No change
Huperzia australiana (Herter) Holub	Lycopodiaceae	SO	No change
Hydrocotyle dissecta Hook.f.	Araliaceae		No change
Hydrocotyle elongata A.Cunn.	Araliaceae		No change
Hydrocotyle heteromeria A.Rich.	Araliaceae		No change
Hydrocotyle hydrophila Petrie	Araliaceae		No change
Hydrocotyle microphylla A.Cunn.	Araliaceae		No change
Hydrocotyle moschata G.Forst. var. *moschata*	Araliaceae		No change
Hydrocotyle moschata var. *parvifolia* Carse	Araliaceae		No change
Hydrocotyle novae-zeelandiae DC. var. *novae-zeelandiae*	Araliaceae		No change
Hydrocotyle novae-zeelandiae var. *montana* Kirk	Araliaceae		No change
Hydrocotyle pterocarpa F.Muell.	Araliaceae	SO	No change
Hydrocotyle robusta Kirk	Araliaceae	DPS, DPT	No change
Hydrocotyle sulcata C.J.Webb & P.N.Johnson	Araliaceae		No change
Hymenophyllum armstrongii (Baker) Kirk	Hymenophyllaceae		No change
Hymenophyllum bivalve (G.Forst.) Sw.	Hymenophyllaceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Hymenophyllum demissum (G.Forst.) Sw.	Hymenophyllaceae		No change
Hymenophyllum dilatatum (G.Forst.) Sw.	Hymenophyllaceae		No change
Hymenophyllum flabellatum Labill.	Hymenophyllaceae	SO	No change
Hymenophyllum flexuosum A.Cunn.	Hymenophyllaceae		No change
Hymenophyllum frankliniae Colenso	Hymenophyllaceae		No change
Hymenophyllum lyallii Hook.f.	Hymenophyllaceae	SO	No change
Hymenophyllum malingii (Hook.) Mett.	Hymenophyllaceae		No change
Hymenophyllum minimum A.Rich.	Hymenophyllaceae		No change
Hymenophyllum multifidum (G.Forst.) Sw.	Hymenophyllaceae	SO	No change
Hymenophyllum nephrophyllum Ebihara & K.Iwats.	Hymenophyllaceae		No change
Hymenophyllum peltatum (Poir.) Desv.	Hymenophyllaceae	SO	No change
Hymenophyllum pulcherrimum Colenso	Hymenophyllaceae		No change
Hymenophyllum revolutum Colenso	Hymenophyllaceae		No change
Hymenophyllum rufescens Kirk	Hymenophyllaceae	DPS, DPT	No change
Hymenophyllum sanguinolentum (G.Forst.) Sw.	Hymenophyllaceae	TO	No change
Hymenophyllum scabrum A.Rich.	Hymenophyllaceae		No change
Hymenophyllum villosum Colenso	Hymenophyllaceae		No change
Hypericum pusillum Choisy	Hypericaceae	SO	No change
Hypolepis ambigua (A.Rich.) Brownsey & Chinnock	Dennstaedtiaceae		No change
Hypolepis lactea Brownsey & Chinnock	Dennstaedtiaceae	DPS, DPT, EF	No change
Hypolepis millefolium Hook.	Dennstaedtiaceae		No change
Hypolepis rufobarbata (Colenso) N.A.Wakef.	Dennstaedtiaceae	EF	No change
Icarus filiformis (A.Cunn.) Gasper & Salino	Blechnaceae		No change
Ileostylus micranthus (Hook.f.) Tiegh.	Loranthaceae	TO	No change
Isachne globosa (Thunb.) Kuntze	Poaceae	SO	No change
Isoetes alpina Kirk	Isoetaceae		No change
Isolepis aucklandica Hook.f.	Cyperaceae	SO	No change
Isolepis caligenis (V.J.Cook) Soják	Cyperaceae	DPS, DPT	No change
Isolepis cernua (Vahl) Roem. & Schult. var. *cernua*	Cyperaceae	SO	No change
Isolepis distigmatosa (C.B.Clarke) Edgar	Cyperaceae		No change
Isolepis habra (Edgar) Soják	Cyperaceae	SO	No change
Isolepis inundata R.Br.	Cyperaceae	SO	No change
Isolepis praetextata (Edgar) Soják	Cyperaceae		No change
Isolepis prolifera (Rottb.) R.Br.	Cyperaceae	SO	No change
Isolepis reticularis Colenso	Cyperaceae		No change
Isolepis subtilissima Boeckeler	Cyperaceae	DPS, DPT, SO	No change
Ixerba brexioides A.Cunn.	Strasburgeriaceae		No change
Jovellana repens (Hook.f.) Kraenzl.	Calceolariaceae		No change
Juncus antarcticus Hook.f.	Juncaceae	SO	No change
Juncus australis Hook.f.	Juncaceae	SO	No change
Juncus distegus Edgar	Juncaceae	DPS, Sp	Better
Juncus edgariae L.A.S.Johnson & K.L.Wilson	Juncaceae		No change
Juncus kraussii subsp. *australiensis* (Buchenau) Snogerup	Juncaceae	SO	No change
Juncus novae-zelandiae Hook.f.	Juncaceae		No change
Juncus pallidus R.Br.	Juncaceae	SO	No change
Juncus planifolius R.Br.	Juncaceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Juncus prismatocarpus R.Br.	Juncaceae	SO	No change
Juncus sarophorus L.A.S.Johnson	Juncaceae	SO	No change
Juncus usitatus L.A.S.Johnson	Juncaceae	SO	No change
Kelleria childii Heads	Thymelaeaceae		No change
Kelleria croizatii Heads	Thymelaeaceae		No change
Kelleria dieffenbachii (Hook.) Endl.	Thymelaeaceae		No change
Kelleria laxa (Cheeseman) Heads	Thymelaeaceae		No change
Kelleria multiflora (Cheeseman) Heads	Thymelaeaceae		No change
Kelleria villosa Berggr. var. *villosa*	Thymelaeaceae		No change
Knightia excelsa R.Br.	Proteaceae		No change
Koeleria cheesemanii (Hack.) Petrie	Poaceae		No change
Koeleria lasiorhachis (Hack.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae		No change
Koeleria lepida (Edgar & A.P.Druce) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae		No change
Koeleria novozelandica Domin	Poaceae		No change
Koeleria spicata (L.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	SO	No change
Koeleria tenella (Petrie) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae		No change
Koeleria youngii (Hook.f.) Barberá, Quintanar, Soreng & P.M.Peterson	Poaceae	DPS, DPT	No change
Korthalsella lindsayi (Oliv.) Engl.	Viscaceae		No change
Kunzea ericoides (A.Rich.) Joy Thomps.	Myrtaceae		Better
Kunzea robusta de Lange & Toelken	Myrtaceae		Better
Kunzea serotina de Lange & Toelken	Myrtaceae	PD	Better
Lachnagrostis billardierei (R.Br.) Trin. subsp. *billardierei*	Poaceae	SO	No change
Lachnagrostis filiformis (G.Forst.) Trin.	Poaceae	SO	No change
Lachnagrostis littoralis (Hack.) Edgar subsp. *littoralis*	Poaceae		No change
Lachnagrostis littoralis subsp. *salaria* Edgar	Poaceae		No change
Lachnagrostis lyallii (Hook.f.) Zotov	Poaceae		No change
Lachnagrostis pilosa (Buchanan) Edgar subsp. *pilosa*	Poaceae		No change
Lachnagrostis striata (Colenso) Zotov	Poaceae		No change
Lagenophora cuneata Petrie	Asteraceae		No change
Lagenophora petiolata Hook.f.	Asteraceae		No change
Lagenophora pinnatifida Hook.f.	Asteraceae		No change
Lagenophora pumila (G.Forst.) Cheeseman	Asteraceae		No change
Lagenophora strangulata Colenso	Asteraceae		No change
Lastreopsis hispida (Sw.) Tindale	Dryopteridaceae	SO	No change
Lastreopsis velutina (A.Rich.) Tindale	Dryopteridaceae	Sp	No change
Lateristachys diffusa (R.Br.) Holub	Lycopodiaceae	SO	No change
Lateristachys lateralis (R.Br.) Holub	Lycopodiaceae	SO	No change
Laurelia novae-zelandiae A.Cunn.	Atherospermataceae		No change
Lecanopteris novae-zelandiae (Baker) Perrie & Brownsey	Polypodiaceae		No change
Lecanopteris pustulata (G.Forst.) Perrie & Brownsey subsp. *pustulata*	Polypodiaceae	SO	No change
Lecanopteris scandens (G.Forst.) Perrie & Brownsey	Polypodiaceae	SO	No change
Lemna disperma Hegelm.	Araceae		Neutral
Lemna minor L.	Araceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Lepidium desvauxii Thell.	Brassicaceae	SO	No change
Lepidosperma australe (A.Rich.) Hook.f.	Cyperaceae		No change
Lepidosperma laterale R.Br.	Cyperaceae	SO	No change
Lepidothamnus intermedius (Kirk) Quinn	Podocarpaceae		No change
Lepidothamnus laxifolius (Hook.f.) Quinn	Podocarpaceae		No change
Leptecophylla juniperina (J.R.Forst. & G.Forst.) C.M.Weiller subsp. *juniperina*	Ericaceae	SO	No change
Leptinella atrata (Hook.f.) D.G.Lloyd & C.J.Webb subsp. *atrata*	Asteraceae		No change
Leptinella dendyi (Cockayne) D.G.Lloyd & C.J.Webb	Asteraceae		No change
Leptinella dioica Hook.f.	Asteraceae		No change
Leptinella goyenii (Petrie) D.G.Lloyd & C.J.Webb	Asteraceae		No change
Leptinella pectinata (Hook.f.) D.G.Lloyd & C.J.Webb subsp. *pectinata*	Asteraceae		No change
Leptinella pectinata subsp. *villosa* (G.Simpson) D.G.Lloyd & C.J.Webb	Asteraceae		No change
Leptinella pectinata subsp. *willcoxii* (Cheeseman) D.G.Lloyd & C.J.Webb	Asteraceae		No change
Leptinella pyrethrifolia (Hook.f.) D.G.Lloyd & C.J.Webb var. *pyrethrifolia*	Asteraceae		No change
Leptinella squalida Hook.f. subsp. *squalida*	Asteraceae		No change
Leptinella squalida subsp. *mediana* (D.G.Lloyd) D.G.Lloyd & C.J.Webb	Asteraceae		No change
Leptolepia novae-zelandiae (Colenso) Mett. ex Diels	Dennstaedtiaceae		No change
Leptopteris hymenophylloides (A.Rich.) C.Presl	Osmundaceae		No change
Leptopteris superba (Colenso) C.Presl	Osmundaceae		No change
Leptospermum hoipolloi L.M.H.Schmid & de Lange	Myrtaceae		Better
Leptospermum scoparium J.R.Forst. & G.Forst.	Myrtaceae		Better
Leptostigma setulosum (Hook.f.) Fosberg	Rubiaceae		No change
Leucogenes grandiceps (Hook.f.) Beauverd	Asteraceae		No change
Leucogenes leontopodium (Hook.f.) Beauverd	Asteraceae		No change
Leucopogon fasciculatus (G.Forst.) A.Rich.	Ericaceae		No change
Leucopogon fraseri A.Cunn.	Ericaceae	SO	No change
Libertia grandiflora (R.Br.) Sweet	Iridaceae		No change
Libertia ixioides (G.Forst.) Spreng.	Iridaceae		No change
Libertia micrantha A.Cunn.	Iridaceae		No change
Libertia mooreae Blanchon, B.G.Murray & Braggins	Iridaceae		No change
Libocedrus bidwillii Hook.f.	Cupressaceae		No change
Libocedrus plumosa (D.Don) Sarg.	Cupressaceae	DPS, DPT, Sp	No change
Lignocarpa carnosula (Hook.f.) J.W.Dawson	Apiaceae		No change
Lilaeopsis novae-zelandiae (Gand.) A.W.Hill	Apiaceae	SO	No change
Lilaeopsis ruthiana Affolter	Apiaceae	SO	No change
Limosella australis R.Br.	Plantaginaceae	SO	No change
Lindsaea linearis Sw.	Lindsaeaceae	SO	No change
Lindsaea trichomanoides Dryand.	Lindsaeaceae	SO	No change
Liparophyllum gunnii Hook.f.	Menyanthaceae	SO	No change
Litsea calicaris (Sol. ex A.Cunn.) Benth. & Hook.f. ex Kirk	Lauraceae		No change
Lobelia anceps L.f.	Campanulaceae	SO	No change
Lobelia angulata G.Forst.	Campanulaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Lobelia glaberrima Heenan	Campanulaceae		No change
Lobelia linnaeoides (Hook.f.) Petrie	Campanulaceae		No change
Lobelia macrodon (Hook.f.) Lammers	Campanulaceae		No change
Lobelia perpusilla Hook.f.	Campanulaceae	Sp	No change
Lobelia roughii Hook.f.	Campanulaceae		No change
Lomaria discolor (G.Forst.) Willd.	Blechnaceae		No change
Lophozonia menziesii (Hook.f.) Heenan & Smissen	Nothofagaceae		No change
Loxogramme dictyopteris (Mett.) Copel.	Polypodiaceae		No change
Luzula banksiana E.Mey var. *banksiana*	Juncaceae		No change
Luzula banksiana var. *acra* Edgar	Juncaceae		No change
Luzula banksiana var. *migrata* (Buchenau) Edgar	Juncaceae		No change
Luzula banksiana var. *orina* Edgar	Juncaceae	DPS, DPT	No change
Luzula colensoi Hook.f.	Juncaceae		No change
Luzula crinita var. *crinita* Hook.f.	Juncaceae		No change
Luzula crinita var. *petrieana* (Buchenau) Edgar	Juncaceae		No change
Luzula decipiens Edgar	Juncaceae		No change
Luzula picta A.Rich. var. *picta*	Juncaceae		No change
Luzula picta var. *limosa* Edgar	Juncaceae	DP	No change
Luzula pumila Hook.f.	Juncaceae		No change
Luzula rufa Edgar var. *rufa*	Juncaceae		No change
Luzula rufa var. *albicomans* Edgar	Juncaceae		No change
Luzula subclavata Colenso	Juncaceae		No change
Luzula traversii (Buchenau) Cheeseman var. *traversii*	Juncaceae		No change
Luzuriaga parviflora (Hook.f.) Kunth	Alstroemeriaceae	SO	No change
Lygodium articulatum A.Rich.	Lygodiaceae		No change
Machaerina arthrophylla (Nees) T.Koyama	Cyperaceae	SO	No change
Machaerina articulata (R.Br.) T.Koyama	Cyperaceae	SO	No change
Machaerina juncea (R.Br.) T.Koyama	Cyperaceae	SO	No change
Machaerina rubiginosa (Spreng.) T.Koyama	Cyperaceae	SO	No change
Machaerina sinclairii (Hook.f.) T.Koyama	Cyperaceae		No change
Machaerina tenax (Hook.f.) T.Koyama	Cyperaceae		No change
Machaerina teretifolia (R.Br.) T.Koyama	Cyperaceae	SO	No change
Macrolearia colensoi (Hook.f.) Saldivia	Asteraceae		No change
Manoao colensoi (Hook.) Molloy	Podocarpaceae		No change
Marsippospermum gracile (Hook.f.) Buchenau	Juncaceae		No change
Mazus radicans (Hook.f.) Cheeseman	Phyrmaceae		No change
Melicope simplex A.Cunn.	Rutaceae		No change
Melicope ternata J.R.Forst. & G.Forst.	Rutaceae		No change
Melicytus alpinus (Kirk) Garn.-Jones	Violaceae		No change
Melicytus lanceolatus Hook.f.	Violaceae		No change
Melicytus macrophyllus A.Cunn.	Violaceae		No change
Melicytus micranthus (Hook.f.) Hook.f.	Violaceae		No change
Melicytus ramiflorus J.R.Forst. & G.Forst. subsp. *ramiflorus*	Violaceae		No change
Metrosideros albiflora Sol. ex Gaertn.	Myrtaceae	DPS, DPT	Better
Metrosideros colensoi Hook.f.	Myrtaceae		Better
Metrosideros diffusa (G.Forst.) Sm.	Myrtaceae		Better

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Metrosideros excelsa Sol. ex Gaertn.	Myrtaceae	NO	Better
Metrosideros fulgens Sol. ex Gaertn.	Myrtaceae		Better
Metrosideros parkinsonii Buchanan	Myrtaceae		Better
Metrosideros perforata (J.R.Forst. & G.Forst.) A.Rich.	Myrtaceae		Better
Metrosideros umbellata Cav.	Myrtaceae		Better
Microlaena avenacea (Raoul) Hook.f.	Poaceae	SO	No change
Microlaena stipoides (Labill.) R.Br.	Poaceae	SO	No change
Microschizaea australis (Gaudich.) C.F.Reed	Schizaeaceae	SO	No change
Microschizaea fistulosa (Labill.) C.F.Reed	Schizaeaceae	SO	No change
Microseris scapigera (Sol. ex A.Cunn.) Sch.Bip.	Asteraceae	DPS, DPT	No change
Microtis oligantha L.B.Moore	Orchidaceae		No change
Microtis unifolia (G.Forst.) Rchb.f.	Orchidaceae	S?O	No change
Montia calycina (Colenso) Pax & K.Hoffm.	Montiaceae		No change
Montia fontana L. subsp. *fontana*	Montiaceae	SO	No change
Montia sessiliflora (G.Simpson) Heenan	Montiaceae		No change
Montitega dealbata (R.Br.) C.M.Weiller	Ericaceae	SO	No change
Morelotia affinis (Brongn.) S.T.Blake	Cyperaceae		No change
Muehlenbeckia australis (G.Forst.) Meisn.	Polygonaceae	SO	No change
Muehlenbeckia axillaris (Hook.f.) Endl.	Polygonaceae	SO	No change
Muehlenbeckia complexa (A.Cunn.) Meisn. var. *complexa*	Polygonaceae	SO	No change
Myoporum laetum G.Forst.	Scrophulariaceae		No change
Myosotis forsteri Lehm.	Boraginaceae		No change
Myosotis macrantha (Hook.f.) Benth. & Hook.f.	Boraginaceae		No change
Myosotis pulvinaris Hook.f.	Boraginaceae		No change
Myosotis traversii Hook.f. subsp. *traversii*	Boraginaceae	DPS, DPT	No change
Myosotis traversii subsp. *cantabrica* (L.B.Moore) Meudt	Boraginaceae		No change
Myriophyllum pedunculatum subsp. *novae-zelandiae* Orchard	Haloragaceae		No change
Myriophyllum propinquum A.Cunn.	Haloragaceae	SO	No change
Myriophyllum triphyllum Orchard	Haloragaceae		No change
Myriophyllum votschii Schindl.	Haloragaceae	Sp	No change
Myrsine australis (A.Rich.) Allan	Primulaceae		No change
Myrsine divaricata A.Cunn.	Primulaceae		No change
Myrsine nummularia (Hook.f.) Hook.f.	Primulaceae		No change
Myrsine salicina Heward ex Hook.f.	Primulaceae		No change
Neomyrtus pedunculata (Hook.f.) Allan	Myrtaceae		Better
Nertera balfouriana Cockayne	Rubiaceae		No change
Nertera ciliata Kirk	Rubiaceae		No change
Nertera depressa Banks & Sol. ex Gaertn.	Rubiaceae	SO	No change
Nertera dichondrifolia (A.Cunn.) Hook.f.	Rubiaceae		No change
Nertera scapanioides Lange	Rubiaceae		No change
Nertera villosa B.H.Macmill. & R.Mason	Rubiaceae		No change
Nestegis cunninghamii (Hook.f.) L.A.S.Johnson	Oleaceae		No change
Nestegis lanceolata (Hook.f.) L.A.S.Johnson	Oleaceae		No change
Nestegis montana (Hook.f.) L.A.S.Johnson	Oleaceae		No change
Netrostylis capillaris (F.Muell.) R.L.Barrett, J.J.Bruhl & K.L.Wilson	Cyperaceae	SO	No change
Notogrammitis angustifolia (Jacq.) Parris	Polypodiaceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Notogrammitis billardierei (Willd.) Parris	Polypodiaceae	SO	No change
Notogrammitis ciliata (Colenso) Parris	Polypodiaceae		No change
Notogrammitis crassior (Kirk) Parris	Polypodiaceae	SO	No change
Notogrammitis givenii (Parris) Parris	Polypodiaceae		No change
Notogrammitis heterophylla (Labill.) Tindale	Polypodiaceae	SO	No change
Notogrammitis patagonica (C.Chr.) Parris	Polypodiaceae	SO	No change
Notogrammitis pseudociliata (Parris) Parris	Polypodiaceae	SO	No change
Notothlaspi australe Hook.f.	Brassicaceae	DPS, DPT	No change
Notothlaspi rosulatum Hook.f.	Brassicaceae	DPS, DPT	No change
Olearia arborescens (G.Forst.) Cockayne & Laing	Asteraceae		No change
Olearia avicenniifolia (Raoul) Hook.f.	Asteraceae		No change
Olearia bullata H.D.Wilson & Garn.-Jones	Asteraceae		No change
Olearia cymbifolia (Hook.f.) Cheeseman	Asteraceae		No change
Olearia furfuracea (A.Rich.) Hook.f.	Asteraceae		No change
Olearia ilicifolia Hook.f.	Asteraceae		No change
Olearia lacunosa Hook.f.	Asteraceae		No change
Olearia laxiflora Kirk	Asteraceae		No change
Olearia moschata Hook.f.	Asteraceae		No change
Olearia nummulariifolia (Hook.f.) Hook.f.	Asteraceae		No change
Olearia paniculata (J.R.Forst. & G.Forst.) Druce	Asteraceae		No change
Olearia rani var. *colorata* (Colenso) Kirk	Asteraceae		No change
Olearia rani var. *rani* (A.Cunn.) Druce	Asteraceae		No change
Olearia townsonii Cheeseman	Asteraceae		No change
Olearia virgata (Hook.f.) Hook.f.	Asteraceae		No change
Ophioglossum coriaceum A.Cunn.	Ophioglossaceae		No change
Oplismenus hirtellus subsp. *imbecillis* (R.Br.) U.Scholz	Poaceae		No change
Oreobolus impar Edgar	Cyperaceae		No change
Oreobolus pectinatus Hook.f.	Cyperaceae		No change
Oreobolus strictus Berggr.	Cyperaceae		No change
Orthoceras novae-zeelandiae (A.Rich.) M.A.Clem., D.L.Jones & Molloy	Orchidaceae		No change
Ourisia caespitosa Hook.f.	Plantaginaceae		No change
Ourisia calycina Colenso	Plantaginaceae		No change
Ourisia crosbyi Cockayne	Plantaginaceae		No change
Ourisia glandulosa Hook.f.	Plantaginaceae		No change
Ourisia macrocarpa Hook.f.	Plantaginaceae		No change
Ourisia macrophylla Hook. subsp. *macrophylla*	Plantaginaceae		No change
Ourisia macrophylla subsp. *lactea* (L.B.Moore) Meudt	Plantaginaceae		No change
Ourisia sessilifolia Hook.f. subsp. *sessilifolia*	Plantaginaceae		No change
Ourisia sessilifolia subsp. *splendida* (L.B.Moore) Arroyo	Plantaginaceae		No change
Ourisia simpsonii (L.B.Moore) Arroyo	Plantaginaceae		No change
Oxalis exilis A.Cunn.	Oxalidaceae	SO	No change
Oxalis magellanica G.Forst.	Oxalidaceae	SO	No change
Oxalis rubens Haw.	Oxalidaceae	SO	No change
Ozothamnus leptophyllus (G.Forst.) Breitw. & J.M.Ward	Asteraceae		No change
Ozothamnus vauvilliersii Hombr. & Jacquinot ex Decne.	Asteraceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Pachycladon latisiliquum (Cheeseman) Heenan & A.D.Mitch.	Brassicaceae	DPS, DPT	No change
Pachycladon novae-zelandiae (Hook.f.) Hook.f.	Brassicaceae		No change
Pachystegia hesperia Heenan & Molloy	Asteraceae	DPR, DPT	Neutral
Pachystegia insignis (Hook.f.) Cheeseman	Asteraceae		No change
Paesia scaberula (A.Rich.) Kuhn	Dennstaedtiaceae		No change
Pakau pennigera (G.Forst.) S.E.Fawc. & A.R.Sm.	Thelypteridaceae	TO	No change
Palhinhaea cernua (L.) Vasc. & Franco	Lycopodiaceae	SO	No change
Parablechnum minus (R.Br.) Gasper & Salino	Blechnaceae	SO	No change
Parablechnum montanum (T.C. Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae		No change
Parablechnum novae-zelandiae (T.C.Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae		No change
Parablechnum procerum (G.Forst.) C.Presl	Blechnaceae		No change
Parablechnum triangularifolium (T.C.Chambers & P.A.Farrant) Gasper & Salino	Blechnaceae		No change
Parapolystichum glabellum (A.Cunn.) Labiak, Sundue & R.C.Moran	Dryopteridaceae		No change
Parapolystichum microsorum (Endl.) Labiak, Sundue & R.C.Moran	Dryopteridaceae		New listing
Parietaria debilis G.Forst.	Urticaceae	SO	No change
Parsonsia capsularis (G.Forst.) DC. var. *capsularis* R.Br.	Apocynaceae		No change
Parsonsia heterophylla A.Cunn.	Apocynaceae		No change
Passiflora tetrandra Banks ex DC.	Passifloraceae		No change
Pectinopitys ferruginea (G.Benn. ex D.Don) C.N.Page	Podocarpaceae		No change
Pellaea rotundifolia (G.Forst.) Hook.	Pteridaceae	TO	No change
Pennantia corymbosa J.R.Forst. & G.Forst.	Pennantiaceae		No change
Pentachondra pumila (J.R.Forst. & G.Forst.) R.Br.	Ericaceae	SO	No change
Pentapogon aucklandicus (Hook.f.) de Lange & L.M.H.Schmid	Poaceae		No change
Pentapogon avenoides (Hook.f.) P.M.Peterson, Romasch. & Soreng	Poaceae		No change
Pentapogon crinitus (L.f.) P.M.Peterson, Romasch. & Soreng	Poaceae	EF, SO	No change
Peperomia urvilleana A.Rich.	Piperaceae	SO	No change
Persicaria decipiens (R.Br.) K.L.Wilson	Polygonaceae	SO	No change
Phlegmariurus varius (R.Br.) A.R.Field & Bostock	Lycopodiaceae	SO	No change
Phormium cookianum Le Jol. subsp. *cookianum*	Asphodelaceae		No change
Phormium cookianum subsp. *hookeri* (Hook.f.) Wardle	Asphodelaceae		No change
Phormium tenax J.R.Forst. & G.Forst.	Asphodelaceae	SO	No change
Phyllachne clavigera (Hook.f.) F.Muell.	Stylidiaceae		No change
Phyllachne colensoi (Hook.f.) Berggr.	Stylidiaceae	SO	No change
Phyllachne rubra (Hook.f.) Cheeseman	Stylidiaceae		No change
Phyllocladus alpinus Hook.f.	Podocarpaceae		No change
Phyllocladus toatoa Molloy	Podocarpaceae		No change
Phyllocladus trichomanoides D.Don	Podocarpaceae		No change
Pilularia novae-hollandiae A.Braun	Marsileaceae	SO	No change
Pimelea buxifolia Hook.f.	Thymelaeaceae		No change
Pimelea carnosa C.J.Burrows	Thymelaeaceae		No change
Pimelea concinna Allan	Thymelaeaceae	DPS, DPT	No change
Pimelea crosby-smithiana Petrie	Thymelaeaceae	DPS	Neutral

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Pimelea gnidia (J.R.Forst. & G.Forst.) Lam.	Thymelaeaceae		No change
Pimelea notia C.J.Burrows & Thorsen	Thymelaeaceae	DPS, DPT	No change
Pimelea oreophila C.J.Burrows subsp. *oreophila*	Thymelaeaceae		No change
Pimelea oreophila subsp. *hetera* C.J.Burrows	Thymelaeaceae		No change
Pimelea oreophila subsp. *lepta* C.J.Burrows	Thymelaeaceae		No change
Pimelea prostrata (J.R.Forst. & G.Forst.) Willd.	Thymelaeaceae		No change
Pimelea prostrata subsp. *seismica* C.J.Burrows	Thymelaeaceae		No change
Pimelea prostrata subsp. *thermalis* C.J.Burrows	Thymelaeaceae		No change
Pimelea prostrata subsp. *vulcanica* C.J.Burrows	Thymelaeaceae		No change
Pimelea traversii Hook.f. subsp. *traversii*	Thymelaeaceae		No change
Pimelea urvilleana A.Rich.	Thymelaeaceae		No change
Piper excelsum G.Forst. subsp. *excelsum*	Piperaceae		No change
Pittosporum anomalum Laing & Gourlay	Pittosporaceae		No change
Pittosporum colensoi Hook.f.	Pittosporaceae		No change
Pittosporum crassifolium Banks & Sol. ex A.Cunn.	Pittosporaceae		No change
Pittosporum divaricatum Cockayne	Pittosporaceae		No change
Pittosporum eugenioides A.Cunn.	Pittosporaceae		No change
Pittosporum ralphii Kirk	Pittosporaceae		No change
Pittosporum rigidum Hook.f.	Pittosporaceae		No change
Pittosporum tenuifolium Sol. ex Gaertn.	Pittosporaceae		No change
Pittosporum umbellatum Banks & Sol. ex Gaertn.	Pittosporaceae		No change
Plagianthus divaricatus J.R.Forst. & G.Forst.	Malvaceae		No change
Plagianthus regius (Poit.) Hochr. subsp. *regius*	Malvaceae		No change
Plantago lanigera Hook.f.	Plantaginaceae		No change
Plantago novae-zelandiae L.B.Moore	Plantaginaceae		No change
Plantago raoulii Decne.	Plantaginaceae		No change
Plantago spathulata Hook.f.	Plantaginaceae	DPS, DPT	No change
Plantago triandra Berggr.	Plantaginaceae		No change
Plantago udicola Meudt & Garn.-Jones	Plantaginaceae	DPS, DPT	No change
Plantago unibracteata Rahn	Plantaginaceae		No change
Poa anceps G.Forst.	Poaceae		No change
Poa astonii Petrie	Poaceae		No change
Poa breviglumis Hook.f.	Poaceae		No change
Poa buchananii Zotov	Poaceae		No change
Poa cita Edgar	Poaceae		No change
Poa cockayneana Petrie	Poaceae		No change
Poa colensoi Hook.f.	Poaceae		No change
Poa dipsacea Petrie	Poaceae		No change
Poa hesperia Edgar	Poaceae		No change
Poa imbecilla Spreng.	Poaceae		No change
Poa kirkii Buchanan	Poaceae		No change
Poa lindsayi Hook.f.	Poaceae		No change
Poa maia Edgar	Poaceae		No change
Poa matthewsii Petrie	Poaceae		No change
Poa novae-zelandiae Hack.	Poaceae		No change
Poa pusilla Berggr.	Poaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Poa schistacea Edgar & Connor	Poaceae		No change
Poa sublimis Edgar	Poaceae		No change
Poa subvestita (Hack.) Edgar	Poaceae		No change
Poa tonsa Edgar	Poaceae		No change
Podocarpus acutifolius Kirk	Podocarpaceae		No change
Podocarpus laetus Hooibr. ex Endl.	Podocarpaceae		No change
Podocarpus nivalis Hook.	Podocarpaceae		No change
Podocarpus totara G.Benn. ex D.Don var. *totara*	Podocarpaceae		No change
Podocarpus totara var. *waihoensis* Wardle	Podocarpaceae		No change
Polyphlebium colensoi (Hook.f.) Ebihara & K.Iwats.	Hymenophyllaceae		No change
Polyphlebium endlicherianum (C.Presl) Ebihara & K.Iwats.	Hymenophyllaceae	SO	No change
Polyphlebium venosum (R.Br.) Copel.	Hymenophyllaceae	SO	No change
Polystichum cystostegia (Hook.) J.B.Armstr.	Dryopteridaceae		No change
Polystichum neozelandicum Fée	Dryopteridaceae		No change
Polystichum oculatum (Hook.) J.B.Armstr.	Dryopteridaceae		No change
Polystichum sylvaticum (Colenso) Diels	Dryopteridaceae		No change
Polystichum vestitum (G.Forst.) C.Presl	Dryopteridaceae		No change
Polystichum wawranum (Szyszyl.) Perrie	Dryopteridaceae		No change
Pomaderris amoena Colenso	Rhamnaceae		No change
Pomaderris kumeraho A.Cunn.	Rhamnaceae		No change
Potamogeton cheesemanii A.Benn.	Potamogetonaceae	SO	No change
Potamogeton ochreatus Raoul	Potamogetonaceae	SO	No change
Potamogeton suboblongus Hagstr.	Potamogetonaceae		No change
Prasophyllum colensoi Hook.f.	Orchidaceae		No change
Prumnopitys taxifolia (Sol. ex D.Don) de Laub.	Podocarpaceae		No change
Pseudodiphasium volubile (G.Forst.) Holub	Lycopodiaceae	SO?	No change
Pseudognaphalium lanatum (G.Forst) Smissen, Breitw. & de Lange	Asteraceae		New listing
Pseudolycopodium densum (Rothm.) Holub	Lycopodiaceae	SO	No change
Pseudopanax arboreus (Murray) Philipson	Araliaceae		No change
Pseudopanax colensoi (Hook.f.) Philipson var. *colensoi*	Araliaceae		No change
Pseudopanax colensoi var. *ternatus* Wardle	Araliaceae		No change
Pseudopanax crassifolius (Sol. ex A.Cunn.) K.Koch	Araliaceae		No change
Pseudopanax lessonii (DC.) K.Koch	Araliaceae		No change
Pseudopanax linearis (Hook.f.) K.Koch	Araliaceae		No change
Pseudowintera axillaris (J.R.Forst. & G.Forst.) Dandy	Winteraceae		No change
Pseudowintera colorata (Raoul) Dandy	Winteraceae		No change
Psilotum nudum (L.) P.Beauv.	Psilotaceae	SO	No change
Pteridium esculentum (G.Forst.) Cockayne	Dennstaedtiaceae	SO	No change
Pteris carsei Braggins & Brownsey	Pteridaceae	SO	No change
Pteris macilenta A.Rich.	Pteridaceae		No change
Pteris saxatilis (Carse) Carse	Pteridaceae		No change
Pteris tremula R.Br.	Pteridaceae	SO	No change
Pterophylla racemosa (L.f.) Pillon & H.C.Hopkins	Cunoniaceae		No change
Pterophylla sylvicola (Sol. ex A.Cunn.) Pillon & H.C.Hopkins	Cunoniaceae		No change
Pterostylis agathicola D.L.Jones, Molloy & M.A.Clem.	Orchidaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Pterostylis alobula (Hatch) L.B.Moore	Orchidaceae		No change
Pterostylis areolata Petrie	Orchidaceae		No change
Pterostylis australis Hook.f.	Orchidaceae		No change
Pterostylis banksii A.Cunn.	Orchidaceae		No change
Pterostylis brumalis L.B.Moore	Orchidaceae		No change
Pterostylis cardiostigma D.Cooper	Orchidaceae		No change
Pterostylis graminea Hook.f.	Orchidaceae		No change
Pterostylis irsoniana Hatch	Orchidaceae		No change
Pterostylis montana Hatch	Orchidaceae		No change
Pterostylis oliveri Petrie	Orchidaceae		No change
Pterostylis patens Colenso	Orchidaceae		No change
Pterostylis trullifolia Hook.f.	Orchidaceae		No change
Pterostylis venosa Colenso	Orchidaceae		No change
Puccinellia stricta (Hook.f.) C.H.Blom	Poaceae	SO	No change
Pyrrosia elaeagnifolia (Bory) Hovenkamp	Polypodiaceae		No change
Quintinia serrata A.Cunn.	Paracryphiaceae		No change
Ranunculus acaulis Banks & Sol. ex DC.	Ranunculaceae	SO	No change
Ranunculus altus Garn.-Jones	Ranunculaceae		No change
Ranunculus amphitrichus Colenso	Ranunculaceae	SO	No change
Ranunculus carsei Petrie	Ranunculaceae		No change
Ranunculus cheesemanii Kirk	Ranunculaceae		No change
Ranunculus enysii Kirk	Ranunculaceae		No change
Ranunculus foliosus Kirk	Ranunculaceae		No change
Ranunculus glabrifolius Hook.	Ranunculaceae	SO	No change
Ranunculus gracilipes Hook.f.	Ranunculaceae		No change
Ranunculus insignis Hook.f.	Ranunculaceae		No change
Ranunculus limosella F.Muell. ex Kirk	Ranunculaceae		No change
Ranunculus lyallii Hook.f.	Ranunculaceae		No change
Ranunculus membranifolius (Kirk) Garn.-Jones	Ranunculaceae		No change
Ranunculus mirus Garn.-Jones	Ranunculaceae		No change
Ranunculus multiscapus Hook.f.	Ranunculaceae		No change
Ranunculus nivicola Hook.f.	Ranunculaceae		No change
Ranunculus pachyrrhizus Hook.f.	Ranunculaceae		No change
Ranunculus reflexus Garn.-Jones	Ranunculaceae		No change
Ranunculus sericophyllus Hook.f.	Ranunculaceae		No change
Ranunculus verticillatus Kirk	Ranunculaceae		No change
Raoulia albosericea Colenso	Asteraceae		No change
Raoulia apicinigra Kirk	Asteraceae		No change
Raoulia bryoides Hook.f.	Asteraceae		No change
Raoulia buchananii Kirk	Asteraceae		No change
Raoulia eximia Hook.f.	Asteraceae		No change
Raoulia glabra Hook.f.	Asteraceae		No change
Raoulia grandiflora Hook.f.	Asteraceae		No change
Raoulia haastii Hook.f.	Asteraceae		No change
Raoulia hectorii Hook.f. var. *hectorii*	Asteraceae		No change
Raoulia hookeri Allan var. *hookeri*	Asteraceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Raoulia mammillaris Hook.f.	Asteraceae		No change
Raoulia subsericea Hook.f.	Asteraceae		No change
Raoulia subulata Hook.f.	Asteraceae		No change
Raoulia tenuicaulis Hook.f.	Asteraceae		No change
Raoulia youngii (Hook.f.) Beauverd	Asteraceae		No change
Raukaua anomalus (Hook.) A.D.Mitch., Frodin & Heads	Araliaceae		No change
Raukaua simplex (G.Forst.) A.D.Mitch., Frodin & Heads	Araliaceae		No change
Rhabdothamnus solandri A.Cunn.	Gesneriaceae		No change
Rhopalostylis sapida H.Wendl. & Drude	Arecaceae		No change
Ripogonum scandens J.R.Forst. & G.Forst.	Ripogonaceae		No change
Rorippa palustris (L.) Besser	Brassicaceae	SO	No change
Rostkovia magellanica (Lam.) Hook.f.	Juncaceae	SO	No change
Rubus australis G.Forst.	Rosaceae		No change
Rubus cissoides A.Cunn.	Rosaceae		No change
Rubus parvus Buchanan	Rosaceae		No change
Rubus schmidelioides A.Cunn. var. *schmidelioides*	Rosaceae		No change
Rubus schmidelioides var. *subpauperatus* (Cockayne) Allan	Rosaceae		No change
Rubus squarrosus Fritsch	Rosaceae		No change
Rumex flexuosus Sol ex G.Forst.	Polygonaceae		No change
Rumex neglectus Kirk	Polygonaceae		No change
Rumohra adiantiformis (G.Forst.) Ching	Dryopteridaceae	SO	No change
Ruppia polycarpa R.Mason	Ruppiaceae	SO	No change
Rytidosperma australe (Petrie) Connor & Edgar	Poaceae	SO	No change
Rytidosperma biannulare (Zotov) Connor & Edgar	Poaceae		No change
Rytidosperma clavatum (Zotov) Connor & Edgar	Poaceae		No change
Rytidosperma gracile (Hook.f.) Connor & Edgar	Poaceae	SO	No change
Rytidosperma nigricans (Petrie) Connor & Edgar	Poaceae		No change
Rytidosperma pumilum (Kirk) Connor & Edgar	Poaceae	SO	No change
Rytidosperma setifolium (Hook.f.) Connor & Edgar	Poaceae		No change
Rytidosperma unarede (Raoul) Connor & Edgar	Poaceae		No change
Rytidosperma viride (Zotov) Connor & Edgar	Poaceae		No change
Salicornia quinqueflora Bunge ex Ung.-Sternb. subsp. *quinqueflora*	Amaranthaceae	SO	No change
Samolus repens (J.R.Forst. & G.Forst.) Pers. var. *repens*	Primulaceae	SO	No change
Schefflera digitata J.R.Forst. & G.Forst.	Araliaceae		No change
Schizacme novae-zelandiae (Hook.f.) K.L.Gibbons	Loganiaceae		No change
Schizaea bifida Willd.	Schizaeaceae	SO	No change
Schoenoplectus pungens (Vahl) Palla	Cyperaceae	SO	No change
Schoenoplectus tabernaemontani (C.C.Gmel.) Palla	Cyperaceae	SO	No change
Schoenus apogon Roem. & Schult.	Cyperaceae	SO	No change
Schoenus brevifolius R.Br.	Cyperaceae	SO	No change
Schoenus concinnus (Hook.f.) Hook.f.	Cyperaceae		No change
Schoenus maschalinus Roem. & Schult.	Cyperaceae	SO	No change
Schoenus nitens (R.Br.) Roem. & Schult.	Cyperaceae	SO	No change
Schoenus pauciflorus (Hook.f.) Hook.f.	Cyperaceae		No change
Schoenus tendo (Hook.f.) Banks & Sol. ex Hook.f.	Cyperaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Scleranthus biflorus (J.R.Forst. & G.Forst.) Hook.f.	Caryophyllaceae	SO	No change
Scleranthus brockiei P.A.Will.	Caryophyllaceae	SO	No change
Scleranthus uniflorus P.A.Will.	Caryophyllaceae		No change
Senecio bipinnatisectus Belcher	Asteraceae	SO	No change
Senecio diaschides D.G.Drury	Asteraceae	SO	No change
Senecio esleri C.J.Webb	Asteraceae	TO	No change
Senecio glomeratus Poir. subsp. *glomeratus*	Asteraceae	SO	No change
Senecio hispidulus A.Rich.	Asteraceae	SO	No change
Senecio lautus G.Forst. ex Willd.	Asteraceae		No change
Senecio matatini subsp. *discoideus* (Cheeseman) Courtney, de Lange & Pelser	Asteraceae		No change
Senecio minimus Poir.	Asteraceae	SO	No change
Senecio quadridentatus Labill.	Asteraceae	SO	No change
Senecio rufiglandulosus Colenso	Asteraceae		No change
Senecio wairauensis Belcher	Asteraceae		No change
Solanum americanum Mill.	Solanaceae	SO	No change
Solanum laciniatum Aiton	Solanaceae	SO	No change
Solanum opacum A.Braun & C.D.Bouché	Solanaceae	SO	Neutral
Sophora chathamica Cockayne	Fabaceae		No change
Sophora godleyi Heenan & de Lange	Fabaceae		No change
Sophora microphylla Aiton	Fabaceae		No change
Sophora tetraptera J.F.Mill.	Fabaceae		No change
Sparganium subglobosum Morong	Sparganiaceae	DPS, DPT, SO	No change
Spergularia tasmanica (Kindb.) L.G.Adams	Caryophyllaceae	SO	No change
Sphaeropteris medullaris (G.Forst.) Bernh.	Cyatheaceae	SO	No change
Spinifex sericeus R.Br.	Poaceae	SO	No change
Stackhousia minima Hook.f.	Celastraceae		No change
Stellaria gracilenta Hook.f.	Caryophyllaceae		No change
Stellaria parviflora Hook.f.	Caryophyllaceae	SO	No change
Stellaria roughii Hook.f.	Caryophyllaceae		No change
Stenostachys gracilis (Hook.f.) Connor	Poaceae	DPS, DPT	No change
Sticherus cunninghamii (Heward ex Hook.) Ching	Gleicheniaceae		No change
Sticherus flabellatus (R.Br.) H.St.John var. *flabellatus*	Gleicheniaceae	SO	No change
Streblus heterophyllus (Blume) Corner	Moraceae		No change
Stylidium subulatum Hook.f.	Stylidiaceae		No change
Suaeda novae-zelandiae Allan	Amaranthaceae		No change
Tetragonia trigyna Banks & Sol. ex Hook.f.	Aizoaceae	SO	No change
Thelymitra carnea R.Br.	Orchidaceae	SO	No change
Thelymitra cyanea (Lindl.) Benth.	Orchidaceae	SO	No change
Thelymitra hatchii L.B.Moore	Orchidaceae		No change
Thelymitra intermedia Berggr.	Orchidaceae		No change
Thelymitra longifolia J.R.Forst. & G.Forst.	Orchidaceae		No change
Thelymitra nervosa Colenso	Orchidaceae		No change
Thelymitra pauciflora R.Br.	Orchidaceae	SO	No change
Thelymitra pulchella Hook.f.	Orchidaceae		No change
Tmesipteris elongata P.A.Dang.	Psilotaceae	SO	No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Tmesipteris lanceolata P.A.Dang.	Psilotaceae	SO	No change
Tmesipteris sigmatifolia Chinnock	Psilotaceae	SO	No change
Tmesipteris tannensis (Spreng.) Bernh.	Psilotaceae		No change
Toronia toru (A.Cunn.) L.A.S.Johnson & B.G.Briggs	Proteaceae		No change
Traversia baccharoides Hook.f.	Asteraceae		No change
Triglochin striata Ruiz & Pav.	Juncaginaceae	SO	No change
Typha orientalis C.Presl	Typhaceae	SO	No change
Urtica ferox G.Forst.	Urticaceae		No change
Urtica sykesii Grosse-Veldmann & Weigend	Urticaceae	SO	No change
Utricularia dichotoma subsp. *novae-zelandiae* (Hook.f.) R.W.Jobson.	Lentibulariaceae		No change
Veronica albicans Petrie	Plantaginaceae		No change
Veronica brachysiphon (Summerh.) Bean	Plantaginaceae		No change
Veronica buchananii Hook.f.	Plantaginaceae		No change
Veronica canterburiensis J.B.Armstr.	Plantaginaceae		No change
Veronica catarractae G.Forst.	Plantaginaceae		No change
Veronica cheesemanii Benth. subsp. *cheesemanii*	Plantaginaceae		No change
Veronica ciliolata (Hook.f.) Cheeseman subsp. *ciliolata*	Plantaginaceae		No change
Veronica cockayneana Cheeseman	Plantaginaceae		No change
Veronica colostylis Garn.-Jones	Plantaginaceae		No change
Veronica corriganii (Carse) Garn.-Jones	Plantaginaceae		No change
Veronica cryptomorpha (Bayly, Kellow, G.Harper & Garn.-Jones) Garn.-Jones	Plantaginaceae		No change
Veronica decora (Ashwin) Garn.-Jones	Plantaginaceae		No change
Veronica decumbens J.B.Armstr.	Plantaginaceae		No change
Veronica densifolia (F.Muell.) F.Muell.	Plantaginaceae		No change
Veronica diosmifolia A.Cunn.	Plantaginaceae		No change
Veronica elliptica G.Forst.	Plantaginaceae	SO	No change
Veronica epacridea Hook.f.	Plantaginaceae		No change
Veronica flavida (Bayly, Kellow & de Lange) Garn.-Jones	Plantaginaceae		No change
Veronica glaucophylla Cockayne	Plantaginaceae		No change
Veronica haastii Hook.f.	Plantaginaceae		No change
Veronica hectorii Hook.f. subsp. *hectorii*	Plantaginaceae		No change
Veronica hectorii subsp. *coarctata* (Cheeseman) Garn.-Jones	Plantaginaceae		No change
Veronica hectorii subsp. *demissa* (G.Simpson) Garn.-Jones	Plantaginaceae		No change
Veronica hookeri (Buchanan) Garn.-Jones	Plantaginaceae		No change
Veronica hookeriana Walp.	Plantaginaceae		No change
Veronica hulkeana F.Muell. subsp. *hulkeana*	Plantaginaceae		No change
Veronica lanceolata Benth.	Plantaginaceae		No change
Veronica leiophylla Cheeseman	Plantaginaceae		No change
Veronica ligustrifolia A.Cunn.	Plantaginaceae		No change
Veronica linifolia Hook.f.	Plantaginaceae		No change
Veronica lyallii Hook.f.	Plantaginaceae		No change
Veronica lycopodioides Hook.f.	Plantaginaceae		No change
Veronica macrantha Hook.f. var. *macrantha*	Plantaginaceae		No change
Veronica macrantha var. *brachyphylla* Cheeseman	Plantaginaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Veronica macrocalyx var. *humilis* (G.Simpson) Garn.-Jones	Plantaginaceae		No change
Veronica macrocarpa Vahl var. *macrocarpa*	Plantaginaceae		No change
Veronica masoniae (L.B.Moore) Garn.-Jones	Plantaginaceae		No change
Veronica mooreae (Heads) Garn.-Jones	Plantaginaceae		No change
Veronica murrellii (G.Simpson & J.S.Thomson) Garn.-Jones	Plantaginaceae		No change
Veronica odora Hook.f.	Plantaginaceae		No change
Veronica parviflora Vahl	Plantaginaceae		No change
Veronica pauciramosa (Cockayne & Allan) Garn.-Jones	Plantaginaceae		No change
Veronica pentasepala (L.B.Moore) Garn.-Jones	Plantaginaceae		No change
Veronica phormiiphila Garn.-Jones	Plantaginaceae		No change
Veronica pimeleoides Hook.f. subsp. *pimeleoides*	Plantaginaceae		No change
Veronica pinguifolia Hook.f.	Plantaginaceae		No change
Veronica plebeia R.Br.	Plantaginaceae	SO	No change
Veronica poppelwellii Cockayne	Plantaginaceae		No change
Veronica propinqua Cheeseman	Plantaginaceae		No change
Veronica pulvinaris (Hook.f.) Cheeseman	Plantaginaceae		No change
Veronica quadrifaria Kirk	Plantaginaceae		No change
Veronica rakaiensis J.B.Armstr.	Plantaginaceae		No change
Veronica raoulii Hook.f.	Plantaginaceae		No change
Veronica rupicola Cheeseman	Plantaginaceae		No change
Veronica salicifolia G.Forst.	Plantaginaceae	SO	No change
Veronica simulans Garn.-Jones	Plantaginaceae		No change
Veronica spathulata Benth.	Plantaginaceae		No change
Veronica stenophylla Steudel var. *stenophylla*	Plantaginaceae		No change
Veronica stricta Banks & Sol. ex Benth. var. *stricta*	Plantaginaceae		No change
Veronica stricta var. *lata* (L.B.Moore) Garn.-Jones	Plantaginaceae		No change
Veronica subalpina Cockayne	Plantaginaceae		No change
Veronica subfulvida (G.Simpson & J.S.Thomson) Garn.-Jones	Plantaginaceae		No change
Veronica tetragona Hook. subsp. *tetragona*	Plantaginaceae		No change
Veronica tetragona subsp. *subsimilis* (Colenso) Garn.-Jones	Plantaginaceae		No change
Veronica thomsonii (Buchanan) Cheeseman	Plantaginaceae		No change
Veronica topiaria (L.B.Moore) Garn.-Jones	Plantaginaceae		No change
Veronica traversii Hook.f.	Plantaginaceae		No change
Veronica treadwellii (Cockayne & Allan) Garn.-Jones	Plantaginaceae		No change
Veronica venustula Colenso	Plantaginaceae		No change
Veronica vernicosa Hook.f.	Plantaginaceae		No change
Viola cunninghamii Hook.f.	Violaceae	SO?	No change
Viola filicaulis Hook.f.	Violaceae		No change
Viola lyallii Hook.f.	Violaceae		No change
Vitex lucens Kirk	Verbenaceae		No change
Vittadinia australis A.Rich.	Asteraceae		No change
Wahlenbergia albomarginata Hook. subsp. *albomarginata*	Campanulaceae		No change
Wahlenbergia albomarginata subsp. *decora* J.A.Petterson	Campanulaceae		No change
Wahlenbergia albomarginata subsp. *laxa* (G.Simpson) J.A.Petterson	Campanulaceae		No change
Wahlenbergia pygmaea Colenso subsp. *pygmaea*	Campanulaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Wahlenbergia ramosa G.Simpson	Campanulaceae		No change
Wahlenbergia rupestris G.Simpson	Campanulaceae		No change
Wahlenbergia vernicosa J.A.Petterson	Campanulaceae		No change
Wahlenbergia violacea J.A.Petterson	Campanulaceae		No change
Waireia stenopetala (Hook.f.) D.L.Jones, M.A.Clem. & Molloy	Orchidaceae		No change
Wolffia australiana (Benth.) Hartog & Plas	Araceae	SO	No change
Zotovia colensoi (Hook.f.) Edgar & Connor	Poaceae		No change
Zotovia thomsonii (Petrie) Edgar & Connor	Poaceae		No change
Zoysia pauciflora Mez	Poaceae		No change
Taxonomically unresolved (43)			
Aciphylla aff. *glaucescens* (b) (CHR 184512; "rigid")	Apiaceae		No change
Aciphylla aff. *horrida* (a) (CHR 511521; Lomond)	Apiaceae		Better
Aciphylla aff. *polita* (a) (CHR 370029; North-West Nelson)	Apiaceae		No change
Agrostis aff. *dyeri* (CHR 396099; "broad")	Poaceae		New listing
Apium aff. *prostratum* (a) (AK 215644; "white denticles")	Apiaceae		No change
Asplenium aff. *trichomanes* (WELT P031321; "hexaploid")	Aspleniaceae		No change
Astelia aff. *nervosa* (c) (AK 230033; "broad bronze")	Asteliaceae	DPS, DPT	No change
Astelia aff. *nervosa* (d) (AK 290709; "North")	Asteliaceae		No change
Astelia aff. *nervosa* (f) (AK 334013; "South")	Asteliaceae	DPS, DPT	No change
Austroderia aff. *splendens* (AK 207096; "small")	Poaceae		No change
Carex (a) (AK 30599; *Carex potens* sensu Ford, 2015) (C.B.Clarke) Hamlin	Cyperaceae		No change
Carex aff. *geminata* (a) (WAIK 5209; "coast")	Cyperaceae		No change
Carex aff. *geminata* (b) (CHR 165091; "mountain")	Cyperaceae	DPR	New listing
Carex aff. *testacea* (CHR 236536; "raotest")	Cyperaceae		New listing
Coprosma aff. *pseudocuneata* (AK 256577; South Island)	Rubiaceae		No change
Corybas aff. *rivularis* (CHR 518025; Kaimai)	Orchidaceae		No change
Corybas aff. *rivularis* (CHR 518313; "whiskers")	Orchidaceae		No change
Corybas aff. *trilobus* (a) (CHR 518304; "pygmy")	Orchidaceae		No change
Craspedia (CHR 277580; "small bog")	Asteraceae	DPR, DPS	New listing
Craspedia (CHR 396055; "long hairs")	Asteraceae		New listing
Craspedia (ll) (CHR 629757; Otago)	Asteraceae	DPT	No change
Craspedia (vv) (CHR 516301; ESI)	Asteraceae		New listing
Craspedia (z) (CHR 476148; "carpet")	Asteraceae		No change
Dichondra aff. *brevifolia* (b) (AK 228096; "slender")	Convolvulaceae		No change
Earina aestivalis Cheeseman	Orchidaceae		No change
Helichrysum aff. *simpsonii* (d) (CHR 469289; "NSI")	Asteraceae		New listing
Hymenophyllum aff. *rarum* (AK 330262; New Zealand)	Hymenophyllaceae		No change
Leptecophylla aff. *juniperina* (a) (AK 322501; "east")	Ericaceae		No change
Leucopogon aff. *fasciculatus* (AK 282653; "northern")	Ericaceae		No change
Luzula aff. *rufa* (b) (CHR 401733; "rhizomatous")	Juncaceae		New listing
Melicytus aff. *alpinus* (e) (CHR 541566; Waipapa)	Violaceae	DPS, DPT	No change
Melicytus aff. *alpinus* (i) (CHR 541569; "Blondin")	Violaceae		No change
Microtis aff. *unifolia* (AK 296182; "late flowering")	Orchidaceae		No change
Myosotis aff. *australis* (b) (CHR 402294; "yellow")	Boraginaceae		No change

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NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
Persicaria aff. *decipiens* (b) (AK 330801; "branched inflorescence")	Polygonaceae	S?O	No change
Phyllocladus aff. *alpinus* (a) (AK 282047; "lowland")	Podocarpaceae		No change
Poa aff. *colensoi* (b) (CHR 588417A; "large tussock")	Poaceae		New listing
Poa aff. *colensoi* (d) (CHR 395473; "common short ligule")	Poaceae		New listing
Poa aff. *colensoi* (e) (CHR649241; "common long ligule")	Poaceae		New listing
Pteris aff. *macilenta* (AK 210045; Punakaiki)	Pteridaceae		No change
Rubus aff. *cissoides* (a) (WAIK 272; Central North Island)	Rosaceae		No change
Rubus aff. *cissoides* (b) (CHR 285004; South Island)	Rosaceae		No change
Veronica pubescens Benth. subsp. *pubescens*	Plantaginaceae		No change

3.6 Non-resident Native (33)

3.6.1 Vagrant (14)

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

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
NON-RESIDENT NATIVE (33)			
VAGRANT (14)			
Taxonomically determinate (14)			
Caesalpinia bonduc (L.) Roxb.	Fabaceae	SO	No change
Chiloglottis formicifera Fitzg.	Orchidaceae	SO	No change
Chiloglottis trapeziformis Fitzg.	Orchidaceae	SO	No change
Chiloglottis valida D.L.Jones	Orchidaceae	SO	No change
Cocos nucifera L.	Arecaceae	SO	No change
Doodia aspera R.Br.	Blechnaceae	EW, SO	No change
Epilobium gunnianum Hausskn.	Onagraceae	SO	No change
Gratiola pubescens R.Br.	Plantaginaceae	SO	No change
Hypericum gramineum G.Forst.	Hypericaceae	SO	No change
Lepturus repens (G.Forst.) R.Br.	Poaceae	SO	No change
Mazus pumilio R.Br.	Phyrmaceae	SO	No change
Muellerina celastroides (Sieber ex Schult. & Schult.f) Tiegh.	Loranthaceae	SO	No change
Pterostylis nutans R.Br.	Orchidaceae	SO	No change
Senecio australis Willd.	Asteraceae	SO	No change

3.6.2 Coloniser (19)

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

NAME AND AUTHORITY	FAMILY	QUALIFIERS	STATUS CHANGE
NON-RESIDENT NATIVE (33)			
COLONISER (19)			
Taxonomically determinate (19)			
Carpobrotus glaucescens (Haw.) Schwantes	Aizoaceae	SO	No change
Cassytha pubescens R.Br.	Lauraceae	SO	No change
Coleus australis (R.Br.) A.J.Paton	Lamiaceae	SO	No change
Cryptostylis subulata (Labill.) Rchb.f.	Orchidaceae	SO	No change
Disphyma clavellatum (Haw.) Chinnock	Aizoaceae	SO	No change
Drosera gunniana (Planch.) de Salas	Droseraceae	EF, SO	No change
Eragrostis leptostachya (R.Br.) Steud.	Poaceae	SO	No change
Gratiola pedunculata R.Br.	Plantaginaceae	SO	No change
Hibiscus tiliaceus L.	Malvaceae	SO	No change
Juncus polyanthemus Buchenau	Juncaceae	SO	No change
Lemna aequinoctialis Welw.	Araceae	SO	No change
Peperomia leptostachya Hook. & Arn.	Piperaceae	OL, SO	No change
Persicaria prostrata (R.Br.) Soják	Polygonaceae	SO	No change
Pterostylis alveata Garnet	Orchidaceae	SO	No change
Rorippa laciniata (F.Muell.) L.A.S.Johnson	Brassicaceae	OL, SO	No change
Scirpus polystachyus F.Muell.	Cyperaceae	SO	No change
Senecio linearifolius A.Rich.	Asteraceae	SO	No change
Thelymitra malvina M.A.Clem., D.L.Jones & Molloy	Orchidaceae	EF, SO	No change
Wilsonia backhousei Hook.f.	Convolvulaceae	SO	No change

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9. Report from the Council Ecologist/Biodiversity Advisor

Christian Chukwuka, PhD, CEnvP, Ecologist/Biodiversity Advisor

Recommendation

That the Biodiversity Advisory Group receives the report from the Ecologist/Biodiversity Advisor.

Summary

- The purpose of this report is to provide the Biodiversity Advisory Group with an update on projects carried out by the Biodiversity Advisor since the last meeting held in May 2024.
- The report brings about the opportunity for members to ask questions and seek clarification on any items mentioned.

Report

1. Biodiversity Strategy Implementation - Progress update on the implementation

Council staff are continuing to meet with more stakeholders to discuss aspects of the strategy implementation where they have inputs.

Proposed Research/Conservation Projects

i. Fish Passage Project on lower Rangitata and Hakatere basin initiated with the University of Canterbury and MHV Water. We are waiting for a response from the University once a student has picked up the project.

ii. Kanuka dryland habitat to understand the effect of irrigation on our Harris Scientific Reserve. The proposal is in the development phase. Email sent out seeking a potential student at PhD or Masters' level.

iii. *Carmichaelia torulosa* Clonal Collection – led by Alice Shanks (project brief attached). Initial conversation is ongoing for establishing more population in several sites and protection of existing plants in 10 known locations around the district. *Carmichaelia torulosa* (Kirk) Heenan (Canterbury pink broom) is classified as Nationally Critical; current locations, number of plants, and reproduction success of plants in the Ashburton district are unknown. This project has the potential for multi-stakeholders and landowners' collaboration. ***See Appendix pgs 205-209***

Funding allocation from the Council Biodiversity Strategy Implementation fund

i. Rakaia Gorge Weed Control program in collaboration with ECan, SDC, and landowners - $7500 + GST
ii. School funding support to Kānuka Mid Canterbury Regeneration Trust - $5000 + GST
iii. Contribution to Landscape concept plan for Methven Graden of Harmony - $4,525.32 + GST

Trap Loan allocations

i. Staveley Bush – 2 A22 Traps
ii. Methven Birdsong group – 4 A22 Traps and 4 rat Traps
iii. Lake Heron Conservation Society - 2 A22 Traps

Any group that needs traps loaned to them should contact the Council Ecologist and Biodiversity Advisor.

2. Proposed Meeting Dates for 2025

We are proposing the following dates for 2025 meetings and one additional date for a field trip. February 3, May 5, August 4 and December 1, 2025. One of the dates will be for an on-site farm visit to see the good work most of our farmers are doing. Location will be determined by early next year (suggestions on location are welcomed as well).

3. Plantation Road Project

The investigation has been concluded following Council approval of the ADBAG's last meeting minutes. Staff has met with the fencing contractor to discuss the cost of installing a new fence. We expect this to be completed by the end of June 2025 (subject to fund availability), followed by enhancement planting by September 2025.

4. Ongoing and Future Consultation with Biodiversity Inputs

a. **Biosecurity Act 1993 Review – Ongoing to be closed by November 29, 2024. Proposed amendments to the Biosecurity Act | NZ Government (mpi.govt.nz).** Individual and group submissions as the Biosecurity Act review proposal relates to Mid-Canterbury are encouraged.

b. **Consultation on proposals for inclusion in the next implementation plan for *Te Mana o te Taiao* –Aotearoa New Zealand Biodiversity Strategy and Aotearoa New Zealand's response to the Global Biodiversity Framework – Expected in 2025. C**ouncil response will be circulated to ADBAG members for input. Also, individual and group submissions are encouraged if the consultation is made public.

c. **Integrated National Direction Package – RMA**, **Expected in early 2025**– Amendment to the National Policy Statement on Indigenous Biodiversity and New National Policy Statement for Freshwater Management. Individual and group submissions are encouraged

5. Community/External Engagement

a. **Ashburton College School program on Biodiversity and Riparian Planting:** The school contacted the Council for support on sustainability and riparian planting aspect of their agriculture subject curriculum**.** Council Ecologist/Biodiversity Advisor followed up with a meeting and handed the delivery to the Kanuka Trust and Mid-Canterbury Catchment Collective for execution as part of the Biodiversity Strategy collaboration on school programs. The project was delivered with a site visit to some parts of Ashburton. Thanks to Angela Cushnie for facilitating the project.

b. Canterbury Biodiversity Champions meeting

The Council Ecologist/Biodiversity Advisor attended the last Canterbury Biodiversity Champions meeting with Cr Richard Wilson. Council staff made a presentation on the ADC Biodiversity Strategy as an input to the ongoing revitalization of the Canterbury Biodiversity Strategy. Presentations were also received from Selwyn District Council and Waimakariri District Council. Recall that 6 out of 10 Councils in Canterbury have a local biodiversity strategy in place.

Council Ecologist/Biodiversity asked ECan about cat policy and why ECan does not have a directive to manage cats around the Region. The group asked ECan to make a report on the current Cat management approach at the meeting.

c. Methven Birdsong Initiative

The development of the landscape management plan for the Garden of Harmony is progressing and Council staff will continue to work with the team to see the success of the project. Health and Safety sign-off from the Council for the walkway and cemetery trapping is in place.

6. Completed and Ongoing Projects (Planting and Pest Management)

a) **Harris Reserve 2024 Planting and Conservation Day was** completed on 8th September 2024 in collaboration with the Ashburton Community Conservation Trust to mark the 2024 conservation day. Over 45 volunteers, including Council Staff, attended the event.

b) **ABE Planting Biodiversity Planting**

The Council Ecologist/Biodiversity Advisor coordinated infill planting and weed control at the Ashburton Business Estate. Over 3000 native trees and grasses were planted. This is Property Asset's project managed within the Open Space operations.

c) **William Street Reserve Planting –** coordinated and managed riparian planting at the end where William Street drainage swale adjoins the Ashburton River corridor. Over 5100 native plants were planted. This project sits within the Open Space Reserve operation.

d) **Pest Control at Awa Awa Rata Reserve**

The next phase of the pest control at Awa Awa Rata Reserve planned for late spring 2024 has been delayed until early 2025. This is due to the unavailability of Council accredited contractor that undertakes the project.

e) **Wakanui Beach, Taylors Stream Reserve, Ashton Beach, and Lake Camp/Clearwater Weed Spray**

Weed control programs within these sites have been scheduled with our spray contractors. We expect all to be completed before the Christmas holiday season camping.

10. Group Activity Updates

10.1 Department of Conservation

While largely business as usual, this spring has been flat tack in the biodiversity space for DOC with four additional summer staff on board to help out with larger projects including Upper Rangitata predator control and the White-bellied skink project. With the loss of Jobs 4 Nature funding in June our Upper Rangitata project has been downsized a bit with trapping now only accruing from August-March and the monitoring focus shifting to the black-fronted terns and the annual walk-through river survey. Early in October 13 students from ARA Institute's Sustainability & Outdoor Education course joined us for three days work in Ōtūwharekai, where they helped with predator trapping, weeding and re-vegetation planting at Lake Roundabout. Over two weeks in mid-October 20+ staff and volunteers undertook our annual braided river walk-through surveys on both the Upper Rangitata and Rakaia rivers. While the data hasn't yet been analysed it was promising to see five kaki on the Upper Rangitata, including two breeding pairs. During early November weed control contractors will be starting this seasons weed control work, predominantly focusing on Russell lupin, grey willow, gorse, broom and wilding pines. In late November/early December monitoring will also be undertaken for the critically endangered white-bellied skink.

Canterbury pink broom in trouble

Carmichaelia torulosa (Kirk) Heenan

Canterbury pink broom is classified as Nationally Critical. Although it is more numerous and more widespread than the equally Nationally Critical Lake Heron woollyhead (*Craspedia rugosa)* its threat ranking is elevated by the 50-70% rate of decline, measured over10 years or 3 generations whichever is longer.

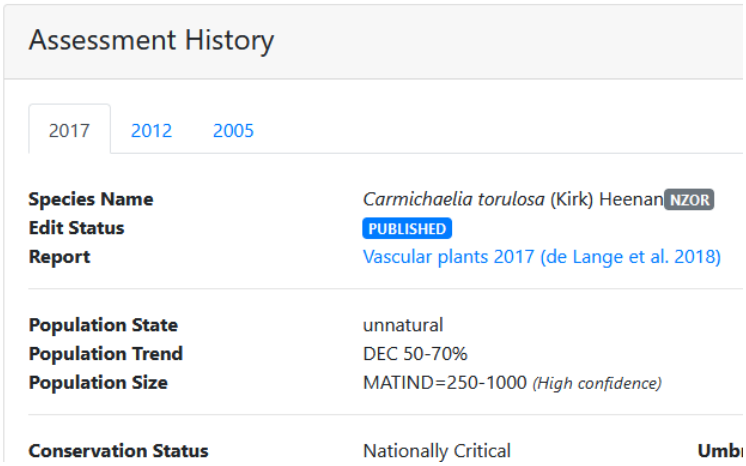
In the last vascular plant assessment (De Lange et al 2018) Canterbury pink broom was highlighted as an exemplar of the decline in Eastern South Island indigenous plants:

> "A particular concern is the marked increase in the number of taxa in each of the Threatened categories. Some of this increase can be explained by the additional taxa and indeterminate entities that have been assessed for the first time in this report, as well as the designation of Myrtaceae species discussed above. A noticeable deterioration in populations of plants of eastern South Island drylands (e.g. the sedge Carex albula, the Maniototo peppercress Lepidium solandri, and several broom species including *Carmichaelia torulosa*, which is now assessed as Threatened – Nationally Critical) continues a worrying trend that was noted by de Lange et al.(2009)."

The current locations, number of plants, and reproduction success of Canterbury pink broom plants in the Ashburton district are unknown. The first step in any management of the species is a field survey where it has been previously recorded and searches in likely habitat.

Surveys would require the support of landowners are most of the recorded sites are on private land.

The aim of the surveys would be to retain and increase the natural populations in the Ashburton District and ensure the retention of the current genetic diversity.



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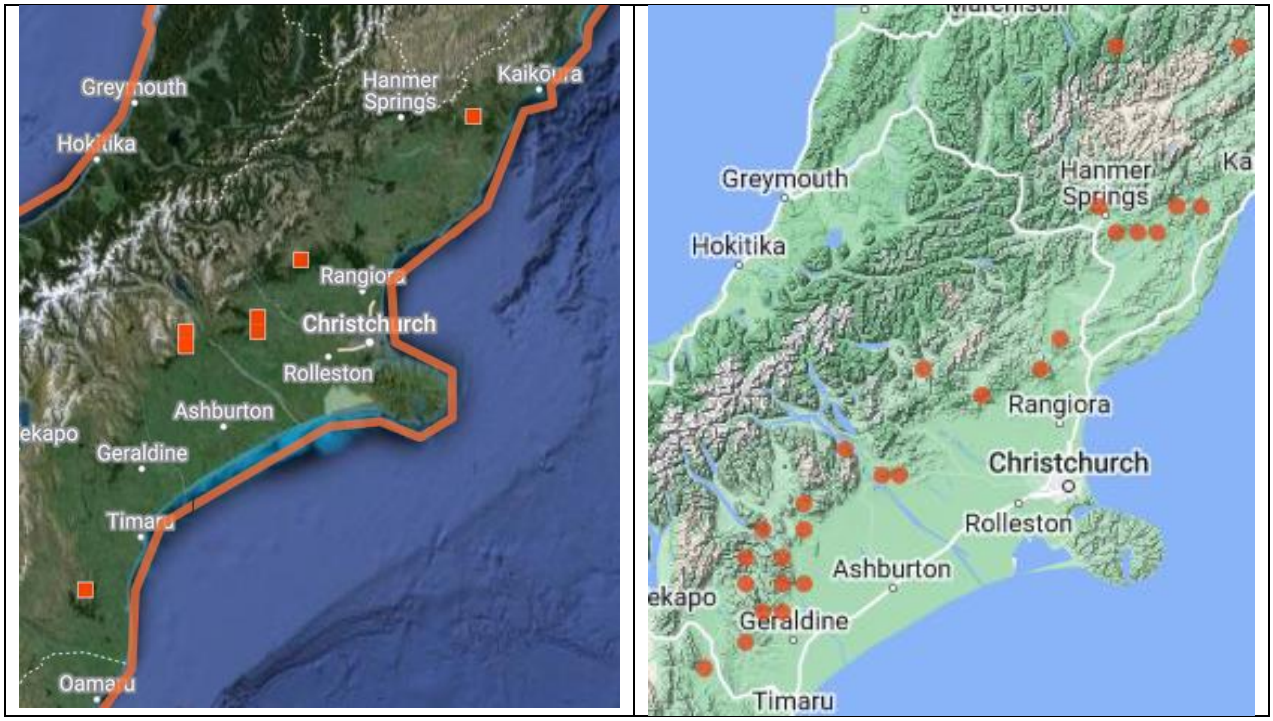

Carmichaelia torulosa records

1. iNaturalist records, accessed 19/05/2024 https://inaturalist.nz/observations?place_id=6803&subview=map&taxon_id=409901
2. Australasian Virtual herbarium, accessed 19/05/2024 https://avh.ala.org.au/occurrences/search?taxa=carmichaelia+torulosa#tab_mapView Allan Herbarium

Ashburton records

	date	Observer/reference
Pudding Hill	April 2021	iNaturalist records from BOTSOC
Stour river, close to confluence of east and west branches	14/08/2017	Allan Herbarium, collector unknown.
Upper Hinds River, Limestone Creek	2014	Alice Shanks, 2 observations
Tenehaun Station, eastern side of the Moorhouse Range	1996	Tenure Review report. "Approximately one dozen plants were associated with a small stream gorge". [Possibly the PNAP RAP population].
Redcliffe Stream, Rakaia	1994	H. H. Allan, Allan Herbarium specimen
Gawler Downs	1989	Anecdote from PNAP programme
Inverary Station	1986	Heron Ecological Region PNAP report RAP 16
Southern slopes of Harper Range,	1986	Allan Herbarium, collector unknown
Rangiatea, North branch Hinds River	1985	Allan Herbarium, collector unknown. "Scattered shrubs 3m high in grassland on alluvial terrace".
Taylors Stream, Mt Winterslow	5/3/1984	Dr Brian Molloy, Allan herbarium record Upstream from cookshop hut.
Ruapuna, Baxters Road general area	undated	H. H. Allan, Auckland War memorial Museum specimen

Canterbury pink broom grows as shrub and small trees up to 5 m

The pods are distinctive.

Canterbury pink broom has been mistaken for exotic broom and sprayed with herbicide. Where accessible it is browsed by stock, deer and goats.

Look closely amongst matagouri and mikimiki shrubland on alluvial terraces and terrace rises, close to small streams.

References:

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https://www.linz.govt.nz/sites/default/files/cp/tenahaun-con-res.pdf

Biodiversity Advisory Group
Terms of Reference

Purpose and Scope

The purpose of the advisory group is to:

- Facilitate the implementation of the Ashburton District Biodiversity Action Plan
- Maintain partnerships between local and regional organisations with an interest in the management of indigenous biodiversity
- Provide a forum for discussion and community-wide promotion of biodiversity
- Be a conduit for the Council relationship building with the landowner and general public where appropriately
- Provide advice to Council on biodiversity related matters e.g. ADC Natural and Built Environments grant applications

Membership

Representatives on the working group were invited based on their organisation's participation in developing the Canterbury Regional Biodiversity Strategy, and/or their ability to contribute to the implementation of the Ashburton District Biodiversity Action Plan.

Ashburton District Council	
Mayor Neil Brown (ex officio)	Neil McCann (GM Infrastructure & Open Spaces)
Cr Leen Braam (Chair)	Ian Soper (Open Spaces Manager)
Cr Lynette Lovett	Dr Christian Chukwuka (Ecologist/Biodiversity Advisor)
Cr Richard Wilson	
Mid Canterbury Catchment Collective	Angela Cushnie, Janine Holland, Willy Leferink
QEII Trust	Alice Shanks
Environment Canterbury	Donna Field, Henry Winchester
Ashburton Water Zone Committee	Adi Avnit
Forest & Bird	Edith Smith, Val Clemens, Mary Ralston
Foothills Landcare Group	Gen de Spa
Ashburton Community Conservation Trust	Edith Smith, Val Clemens
Federated Farmers	Mike Salvesen
Awa Awa Rata Reserve	Mary Ralston
Department of Conservation	Ian Fraser, Andy Hirschberg
Fish & Game	Nikki Dellaway
Fonterra	Tom Munro
Synlait	Nick Vernon
Kanuka Trust	Kim Wall
Mt Somers Walkway Society & Lake Heron Conservation Society	Barry Austin
Methven Birdsong Initiative	Barry Maister
Upper Rangitata Gorge Landcare Group	Sally Stevens

Speaking rights will be granted to one member of each of the advisory group member organisations at each meeting.

Membership of the group may be amended to include representatives from other organisations. This will be at the discretion of the Ashburton District Council.

To form a quorum, the attendance of representatives from at least 6 of the advisory group member organisations, in addition to at least two ADC local representatives, is required.

Representatives from other organisations may be invited to attend advisory group meetings as the need arises.

Members may send alternates in their place or nominate another person from their organisation if they are unable to attend a meeting.

Names and organisations above may change over time as requested by the members without going through formal term of reference review.

Meeting Frequency

Meet four times a year, with the option for one additional meeting if required.

Delegations

The representatives on the working group are expected to:

- Meet to facilitate the implementation of the Ashburton District Biodiversity Action Plan
- Form project groups where appropriate to work towards specific actions in the Biodiversity Action Plan
- Share information, both on organisational initiatives and collaborative initiatives, to support better decisions and knowledge of biodiversity
- Communicate and consult with one another in a flexible and open way
- Maintain confidentiality where appropriate
- Represent their organisations' policies
- Respect other organisations' governance and policy approaches and priorities in the district / region, and seek a consensus approach to work with these

Ashburton District Council Biodiversity Funding

The Ashburton District Council has an annual fund of $15,000 available for biodiversity projects. Funding applications are accepted twice annually, in February and August, however if the total fund is distributed in February another funding round will not be held. Applications for a biodiversity grant are to be referred to the Biodiversity Advisory Group for comment, before going to Council for their decision on the funding applications.

Reporting

The Ashburton District Biodiversity Advisory Group will report to Council.

Costs & Expenses

It is acknowledged that being a member of the advisory group will involve a commitment of members' time and energy, and will involve travel to Ashburton District Council to attend meetings. These costs will be met by the organisation(s) or group(s) that members represent. Costs of meetings and associated catering will be met by Ashburton District Council. Meetings will generally be held in the Council meeting rooms, and may be held in other venues throughout the district as appropriate.

Adopted

9 April 2020 *(Reviewed 02/23)*