



Conservation status of indigenous vascular plant species in the Wellington region

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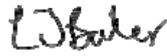
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1. Introduction

The New Zealand Threat Classification System (NZTCS) provides a tool for assigning a threat status to candidate taxa at the national scale. These threat rankings form the basis for prioritising conservation management actions, research and monitoring, and natural resource management decisions (Townsend et al, 2008). The NZTCS is effective at the national scale, but regional councils need local data for managing and protecting biodiversity within their regions. While the Department of Conservation (DOC) is tasked with managing indigenous species nationally, regional and district councils have a statutory obligation to manage the habitats of threatened species locally under the Resource Management Act, 1991.

A methodology to create regional threat lists was developed by a collaborative group comprising representatives from DOC, regional councils and a local authority. The resulting regional threat listing methodology leverages off the NZTCS, but applies a species population threshold adjusted to the regional land area under consideration (relative to the national land area) for species that are not nationally threatened. The assigned regional threat status cannot be lower than that of the national threat status, but can be higher, (e.g. a Nationally Vulnerable species could be assessed as being Regionally Critical). Other assessments made in the regional threat listing process include identifying populations that are national strongholds and the use of regional qualifiers, such as natural or historic range limits.

The need for a regional threat list is evidenced by the ongoing loss of species from the Wellington region. While a particular plant species may not be nationally threatened, the loss of a species from part of its range is the ‘tip of the iceberg’. The loss of a species in a region may also result in the extirpation of a local form, type or variety of that species. Biodiversity decline is occurring across New Zealand. One of the keys to halting/reversing that decline is knowing where those declines are occurring. A regional threat list will aid the identification of those losses at a local level, plus provide information that can be used for national conservation status assessments.

2. Methods

This report covers indigenous vascular plants in the Wellington region, and does not deal with non-vascular plants, such as algae, bryophytes or lichens. The national conservation status was derived from de Lange et al 2017, while the regional status was determined by an expert panel comprised of Pat Enright, Leon Perrie, Tony Silbery, Jeremy Rolfe, Matt Ward, Robyn Smith, Anita Benbrook and Owen Spearpoint. This group assessed the status of the indigenous plant species in the Wellington region at a number of meetings held in 2016. The initial assessment involved determining whether or not species were present in the region, then determining the regional threat status of nationally threatened species. Subsequent to those meetings, the expert panel members provided feedback on the status the remaining regional species, through the use of a shared electronic spreadsheet. In 2019 the panel reconvened to discuss management and survey priorities for the identified threatened species.

The first step was to identify all the indigenous plant species in the national plant species list that were present in the Wellington region. The NZTCS criteria were then used to assign the regional threat status to Nationally Threatened and At Risk plant species in the region. If the regional population of a species had more than 20% of the national population, then the region was identified as a National Stronghold and the NZTCS criteria were applied. For Nationally Not Threatened species, the regional population threshold was applied. In the Wellington region, the threshold was set at less than 1,000 mature individuals present or a habitat occupancy area of less than 500ha. If the population was not stable or increasing/decreasing by more than ten percent, the NZTCS criteria were used to determine the regional threat status. The regional qualifiers that were applied included the natural and historic range limits. The process for determining the regional threat status of a species is shown in Appendix 1. Note that the national threat status attributed to species because of the myrtle rust threat was not used here, as the goal of this report is to focus on improving the viability of currently threatened species populations.

3. Results

There were 1,081 indigenous vascular plant species identified as being present in the Wellington region, 106 (9.8 percent) of which were identified as Regionally Threatened. Seventy-one (6.6 percent) of these were identified as Regionally Critical (Appendix 2; Table 2.1). Of these, six were Nationally Critical, four Nationally Endangered and nine Nationally Vulnerable. The remaining species were Nationally At Risk (32 species), Nationally Relict (1 species) or Nationally Not Threatened (19 species). All species except one, *Korthalsella salicornioides*, have small population sizes (less than 250 plants or 1ha in area), making them vulnerable to regional extirpation. Around one quarter of these populations are found at one location only.

Twenty-three (2.1 percent) Regionally Endangered species were identified (Appendix 2; Table 2.2). Of these, three were Nationally Endangered, three Nationally Vulnerable species, eight Nationally At Risk and nine Nationally Not Threatened species. While the population sizes of these species were larger, many are declining.

Twelve (1.1 percent) Regionally Vulnerable species were identified (Appendix 2; Table 2.3), two of which are listed as Nationally Vulnerable, seven as Nationally Declining, one as Nationally At Risk and two as Nationally Not Threatened.

One hundred and twenty-four species (11.5 percent) were identified as being Regionally At Risk (Appendix 2; Tables 2.4, 2.5 and 2.6). The bulk of these were assessed as Regionally Naturally Uncommon (104 species), with eighteen designated as Regionally Declining and two as Regionally Relict species. There were a large number of species assessed as being Regionally Data Deficient (50), (Appendix 2: Table 2.7), while sixteen species were identified as Regionally Extirpated (i.e. locally extinct) (Appendix 2; Table 2.8). The remaining 801 species were listed as Regionally Not Threatened.

Management and survey priorities for the regionally threatened species; (Regionally Critical, Endangered and Vulnerable) are detailed in Appendix 3;

Tables 3.1, 3.2 and 3.3). Around one third of species require high priority management or survey actions. The greatest number of threatened species are found in wetland habitats, followed closely by coastal ecosystems and forests.

Details of the presence of each species in each territorial authority area is provided in Appendix 4; Table 4.1). The number of Regionally Threatened species found in each district council area is shown below:

• Kapiti Coast District Council	32
• Porirua City Council	17
• Wellington City Council	36
• Hutt City Council	26
• Upper Hutt City Council	18
• South Wairarapa District Council	60
• Carterton District Council	22
• Masterton District Council	29

4. Discussion

There are a high number of threatened indigenous vascular plant species within the Wellington region, particularly in the Regionally Critical category. While some of these species may be at the limits of their range or occupy specialist niches, many would have been present in greater numbers prior to the impacts of pests (both plant and animal) and human development. At least fifteen species are now considered to be extinct in the Wellington region and the small populations of the majority of the Regionally Critical species are highly susceptible to further impacts. A plant threat list for the Department of Conservation's Wellington Conservancy was developed in 2004 (Sawyer 2004). While the conservancy area was larger than that of the regional council, the species under threat within the region could be identified in the publication. Different categories for determining regional conservation status at that time, but many of the species detailed in Sawyer 2004 remain threatened and are included in this report.

It is hoped that the regional threat list can aid management and help direct survey effort to improve the conservation of indigenous plant species in the region. The Wellington Botanical Society has many keen botanists and provides an excellent forum to focus action on Wellington's indigenous plant species. Restoration of threatened plant populations provides both opportunities and challenges. The first priority should be to maintain populations 'in situ', but in many cases, bolstering the number of plants through cultivation may be the only way to ensure the species continues to survive in the region. Some species have reproductive issues, while others may occupy specialist habitat niches that are hard to replicate.

One of the challenges in determining the locations of each species in each part of the region for this report has been the uncertainty about whether or not the location represented a restoration planting. It is hoped that the Wellington Plant Network established by John Sawyer of the Department of Conservation can be re-vitalised, so that that group could continue to play a role in driving propagation efforts and ensuring recording of threatened species

translocations/restoration projects. The on-going efforts of Otari-Wilton's Bush, Hutt City Council, DOC and many individuals are acknowledged.

The information provided in this report can aid decision-making when consenting proposals are received, both for regional and district councils. The importance of some sites, such as Lake Wairarapa and the surrounding wetlands, Kapiti Island or other protected lands is noteworthy as they provide refuges for a number of threatened species, but the presence of threatened species is spread across the region, including on private land. While the regional council is responsible for biodiversity in waterways, wetlands and some parts of the coast, the territorial authorities are responsible for biodiversity on land under the Resource Management Act. The numbers of threatened species within the boundaries of each of the nine district councils are significant. Knowledge of where threatened species occur is key to providing protection and halting biodiversity decline..

5. Acknowledgements

Jeremy Rolfe of the Department of Conservation (DOC) has led the development of this systematic approach to assessing the regional conservation status for indigenous species. His work has provided a nationally consistent methodology that can be used by regional councils. Assistance provided by Pat Enright and Leon Perry in preparing this report is greatly appreciated, as is the expertise of the expert panel. Roger Uys has aided expert panel discussions and helped in formulating this report.

6. References

de Lange PJ, Rolfe JR, Barkla JW, Courtney SP, Champion PD, Perrie LR, Beadel SM, Ford KA, Breitwieser I, Schonberger I, Hindmarsh-Walls R, Heenan PB and Ladely K. 2017. Conservation status of New Zealand indigenous vascular plants. *New Zealand Threat Classification Series* 22. 88p

Swayer JWD 2004. Plant Conservation Strategy. Wellington Conservancy (excluding Chatham Islands). Department of Conservation, Wellington.

Townsend AJ, de Lange PJ, Duffy CAJ, Miskelly CM, Molloy, J and Norton DA 2008. *New Zealand Threat Classification System Manual*. Department of Conservation, Wellington.

Appendix 1: Process for determining the regional threat status of a species

Process 1: Determination of regional threat status

Identify and record taxa on the relevant NZTCS list that have not been observed in the region



Identify Nationally Threatened taxa that breed or are resident for more than half of their life cycle in the region and assign a Regional Conservation status (see Process 2)



Identify Non-resident native taxa in the NZTCS and assess regional Non-resident status

Process 2: Determination of strongholds and Regionally Not Threatened species

Is the region a stronghold for the taxa (i.e. >20% of the national population present)



Does the region hold more than 500, 1000, 200 or 3000 mature individuals or does the taxon occupy more than 250, 500, 1000 or 1500ha (5, 10 or 15km²)?



Assign Regional Conservation Status by applying the NZTCS criteria to the regional population

Is the population + or - 10% stable or increasing?



Assign Regional Conservation Status of Regionally Not Threatened

Appendix 2: Regional conservation status of indigenous vascular plant species of the Wellington region

Table 2.1: Regionally Critical indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Adiantum hispidulum</i> Swartz	NT	No	<1 ha	±10% stable	Expert opinion	Expert opinion	DP, Sp, S0
<i>Alepis flavida</i> (Hook.f.) Tiegh.	Dec	No	<250	10-30% decline	Quantitative	Quantitative	CD
<i>Asplenium lamprophyllum</i> Carse	NT	No	<250	±10% stable	Qualitative	Qualitative	NR
<i>Asplenium obtusatum</i> G.Forst.	NT	No	<250	30-70% decline	Qualitative	Expert opinion	RR, Sp
<i>Asplenium subglandulosum</i> (Hook. et Grev.) Salvo, Prada et T.E Diaz	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	OL, S0
<i>Atriplex buchananii</i> (Kirk) Cheeseman	VU	No	<1 ha	±10% stable	Quantitative	Qualitative	
<i>Blechnum molle</i> (Parris) Christenh.	Nat Unc	No	<250	±10% stable	Quantitative	Expert opinion	DP, NR
<i>Blechnum zeelandicum</i> Christenh.	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	NR
<i>Botrychium australe</i> R.Br.	Nat Unc	No	<250	10-30% decline	Expert opinion	Expert opinion	DP, EF, S0, Sp
<i>Brachyglottis compacta</i> (Kirk) B.Nord.	Nat Unc	No	<1 ha	10-50% decline	Quantitative	Expert opinion	DP, OL
<i>Brachyglottis pentacopa</i> (D.G. Drury) B.Nord.	CR	Yes	<250	10-50% decline	Quantitative	Expert opinion	OL, NS
<i>Brachyglottis sciadophila</i> (Raoul) B.Nord.	Dec	No	<250	±10% stable	Quantitative	Expert opinion	DP, Sp
<i>Carex appressa</i> R.Br.	NT	No	<10 ha	±10% stable	Quantitative	Expert opinion	
<i>Carex cirrhosa</i> Berggr.	VU	No	<250	>10% increase	Quantitative	Qualitative	OL
<i>Carex colensoi</i> Boott	NT	No	<250	±10% stable	Quantitative	Expert opinion	OL
<i>Carex litorosa</i> L.H.Bailey	Dec	No	<250	±10% stable	Quantitative	Expert opinion	RR
<i>Convolvulus waitaha</i> (Sykes) Heenan, Molloy et de Lange	NT	Yes	<250	10-50% decline	Expert opinion	Expert opinion	OL

Table 2.1: Regionally Critical indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Coprosma obconica</i> Kirk	Dec	No	<250	10-30% decline	Quantitative	Expert opinion	CD, RF
<i>Coprosma pedicellata</i> Molloy, de Lange et B.D.Clarkson	Dec	No	<250	10-30% decline	Quantitative	Qualitative	
<i>Coprosma wallii</i> Petrie	Dec	No	<250	10-50% decline	Quantitative	Qualitative	CD, RF, Sp
<i>Corybas dienemus</i> D.L.Jones	DD	Yes	<250	±10% stable	Quantitative	Qualitative	NR, NS
<i>Crassula peduncularis</i> (Sm.) F.Meigen	CR	Yes	<1 ha	>10% increase	Quantitative	Quantitative	RR, Sp, NS
<i>Cystopteris tasmanica</i> Hook.	NT	No	<1 ha	±10% stable	Expert opinion	Expert opinion	DP, OL, SO
<i>Dactylanthus taylorii</i> Hook.f.	VU	No	<250	±10% stable	Quantitative	Expert opinion	
<i>Deparia peterseni</i> subsp. <i>congrua</i> (Brack.) M.Kato	NT	No	<250	±10% stable	Expert opinion	Expert opinion	DP, Sp, SO
<i>Dichelachne micrantha</i> (Cav.) Domin	Rel	No	<250	±10% stable	Quantitative	Expert opinion	OL
<i>Dicksonia lanata</i> (Colenso ex Hook.) subsp. <i>lanata</i>	NT	No	<250	±10% stable	Expert opinion	Expert opinion	DP, OL
<i>Eleocharis sphacelata</i> R. Br.	NT	No	<250	±10% stable	Qualitative	Expert opinion	OL
<i>Eryngium vesiculosum</i> Labill.	Dec	No	<1 ha	10-30% decline	Qualitative	Expert opinion	DP, RR, Sp
<i>Euphorbia glauca</i> G.Forst.	Dec	No	<1 ha	±10% stable	Quantitative	Expert opinion	CD, DP, OL
<i>Gahnia rigida</i> Kirk	NT	No	<250	10-30% decline	Qualitative	Qualitative	
<i>Gastrodia cooperae</i> Lehnebach et J.R. Rolfe	CR	Yes	<1 ha	±10% stable	Quantitative	Qualitative	NS
<i>Geranium retrorsum</i> L'Hér. ex DC.	VU	No	<1 ha	±10% stable	Qualitative	Expert opinion	
<i>Gratiola concinna</i> Colenso	VU	No	<1 ha	±10% stable	Qualitative	Qualitative	CD, DP, OL
<i>Hymenophyllum australe</i> Willd.	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	SO

Table 2.1: Regionally Critical indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Hypolepis dicksonioides</i> (Endl.) Hook.	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	Sp
<i>Isolepis basilaris</i> Hook.f.	Nat Unc	No	<250	±10% stable	Qualitative	Qualitative	CD, DP, RR, Sp
<i>Juncus pauciflorus</i> R. Br.	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	OL
<i>Korthalsella salicornioides</i> (A. Cunn.) Tiegh	CR	No	250-1000	50-70% decline	Expert opinion	Expert opinion	
<i>Lepidium oleraceum</i> G.Forst. ex Sparrm.	EN	No	<250	±10% stable	Expert opinion	Expert opinion	RR
<i>Leptinella nana</i> (D.G.Lloyd) D.G.Lloyd et C.J.Webb	CR	Yes	<1 ha	10-30% decline	Quantitative	Quantitative	CD, NS
<i>Leptinella pusilla</i> Hook.f.	Dec	Yes	<250	±10% stable	Quantitative	Expert opinion	OL, RR
<i>Lycopodiella lateralis</i> (R.Br.) B.Øllg.	NT	No	<250	±10% stable	Expert opinion	Expert opinion	DP
<i>Melicytus orarius</i> Heenan, de Lange, Courtney et Molloy	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Mentha cunninghamii</i> Benth.	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	OL
<i>Muehlenbeckia astonii</i> Petrie	EN	No	<250	10-50% decline	Expert opinion	Expert opinion	RF
<i>Muehlenbeckia ephedroides</i> Hook.f.	Dec	No	<250	±10% stable	Qualitative	Expert opinion	
<i>Myosotis brevis</i> de Lange et Barkla	VU	No	<250	30-70% decline	Quantitative	Expert opinion	
<i>Notogrammitis givenii</i> (Parris) Parris	NT	No	<250	±10% stable	Expert opinion	Expert opinion	DP
<i>Notogrammitis patagonica</i> (C.Chr.) Parris	NT	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Peraxilla colensoi</i> (Hook.f.) Tiegh.	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	CD
<i>Peraxilla tetrapetala</i> (L.f.) Tiegh.	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	CD
<i>Pimelea gnidia</i> (J.R.Forst. et G.Forst.) Willd.	NT	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Pimelea tomentosa</i> (J.R.Forst et G.Forst) Druce	VU	No	<250	±10% stable	Qualitative	Expert opinion	OL

Table 2.1: Regionally Critical indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Pittosporum obcordatum</i> Raoul	VU	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Pseudopanax ferox</i> Kirk	Nat Unc	No	<250	±10% stable	Quantitative	Expert opinion	DP
<i>Pteris saxatilis</i> Carse	NT	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Pterostylis irwinii</i> D.L. Jones, Molloy, et M.A. Clem.	EN	No	<250	±10% stable	Expert opinion	Expert opinion	OL
<i>Pterostylis micromega</i> Hook.f.	EN	No	<250	10-50% decline	Quantitative	Expert opinion	DP
<i>Pterostylis porrecta</i> D.L. Jones, Molloy et M.A. Clem.	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Rumex neglectus</i> Kirk	NT	No	<250	±10% stable	Expert opinion	Expert opinion	OL
<i>Rytidosperma merum</i> Connor et Edgar	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Rytidosperma petrosum</i> Connor et Edgar	Nat Unc	No	<250	±10% stable	Expert opinion	Expert opinion	
<i>Schizaea australis</i> Gaudich.	NT	No	<250	±10% stable	Expert opinion	Expert opinion	DP, S0
<i>Simplicia felix</i> de Lange, J.R. Rolfe, Smissen et Ogle	CR	Yes	<1 ha	10-50% decline	Qualitative	Expert opinion	NS
<i>Sophora molloyi</i> Heenan et de Lange	Nat Unc	Yes	<250	10-30% decline	Qualitative	Expert opinion	CD, PD, RR, NS
<i>Spiranthes novae-zelandiae</i> Hook.f.	VU	No	<1 ha	±10% stable	Quantitative	Expert opinion	EF
<i>Trichomanes colensoi</i> Hook.f.	Nat Unc	No	<1 ha	±10% stable	Expert opinion	Expert opinion	Sp, DP
<i>Trichomanes elongatum</i> A. Cunn.	NT	No	<1 ha	±10% stable	Expert opinion	Qualitative	DP, RR, Sp
<i>Tupeia antarctica</i> (G.Forst.) Cham. et Schlecht	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	CD
<i>Urtica perconfusa</i> Grosse-Veldmann et Weigend	Dec	No	<250	±10% stable	Expert opinion	Expert opinion	

National Conservation Status: CR = Critical; EN = Endangered; VU = Vulnerable; Dec = Declining; Nat Unc = Naturally Uncommon; Rel = Relict; NT = Not Threatened; DD = Data Deficient

Regional Qualifiers: CD = Conservation Dependent, DP = Data Poor, EF = Extreme Fluctuations, NR = Natural Range Limit, NS = National Stronghold, OL = One Location, PD = Partial Decline, RR = Range Restricted, SO = Secure Overseas, Sp = Sparse

Table 2.2: Regionally Endangered indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Adiantum aethiopicum</i> L.	NT	No	<10 ha	10-30% decline	Qualitative	Expert opinion	SO
<i>Amphibromus fluitans</i> Kirk	VU	No	<10 ha	10-50% decline	Quantitative	Qualitative	DP, EF, RR, TO, TL
<i>Anaphalioides subrigida</i> (Colenso) Anderb.	Nat Unc	No	<10 ha	10-30% decline	Qualitative	Expert opinion	RR
<i>Anemanthele lessoniana</i> (Steud.) Veldkamp	Rel	No	<10 ha	±10% stable	Quantitative	Quantitative	
<i>Anogramma leptophylla</i> (L.) Link	VU	No	5000-20000	±10% stable	Qualitative	Qualitative	De
<i>Anthosachne solandri</i> (Steud.) Barkworth & S.W.L.Jacobs	NT	No	250-1000	10-50% decline	Qualitative	Qualitative	DP, RR, Sp
<i>Astelia grandis</i> Hook.f. ex Kirk	NT	No	250-1000	10-50% decline	Qualitative	Expert opinion	DP, RR, Sp
<i>Brachyglottis greyi</i> (Hook.f.) B.Nord.	Nat Unc	Yes	<10 ha	10-30% decline	Qualitative	Expert opinion	CD, RF, RR, Sp, RE, NS
<i>Brachyglottis kirkii</i> var. <i>kirkii</i> (Kirk) C.J.Webb	VU	No	250-1000	10-50% decline	Qualitative	Qualitative	CD, Sp
<i>Coprosma virescens</i> Petrie	Dec	No	250-1000	10-30% decline	Qualitative	Qualitative	CD, RF
<i>Craspedia uniflora</i> var. <i>maritima</i> Allan	Dec	Yes	250-1000	10-30% decline	Qualitative	Expert opinion	DP, RR, Sp
<i>Discaria toumatou</i> Raoul	Dec	No	250-1000	±10% stable	Quantitative	Expert opinion	CD, DP, RR, Sp
<i>Gunnera prorepens</i> Hook.f.	NT	No	<10 ha	10-30% decline	Qualitative	Expert opinion	RR
<i>Leptinella tenella</i> (A Cunn.) D.G.Lloyd et C.J.Webb	Dec	Yes	250-1000	10-30% decline	Qualitative	Expert opinion	
<i>Mazus novaezeelandiae</i> subsp. <i>impolitus</i> Heenan f. <i>impolitus</i>	EN	No	250-1000	±10% stable	Expert opinion	Expert opinion	DP, Sp
<i>Microtis oligantha</i> L.B.Moore	NT	No	<10 ha	±10% stable	Quantitative	Expert opinion	OL
<i>Myrsine umbricola</i> Heenan & de Lange	Dec	Yes	250-1000	±10% stable	Qualitative	Expert opinion	DP, RF, RR
<i>Olearia gardneri</i> Heads	EN	Yes	250-1000	±10% stable	Expert opinion	Expert opinion	

Table 2.2: Regionally Endangered indigenous plant species

Name and Authority	National Conservation Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Pimelea</i> aff. <i>villosa</i> (AK 216133; southern New Zealand)	EN	No	250-1000	10-50% decline	Qualitative	Expert opinion	DP, RR
<i>Rhabdothamnus solandri</i> A.Cunn.	NT	No	250-1000	±10% stable	Qualitative	Expert opinion	
<i>Schoenus concinnus</i> Hook.f.	NT	No	250-1000	±10% stable	Expert opinion	Expert opinion	RR
<i>Trichomanes strictum</i> Menzies ex Hook. et Grev.	NT	No	10-100ha	±10% stable	Expert opinion	Expert opinion	De
<i>Vittadina australis</i> A.Rich.	NT	No	250-1000	±10% stable	Expert opinion	Expert opinion	

National Conservation Status: EN = Endangered; VU = Vulnerable; Dec = Declining; Nat Unc = Naturally Uncommon; Rel = Relict; NT = Not Threatened

Regional Qualifiers: CD = Conservation Dependent, De = Designated, DP = Data Poor, EF = Extreme Fluctuations, NS = National Stronghold, OL = One Location, RE = Regional Endemic, RR = Range Restricted, SO = Secure Overseas, Sp = Sparse, TL = Type Locality, TO = Threatened Overseas

Table 2.3: Regionally Vulnerable indigenous plant species

Name and Authority	National Cons. Status	National Stronghold	Regional-Population or Area	Regional Trend	Regional Confidence Population	Regional Confidence Trend	Regional Qualifiers
<i>Aciphylla squarrosa</i> J.R.Forst. & G.Forst. var. <i>squarrosa</i>	Dec	Yes	1000-5000	10-50% decline	Qualitative	Qualitative	RR, NS
<i>Bolboschoenus medianus</i> (V.J.Cook) Soják	NT	No	<100 ha	±10% stable	Expert opinion	Expert opinion	RR, Sp
<i>Carex buchananii</i> Bergg.	Dec	No	250-1000	>10% increase	Expert opinion	Expert opinion	Sp
<i>Daucus glochidiatus</i> (Labill.) Fisch., C.A.Mey. & Avé-Lall.	Dec	No	<100 ha	±10% stable	Qualitative	Qualitative	
<i>Diplazium australe</i> (R.Br.) N.A.Wakef.	NT	No	<100 ha	±10% stable	Expert opinion	Expert opinion	DP
<i>Ficinia spiralis</i> (A.Rich.) Muasya & de Lange	Dec	No	<100 ha	10-30% decline	Qualitative	Expert opinion	CD, DP, RR
<i>Isoetes kirkii</i> A.Braun	Dec	No	<100 ha	30-70% decline	Quantitative	Qualitative	St
<i>Korthalsella clavata</i> (Kirk) Cheeseman	Dec	No	1000-5000	±10% stable	Expert opinion	Expert opinion	
<i>Kunzea serotina</i> de Lange et Toelken	VU	No	1000-5000	±10% stable	Expert opinion	Expert opinion	OL
<i>Olearia cheesemani</i> Cockayne et Allan	Nat Unc	No	<100 ha	10-30% decline	Expert opinion	Expert opinion	
<i>Solanum aviculare</i> G.Forst. var. <i>aviculare</i>	VU	No	1000-5000	10-50% decline	Expert opinion	Expert opinion	
<i>Teucrium parvifolium</i> Hook.f. Kattari et Salmaki	Dec	No	1000-5000	10-50% decline	Expert opinion	Expert opinion	

National Conservation Status: VU = Vulnerable; Dec = Declining; Nat Unc = Naturally Uncommon; NT = Not Threatened

Regional Qualifiers: CD = Conservation Dependent, DP = Data Poor, NS = National Stronghold, RR = Range Restricted, Sp = Sparse, St = Stable

Table 2.4: Regionally Declining indigenous plant species

Name and Authority	National Conservation Status
<i>Anthosachne kingiana</i> subsp. <i>multiflora</i> (Banks et Sol. ex Hook.f.) Govaerts	Data deficient
<i>Coprosma acerosa</i> A.Cunn.	Declining
<i>Drymoanthuse flavus</i> St George et Molloy	Declining
<i>Hiya distans</i> (Hook.) Brownsey and Perrie	Not Threatened
<i>Lobelia carens</i> Heenan	Declining
<i>Mazus novaezeelandiae</i> W.R.Barker subsp. <i>novaezeelandiae</i>	Declining
<i>Melicytus crassifolius</i> (Hook.f.) Garn.-Jones	Declining
<i>Mida salicifolia</i> A.Cunn	Declining
<i>Myriophyllum robustum</i> Hook.f.	Declining
<i>Pimelea longifolia</i> Sol. ex Wikstr.	Declining
<i>Pimelea villosa</i> Sol. Ex Sm.	Declining
<i>Poa billardiarei</i> (Spreng.) St.-Yves	Declining
<i>Raoulia</i> aff. <i>hookeri</i> (AK 239529; "coast")	Declining
<i>Selliera rotundifolia</i> Heenan	Declining
<i>Senecio rufiglandulosus</i> Colenso	Not Threatened
<i>Sonchus kirkii</i> Hamlin	Declining
<i>Trisetum antarcticum</i> (G.Forst.) Trin.	Declining
<i>Zostera muelleri</i> subsp. <i>novazelandica</i> (Setch.) S.W.L.Jacobs	Declining

Table 2.5: Regionally Relict indigenous plant species

Name and Authority	National Conservation Status
<i>Senecio sterquilinus</i> Ornduff	Relict
<i>Streblus banksii</i> (Cheeseman) C.J.Webb	Relict

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Acaena juvenca</i> B.H.Macmill.	Not Threatened
<i>Aciphylla dissecta</i> (Kirk) W.R.B.Oliv.	Naturally Uncommon
<i>Aciphylla squarrosa</i> var. <i>flaccida</i> Kirk	Naturally Uncommon
<i>Adiantum diaphanum</i> Blume	Not Threatened
<i>Adiantum fulvum</i> Raoul	Not Threatened
<i>Agrostis oresbia</i> Edgar	Naturally Uncommon
<i>Anemonastrum tenuicaule</i> (Cheeseman) de Lange et Mosyakin	Naturally Uncommon
<i>Asplenium appendiculatum</i> (Labill.) C.Presl subsp. <i>appendiculatum</i>	Not Threatened
<i>Asplenium lyallii</i> (Hook.f.) T.Moore	Not Threatened
<i>Blechnum blechnoides</i> (Bory) Keyserl.	Not Threatened
<i>Blechnum montanum</i> T.C.Chambers et P.A.Farrant	Not Threatened
<i>Blechnum triangularifolium</i> T.C.Chambers et P.A.Farrant	Not Threatened
<i>Brachyglottis lagopus</i> (Raoul) B. Nord.	Not Threatened
<i>Brachyglottis perdicoides</i> (Hook.f.) B.Nord.	Naturally Uncommon
<i>Brachyscome radicata</i> Hook.f.	Not Threatened

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Bromus arenarius</i> Labill.	Naturally Uncommon
<i>Bulbophyllum tuberculatum</i> Colenso	Naturally Uncommon
<i>Caladenia alata</i> R.Br.	Naturally Uncommon
<i>Caladenia atradenia</i> D.L.Jones, Molloy et M.A.Clem.	Naturally Uncommon
<i>Caladenia bartlettii</i> (Hatch) D.L.Jones, Molloy et M.A.Clem.	Naturally Uncommon
<i>Caladenia variegata</i> Colenso	Naturally Uncommon
<i>Calochilus paludosus</i> R.Br.	Naturally Uncommon
<i>Carex dipsacea</i> Berggr.	Not Threatened
<i>Carex longifructus</i> (Kük.) K.A.Ford	Naturally Uncommon
<i>Carex obtusifolia</i> (Heenan) K.A.Ford	Naturally Uncommon
<i>Carex spinirostris</i> Colenso	Not Threatened
<i>Celmisia graminifolia</i> Hook.f.	Naturally Uncommon
<i>Celmisia spectabilis</i> subsp. <i>lanceolata</i> (Hook.f.) Given	Naturally Uncommon
<i>Centipeda aotearoana</i> N.G.Walsh	Naturally Uncommon
<i>Cheilanthes distans</i> (R.Br.) Mett.	Not Threatened
<i>Cheilanthes sieberi</i> Kunze subsp. <i>sieberi</i>	Not Threatened
<i>Chenopodium allanii</i> Aellen	Naturally Uncommon
<i>Chionochloa beddiei</i> Zotov	Naturally Uncommon
<i>Chionochloa bromoides</i> (Hook.f.) Zotov	Naturally Uncommon
<i>Clematis afoliata</i> Buchanan	Not Threatened
<i>Coriaria</i> (a) (CHR 469745; Rimutaka)	Naturally Uncommon
<i>Coriaria pottsiana</i> W.R.B.Oliv.	Naturally Uncommon

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Corokia cotoneaster</i> Raoul	Not Threatened
<i>Corunastylis nuda</i> (Hook.f.) D.L.Jones et M.A.Clem.	Naturally Uncommon
<i>Corybas</i> aff. <i>trilobus</i> (CHR 534742; Trotters Gorge)	Naturally Uncommon
<i>Corybas</i> aff. <i>trilobus</i> (CHR 537604; Rimutaka)	Naturally Uncommon
<i>Corybas cheesemani</i> (Hook.f. ex Kirk) Kuntze	Not Threatened
<i>Corybas cryptanthus</i> Hatch	Naturally Uncommon
<i>Craspedia minor</i> (Hook.f.) Allan	Not Threatened
<i>Craspedia minor</i> var. <i>viscosa</i> (Colenso) Allan	Not Listed
<i>Crassula kirkii</i> (Allan) A.P.Druce et Given	Naturally Uncommon
<i>Crassula mataikona</i> A.P.Druce	Naturally Uncommon
<i>Crassula moschata</i> G.Forst.	Not Threatened
<i>Crassula ruamahanga</i> A.P.Druce emend. de Lange et Heenan	Naturally Uncommon
<i>Dichelachne inaequiglumis</i> (Hack.) Edgar et Connor	Naturally Uncommon
<i>Eleocharis pusilla</i> R.Br.	Not Threatened
<i>Epilobium chionanthum</i> Hausskn.	Not Threatened
<i>Euchiton paludosus</i> (Petrie) Holub	Naturally Uncommon
<i>Euchiton polylepis</i> (D.G.Drury) Breitw. et J.M.Ward	Naturally Uncommon
<i>Euphrasia drucei</i> Ashwin	Naturally Uncommon
<i>Fuchsia procumbens</i> A.Cunn.	Naturally Uncommon
<i>Gleichenia alpina</i> R.Br.	Not Threatened
<i>Gleichenia dicarpa</i> R.Br.	Not Threatened
<i>Huperzia australiana</i> (Herter) Holub	Not Threatened

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Hymenophyllum minimum</i> A.Rich.	Not Threatened
<i>Hypolepis lactea</i> Brownsey et Chinnock	Not Threatened
<i>Hypolepis millefolium</i> Hook.	Not Threatened
<i>Isachne globosa</i> (Thumb.) Kuntze	Not Threatened
<i>Korthalsella lindsayi</i> (Oliv.) Engl.	Not Threatened
<i>Leptinella dioica</i> subsp. <i>monoica</i> (D.G.Lloyd) D.G.Lloyd et C.J.Webb	Not Threatened
<i>Leptinella dispersa</i> (D.G.Lloyd) D.G.Lloyd et C.J.Webb subsp. <i>dispersa</i>	Naturally Uncommon
<i>Libertia edgariae</i> Blanchon, B.G.Murray et Braggins	Naturally Uncommon
<i>Lindsaea linearis</i> Sw.	Not Threatened
<i>Lobelia perpusilla</i> Hook.f.	Not Threatened
<i>Microsorium novae-zealandiae</i> (Baker) Copel.	Not Threatened
<i>Morelotia affinus</i> (Brongn.) S.T.Blake	Not Threatened
<i>Myosotis spathulata</i> G.Forst.	Naturally Uncommon
<i>Myosotis venosa</i> Colenso	Naturally Uncommon
<i>Notogrammitis angustifolia</i> (Jacq.) Parris subsp. <i>nothofaeti</i> (Parris) Parris	Not Threatened
<i>Notogrammitis crassior</i> (Kirk) Parris	Not Threatened
<i>Notogrammitis pseudociliata</i> (Parris) Parris	Not Threatened
<i>Oxalis rubens</i> Haw.	Not Threatened
<i>Oxalis thompsoniae</i> B.J.Conn et P.G.Richards	Naturally Uncommon
<i>Pellaea calidirupium</i> Brownsey et Lovis	Not Threatened
<i>Pimelea pseudolyallii</i> Allan	Naturally Uncommon
<i>Pittosporum divaicatum</i> Cockayne	Not Threatened

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Pittosporum cornifolium</i> A.Cunn.	Not Threatened
<i>Polystichum wawranum</i> (Szyszyl. in Wawra) Perrie	Not Threatened
<i>Potentilla anserinoides</i> Raoul	Not Threatened
<i>Pterostylis auriculata</i> Colenso	Naturally Uncommon
<i>Pterostylis foliata</i> Hook.f.	Naturally Uncommon
<i>Raoulia rubra</i> Buchanan	Naturally Uncommon
<i>Raukawa edgerleyi</i> (Hook.f.) Seem.	Not Threatened
<i>Ruppia megacarpa</i> R.Mason	Naturally Uncommon
<i>Rytidosperma nudum</i> (Hook.f.) Connor et Edgar	Naturally Uncommon
<i>Rytidosperma pulchrum</i> (Zotov) Connor et Edgar	Naturally Uncommon
<i>Scandia geniculata</i> (G.Forst.) J.W.Dawson	Not Threatened
<i>Schoenus caespitans</i> Petrie	Naturally Uncommon
<i>Stuckenia pectinata</i> (L.) Börner	Naturally Uncommon
<i>Tetragonia tetragonoides</i> (Pall.) Kuntze	Naturally Uncommon
<i>Thelymitra</i> aff. <i>ixioides</i> (AK 251348; New Zealand)	Naturally Uncommon
<i>Thelymitra formosa</i> Colenso	Naturally Uncommon
<i>Thyridia repens</i> (R.Br.) W.R.Barker et Beardsley	Naturally Uncommon
<i>Townsonia deflexa</i> Cheeseman	Naturally Uncommon
<i>Townsonia viridis</i> (Hook.f.) Schltr.	Naturally Uncommon
<i>Veronica angustissima</i> (Cockayne) Bayly et Kellow	Naturally Uncommon
<i>Veronica elliptica</i> G.Forst.	Not Threatened
<i>Veronica evenosa</i> (Petrie)	Naturally Uncommon

Table 2.6: Regionally Naturally Uncommon indigenous plant species

Name and Authority	National Conservation Status
<i>Zannichellia palustris</i> L.	Naturally Uncommon

Table 2.7: Regionally Data Deficient indigenous plant species

Name and Authority	National Conservation Status
<i>Aciphylla aurea</i> W.R.B.Oliv.	Not Threatened
<i>Adiantum formosum</i> R.Br.	Relict
<i>Agrostis muscosa</i> Kirk	Not Threatened
<i>Agrostis personata</i> Edgar	Not Threatened
<i>Althenia bilocularis</i> (Kirk)	Nationally vulnerable
<i>Argyrotegium mackayi</i> (Buchanan) J.M.Ward et Breitw.	Not Threatened
<i>Asplenium</i> aff. <i>trichomanes</i> (AK168112: 'hexaploid)	Not Threatened
<i>Brachyglottis adamsii</i> (Cheeseman) B.Nord.	Not Threatened
<i>Cardamine</i> (l) CHR 210386; "glossy leaf")	Not listed
<i>Carex resectans</i> Cheeseman	Not Threatened
<i>Colobanthus apetalus</i> (Labill.) Druce	Not Threatened
<i>Corybas orbiculatus</i> (Colenso) L.B. Moore	Not Threatened
<i>Corybas rivularis</i> (A.Cunn.) Rchb.f.	Data Deficient
<i>Craspedia uniflora</i> var. <i>grandis</i> Allan	Data Deficient
<i>Deschampsia chapmanii</i> Petrie	Not Threatened
<i>Dichondra</i> ("Big Flower")	Not Listed
<i>Donatia novae-zelandiae</i> Hook.f.	Not Threatened

Table 2.7: Regionally Data Deficient indigenous plant species

Name and Authority	National Conservation Status
<i>Epilobium cockayneanum</i> Petrie	Data Deficient
<i>Epilobium hirtigerum</i> A.Cunn.	Nationally Critical
<i>Epilobium insulare</i> Hausskn.	Data Deficient
<i>Galium trilobium</i> Colenso	Not Threatened
<i>Geranium solanderi</i> Carolin	Declining
<i>Glossostigma cleistanthum</i> W.R.Barker	Not Threatened
<i>Juncus prismatocarpus</i> R.Br.	Not Threatened
<i>Juncus pusillus</i> Buchenau	Naturally Uncommon
<i>Kunzea amathicola</i> de Lange et Toelken	Declining
<i>Myosotis elderi</i> L.B.Moore	Data Deficient
<i>Myosotis pottsiana</i> (L.B.Moore) Meudt, Prebble, R.J.Stanley & Thorsen	Nationally Critical
<i>Nematoceras</i> aff. <i>rivularis</i> ("Kaitarahahi")	Not listed
<i>Nematoceras</i> aff. <i>rivularis</i> ("Whiskers")	Not listed
<i>Olearia avicenniifolia</i> (Raoul) Hook.f.	Not Threatened
<i>Olearia lacunosa</i> Hook.f.	Not Threatened
<i>Oplismenus hirtellus</i> subsp. <i>imbecillis</i> (R.Br.) U.Scholz	Not Threatened
<i>Oreobolus pectinatus</i> Hook.f.	Not Threatened
<i>Parsonsia capsularis</i> var. <i>rosea</i> (Raoul) Cockayne	Data Deficient
<i>Pilularia novae-hollandiae</i> A.Braun	Not Threatened
<i>Pimelea</i> aff. <i>aridula</i> (b) (AK 230900; Cook Strait)	Nationally Endangered
<i>Pimelea cryptica</i> C.J.Burrows et Enright	Data Deficient
<i>Pimelea prostrata</i> subsp. <i>vulcanica</i> C.J.Burrows	Data Deficient
<i>Plantago spathulata</i> Hook.f.	Not Threatened

Table 2.7: Regionally Data Deficient indigenous plant species

Name and Authority	National Conservation Status
<i>Polygonum plebeium</i> R.Br.	Data Deficient
<i>Potamogeton ochreatus</i> Raoul	Not Threatened
<i>Ranunculus limosella</i> Kirk	Not Threatened
<i>Ranunculus macropus</i> Hook.f.	Data Deficient
<i>Rorippa divaricata</i> (Hook.f.) Garn.-Jones et Jonsell	Nationally Vulnerable
<i>Schizaea bifida</i> Willd	Not Threatened
<i>Thelymitra colensoi</i> Hook.f.	Data Deficient
<i>Wahlenbergia pygmaea</i> Colenso subsp. <i>pygmaea</i>	Not Threatened

Table 2.8: Regionally Extirpated indigenous plant species

Name and Authority	National Conservation Status
<i>Atriplex cinerea</i> Poir.	Nationally Critical
<i>Atriplex hollowayi</i> de Lange et D.A.Norton	Nationally Critical
<i>Centipeda minima</i> (L.) A.Braun et Asch. subsp. <i>minima</i>	Nationally Endangered
<i>Deschampsia cespitosa</i> (L.) P.Beauv.	Declining
<i>Jovellana sinclairii</i> (Hook.) Kraenzl.	Declining
<i>Juncus holoschoenus</i> R.Br. var. <i>holoschoenus</i>	Nationally Critical
<i>Lepidium flexicaule</i> Kirk	Nationally Endangered
<i>Lepidium tenuicaule</i> Kirk	Declining
<i>Leptinella maniototo</i> (Petrie) D.G.Lloyd et C.J.Webb	Not Threatened
<i>Libertia peregrinans</i> Cockayne et Allan	Nationally Vulnerable
<i>Myosotis pygmaea</i> Colenso	Declining
<i>Myosurus minimus</i> subsp. <i>novae-zelandiae</i> (W.R.B.Oliv.) Garn.-Jones	Nationally Endangered
<i>Pterostylis puberula</i> Hook.f.	Nationally Vulnerable
<i>Pterostylis tasmanica</i> D.L.Jones	Nationally Vulnerable
<i>Sebaea ovata</i> (Labill.) R.Br.	Nationally Critical
<i>Solanum opacum</i> A.Braun et C.D.Bouche	Data deficient
<i>Suaeda novae-zelandiae</i> Allan	Not Threatened
<i>Utricularia australis</i> R.Br.	Nationally Critical

Appendix 3: Management and survey priorities for the threatened indigenous vascular plant species of the Wellington region

Table 3.1: Management and survey priorities for Regionally Critical species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Adiantum hispidulum</i>	Landowner/manager engagement	C	Survey likely habitat	B	Forest
<i>Alepis flavida</i>	Propagate - check success of current programme	A	Monitor known sites	A	Black beech host trees
<i>Asplenium lamprophyllum</i>	Landowner/manager engagement, goat control	C	Survey around known sites	A	Escarpment
<i>Asplenium obtusatum</i>	Landowner/manager engagement, goat control	C	Resurvey known sites	A	Rocky cliff face
<i>Asplenium subglandulosum</i>	Landowner/manager engagement, goat control	C	Resurvey known sites	A	Coastal
<i>Atriplex buchananii</i>	Propagate - prevent vehicle/foot traffic	C	Survey around known sites	A	Coastal
<i>Blechnum molle</i>	Propagate/research	C	Monitor known sites every five years	B	Open bush
<i>Blechnum zeelandicum</i>	Document translocations	C	Resurvey known sites	A	Forest - moderate shade
<i>Botrychium australe</i>	Landowner/manager engagement, goat control	A	Resurvey known sites	A	Open ground
<i>Brachyglottis compacta</i>	DOC programme, control karo	A	Monitor known sites every five years	B	Coastal
<i>Brachyglottis pentacopa</i>	Landowner/manager engagement	A	Resurvey known sites	A	Open forest/scrub
<i>Brachyglottis sciadophila</i>	Propagate - control browsers	B	Resurvey known sites	A	Open forest on bush edge
<i>Carex appressa</i>	Public land	C	Resurvey known sites	A	Coastal
<i>Carex cirrhosa</i>	Public land, stock exclusion	B	Monitor known sites	A	Wetland

Table 3.1: Management and survey priorities for Regionally Critical species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Carex colensoi</i>	Landowner/manager engagement	B	Monitor known sites	B	Montane/Taipos
<i>Carex litorosa</i>	Propagate - spread to other estuaries	A	Monitor outcome of translocations	C	Estuarine
<i>Convolvulus waitaha</i>	Landowner/manager engagement	A	Revisit known sites	A	Coastal
<i>Coprosma obconica</i>	Propagate	A	Monitor known sites every five years	C	Mudstone
<i>Coprosma pedicellata</i>	Propagate	A	Monitor known sites every five years	C	Limestone mudstone
<i>Coprosma wallii</i>	Propagate/research	A	Monitor known sites every five years	C	Forest edge
<i>Corybas dienemus</i>	Landowner/manager engagement	A	Survey likely habitat	A	Seeps
<i>Crassula peduncularis</i>	Landowner/manager engagement, stock, weed control	A	Document when found	B	Ephemeral wetland
<i>Cystopteris tasmanica</i>	Public land	C	Survey likely habitat	A	Forest, montane/subalpine
<i>Dactyloctenium aegyptium</i>	Research	C	Monitor known sites	B	Forest
<i>Deparia peterseni</i> subsp. <i>congrua</i>	Public land - main sites	C	Collate known sites	A	Stream sides
<i>Dichelachne micrantha</i>	Landowner/manager engagement	A	Survey around known sites	A	Shrubland/grassland
<i>Dicksonia lanata</i> subsp. <i>lanata</i>	Public land	C	Resurvey known sites	A	Forest
<i>Eleocharis sphacelata</i>	Landowner/manager engagement	A	Resurvey known sites	A	Wetland
<i>Eryngium vesiculosum</i>	Landowner/manager engagement, control stock, vehicles	A	Resurvey known sites	A	Coastal
<i>Euphorbia glauca</i>	DOC programme - propagation	C	Monitor translocation outcomes	C	Coastal

Table 3.1: Management and survey priorities for Regionally Critical species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Gahnia rigida</i>	Landowner/manager engagement, propagate	A	Monitor known sites	B	Wetlands
<i>Gastrodia cooperae</i>	Landowner/manager engagement	C	Survey likely habitat	B	Under kanuka
<i>Geranium retrorsum</i>	Landowner/manager engagement	C	Resurvey known sites	B	Rocky cliff
<i>Gratiola concinna</i>	Landowner/manager engagement	C	Survey likely habitat	A	Wetlands
<i>Hymenophyllum australe</i>	Landowner/manager engagement	C	Survey likely habitat	B	Wet, dark areas
<i>Hypolepis dicksonioides</i>	Research	C	Document when found	B	Disturbed lowland sites
<i>Isolepis basilaris</i>	Landowner engagement, research, control stock	A	Survey likely habitat	A	Ephemeral wetland
<i>Juncus pauciflorus</i>	Landowner/manager engagement	A	Survey likely habitat	A	Damp ground
<i>Korthalsella salicornis</i>	Landowner/manager engagement	A	Monitor known populations	A	Kanuka host
<i>Lepidium oleraceum</i>	Propagate, control pests	A	Monitor translocation outcomes	C	Coastal
<i>Leptinella nana</i>	Landowner/manager engagement, control weeds	A	Monitor management outcomes	B	Coastal
<i>Leptinella pusilla</i>	Landowner/manager engagement	A	Revisit known sites	A	Coastal
<i>Lycopodiella lateralis</i>	Landowner/manager engagement	C	Revisit known sites	A	Wetland
<i>Melicytus orarius</i>	Propagate/re-vegetate, control goats, weeds	A	Revisit known sites	A	Coastal cliffs
<i>Mentha cunninghamii</i>	Landowner/manager engagement	A	Revisit known sites	A	Cliffs, river banks
<i>Muehlenbeckia astonii</i>	Establish management plan, research, control weeds	A	Survey around known sites	A	Coastal
<i>Muehlenbeckia ephedroides</i>	Landowner/manager engagement	B	Revisit known sites	B	Coastal

Table 3.1: Management and survey priorities for Regionally Critical species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Myosotis brevis</i>	Research, revegetate, landowner engagement	A	Revisit known sites	A	Coastal
<i>Notogrammitis givenii</i>	Public land	C	Resurvey known sites	A	Rock stacks near treeline
<i>Notogrammitis patagonica</i>	Public land	C	Resurvey known sites	A	Rock stacks near treeline
<i>Peraxilla colensoi</i>	Continue possum control	C	Document when found	C	Forest
<i>Peraxilla tetrapetala</i>	Continue possum control	C	Document when found	C	Forest
<i>Pimelea gnidia</i>	Landowner/manager engagement	A	Monitor known populations	B	Open rock, montane/subalpine
<i>Pimelea tomentosa</i>	Landowner/manager engagement	B	Survey known sites	B	Cliff tops, scrub
<i>Pittosporum obcordatum</i>	Propagate/revegetate	C	Monitor outcome of translocations	C	Frost flats
<i>Pseudopanax ferox</i>	Landowner/manager engagement	B	Survey known sites	B	Coastal
<i>Pteris saxatilis</i>	Landowner/manager engagement	B	Resurvey known sites	A	Coastal
<i>Pterostylis irwinii</i>	Landowner/manager engagement	B	Survey known sites	B	Damp ground, scrub
<i>Pterostylis micromega</i>	Control pest plants	A	Increase search effort	A	Wetland
<i>Pterostylis porrecta</i>	Landowner/manager engagement	A	Monitor known populations	B	Open forest/scrub
<i>Rumex neglectus</i>	Landowner/manager engagement	A	Resurvey known sites	A	Coastal
<i>Rytidosperma merum</i>	Landowner/manager engagement	B	Resurvey known sites	B	Forest
<i>Rytidosperma petrosum</i>	Landowner/manager engagement	B	Resurvey known sites	B	Coastal
<i>Schizaea australis</i>	Landowner/manager engagement	C	Resurvey known sites	A	Boggy, subalpine
<i>Simplicia felix</i>	Landowner engagement, light grazing	C	Document when found	A	Mudstone

Table 3.1: Management and survey priorities for Regionally Critical species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Sophora molloyi</i>	Protect from browsing animals	C	Monitor known populations, confirm classification	A	Coastal
<i>Spiranthes novae-zelandiae</i>	Landowner engagement, control weeds	A	Survey likely habitat	A	Wetland
<i>Trichomanes colensoi</i>	Landowner/manager engagement	C	Collate data, survey likely habitat	A	Sides of creeks
<i>Trichomanes elongatum</i>	Landowner/manager engagement	C	Collate data, survey likely habitat	A	Dark sites
<i>Tupeia antarctica</i>	Landowner/manager engagement, possum control	B	Document when found	B	Forest
<i>Urtica perconfusa</i>	Public land	C	Survey likely habitat	B	Wetland

Table 3.2: Management and survey priorities for Regionally Endangered species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Adiantum aethiopicum</i>	Landowner/manager engagement	B	Resurvey known sites	B	Wetland
<i>Amphibromus fluitans</i>	Research	A	Resurvey known sites	B	Wetland
<i>Anaphalioides subrigida</i>	Landowner/manager engagement	A	Resurvey known sites	B	Limestone
<i>Anemanthele lessoniana</i>	Landowner/manager engagement	C	Monitor known sites every five years	C	Forest margins
<i>Anogramma leptophylla</i>	Landowner/manager engagement	C	Monitor known sites every five years	C	Rock faces
<i>Anthosachne solandri</i>	Propagate	C	Monitor known sites every five years	C	Rocky ground

Table 3.2: Management and survey priorities for Regionally Endangered species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Astelia grandis</i>	Landowner/manager engagement	C	Resurvey known sites	B	Wetland
<i>Brachyglottis greyi</i>	Browser, weed control	C	Monitor known sites every five years	C	Coastal
<i>Brachyglottis kirkii</i> var <i>kirkii</i>	Landowner engagement, pest control, propagate	C	Monitor known sites every five years	C	Forest
<i>Coprosma virescens</i>	Propagate	C	Monitor known sites every five years	C	Forest/shrubland
<i>Craspedia uniflora</i> var. <i>maritima</i>	Landowner/manager engagement, control weeds	C	Monitor known sites every five years	C	Rock faces
<i>Discaria toumatou</i>	Control browsers, minimise habitat loss	C	Monitor known sites every five years	C	Coastal
<i>Gunnera prorepens</i>	Landowner/manager engagement	B	Resurvey known sites	B	Wetland
<i>Leptinella tenella</i>	Landowner/manager engagement	B	Resurvey known sites	B	Stream, lake margins
<i>Mazus novaezeelandiae</i> subsp. <i>impolitus</i> f. <i>impolitus</i>	Landowner/manager engagement	A	Monitor known sites	B	Wetland/ damp ground
<i>Microtis oligantha</i>	Landowner/manager engagement	B	Resurvey known sites	B	Montane
<i>Myrsine umbricola</i>	Public land, control deer	C	Monitor known sites every five years	C	Cloud forest
<i>Olearia gardneri</i>	Landowner/manager engagement	C	Monitor known sites every five years	C	Forest
<i>Pimelea</i> aff. <i>villosa</i>	Landowner/manager engagement, control pests	A	Resurvey known sites	B	Coastal
<i>Rhabdothamnus solandri</i>	Landowner/manager engagement	C	Monitor known sites every five years	C	Forest
<i>Schoenus concinnus</i>	Landowner/manager engagement	C	Resurvey known sites	B	Coastal

Table 3.2: Management and survey priorities for Regionally Endangered species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Trichomanes strictum</i>	Landowner/manager engagement	C	Resurvey known sites	C	Forest
<i>Vittadinia australis</i>	Landowner/manager engagement	C	Resurvey known sites	B	Rocky outcrops

Table 3.3: Management and survey priorities for Regionally Vulnerable species

Name and Authority	Management Needs	Management Priority	Survey Needs	Survey Priority	Habitat
<i>Aciphylla squarrosa</i> var. <i>squarrosa</i>	Control browsers	C	Monitor outcomes of management	C	Coastal
<i>Bolboschoenus medianus</i>	Landowner/manager engagement	C	Monitor known populations	C	Coastal
<i>Carex buchananii</i>	Propagate	B	Monitor outcomes of management	B	Wetland
<i>Daucus glochidiatus</i>	Public land	C	Monitor known sites every five years	C	Forest
<i>Diplazium australe</i>	Landowner/manager engagement	C	Monitor known sites every five years	C	Forest
<i>Ficinia spiralis</i>	Propagate/ ensure landowners are aware	C	Monitor outcomes of management	C	Coastal
<i>Isoetes kirkii</i>	Public land	C	Resurvey known sites	A	Wetland
<i>Korthalsella clavata</i>	Public land	C	Monitor known sites every five years	C	Shrubland
<i>Kunzea serotina</i>	Public land	C	Monitor known sites every five years	C	Forest
<i>Olearia cheesemanii</i>	Public land	C	Monitor known sites every five years	C	Forest
<i>Solanum aviculare</i> var. <i>aviculare</i>	Landowner/manager engagement	B	Resurvey known sites	A	Forest margin
<i>Teucrium parvifolium</i>	Landowner/manager engagement	B	Monitor known populations	B	Lowland forest

Management and survey priorities are ranked from A to C, with A being the highest

Appendix 4: Distribution of Regionally Threatened indigenous vascular plant species across district councils

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Aciphylla squarrosa</i>	Vulnerable	*	*	*	*		*	*	*
<i>Adiantum aethiopicum</i>	Endangered						*	*	
<i>Adiantum hispidulum</i>	Critical				*		*		
<i>Alepis flavida</i>	Critical							*	*
<i>Amphibromus fluitans</i>	Endangered	*					*		*
<i>Anaphalioides subrigida</i>	Endangered						*		*
<i>Anemanthele lessoniana</i>	Endangered			*			*		
<i>Anogramma leptophylla</i>	Endangered	*		*			*	*	*
<i>Anthosachne solandri</i>	Endangered		*	*			*		*
<i>Asplenium lamprophyllum</i>	Critical			*					
<i>Asplenium obtusatum</i>	Critical	*	*	*	*				
<i>Asplenium subglandulosum</i>	Critical						*		
<i>Astelia grandis</i>	Endangered	*		*					
<i>Atriplex buchananii</i>	Critical			*					
<i>Blechnum molle</i>	Critical						*		
<i>Blechnum zeelandicum</i>	Critical		*				*		*

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Bolboschoenus medianus</i>	Vulnerable								*
<i>Botrychium australe</i>	Critical	* KI			*		*		
<i>Brachyglottis compacta</i>	Critical	*							*
<i>Brachyglottis greyi</i>	Endangered				*		*		
<i>Brachyglottis kirkii</i>	Endangered	*				*	*		
<i>Brachyglottis pentacopa</i>	Critical								*
<i>Brachyglottis sciadophila</i>	Critical							*	
<i>Carex appressa</i>	Critical					*	*		
<i>Carex buchananii</i>	Vulnerable					*	*		
<i>Carex cirrhosa</i>	Critical						*		
<i>Carex colensoi</i>	Critical								*
<i>Carex litorosa</i>	Critical	*							
<i>Convolvulus waitaha</i>	Critical						*		
<i>Coprosma obconica</i>	Critical								*
<i>Coprosma pedicellata</i>	Critical						*	*	
<i>Coprosma virescens</i>	Endangered				*	*		*	*
<i>Coprosma wallii</i>	Critical							*	
<i>Corybas dienemus</i>	Critical	*				*			

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Craspedia uniflora</i> var. <i>maritima</i>	Endangered		*	*	*				
<i>Crassula peduncularis</i>	Critical						*		
<i>Cystopteris tasmanica</i>	Critical								*
<i>Dactylanthus taylorii</i>	Critical								*
<i>Daucus glochidiatus</i>	Vulnerable	* KI		*	*		*		
<i>Deparia petersenii</i>	Critical	*		*			*		
<i>Dichelachne micrantha</i>	Critical						*		
<i>Dicksonia lanata</i>	Critical					*			
<i>Diplazium australe</i>	Endangered	*	*	*		*	*	*	*
<i>Discaria toumatou</i>	Endangered	* KI		*	*		*	*	*
<i>Eleocharis sphacelata</i>	Critical	*					*		
<i>Eryngium vesiculosum</i>	Critical			*	*		*		
<i>Euphorbia glauca</i>	Critical	*KI							
<i>Ficinia spiralis</i>	Vulnerable	*		*	*		*	*	*
<i>Gahnia rigida</i>	Critical				*	*			
<i>Gastrodia cooperae</i>	Critical								*
<i>Geranium retrorsum</i>	Critical				*		*		
<i>Gratiola concinna</i>	Critical								*

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Gunnera prorepens</i>	Endangered			*			*		
<i>Hymenophyllum australe</i>	Critical	*				*			
<i>Hypolepis dicksonioides</i>	Critical	*	*	*	*		*		
<i>Isoetes kirkii</i>	Vulnerable						*		
<i>Isolepis basilaris</i>	Critical				*		*		*
<i>Juncus pauciflorus</i>	Critical			*					
<i>Korthalsella clavata</i>	Vulnerable			*	*		*		
<i>Korthalsella salicornioides</i>	Critical	*			*		*		
<i>Kunzea serotina</i>	Vulnerable						*		
<i>Lepidium oleraceum</i>	Critical	* KI	*	*					
<i>Lepilaena bilocularis</i>	Vulnerable				*		*		
<i>Leptinella nana</i>	Critical		*						
<i>Leptinella pusilla</i>	Critical						*		
<i>Leptinella tenella</i>	Endangered			*	*		*		
<i>Lycopodiella lateralis</i>	Critical					*			
<i>Mazus novaezeelandiae</i> subsp. <i>impolitus</i> f. <i>impolitus</i>	Endangered						*		*
<i>Mentha cunnighamii</i>	Critical			*					

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Melicytus orarius</i>	Critical		*	*			*		
<i>Microtis oligantha</i>	Endangered			*					
<i>Muehlenbeckia astonii</i>	Critical			*	*		*		*
<i>Myosotis brevis</i>	Critical			*			*		
<i>Myrsine umbricola</i>	Endangered							*	
<i>Notogrammitis givenii</i>	Critical						*	*	
<i>Notogrammitis patagonica</i>	Critical							*	
<i>Olearia cheesemanii</i>	Vulnerable	*					*		
<i>Olearia gardneri</i>	Endangered							*	
<i>Peraxilla colensoi</i>	Critical	*							*
<i>Peraxilla tetrapetala</i>	Critical				*	*	*	*	
<i>Pimelea aff. villosa</i>	Endangered							*	*
<i>Pimelea gnidia</i>	Critical	*			*		*		
<i>Pimelea tomentosa</i>	Critical								*
<i>Pittosporum obcordatum</i>	Critical						*	*	*
<i>Pseudopanax ferox</i>	Critical			*			*		
<i>Pteris saxatilis</i>	Critical			*					
<i>Pterostylis irwinii</i>	Endangered						*		

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Pterostylis micromega</i>	Critical					*	*		
<i>Pterostylis porrecta</i>	Critical		*				*		
<i>Rhabdothamnus solandri</i>	Endangered		*	*					
<i>Rumex neglectus</i>	Critical			*					
<i>Rytidosperma merum</i>	Critical							*	
<i>Rytidosperma petrosum</i>	Critical	* KI		*			*	*	
<i>Schizaea australis</i>	Critical		*			*			
<i>Schoenus concinnus</i>	Endangered		*				*		
<i>Simplicia felix</i>	Critical		*				*		
<i>Solanum aviculare var. aviculare</i>	Vulnerable	*	*	*	*	*	*		
<i>Sophora molloyi</i>	Critical	* KI		*	*		*		
<i>Spiranthes novae-zelandiae</i>	Critical	*							
<i>Teucrium parvifolium</i>	Vulnerable					*	*	*	*
<i>Trichomanes colensoi</i>	Critical	*		*	*	*			*
<i>Trichomanes elongatum</i>	Critical	*			*				
<i>Trichomanes strictum</i>	Endangered	*				*			
<i>Tupeia antarctica</i>	Critical	*		*		*	*	*	*
<i>Urtica perconfusa</i>	Critical		*				*		

Table 4.1: Distribution of species across district councils

Name	Regional Threat Status	Kapiti Coast District	Porirua City	Wellington City	Hutt City	Upper Hutt City	South Wairarapa District	Carterton District	Masterton District
<i>Vittadinia australis</i>	Endangered			*					

KI = Kapiti Island only