Auckland Regional Threatened & Uncommon Vascular Plants List

Rebecca Stanley, Peter de Lange & E K Cameron

Introduction

Previous listings of Auckland's threatened and uncommon vascular plants were published in the Auckland Botanical Society Journal (de Lange and Cameron 1997a; de Lange and Cameron 1997b; de Lange *et al.* 1999). Unlike these earlier listings, the present listing has resulted from an assessment of a draft list (the authors unpubl. data) of all taxa believed to be indigenous to Auckland Region (excluding Kermadec Island Group which were included in the first regional threatened plants list). In addition this list is the first Auckland Regional list using set criteria (de Lange *et al.* 2004). Thus the taxa listed here are the subset of the entire Auckland vascular flora that meet the criteria that define the categories of the New Zealand threatened plant classification system (de Lange *et al.* 2004). Necessarily, and because of the regional focus, we have modified this system to enable the conservation assessment of the Auckland vascular flora. Therefore whether the species was included in the national threatened and uncommon plant list (de Lange *et al.* 2004) was not a consideration in this regional listing. Here we present the revised list.

Methods

All vascular plant taxa (species, subspecies, varieties, forma, and those entities as yet without formal taxonomic rank) believed to be indigenous to the Auckland Region were listed. Each taxon or unnamed entity was assessed and placed in risk categories based on the criteria outlined by Molloy et al. (2002) and used in de Lange et al. (2004) using the authors' collective knowledge, referral to herbarium records in the Auckland Museum Herbarium (AK), expert opinion and publications (notably the *Auckland Botanical Society Journal*). In situations of doubt the taxa are listed in the Data Deficient category.

The risk categories used are based on those of Molloy et al. (2002) but modified to enable a regional focus: "Extinct"; "Acutely Threatened" (Regionally Critical, Regionally Endangered, Regionally Vulnerable); "Chronically Threatened" (Serious Decline, Gradual Decline); "At Risk" (Sparse, Range Restricted); "Non-resident Native" (Coloniser, Vagrant); and "Data Deficient". However the definition of "Range Restricted" departs from that offered by Molloy *et al.* (2002). This paper defines "Range Restricted" as those species naturally confined to specific restricted habitats in the region e.g. cloud forest (above 600m), specialised/unique habitats, e.g., acidic wetland systems, or small geographic areas such as offshore islands.

Two lists are presented here: the main Auckland Threatened and Uncommon Vascular Plant list; and the taxonomically indeterminate list which includes taxa we believe to be potentially distinct and threatened but not taxonomically resolved (Appendix 2).

Results and Discussion

We have identified 326 taxa and unnamed entities of indigenous Auckland vascular plants (or 43.2% of the total regional flora) as threatened or non-resident native. Of these (with percentages of the total taxonomically determinate Auckland indigenous vascular flora given in brackets), 35 (4.7%) are believed "Extinct", 103 (13.7%) "Acutely Threatened", 20 (2.7%) "Chronically Threatened", 110 (14.7%) "At Risk", and 3 (0.4%) "Non-resident Native". An additional 16 taxa have been listed as threatened but taxonomically indeterminate. Fifty three (7.1%) candidate taxa have been assessed as Data Deficient because there was insufficient information to provide a more detailed assessment, although there were reasons to believe that they warrant listing. Sixteen taxonomically indeterminate taxa are listed in Appendix 2. Only one species listed as nationally threatened or uncommon (*Mida salicifolia*) was not considered threatened regionally in Auckland.

Qualifiers

The following qualifiers provide additional information which adds meaning to the threat classification; they are an integral part of the classification of each taxon. When a taxon is listed in a Threatened category, all of the qualifiers that apply to it are recorded. Full definitions are provided for the qualifiers used in this list by Molloy *et al.* (2002) and de Lange *et al.* (2004).

CD	Conservation Dependent (Likely to move to a higher threat category if not managed)
DP	Data Poor (Confidence in the listing is low due to the poor data available for assessment)
EF	Extreme Fluctuations (Extreme unnatural population fluctuations, or natural fluctuations overlaying human-induced declines, that increase the threat of extinction)
HI	Human Induced (Present distribution is a result of direct or indirect human activity)
IE	Island Endemic (taxa confined to a single archipelago beyond the mainland of Auckland)
OL	One Location (Found at one location (geographically or ecologically distinct area) in which a single event (e.g. a predator irruption) could soon affect all individuals of the taxon)
RC	Recovering (Total population showing a sustained recovery)
RF	Recruitment Failure (Current population may appear stable but the age structure is such that catastrophic declines are likely in the future)
SO	Secure Overseas (Secure in other parts of its natural range outside New Zealand)

ST	Stable (Total population stable)
TO	Threatened Overseas (Threatened in those parts of its natural range outside New Zealand)

Appendix 1. Auckland threatened and uncommon vascular plant list

Regionally Extinct (34)

A taxon is listed as Extinct when there is no reasonable doubt, after repeated surveys in known or expected habitats at appropriate times and throughout the taxon's historic range, that the last naturally occurring individual has died. Only taxa which have become extinct since 1840 are included in this list.

Asplenium pauperequitum EF	Aspleniaceae
Atriplex hollowayi EF	Amaranthaceae
Brachyglottis myrianthos	Asteraceae
Clianthus maximus	Fabaceae
Discaria toumatou	Rhamnaceae
Drosera pygmaea	Droseraceae
Elymus solandri	Poaceae
Epilobium alsinoides	Onagraceae
Gratiola nana	Plantaginaceae
Hierochloe redolens	Poaceae
Isolepis fluitans var. *fluitans*	Cyperaceae
Juncus caespiticius	Juncaceae
Lepidium flexicaule	Brassicaceae
Lepidium obtusatum	Brassicaceae
Leptinella rotundata	Asteraceae
Libertia peregrinans	Iridaceae
Linguella puberula	Orchidaceae
Myosotis forsteri	Boraginaceae
Myosotis pygmaea var. *pygmaea*	Boraginaceae
Phylloglossum drummondii	Lycopodiaceae
Pimelea arenaria s.s.	Thymelaeaceae
Polygonum plebeium	Polygonaceae
Pomaderris phylicifolia	Rhamnaceae
Potamogeton suboblongus	Potamogetonaceae
Potentilla anserinoides	Rosaceae
Prasophyllum hectorii	Orchidaceae
Pterostylis nutans	Orchidaceae
Rubus schmidelioides var. *schmidelioides*	Rosaceae
Rumex flexuosus	Polygoneaceae
Trilepidea adamsii	Loranthaceae
Trisetum lasiorhachis DP	Poaceae
Utricularia dichotoma	Lentibulariaceae
Viola lyallii	Violaceae
Vittadinia australis	Asteraceae

Regionally Acutely Threatened (103)

Acutely Threatened taxa are those which meet the criteria specified by Molloy *et al*. (2002) for the categories 1. Regionally Critical, 2. Regionally Endangered, and 3. Regionally Vulnerable.

1. Regionally Critical (77)

Listed here are those taxa which qualify as Nationally Critical, because of their small population size (<=250 mature individuals), or the number of sub-populations known (<2, with <=200 mature individuals in the largest of these), or their area of occupancy (0.01 km^2), or their predicted decline rate (>=80% in the next 10 years).

Amphibromus fluitans EF, TO	Poaceae
Anogramma leptophylla EF, SO	Pteridaceae
Anzybas rotundifolius EF	Orchidaceae
Arthropodium candidum DP	Asparagaceae
Ascarina lucida var. *lucida*	Chloranthaceae
Asplenium appendiculatum subsp. *maritimum* ST	Aspleniaceae
Astelia grandis RF	Asteliaceae
Australina pusilla DP	Urticaceae
Austrofestuca littoralis	Poaceae
Baumea complanata RF, OL	Cyperaceae
Blechnum colensoi DP	Blechnaceae
Blechnum vulcanicum	Blechnaceae
Bolboschoenus caldwellii DP	Cyperaceae
Botrychium australe EF, SO	Ophioglossaceae
Calochilus paludosus OL, EF	Orchidaceae
Calystegia marginata EF, DP	Convolvulaceae
Carex fascicularis DP	Cyperaceae
Carex litorosa DP	Cyperaceae
Carmichaelia williamsii RF	Fabaceae
Centipeda minima var. *minima* EF, SO	Asteraceae
Chionochloa conspicua subsp. *cunninghamii*	Poaceae
Clianthus puniceus OL, EF, CD	Fabaceae
Colensoa physaloides OL	Lobeliaceae
Cordyline indivisa OL, RC	Asparagaceae
Crassula hunua OL, CD	Crassulaceae
Cyclosorus interruptus CD, SO	Thelypteridaceae
Cyperus ustulatus f. *grandispiculosus* DP	Cyperaceae
Dactylanthus taylorii CD, RF , DP	Balanophoraceae
Daucus glochidiatus EF, SO	Apiaceae
Elaeocarpus hookerianus	Elaeocarpaceae
Eleocharis neozelandica EF	Cyperaceae
Empodisma minus DP	Restionaceae
Epacris sinclairii RC, ST	Ericaceae
Epilobium hirtigerum EF	Onagraceae
Euphorbia glauca CD, HI	Euphorbiaceae
Fimbristylis velata EF	Cyperaceae
Galium trilobum DP	Rubiaceae
Gastrodia cunninghamii DP	Orchidaceae
Gratiola sexdentata	Plantaginaceae
Hebe pubescens subsp. *pubescens* OL, DP	Plantaginaceae
Hebe speciosa OL	Plantaginaceae
Ileostylus micranthus CD	Loranthaceae
Leptinella dioica subsp. *dioica* DP	Asteraceae
Leptinella dispersa subsp. *rupestris* EF	Asteraceae
Lindsaea viridis DP	Dennstaedtiaceae
Luzula banksiana var. *banksiana*	Juncaceae

Manoao colensoi RF	Podocarpaceae
Mazus novaezeelandiae subsp. *impolitus* f. *impolitus* CD	Phrymaceae
Metrosideros parkinsonii ST	Myrtaceae
Myosotis spathulata s.l.	Boraginaceae
Myriophyllum robustum	Haloragaceae
Nertera scapanioides	Rubiaceae
Nertera villosa DP	Rubiaceae
Nestegis cunninghamii RF, DP	Oleaceae
Nothofagus solandri var. *solandri* OL, ST	Nothofagaceae
Ophioglossum petiolatum EF, SO	Ophioglossaceae
Pellaea falcata s.s. SO, DP	Pteridaceae
Plagianthus regius DP, RF	Malvaceae
Plantago raoulii DP	Plantaginaceae
Plumatochilus tasmanicum EF, SO	Orchidaceae
Puccinellia stricta EF, SO	Poaceae
Ranunculus macropus DP	Ranunculaceae
Rorippa divaricata EF, CD	Brassicaceae
Schizeilema trifoliolatum	Apiaceae
Schoenus carsei DP	Cyperaceae
Schoenus concinnus OL	Cyperaceae
Schoenus nitens OL	Cyperaceae
Senecio repangae subsp. *repangae*	Asteraceae
Senecio rufiglandulosus EF	Asteraceae
Senecio scaberulus EF	Asteraceae
Sonchus kirkii EF, DP	Asteraceae
Stenostachys gracilis DP	Poaceae
Streblus banksii RF	Moraceae
Tetragonia tetragonioides EF, DP, SO	Aizoaceae
Thelymitra formosa DP, EF	Orchidaceae
Tupeia antarctica RF	Loranthaceae
Utricularia australis DP	Lentibulariaceae

2. Regionally Endangered (23)

Listed here are those taxa characterised by their small population size (250–1000 mature individuals), <5 subpopulations known (with either <=300 mature individuals in the largest population or the total area of occupancy <0.1 km^2), and a moderate to high recent predicted decline (>30% of the total population or habitat area over the last 100 years, or predicted to occur within the next 10 years); or those taxa typified by small to moderate population sizes (1000–5000 mature individuals), <15 sub-populations (with <200–500 mature individuals in the largest or the total area of occupancy is 0.1–1 km^2), and a high recent or predicted decline (>60% of the total population or habitat area over the last 100 years, or this is predicted to occur within the next 10 years).

Azolla filiculoides	Salvinaceae
Carex subdola	Cyperaceae
Coprosma rigida DP	Rubiaceae
Epilobium pedunculare DP	Onagraceae
Gunnera prorepens	Gunneraceae
Juncus pauciflorus DP	Juncaceae
Kunzea ericoides var. *linearis*	Myrtaceae
Lepidium oleraceum s.s. EF, CD	Brassicaceae
Leptinella squalida subsp. *squalida*	Asteraceae
Leptostigma setulosa DP	Rubiaceae
Lophomyrtus obcordata DP	Myrtaceae
Luzula picta var. *picta*	Juncaceae
Mimulus repens SO	Phrymaceae
Myosotis petiolata var. *pansa* EF	Boraginaceae
Myrsine divaricata	Myrsinaceae
Nestegis apetala RC	Oleaceae
Pimelea longifolia	Thymelaeaceae
Pimelea tomentosa EF	Thymelaeaceae
Pisonia brunoniana RC, CD	Nyctaginaceae
Pseudopanax ferox HI, ST	Araliaceae
Ranunculus acaulis	Ranunculaceae
Scleranthus biflorus	Caryophyllaceae
Sparganium subglobosum	Sparganiaceae

3. Regionally Vulnerable (4)

Listed here are those taxa characterised by their small to moderate population size (1000–5000 mature individuals),<=15 sub-populations (either with 300–500 mature individuals in the largest sub-population or occupying a total area of 0.1–1 km^2), and with either an initially historic but continuing decline rate of 30–60% in total population size or habitat area over the last 100 years, or a predicted decline of 30–60% in the total population likely in the next 10 years.

Coprosma propinqua var. *propinqua* DP	Rubiaceae
Hebe bishopiana OL, CD	Plantaginaceae
Pittosporum kirkii CD	Pittosporaceae
Raukaua edgerleyi RF, DP	Araliaceae

Regionally Chronically Threatened (20)

Chronically Threatened taxa are those which meet the criteria specified by Molloy *et al.* (2002) for the categories 1. Serious Decline and 2. Gradual Decline.

1. Serious Decline (9)

Taxa qualify if they occur as moderate to large populations where there is a moderate to large predicted decline (with total population size > 5000 mature individuals, > 15 sub-populations and either > 500 mature individuals in the largest sub-population or the total area of occupancy > 1 km^2, with a predicted decline rate of > 30% in total population over the next 10 years), or taxa exist as small to moderate sized populations with a small to moderate predicted decline (with total population < 5000 mature individuals, <=500 mature individuals in the largest subpopulation or total area of occupancy <1 km^2, with a predicted decline rate of 5–30% in the total population over the next 10 years).

Brachyglottis kirkii var. *kirkii*	Asteraceae
Coprosma acerosa DP	Rubiaceae
Desmoschoenus spiralis	Cyperaceae
Epilobium nerteroides	Onagraceae
Paspalum orbiculare SO	Poaceae

Picris burbidgeae EF	Asteraceae
Ranunculus urvilleanus EF	Ranunculaceae
Scandia rosifolia DP	Apiaceae
Senecio biserratus EF	Asteraceae

2. Gradual Decline (11)

Taxa qualify if they occur as moderate to large populations with small to moderate predicted declines (total population size > 5000 mature individuals, > 15 sub-populations and either > 500 mature individuals in the largest sub-population or the total area of occupancy > 1 km^2, with a decline rate of 5–30% in total population over the next 10 years, which is predicted to continue beyond 10 years).

Celmisia major var. *major* HI	Asteraceae
Corunastylis pumila SO, EF	Orchidaceae
Elymus multiflorus	Poaceae
Geranium retrorsum s.s.	Geraniaceae
Geranium solanderi s.s.	Geraniaceae
Marattia salicina SO, CD	Marattiaceae
Myoporum laetum	Scrophulariaceae
Pouteria costata	Sapotaceae
Syzygium maire DP	Myrtaceae
Trisetum arduanum	Poaceae
Zoysia minima	Poaceae

Regionally At Risk (110)

These are taxa which do not qualify as Acutely or Chronically Threatened but which exist as widely scattered, small sub-populations or have restricted ranges. Although such taxa are not currently considered threatened, their small population size and aspects of their biology and ecology place them at potential risk, which is why they are listed here as either 1. Sparse or 2. Range Restricted.

1. Sparse (53)

Taxa that, for largely undetermined reasons, occur within typically small and widely scattered populations. This distribution appears wholly natural, and is not considered the result of past or recent anthropogenic disturbance. However, as the candidate taxa usually occur in small numbers at any given site, they are naturally susceptible to extirpation within parts of their range.

Adelopetalum tuberculatum	Orchidaceae
Asplenium hookerianum	Aspleniaceae
Baumea arthrophylla SO	Cyperaceae
Blechnum blechnoides SO	Blechnaceae
Blechnum norfolkianum TO	Blechnaceae
Blechnum triangularifolium	Blechnaceae
Bromus arenarius EF, SO	Poaceae
Carex forsteri	Cyperaceae
Corokia cotoneaster	Argophyllaceae
Crassula colligata subsp. *colligata* DP, EF, SO	Crassulaceae
Danhatchia australis EF	Orchidaceae
Dicksonia fibrosa	Dicksoniaceae
Doodia mollis	Blechnaceae
Doodia squarrosa	Blechnaceae
Drosera peltata DP, SO	Droseraceae
Earina aestivalis	Orchidaceae
Einadia triandra DP	Amaranthaceae
Epilobium pubens	Onagraceae
Geranium potentilloides SO	Geraniaceae
Glossostigma elatinoides EF, SO	Phrymaceae
Grammitis rawlingsii	Grammitidaceae
Hymenophyllum cupressiforme SO	Hymenophyllaceae
Hypolepis dicksonioides SO	Dennstaedtiaceae
Hypolepis lactea	Dennstaedtiaceae
Hypolepis rufobarbata	Dennstaedtiaceae
Korthalsella salicornioides	Loranthaceae
Lagenifera stipitata SO	Asteraceae
Leptinella tenella	Asteraceae
Libocedrus plumosa	Cupressaceae
Linum monogynum var. *monogynum*	Linaceae
Metrosideros carminea	Myrtaceae
Microlaena polynoda	Poaceae
Nestegis montana	Oleaceae
Olearia albida	Asteraceae
Ophioglossum coriaceum EF	Ophioglossaceae
Pelargonium inodorum SO	Geraniaceae
Pennantia corymbosa	Pennantiaceae
Pittosporum ellipticum	Pittosporaceae
Pomaderris hamiltonii EF	Rhamnaceae
Pomaderris rugosa	Rhamnaceae
Potamogeton ochreatus SO	Potamogetonaceae
Pseudowintera colorata	Winteraceae
Psilotum nudum SO	Psilotaceae
Pteris comans	Pteridaceae
Schizaea dichotoma SO	Schizaeaceae
Senecio quadridentatus EF, SO	Asteraceae
Sophora microphylla	Fabaceae
Stegostyla atradenia EF	Orchidaceae
Thelymitra aemula EF	Orchidaceae
Thelymitra carnea EF	Orchidaceae
Thelymitra tholiformis EF	Orchidaceae
Tmesipteris sigmatifolia	Psilotaceae
Wahlenbergia littoricola subsp. *vernicosa* TO	Campanulaceae

2. Range Restricted (57)

Taxa whose distribution is naturally confined to specific restricted habitats in the region (e.g., cloud forest), or geographic areas (e.g., offshore islands) and within that area they are under no obvious or immediate threat. However, because of their distribution they are naturally susceptible to extirpation.

Archeria racemosa	Ericaceae
Blechnum nigrum	Blechnaceae
Blechnum procerum SO	Blechnaceae
Chionochloa bromoides	Poaceae
Collospermum microspermum	Asteliaceae
Coprosma dodonaeifolia	Rubiaceae
Coprosma parviflora HI, DP	Rubiaceae
Dicksonia lanata	Dicksoniaceae
Dracophyllum patens	Ericaceae

Dracophyllum traversii	Ericaceae
Drosera spatulata HI, SO	Droseraceae
Fuchsia procumbens	Onagraceae
Gastrodia minor	Orchidaceae
Grammitis billardierei	Grammitidaceae
Grammitis magellanica subsp. *nothofageti*	Grammitidaceae
Grammitis pseudociliata	Grammitidaceae
Griselinia littoralis	Griseliniaceae
Gunnera dentata	Gunneraceae
Halocarpus kirkii	Podocarpaceae
Hebe diosmifolia HI, OL	Plantaginaceae
Hebe macrocarpa var. *latisepala*	Plantaginaceae
Hebe obtusata	Plantaginaceae
Hebe pubescens subsp. *rehuarum* IE	Plantaginaceae
Hebe pubescens subsp. *sejuncta* IE	Plantaginaceae
Hymenophyllum armstrongii	Hymenophyllaceae
Hymenophyllum lyallii	Hymenophyllaceae
Ipomoea cairica SO	Convolvulaceae
Kunzea sinclairii IE	Myrtaceae
Lagenifera lanata HI	Asteraceae
Lepidothamnus intermedius	Podocarpaceae
Libertia micrantha	Iridaceae
Loxsoma cunninghamii	Loxsomataceae
Macropiper excelsum subsp. *peltatum* IE	Piperaceae
Melicytus lanceolatus	Violaceae
Mentha cunninghamii DP	Lamiaceae
Metrosideros umbellata	Myrtaceae
Myriophyllum votschii	Haloragaceae
Olearia allomii IE	Asteraceae
Pellaea calidirupium SO	Pteridaceae
Peraxilla tetrapetala OL	Loranthaceae
Pittosporum huttonianum	Pittosporaceae
Pittosporum virgatum	Pittosporaceae
Poa imbecilla HI	Poaceae
Polystichum silvaticum DP	Dryopteridaceae
Pseudopanax colensoi	Araliaceae
Pseudopanax discolor	Araliaceae
Raukaua anomalus HI, DP	Araliaceae
Senecio marotiri EF	Asteraceae
Senecio repangae subsp. *pokohinuensis* EF	Asteraceae
Senecio sterquilinus EF	Asteraceae
Solanum aviculare f. *latifolia*	Solanaceae
Sophora fulvida	Fabaceae
Spiranthes novae-zealandiae HI, EF	Orchidaceae
Sticherus flabellatus SO	Gleicheniaceae
Trichomanes strictum	Hymenophyllaceae
Uncinia clavata DP	Cyperaceae
Uncinia laxiflora	Cyperaceae

Non-resident Native (3)

Taxa whose natural presence in New Zealand is either sporadic or temporary (1. Vagrant) or they have succeeded in recently (<50 years) establishing themselves beyond their point of introduction (2. Coloniser).

1.Vagrant (2)

Taxa whose occurrences, though natural, are sporadic and typically transitory. Most (if not all) fail to establish themselves beyond their point of arrival because of reproductive failure or for specific ecological reasons.

Gratiola pubescens OL, SO	Plantaginaceae
Senecio australis so	Asteraceae

2. Coloniser (1)

Taxa which have arrived without direct or indirect human assistance and which have been successfully reproducing in the wild for < 50 years.

Thelypteris confluens SO	Thelypteridaceae

Data Deficient (53)

Taxa that are suspected but not definitely known to belong to any of the above categories due to a lack of current information about their present-day distribution and abundance. It is hoped that listing such taxa will stimulate research to find out the true category or threat. For a fuller definition see Molloy *et al.* (2002).

Alseuosmia banksii var. *banksii*	Alseuosmiaceae
Alseuosmia banksii var. *linariifolia*	Alseuosmiaceae
Arthropodium bifurcatum	Asparagaceae
Astelia fragrans	Asteliaceae
Callitriche petriei subsp. *petriei*	Plantaginaceae
Carex sinclairii	Cyperaceae
Centipeda aotearoana EF	Asteraceae
Centipeda elatinoides EF	Asteraceae
Centrolepis strigosa EF, SO	Centrolepidaceae
Clematis foetida	Ranunculaceae
Coprosma tenuicaulis	Rubiaceae
Cortaderia toetoe	Poaceae
Dichelachne inaequiglumis SO, EF	Poaceae
Dichelachne micrantha EF	Poaceae
Dracophyllum lessonianum	Ericaceae
Elatine gratioloides	Elatinaceae
Epilobium billardiereanum	Onagraceae
Epilobium chionanthum	Onagraceae
Epilobium insulare	Onagraceae
Epilobium komarovianum	Onagraceae
Euchiton delicatus	Asteraceae
Euchiton limosus	Asteraceae
Galium propinquum SO	Rubiaceae
Gunnera monoica DP	Gunneraceae
Hydrocotyle microphylla	Apiaceae
Hydrocotyle pterocarpa	Apiaceae
Hymenophyllum bivalve	Hymenophyllaceae
Hypericum involutum SO	Hyperiaceae
Juncus distegus	Juncaceae
Isolepis distigmatosa	Cyperaceae
Leptolepia novae-zelandiae	Dryopteridaceae
Metrosideros albiflora DP	Myrtaceae
Microlaena carsei	Poaceae
Molloybas cryptanthus	Orchidaceae

Neomyrtus pedunculata SO	Myrtaceae
Olearia angulata	Asteraceae
Oplismenus hirtellus subsp. *hirtellus* SO	Poaceae
Petalochilus alatus EF	Orchidaceae
Petalochilus bartlettii EF	Orchidaceae
Stuckenia pectinata SO	Potamogetonaceae
Pterostylis cardiostigma	Orchidaceae
Pterostylis paludosa	Orchidaceae
Ranunculus glabrifolius	Ranunculaceae
Raukaua simplex	Araliaceae
Rubus squarrosus	Rosaceae
Ruppia megacarpa SO	Ruppiaceae
Ruppia polycarpa SO	Ruppiaceae
Rytidosperma clavatum TO	Poaceae
Thelymitra cyanea EF	Orchidaceae
Thelymitra pulchella EF	Orchidaceae
Thismia rodwayi EF, TO	Burmanniaceae
Urtica incisa	Urticaceae
Utricularia delicatula	Lentibulariaceae

Appendix 2. Auckland Taxonomically indeterminate listings.

This appendix includes 16 described taxa whose taxonomic status is uncertain and requires further investigation, and also potentially distinct plants whose taxonomic status has yet to be determined. In both instances, available information suggests that those plants listed could be under some level of threat.

Extinct (1)

Hibiscus aff. *trionum* (AK 253689)	Malvaceae

Regionally Acutely Threatened (6)

1. Regionally Critical (5)

Astelia aff. *nervosa* (AK 105240)	Asteliaceae
Calochilus aff. *herbaceus* EF (AK 251366)	Orchidaceae
Prasophyllum aff. *colensoi* DP (AK 234369)	Orchidaceae
Pratia aff. *angulata* (AK 277108)	Lobeliaceae
Pseudowintera aff. *axillaris* OL (CHR 404048)	Winteraceae

2. Regionally Endangered (1)

Sicyos aff. *australis* (a) ("offshore islands"; AK 37077)	Cucurbitaceae

3. Regionally Vulnerable (0)

Regionally Chronically Threatened (0)

1. Serious Decline (0)

2. Gradual Decline (0)

Regionally At Risk (3)

1. Sparse (1)

Gastrodia aff. *sesamoides* (AK 119744)	Orchidaceae

2. Range Restricted (2)

Dichondra aff. *brevifolia* (AK 222953)	Convolvulaceae
Stellaria aff. *parviflora* EF (AK 165134)	Caryophyllaceae

Non-resident Native (0)

1. Vagrant (0)

2. Coloniser (0)

Data Deficient (5)

Coprosma aff. *neglecta* (AK 234447)	Rubiaceae
Grammitis aff. *rawlingsii* (AK 236942)	Grammitidaceae
Sicyos aff. *australis* (b) ("mainland" AK 256411)	Cucurbitaceae
Thelymitra aff. *ixioides* (AK 25909)	Orchidaceae
Dianella aff. *nigra* (b) (Kopuatai AK 252911)	Asparagaceae

Acknowledgements

Thanks to Mei Nee Lee for providing AK herbarium data, Paul D. Champion, Eric Scanlan, John E. Braggins, Rhys O. Gardner for their specialist advice.

References

de Lange, P. J. and Cameron, E. K. (1997a). Auckland Regional Threatened Plant List. *Auckland Botanical Society Journal 52*(1): 1-4.

de Lange, P. J. and Cameron, E.K. (1997b). Additional Comments to Auckland Threatened Plants List. *Auckland Botanical Society Journal 52*(2): 80.

de Lange, P. D., Norton, D., Heenan, P. B., Courtney, S. P., Molloy, B. P. J., Ogle, C. C., Rance, B. D., Johnson, P. N. and Hitchmough, R. (2004). Threatened and uncommon plants of New Zealand. *New Zealand Journal of Botany 42*: 45-76.

de Lange, P. J., Cameron, E. K. and Stanley, R. (1999). Threatened and uncommon plants of the Auckland Region and the Kermadec Islands. *Auckland Botanical Society Journal 54*(1): 37-41.

Molloy, J., Bell, B. D., Clout, M., de Lange, P. J., Gibbs, G., Given, D., Norton, D., Smith, N. and Stephens, T. (2002). Classifying species according to threat of extinction - a system for New Zealand. Threatened Species Occasional Publication no.22. Wellington, Department of Conservation.