Pohutukawa Bay had an extensive wash-up of seaweeds, the most abundant being *Ecklonia radiata* (Fig. 8) and *Hymenena variolosa*. Vouchered algae collections are listed in Table 2.

Acknowledgements
Comment on a draft account by Shelley Heiss-Dunlop; Department of Conservation for providing affordable boat access (*Hauturu*) for the ABS visit, especially the skipper James Emslie; the island managers, Andrea and Deane, for ferrying us to and from *Hauturu*; and Rhys Gardner for comments on the *Polygonum* identification.

References
Bellingham, P.J.; Towns D.R.; Cameron, E.K.; Davis, J.D.; Wardle, D.A.; Wilmshurst, J.M.; Mulder, C.P.H. 2010: New Zealand Island restoration: seabirds, predators and the importance of history. *New Zealand Journal of Ecology 34*: 115–136.
Gardiner-Gee, R.; Graham, S.; Griffiths, R.; Habgood, M.; Heiss-Dunlop, S.; Lindsay, H. 2007: Motuora Native Species Restoration Plan. *Motuora Restoration Society /Department of Conservation Auckland Conservancy.*
Heiss-Dunlop, S.; Fillery, J. 2006: Vascular flora of Motuora Island, Hauraki Gulf. *Auckland Botanical Society Journal 61*: 113–120.

Marunui Conservation Area, Mangawhai

Ewen K. Cameron

Background

On the 20 November 2010 the Auckland Botanical Society (ABS) re-visited Marunui, a privately-owned conservation area comprising 417 ha, on the southeast face of the Brynderwyns, near Mangawhai (Fig. 1). The first ABS visit was on 21 July 1990 when they recorded 180 native vascular species (Jones 1991). The property was purchased in 1987 and a company of 18 shareholders was formed – with each shareholder having the right to build a house on the property (so far 14 houses have been built). A QEII National Trust open-space covenant covers the whole property. The Marunui dwellings are centered on: 36°4' 52" S, 174° 31' 34" E, and the property ranges from c.20 m to 397 m asl. There is a track network of some 14 km so there are opportunities to explore different areas depending on time and fitness levels.

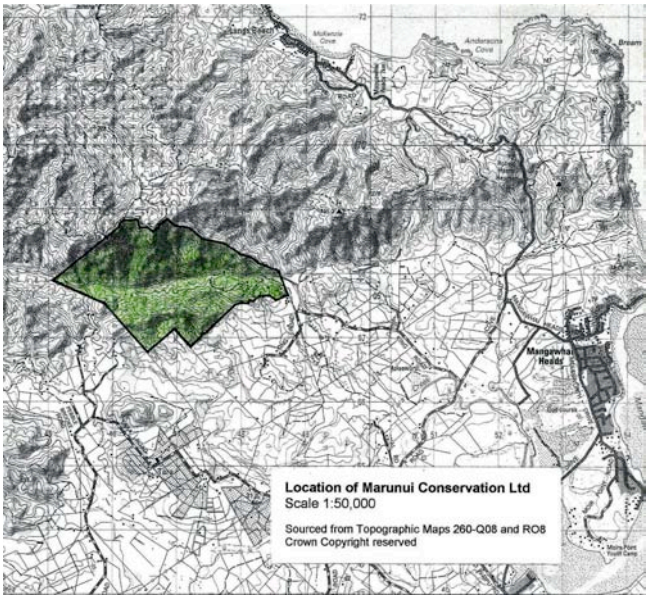

Fig. 1. Location of Marunui Conservation Area. Each square = 1 km^2. Map provided by John Hawley.

Fig. 2. Looking due west up the tributary of the Tara Creek valley from one of the shareholders' houses. Photo: Josh Salter, 20 Nov 2010.

The vegetation is in various stages of regenerating forest: tea-tree scrub (*Leptospermum* and *Kunzea*), tall kanuka (*Kunzea ericoides*), broadleaf forest, mixed broadleaf-podocarp forest (most impressive in the tributary of the Tara Creek valley), and kauri (*Agathis australis*) is locally present. All are in various stages of regeneration since kauri logging ceased early last century. Different habitats and vegetation types occur on the ridges, slopes, gullies, valley bottoms, clearings, stream margins and in small wetlands. Much of the forest is within the Department of Conservation's Schedule of Sites of Biological Interest, identified as being of high national importance. It is part of the Brynderwyn Hills Forest

Fig. 3. Going up Pa Hill through the open shrubland (good orchid habitat), with one of the shareholders, Nigel Prickett. Photo: EKC, 20 Nov 2010.

Complex recorded in the Natural Areas of Waipu Ecological District (Anon. 2007) as being home to three threatened and eleven regionally significant plant species. It is also a habitat for ten threatened and five regionally significant fauna, e.g. Hochstetter's frog, tomtit, kukupa, with kaka, bellbird and red-crowned kakariki all visiting.

Since the initial indigenous vascular plant list (Jones 1991) the shareholders have added another 43 native species, bringing the list before our 'recce' and visit in 2010 to a total of 216 species (excluding the unlikely record of *Ackama rosifolia* south of its accepted southern limit). Many of these plants are also included in the *Flora of Marunui*, written and illustrated by past shareholders, John and Pat Morton (1998).

ABS Visit - participants

ABS and visitors: *Enid & Paul Asquith, Jan Butcher, Ewen Cameron (leader), Lisa Clapperton, Brian Cumber, Bev & Geoff Davidson, Neil Davies, Frances Duff, Carol Fielding (Whangarei), Leslie Haines, Richard Hursthouse, John Kendrick (Waipu), Elaine Marshall, Josh Salter, Doug Shaw, Greg and Heather Stump (Waipu), Val Tomlinson, Alison Wesley, Mike Wilcox, Philip Wrigley, and Maureen Young.*

Marunui shareholders: *Joe & Rita Barber, Cathy & John Hawley, Bruce & Margaret Paine, Kath & Nigel Prickett, Robert Raine, Robyn Hamilton, and Steve Tonnies.*

We all met up at 9.30 am outside the Marunui gate at 300 King Road, and then further carpooled and drove in for c.1 km to near the Marunui dwellings. Cathy welcomed us and outlined the three track options they had chosen for the day, each with varying degrees of difficulty. After admiring the view westwards up the valley (Fig. 2) we all set out at 10.30 am with a shareholder leading each trip.

Option 1: Pa Hill – the most popular option. We climbed up through young manuka (*Leptospermum scoparium*) scrub and open sedgeland (Fig. 3) to the southwest of the settlement area to a flat hill-top (c.220 m asl). Good views across the forested valley were obtained (Fig. 4). The manuka in the open clay areas on the way up had attractive pale-pink petals, and sun orchids (*Thelymitra* spp.) were locally common. It was a treat to see such fine specimens of *T. aemula* in flower (Fig. 5), occurring with *T. longifolia* and a few *T. tholiformis.* (The *T. pauciflora* was observed elsewhere on the day). This former pa site, Pa Hill, featured ditches and numerous pits (c.6 x 3m by 1-1.5m deep) shaded by young regenerating forest above our heads. The tiny fern, *Grammitis ciliata*, was discovered on the bank of one of these pits. Two different taxa of *Alseuosmia* were observed on Pa Hill and they were quite consistent: small upright shrubs (<1m tall) of *A. banksii* var. *linariifolia* (Fig. 6) with narrow leaves (40-60mm long × 6-9 mm wide) but with "leaves larger than the type" (Rhys Gardner pers. comm.); and slightly taller, wider shrubs of an attractive form of *A. quercifolia* (Fig. 7), with lobed-angled leaves and bright red petioles. Interestingly *A. macrophylla* was not observed on the property.

Fig. 4. Looking north from ridge going up Pa Hill, across at the Marunui south-facing escarpment of regenerating forest, with a pine plantation topping the ridge from the north. Photo: EKC, 20 Nov 2010.

Fig. 5. *Thelymitra aemula* – sturdy blue-flowering, glaucous plants were locally common in the open manuka shrubland going up Pa Hill. Photo: Josh Salter, 20 Nov 2010.

Remaining in the regenerating forest we headed down to the south, looped west and finally north, back into the headwaters of the Tara Creek valley with over 25 m-tall podocarp-broadleaf forest, and joined up with the Option 2 group in time to see the 'kiwi probes' (but see Fauna section below).

Option 2: Valley Track – this route followed an old bulldozed track westwards above a tributary of the Tara Creek through regenerating forest to the grassyUpper Meadow, a former logging clearing. This marks the watershed between the Mangawhai and Kaipara Harbour catchments (Tara Creek tributary draining to the east and Hakaru River to the south). Points of interest included a stand of large northern rata (*Metrosideros robusta*) (Fig. 8) with totara (*Podocarpus totara*), matai (*Prumnopitys taxifolia*), kauri, kahikatea (*Dacrycarpus dacrydioides*), puriri (*Vitex lucens*) and nikau (*Rhopalostylis sapida*) (Fig. 9) with a diverse understorey, including *Alseuosmia banksii* var. *linariifolia*. Epiphytic ferns were common (Fig. 10). Returning via the Kahikatea Track, numerous holes which looked like 'kiwi probes' were seen in a damp area. These generated excitement but were later considered to be dragonfly nymph tunnels.

Fig. 6. *Alseuosmia banksii* var. *linariifolia,* Pa Hill. Photo: EKC, 20 Nov 2010.

Fig. 7. *Alseuosmia quercifolia,* Pa Hill. Photo: Josh Salter, 20 Nov 2010.

Option 3: Settlement Loop – a short loop through stands of quite different types of regenerating bush in the settlement area for those who wanted an easy option. Much of the kanuka on the upper slopes of this area was a hybrid (Fig. 11) between the tall robust form (*Kunzea ericoides*) in the valley bottom and the smaller coastal form (*K. ericoides* var. *linearis*).

Vascular Flora

The naturalised vascular species were also recorded this time and a relative abundance also given for all taxa seen (Table 1; Appendix). We added 26 native taxa and recorded 42 naturalised species, bringing the total recorded flora for the property to 285 taxa – 85 % being indigenous. Forty-three previously recorded indigenous species were unconfirmed by the 2010 visit. This is partly explained by the fact that the 1990 visit and the shareholders additions came from some areas being different from those visited in 2010, e.g. including higher altitude forest and wetlands.

Localities and abundance of selected natives (from John Hawley)

Fuchsia excorticata – local along Tara Creek tributary

Hoheria populnea - one or two along Tara Creek tributary adjacent to pasture

Laurelia novae-zelandiae - one or two along Hakaru River tributary

Libocedrus plumosa - only one (seedling 0.5m), on Ridge Track at c.200m asl

Lophomyrtus bullata – scarce, one on Stump Track

Peperomia urvilleana - only known from the small amount on the 'Puriri Bridge' over Tara Creek tributary

Pittosporum crassifolium - one only at main entrance gate

Solanum aviculare - a few along Tara Creek tributary

Sophora tetraptera – a few planted by shareholders around buildings and road from seed collected on adjacent farm (omitted from Appendix 1 because it is planted).

Fig. 8. One of several northern tree ratas, c.2m diameter, in the tributary of the Tara Creek valley. Photo: Josh Salter, 20 Nov 2010.

Naturalised species

Environmental weed species were generally absent or quite local in the native-dominated regenerating native forest –indicated as only being 12% of the species present. Five woody naturalised species were Recorded in the Pa Hill scrubland: gorse (*Ulex europaeus*), hakea (*Hakea sericea*), pultenaea (*Pultenaea daphnoides*), pine (*Pinus* ?*radiata*) and

Fig. 9. Broadleaf-podocarp valley bottom forest, rich in nikau. Photo: Josh Salter, 20 Nov 2010.

Fig. 10. *Loxogramme dictyopteris,* on a nikau by the Valley Track, with larger sterile fronds of *Microsorum pustulatum* above. Photo: Josh Salter, 20 Nov 2010.

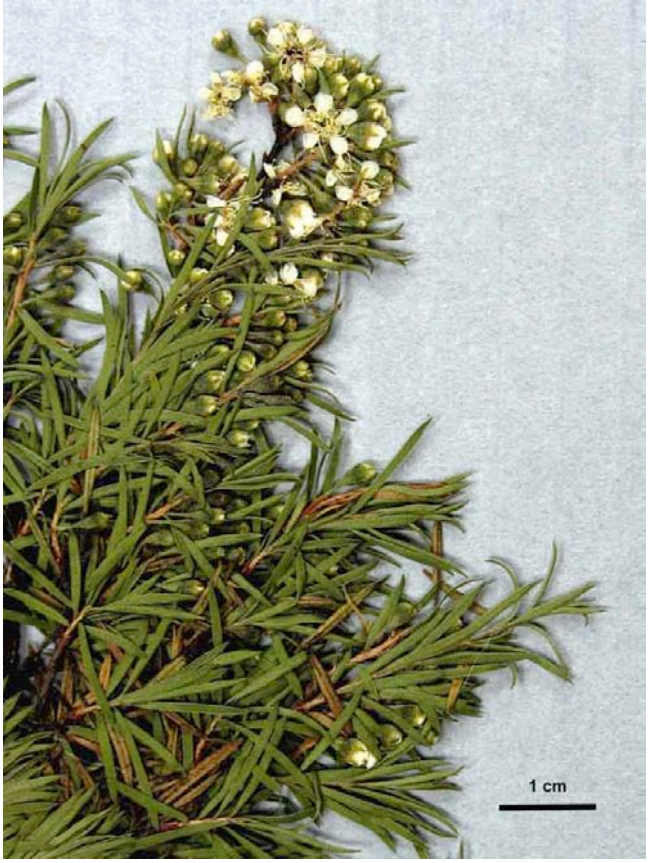

Fig. 11. Hybrid kanuka (*Kunzea ericoides* var. *ericoides* × var. *linearis*) common around the upper settlement area and just starting to flower (20 Nov 2010) – the true *K. ericoides* var. *linearis* is present closer to the Mangawhai coast. Herbarium specimen: AK 327814. Photo: Ewen Cameron.

two wattle species (*Acacia longifolia*, *A. mearnsii*). Some of these are being partly managed by the shareholders, especially the pultenaea, and all these species should generally drop out of the system by shading as the young forest areas regenerate further.

The more serious weed, and a harder one to control, was the Australian bordered panic grass (*Entolasia marginata*) which was present for c.2.5 km, from by the settlement buildings and scattered along the main valley tracks under the tall kanuka and on margins of forest openings. In places this grass was scrambling up vegetation for 1.5 m and smothering low native species.

Fauna

Birds seen during the trip: pheasant (nr. buildings), kukupa, eastern rosella, shining cuckoo (heard), kingfisher, silvereye, grey warbler, fantail, tomtits (common), tui and chaffinch. The suspected kiwi probe holes (c.1cm across and to 15cm deep) in the wet, spongy, peaty soil under tall forest in the valley bottom were most likely dragonfly nymph (*Uropetala carovei*) exit tunnels (J. Early & G. Taylor pers. comm.). Pig rootings were observed on Pa Hill. Marunui has been carrying out comprehensive pest control since 2004 and has an extensive network of bait stations (rats) and traps (mustelids), which are regularly maintained. Possums are controlled with poisons on an annual basis. Pigs, cats, hedgehogs and magpies are also targeted. These efforts have resulted in increased numbers of native birds seen and heard.

Conclusion

It was a privilege to visit this privately owned, outstanding forested catchment that is clothed in advanced regenerating forest which is virtually weed-free and mammalian pest-free thanks to the efforts of the small dedicated band of shareholders. Hopefully ABS will not take another 20 years before returning to Marunui for a third field trip.

Table 1. Vascular flora totals for the Marunui Conservation Area for the two Bot Soc visits and the combined totals, including additions by the shareholders.
*** from Column 1 (Appendix); ** combined totals from Columns 2 & 3 (Appendix)**

Plant Group	1990*	2010**	Combined totals
Native lycopods & ferns	55	49	59
Native conifers	9	8	9
Native dicots	98	87	107
Native monocots	54	55	67
Naturalised conifers	-	1	1
Naturalised dicots	-	28	28
Naturalised monocots	2	13	13
Totals	**218**	**241**	**284**
(% native)	-	*82*	*85*

Acknowledgements
I thank the Marunui shareholders, especially Cathy and John Hawley for inviting the Society for another visit; John Hawley for additional information, providing the map and commenting on a draft of this article; Bruce and Margaret Paine for hosting a lovely afternoon tea;and other shareholders as guides on the day; John Early and Graeme Taylor for resolving the "kiwi probes"; John Hawley & Sandra Jones for the updated, electronic, base species list; Rhys Gardner for commenting on the *Alseuosmia*; Peter de Lange for commenting on *Kunzea*; Josh Salter for providing many images; and all attendees for their comments and observations on the day.

References
Anon. 2007: Natural Areas of the Waipu Ecological District. Reconnaissance Survey for the Protected Natural Area Programme. Department of Conservation, Whangarei.
Jones, S. 1991: Field trip report: Brynderwyn Hills, Mangawhai. *Auckland Botanical Society Journal 46*: 11-14.
Morton, John & Pat 1998: *Flora of Marunui.* Unpublished. 48p.

Appendix: Vascular Plant List for Marunui Conservation Area for the separate ABS visits.

Symbols

Col. 1 – based on species list compiled during the June 1990 'recce' and the July 1990 ABS visit compiled by Jones (1991) (marked: ✓), with 45 later additions by the shareholders (marked: ✓✓)
Col. 2 – species recorded on 27 Feb 2010 during a 'recce' by Ewen Cameron and Sandra Jones
Col. 3 - species recorded on 20 Nov 2010 during the second ABS field trip
Vouchers – herbarium vouchers in Auckland Museum (AK)
B – confined to around the buildings/road area
✓ – present
✓✓ – addition to the list of Jones (1991) by the shareholders from 1991 to 2010
a – abundant
c – common
l – local
lc – locally common
o – occasional
s – scarce (<5 plants seen)
* – naturalised species

Plant taxa (native + adventive)	Col. 1 (1990)	Col. 2 (Feb 2010)	Col. 3 (Nov 2010)	AK voucher
LYCOPODS (4 + 0)				
Huperzia varia	✓	✓	o	
Lycopodiella cernua	✓	✓	lc	
Lycopodium deuterodensum		✓	l	
Lycopodium volubile	✓	✓	l	
FERNS (55 + 0)				
Adiantum cunninghamii	**?** ✓		l	
Adiantum diaphanum	✓			
Adiantum hispidulum	✓			
Asplenium bulbiferum	✓	✓	l	
Asplenium flaccidum	✓	✓	lc	
Asplenium oblongifolium	✓	✓	o	
Asplenium polyodon	✓	✓	l	
Blechnum chambersii	✓			
Blechnum discolor	✓	✓	l	
Blechnum filiforme	✓	✓	c	
Blechnum fluviatile	✓			
Blechnum fraseri	✓	✓	l	
Blechnum membranaceum	✓	✓	l	
Blechnum novae-zelandiae	✓	✓	c	
Cardiomanes reniforme	✓	✓		
Cyathea dealbata	✓	✓	c	

Plant taxa (native + adventive)	Col. 1 (1990)	Col. 2 (Feb 2010)	Col. 3 (Nov 2010)	AK voucher
Cyathea medullaris	✓	✓	o-lc	
Cyathea smithii	✓✓			
Deparia petersenii	✓	✓	lc	
Dicksonia squarrosa	✓	✓	o	
Doodia australis	✓	✓	lc	
Doodia mollis	✓✓			
Gleichenia dicarpa	✓		lc	
Gleichenia microphylla		✓	l	
Grammitis ciliata	✓		l	
Histiopteris incisa	✓			
Hymenophyllum demissum	✓	✓	lc	
Hymenophyllum dilatatum	✓		l	
Hymenophyllum flabellatum	✓	✓	lc	
Hymenophyllum revolutum	✓	✓	l	
Hymenophyllum sanguinolentum	✓		l	
Hypolepis ambigua			l, B	
Lastreopsis glabella	✓			
Lastreopsis hispida	✓	✓	lc	
Leptopteris hymenophylloides	✓	✓	l	
Lindsaea linearis	✓✓		l	
Lindsaea trichomanoides	✓	✓	l	
Loxogramme dictyopteris	✓	✓	lc	
Lygodium articulatum	✓	✓	o	
Microsorum pustulatum	✓	✓	o	
Microsorum scandens	✓	✓	lc	
Paesia scaberula	✓	✓	o-lc	
Pneumatopteris pennigera	✓	✓	o	
Pteridium esculentum	✓	✓	lc	
Pteris macilenta	✓	✓		
Pteris tremula	✓	✓	o, B	
Pyrrosia eleagnifolia	✓	✓	l	
Sticherus cunninghamii	✓✓	✓	l	
Tmesipteris elongata	✓	✓	lc	
Tmesipteris lanceolata	✓	✓	l	
Tmesipteris sigmatifolia	✓		s	
Tmesipteris tannensis	✓			
Trichomanes elongatum	✓		l	
Trichomanes endlicherianum	✓			
Trichomanes venosum		✓		
CONIFERS (9 + 1)				
Agathis australis	✓	✓	l	
Dacrycarpus dacrydioides	✓	✓	o-lc	
Dacrydium cupressinum	✓	✓	o	
Libocedrus plumosa	✓✓			
Phyllocladus trichomanoides	✓	✓	c	
*Pinus ?radiata**			l	
Podocarpus cunninghamii	✓		lc	
Podocarpus totara	✓	✓	c	
Prumnopitys ferruginea	✓	✓	o	
Prumnopitys taxifolia	✓	✓	l	
DICOTYLEDONS (107 + 28)				
*Acacia longifolia**			l	AK327811
*Acacia mearnsii**			l	AK327812
Acaena novae-zelandiae	✓		l	
Alectryon excelsus	✓✓	✓	s	
Alseuosmia banksii var. *linariifolia*	✓✓	✓	lc	AK327810
Alseuosmia quercifolia	✓	✓	lc	
Anagallis arvensis subsp. *coerulea**			l, B	

Plant taxa (native + adventive)	Col. 1 (1990)	Col. 2 (Feb 2010)	Col. 3 (Nov 2010)	AK voucher
Aristotelia serrata	✓			
Beilschmiedia tarairi	✓	✓	o-lc	
Beilschmiedia tawa	✓	✓	l	
Brachyglottis kirkii var. *angustior*	✓✓		s	
Brachyglottis repanda	✓	✓	l	
Callitriche muelleri	✓	✓	lc	
Calystegia marginata	✓✓		s	AK288708
Calystegia sepium subsp. *roseata*	✓		lc	
Carmichaelia australis	✓	✓	o	
Carpodetus serratus	✓	✓	o-lc	
*Centaurium erythaea**			l, B	
Centella uniflora	✓	✓	lc	
Clematis cunninghamii	✓	✓	o	
Clematis paniculata	✓	✓	o	
*Clinopodium vulgare**		✓		AK310473
*Conyza sumatrensis**			o, B	
Coprosma arborea	✓	✓	o-lc	
Coprosma areolata	✓	✓	l	
Coprosma grandifolia	✓	✓	l	
Coprosma lucida		✓	o	
Coprosma rhamnoides	✓	✓	c	
Coprosma robusta	✓	✓	o	
Coprosma C. propinqua ×C. robusta	✓✓			
Coprosma spathulata	✓	✓	l	
Coriaria arborea	✓✓			
Corokia buddleioides	✓✓		s	
Corynocarpus laevigatus	✓	✓	l	
Dichondra repens	✓	✓	l	
*Digitaria purpurea**			l	
Dracophyllum latifolium	✓		l	
Drosera auriculata	✓	✓	lc	
Dysoxylum spectabile	✓	✓	l	
Elaeocarpus dentatus	✓	✓	o	
Elatostema rugosum	✓	✓	lc	
Epilobium sp. (1)	✓			
Epilobium sp. (2)	✓			
Euchiton collinus	✓			
Euchiton limosus	✓			
*Facelis retusa**			l, B	AK327813
Fuchsia excorticata	✓			
*Galium divaricatum**			o, B	
*Gamochaeta coarctata**			o, B	
*Gamochaeta simplicaulis**			l, B	
*Gamochaeta subfalcata**			l, B	
Gaultheria antipoda	✓✓			
Geniostoma ligustrifolium	✓	✓	c	AK310480
*Geranium dissectum**			l, B	
Geranium homeanum	✓	✓	s	
Gonocarpus incanus	✓		lc	
Griselinia lucida	✓	✓	s	
*Hakea sericea**			l	
Haloragis erecta	✓		s	
Hebe macrocarpa	✓✓	✓	o	
Hebe stricta	✓			
Hedycarya arborea	✓	✓	o	
Hoheria populnea	✓			
*Helminthotheca echioides**			l, B	
Hydrocotyle moschata		✓		
Hydrocotyle novae-zelandiae	✓		lc	
Knightia excelsa	✓	✓	o	
Plant taxa (native + adventive)	**Col. 1**	**Col. 2**	**Col. 3**	**AK voucher**

Plant taxa (native + adventive)	Col. 1 (1990)	Col. 2 (Feb 2010)	Col. 3 (Nov 2010)	AK voucher
Kunzea ericoides var. *ericoides*	✓	✓	a	
Kunzea ericoides var. *ericoides* x var. *linearis*			lc	AK327814
Laurelia novae-zelandiae	✓			
Leptecophylla juniperina	✓		s	
Leptospermum scoparium	✓	✓	lc	
Leucopogon fasciculatus	✓	✓	o	
*Linum bienne**			l, B	
Lobelia anceps	✓	✓	l	
Lophomyrtus bullata	✓			
*Lotus pedunculatus**			l	
Macropiper excelsum	✓	✓	l	
Melicytus macrophyllus	✓	✓	lc	
Melicytus micranthus	✓✓	✓	lc	
Melicytus ramiflorus	✓	✓	o-lc	
Metrosideros diffusa	✓	✓	o	
Metrosideros fulgens	✓	✓	l	
Metrosideros perforata	✓	✓	c	
Metrosideros robusta	✓	✓	l	
Mida salicifolia	✓		s	
Muehlenbeckia australis	✓	✓		
Myrsine australis	✓	✓	o-lc	
Myrsine salicina	✓✓		s	
Nertera depressa	✓			
Nertera dichondrifolia	✓	✓	lc	
Nestegis lanceolata	✓	✓	o	
*Oenanthe pimpinelloides**			l, B	
Olearia furfuracea	✓	✓	lc	
Olearia rani	✓	✓	lc	
*Parentucellia viscosa**			o, B	
Parsonia capsularis	✓✓			
Parsonsia heterophylla	✓		l	
Peperomia urvilleana	✓✓	✓	s	
Pittosporum cornifolium		✓		
Pittosporum crassifolium	✓✓	✓	s, B	
Pittosporum eugenioides	✓	✓	l	
Pittosporum tenuifolium	✓	✓	s	
*Plantago lanceolata**			o, B	
Pomaderris amoena	✓		o	
Pomaderris kumeraho	✓	✓	o-lc	
*Prunella vulgaris**			lc	
Pseudognaphalium luteoalbum			l, B	
Pseudopanax arboreus	✓	✓	o	
Pseudopanax crassifolius	✓	✓	l	
Pseudopanax crassifolius × *P. lessonii*		✓	lc	
*Pultenaea daphnoides**		✓	lc, B	AK242551 & 313126
Quintinia serrata	✓✓			
Ranunculus reflexus	✓	✓	l	
*Ranunculus repens**			o, B	
Rhabdothamnus solandri	✓	✓		
Rubus australis	✓	✓	o	
Rubus cissoides	✓	✓	o	
Schefflera digitata	✓	✓	lc	
Senecio hispidulus	✓		l	
Senecio minimus	✓			
Solanum aviculare	✓			
Solanum nodiflorum		✓		
*Sonchus asper**			lc, B	
*Sonchus oleraceus**			o, B	
Stellaria parviflora			l	
Streblus heterophyllus	✓✓	✓	o	

		2010)	2010)	
Toronia toru	✓			
*Trifolium pratense**			l, B	
*Ulex europaeus**			lc	
*Verbena bonariensis**			o, B	
Veronica plebeia		✓		
Vitex lucens	✓	✓	o-lc	
Wahlenbergia violacea	**?**✓	✓	l	
Weinmannia silvicola	✓	✓	o	
MONOCOTS (excl. grasses & orchids) (36 + 1)				
Astelia solandri	✓	✓	o	
Astelia trinervia		✓	o	
Baumea juncea		✓	lc	AK310484
Carex dissita	**?**✓	✓	s	AK327817
Carex lambertiana	✓✓	✓	o	
Carex solandri		✓	o-lc	
Carex virgata	✓			
Collospermum hastatum	✓	✓	o	
Cordyline australis	✓	✓	o	
Cordyline banksii	✓	✓	l	
Cordyline pumilio	✓	✓	o	
Cyperus ustulatus	✓✓			
Dianella latissima/nigra	✓	✓	o	
Eleocharis gracilis	✓			
Freycinetia banksii	✓	✓	l	
Gahnia lacera	✓✓	✓	l	
Gahnia pauciflora		✓		
Gahnia setifolia	✓	✓	o-lc	
Gahnia xanthocarpa	✓	✓	o	
Isolepis inundata	✓			
Isolepis reticularis		✓		
Juncus edgariae	✓✓	✓	l	
*Juncus effusus**	✓✓	✓	l	
Juncus planifolius	✓			
Juncus prismatocarpus		✓		
Juncus sarophorus	✓✓			
Lepidosperma australe			l	
Lepidosperma laterale	✓	✓	o	
Libertia ixioides	✓✓	✓	l	
Morelotia affinis	✓✓		l	
Phormium tenax	✓✓	✓	l	
Rhopalostylis sapida	✓	✓	lc	
Ripogonum scandens	✓	✓	l	
Schoenus maschalinus	✓	✓	lc	
Schoenus tendo	✓	✓	lc	
Uncinia banksii	✓	✓	l	
Uncinia uncinata	✓	✓	o	
ORCHIDS (24 + 0)				
Acianthus sinclairii	✓		l	
Anzybas rotundifolius	✓			
Corybas cheesemanii	✓		l	
Dendrobium cunninghamii			s	
Diplodium alobulum	✓		l	
Diplodium trullifolium	✓		l	
Drymoanthus adversus	✓	✓	s	
Earina autumnalis	✓	✓		
Earina mucronata	✓	✓	l	
Ichthyostomum pygmaeum	✓		l	
Microtis unifolia	✓		l	
Plant taxa (native + adventive)	**Col. 1 (1990)**	**Col. 2 (Feb**	**Col. 3 (Nov**	**AK voucher**

		2010)	2010)	
Nematoceras trilobum	✓			
Orthoceras novae-zelandiae	✓		s	
Petalochilus alatus	✓✓			
Petalochilus chlorostylus	**?**✓✓		lc	
Pterostylis agathicola	✓		lc	
Pterostylis banksii	✓✓		o	
Pterostylis graminea	✓✓			
Simpliglottis cornuta	✓✓			
Singularybas oblongus	✓✓		l	
Thelymitra aemula			lc	AK327815
Thelymitra longifolia	✓		lc	
Thelymitra pauciflora	✓✓		l	
Thelymitra tholiformis			s	
GRASSES (7 + 12)				
Aira caryophyllea subsp. *caryophyllea**			lc, B	
*Anthoxanthum odoratum**			la	
*Briza minor**			l, B	
*Dactylis glomerata**			lc	
*Danthonia decumbens**			lc	AK327818
*Entolasia marginata**		✓	o-la	AK310469
*Holcus lanatus**			la	
Isachne globosa	✓			
Lachnagrostis filiformis			l, B	
Microlaena avenacea	✓	✓	o	
Microlaena stipoides			lc	
Oplismenus hirtellus	✓	✓	l	
*Paspalum dilatatum**		✓		
*Pennisetum clandestinum**		✓	lc	
*Poa trivialis**			lc, B	AK327816
*Polypogon monspeliensis**			l, B	AK327819
Rytidosperma biannulare			lc	
Rytidosperma gracile	✓	✓		
*Schedonorus arundinaceus**	✓✓		l	