Auckland Botanical Society Field Trip to Vinings Scenic Reserve, Hunua Ranges, 17 June 1995

Leslie Haines

It was a cold misty midwinter day for the trip to the south of the Hunua Ranges but there was a great turnout as usual. Jack Mackinder as leader proposed three route options, A, B, and C, at least one of which included the Vinings trig. We met on the Mangatangi Dam access road. The track we chose followed the fenceline for part of the way and close by some kauri trials. The forest is variable regeneration after logging. In places kanuka is still the canopy plant.

Vinings Scenic Reserve is a good example of kauri (*Agathis australis*) and hard beech (*Nothofagus truncata*) growing together. Hard beech is rare on the Auckland isthmus occurring in pockets on the North Shore, and in a couple of small groves in the Waitakere Ranges, but it grows in some quantity in the Hunua Ranges. Towai (*Weinmannia silvicola*) also has its Auckland stronghold here. Mostly the kauri are all the same size indicating regeneration after milling. Other canopy trees include: matai (*Prumnopitys taxifolia*), towai, tanekaha (*Phyllocladus trichomanoides)*, and rimu (*Dacrydium cupressinum*). As we climbed, the cooler climate plants such as *Cyathea smithii* and *Quintinia serrata* became abundant. *Coprosma spathulata* is common. Also present are *C. rhamnoides*, *C. robusta* and *Pseudopanax anomalus* (a divaricating shrub), all additions to the species list published in the ABS Newsletter 1983. The latter species is recognised by round crenate leaves, paler beneath and a dark base to the leaf blade where it joins the winged petiole. With the help of Jack Rattenbury, we distinguished the variable *Alseuosmia quercifolia* from the similar-looking *Hedycarya arborea*. *Alseuosmia* has alternate leaves and reddish brown hairs at the base of the petiole, whereas pigeonwood has opposite leaves and flattened nodes. It was interesting to see *Olearia rani* and *O. furfuracea* growing together; *O. furfuracea* can be easily distinguished by its leathery leaf with gold tinted tomentose beneath. We saw *Metrosideros perforata* (distinct dots underneath the leaves), the vines *M. fulgens* and *M. diffusa* growing together, scrambling over low vegetation and stumps. We informally split into two broad groups: the trig conquerors and the others (who I suspect, chose option D). The weather remained still and overcast all day and it proved to be a pleasant day without rain.

ABS visit on 20/8/83: *Corybas cheesemanii* (in leaf), *C. acuminatus* (in flower), *Prasophyllum nudum* (in seed), *Pterostylis* "rubricaulis", *Hypolepis distans*, *Schizaea fistulosa*, *Tmesipteris elongata*.

Additions to the list from the ABS visit 17/6/95: *Cordyline pumilio* (ripe seed), *Gahnia pauciflora* (ripe seed), *Solanum aviculare*, *Uncinia zotovii*, *Collospermum microspermum* (we think), *Pterostylis alobula* (in flower), *Pseudopanax anomalus*, *Prumnopitys taxifolia*, *Hymenophyllum multifidum*, *Coprosma rhamnoides*, *C. robusta*, *Hydrocotyle dissecta*, *Morelotia affinis*, *Hypolepis rufobarbata*, and *Gonocarpus incanus.*

Thanks to Sandra Jones for the species list additions.

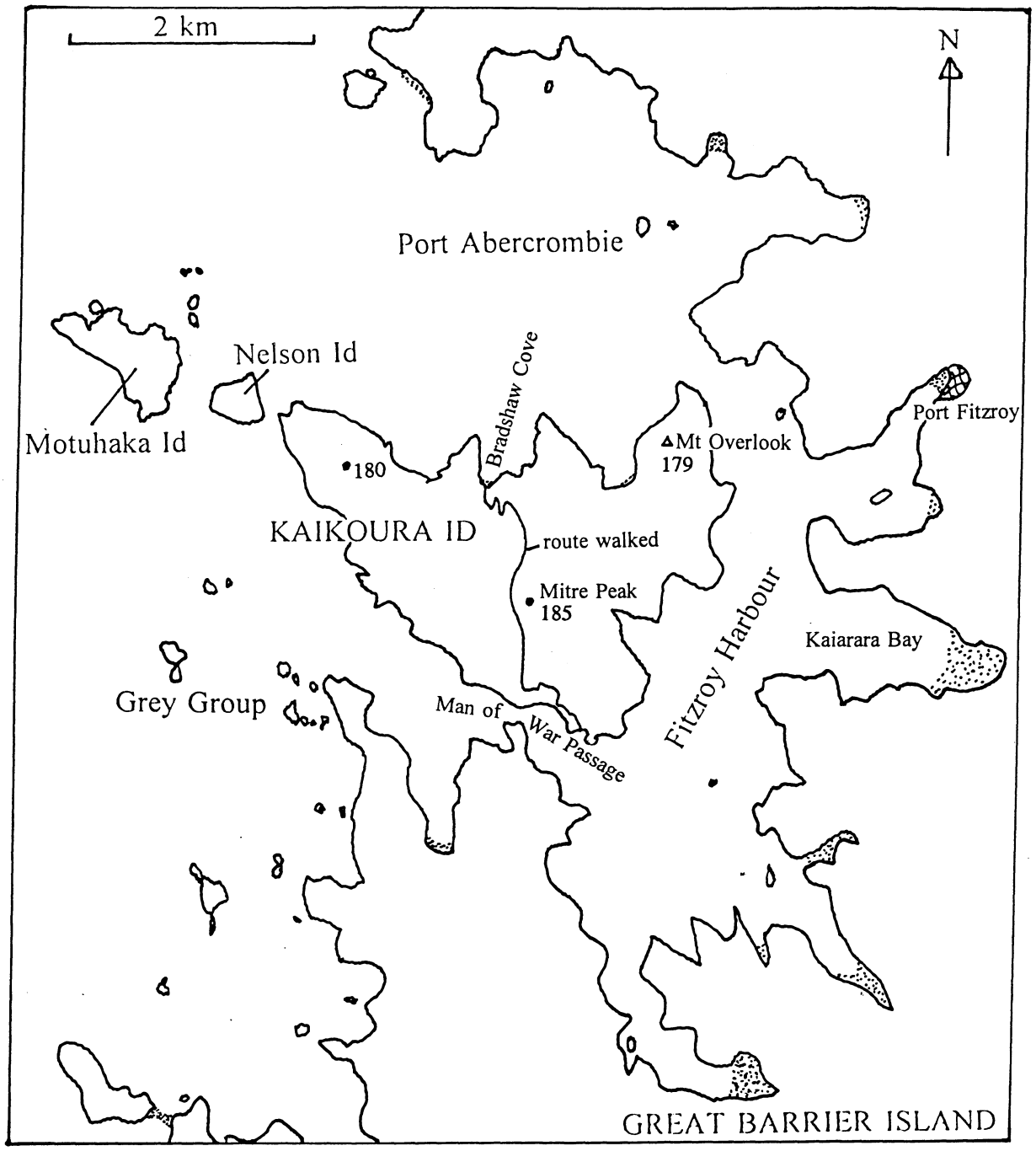
Notes on the vegetation and flora of Kaikoura Island

E. K. Cameron

Introduction

On 8 July 1995 I was part of a mixed group of nearly 30 people who visited Kaikoura (Selwyn) Island (535 ha), Fitzroy Harbour on the western side of Great Barrier Island (Figure 1). The visit was organised by the Save Our Islands Trust which recently formed to try to secure for public ownership the privately owned Kaikoura Island, which is on the open market. I was asked to record the flora and Chris Green, who was also present, was asked to record the fauna.

Figure 1. Location of Kaikoura Island, spot heights (m), and route walked.



We were taken to the island by boat from Fitzroy Wharf and were landed at the main jetty on the island's south side below several baches by the Man of War Passage. From there we went west, following a bulldozed road above the coast which turned inland to a deserted house. Chris Green and I left the main group at this point and proceeded northwards along an overgrown bulldozed track parallel to a poor quality deer fence. On reaching the main west-east ridge (just north-west of Mitre Peak) we continued north down a bulldozed track and came out at Bradshaw Cove (Old House Bay) by a small bach and sandy beach, where we were picked up by boat (see Figure 1 for route taken). The total time spent on the island was about three hours.

The island is an eroded remains of a Miocene andesitic strato volcano (B.W. Hayward *pers. comm.*).

History

Kaikoura Island is currently owned by Mr Gentry and has been "farmed" since 1862. It has suffered a long history of vegetation destruction by browsing animals, fire and clearance to create pasture. When I first closely viewed the island from a boat in 1980 the vegetation looked similar to what it is today, except there were fewer pine trees and more open areas. Fires in the past have been frequent but during the last approximate 15 years clearing for farming has ceased (D. Woodcock *pers. comm.*).

The island appears to have had few botanical visitors. Thomas Kirk collected at least two specimens here during his survey of Great Barrier Island in 1867-68 (see Appendix), but he does not mention the island in his Great Barrier flora account (Kirk 1869). R.G. Cooper collected kowhai here in 1962. P. J. and R. M. Bellingham made a species list of vascular plants on the adjacent Nelson (Peter) Island in 1985 and collected herbarium specimens.

Animal pests (information mainly from W. Scarlett and D. Woodcock)

Feral fallow deer are common on the island and have been present since the early 1930s; wild pigs were liberated during the 1980's (we observed widespread droppings); ship rats (McCallum, 1985) and possibly kiore are present; feral goats were released in the 1980s, they increased but remained in the Mt Overlook area, in 1993 they were virtually eliminated by concerned residents.

Vegetation

The southern part of the island is dominated by pine trees, maritime pine (*Pinus pinaster*) and to a lesser extent radiata pine (*P. radiata*). Most of the pines appeared to be wild. Much of the pine canopy on this side of the island is continuous, often with kanuka (*Kunzea ericoides*) regeneration in the gaps. There are a few stands of *Eucalyptus* species (planted) and virtually the only other reasonably sized trees are macrocarpa (*Cupressus macrocarpa*) which are usually associated with buildings. The larger macrocarpa appeared to be planted but smaller wildings were frequent near adult trees. There are scattered native trees along the coast, mostly pohutukawa (*Metrosideros excelsa*) and usually not of enormous size. Where streams meet the coast, tree ferns, ponga (*Cyathea dealbata*) and to a lesser extent mamaku (*Cyathea medullaris*) are present. Puriri (*Vitex lucens*), mahoe (*Melicytus ramiflorus*) and shrubs of kawakawa (*Macropiper excelsum*) are present by a stream on the south side.

The most dominant vegetation on the island is a young shrubland of kanuka, manuka (*Leptospermum scoparium*) and gorse (*Ulex europaeus*). On the higher slopes this vegetation is < 2 m tall; bare eroding clay surfaces are present. On the lower, more fertile, coastal slopes this assocation has usually progressed to almost pure kanuka 5-8 m tall with regeneration underneath restricted mainly to ferns, particularly ponga. Amongst the younger, more exposed association of kanuka, manuka and gorse is usually the native sedge *Lepidosperma laterale* and less frequently *Schoenus tendo*. Other 'gumland' species included in this association are akepiro (*Olearia furfuracea*), *Lindsaea linearis*, *Gleichenia microphylla*, *Carex breviculmis* and *Cyathodes juniperina*. Needlebush (*Hakea sericea*) shrubs are locally common. Rewarewa (*Knightia excelsa*) were occasional, usually less than 2 m tall, although a group of larger specimens on the northern side of the island were seen from a distance. The occasional inland pohutukawa is present where the vegetation is open and they are also present

flanking Mitre Peak. There is a single stand of taraire (*Beilschmiedia tarairi*) trees in a gully near the overgrown airstrip (W. Scarlett *pers. comm.*, 1995).

We walked little of the coast. From the boat the rocky shore was fairly bare with scattered pohutukawa trees and occasional clumps of flax (*Phormium tenax*) and *Astelia banksii*. Rengarenga (*Arthropodium cirratum*) were locally common on the steeper rock faces. Tawapou (*Pouteria costata*) is also present along the coast (W. Scarlett *pers. comm.*, 1995).

Some southern and central areas of the island are in poor pasture, closely cropped (like a bowling green). All vegetation seen was subject to severe browsing pressure and fallow deer were frequently seen running away.

Flora

A tentative species list is appended. Only 57 native vascular plant species were observed from a south-north traversal of the island. The most interesting plants seen were two low bushes of *Kunzea sinclairii*, an endemic species to Great Barrier Island. They were growing just north-west of Mitre Peak above Bradshaw Cove amongst low cover of manuka and kanuka. The silky hairy leaves give the *K. sinclairii* foliage a silvery appearance which distinguishes it from manuka and kanuka. In its extreme form *K. sinclairii* on Great Barrier is completely prostrate, other forms occur over 1 m tall. These erect forms may be of hybrid origin with kanuka (C. Ogle *pers. comm.*, 1994). The two Kaikoura Island plants were about 70 cm tall, c. 2 m wide and branching horizontally. Therefore they may be hybrids.

The reported presence of tawapou is interesting as there is a T. Kirk tawapou specimen in the Auckland Museum's herbarium from Kaikoura Island collected between 1867-68. Kirk (1869: 147) recorded tawapou as abundant on northern Great Barrier Island's coast. Today it is very occasional in the north (Wright and Cameron, 1985) and even less frequent on central and southern Great Barrier Island's coast.

Orchids should be present in the tea tree associations but none were seen during our visit (some species would not be evident at that time of year).

Conclusion

Botanically the most interesting taxon on the island is the putative hybrid *Kunzea*. Both the suspected *Kunzea* hybrid and the prostrate *K. sinclairii* are present on the western slopes of Mt Hobson, some 4-6 km away. Therefore it isn't too surprising to find the two suspected hybrid shrubs on Kaikoura Island. It is possible that both of the Great Barrier endemic vascular plants are present on the island, the prostrate *Kunzea sinclairii* and *Olearia allomii*, because the open habitat coupled with infertile soils appears perfect for them. Also they both exist in fairly close proximity on Great Barrier Island. The presence of either would be an important discovery as *Kunzea sinclairii* is nationally ranked as Endangered and the *Olearia* is recorded as Local (Cameron *et al.*, 1995). The exposed rocky outcrops (e.g. Mitre Peak) would be good areas to search for these taxa.

The conservation value of this very large island is in its potential to regenerate back to native forest and create good habitat for other biota. If the present browsing pressure is removed regeneration back to native vegetation would be quite rapid in most areas. Gorse initially would increase but after some 10 years it should start thinning and begin to drop out of the vegetation as it ages and is over-topped by the taller growing and longer lived manuka and kanuka. Similarly needlebush would be eliminated on most sites over time. The pines would cease to spread once dense cover is established but with their height and lonegevity they will remain for decades. Selective ring-barking would probably be a good means to reduce them (associated with some hand-pulling of new pine seedlings) to allow enough light for natives to regenerate around them. This could be done as an ongoing process, at a low level, over several decades concentrating on maritime pine as it is the more weedy one. Regeneration would be most rapid in the open 'pasture' sites. On the infertile 'gumland' soils regeneration would be very slow. The palatable species are either absent or present in very low numbers on the island and it would take these many years to increase to sufficient numbers to cause

spectacular natural regeneration as witnessed on Great Island in the Three Kings Group after the removal of goats (see Cameron *et al.* 1987). But it would eventually occur unaided as it did on Great Island. Fortunately excellent areas of native forest exist as a seed source to the east on adjacent Great Barrier Island and to the west on Nelson Island (separated by c. 50 m). These seed sources would naturally enhance regeneration on Kaikoura Island. The very close peninsula to the south (within 75 m) has rather similar, depauperate native vegetation, like Kaikoura Island.

The adjacent forest-capped Nelson Island (12.5 ha) off Kaikoura's western tip was briefly visited in January 1985 by P. J. and R. M. Bellingham who recorded 89 native vascular plant species and collected some interesting herbarium specimens (vouchers in AKU). Fifty-four of these species were not seen on Kaikoura Island. These included: *Beilschmiedia tawa* (incl. *B. tawaroa*), *Corynocarpus laevigatus*, *Litsea calicaris*, *Nestegis apetala*, *Parietaria debilis*, *Pittosporum umbellatum*, *Pterostylis graminea*, *Ranunculus reflexus*, *Scandia rosifolia* and *Streblus banksii*. This illustrates the potential seed source for Kaikoura Island if given a chance (i.e. if the browsing mammals are removed). A longer survey on Kaikoura Island would undoubtedly result in many of these species being found there.

There would be a difficulty in maintaining the island rat-free if rats were ever eradicated from Kaikoura Island. Rats on adjacent Nelson and Motuhaku Islands would need to be eradicated at the same time as Kaikoura, but this would still leave a threat of possible reinvasion from Great Barrier Island itself. It would be a challenge to manage the adjacent part of Great Barrier so that the risk of rat reinvasion was greatly reduced.

It is sad to see an island of this size in such poor condition. If the island was in public ownership, the browsing mammals removed and the island allowed to regenerate, the following would be achieved:

(i) elimination of the threat of fallow deer escaping onto Great Barrier Island;

(ii) an enormous area returned to native forest and native animal habitat improving over time; this will impact positively (instead of negatively) on the adjacent land areas;

(iii) help protect Nelson Island from weed and pest invasion (Nelson Island appears to have the best native vegetation of all of the western Great Barrier Islands);

(iv) Education - on such a large island at the doorstep to thousands of boat owners the educational potential of this island is enormous;

(v) Recreation - Fitzroy Harbour can have around 1000 boats anchored daily over the summer vacation period; the island is ideally placed for a series of walking tracks;

(vi) the prominent landscape would be restored back to native vegetation;

(vii) the island is important to local iwi and they could be involved once again with its management and conservation;

(viii) the return of the island from foreign ownership to the people of New Zealand;

(ix) increased and improved habitat for the Great Barrier fauna.

Acknowledgements

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Appendix: Flora for part of Kaikoura Island (pasture species not included)

Ferns (17)

Asplenium oblongifolium	s
Blechnum chambersii	l
B. sp. (kiokio)	l
Cyathea dealbata	o-lc
C. medullaris	o
Dicksonia squarrosa	l
Diplazium australe	l
Doodia media	l
Gleichenia microphylla	l
Lastreopsis microsora	l
Lindsaea linearis	o
Paesia scaberula	o
Phymatosorus pustulatus	s
Pneumatopteris pennigera	l
Pteridium esculentum	o
Pteris tremula	o
Pyrrosia eleagnifolia	o

Gymnosperms (3)

Cupressus macrocarpa *	o & P
Pinus pinaster *	o-la & P?
P. radiata *	o-lc & P?

Dicotyledons (39)

Aster subulatus *	o
Beilschmiedia tarairi	s (WS)
Brachyglottis repanda	o
Callitriche muellerii	lc
Clematis paniculata	s
Coprosma rhamnoides	o
Cotoneaster glaucophyllus *	s (P?)
Cyathodes juniperina	o
Dichondra repens	o
Dysoxylum spectabile	s
Erica baccans *	o
Eruca vesicaria subsp. *sativa* *	TK (WELT 58525)

Erythrina x *sykesii* *	s (P)
Eucalyptus spp. *	o (P)
Geniostoma rupestre	o
Gnaphalium gymnocephalum	o
Hakea sericea *	o-lc
Helichrysum lanceolatum	s
Hydrocotyle moschata	o
Knightia excelsa	o
Kunzea ericoides	a, AK 223408
K. sinclairii ? x *K. ericoides*	s, AK 223407, 223410
Leptospermum scoparium	a
Macropiper excelsum	o
Melianthus major *	s (P?)
Melicytus ramiflorus	s
Metrosideros excelsa	o
Muehlenbeckia complexa	o
Olearia furfuracea	o-lc
Phytolacca octandra *	o
Pouteria costata	o (WS) &TK (AK 106020)
Rhabdothamnus solandri	s
Rubus cissoides	s
Solanum americanum	l
Sophora microphylla	RGC (AK 91952-53, 91956)
Veronica plebeia *	o
Vinca major *	l, AK 223411
Vitex lucens	s
Weinmannia sylvicola	s

Monocotyledons (17)

Alocasia brisbanensis *	l (P?)
Arthropodium cirratum	o
Astelia banksii	o
Carex breviculmis	o
Cortaderia selloana *	s
Cyperus ustulatus	o
Dianella nigra	s
Isolepis nodosa	o
Juncus australis	o-lc
J. gregiflorus	o
Lepidosperma laterale	o-lc
Microlaena stipoides	o-lc
Oplismenus imbecillis	o
Phormium tenax	o
Rytidosperma sp. or spp.	c
Schoenus tendo	o
Zantedeschia aethiopica *	o

a = abundant	* = adventive
c = common	P = planted
o = occasional	RGC = R. G. Cooper herbarium specimens; 1962
l = local	TK = T. Kirk herbarium specimen; 1867-68
s = scarce (< 5 plants seen)	WS = Will Scarlett (*pers. comm.*, 1995)