

Vegetation and Flora of Captains Bush in 1991, Wesley Bay, Waikowhai, north Manukau Harbour

Ewen K. Cameron & Ross E. Beever (1946-2010)

Introduction

This account was written in 1991 for Des A. Webster, a local resident, to support his case to help save the native forest adjacent to him. The scientific names have been updated, the references and acknowledgments added, and the four images omitted. The protest was successful and today the reserve measures 6.97 ha and the public Waikōwhai Walkway goes through the middle of the reserve. For a location map of Captains Bush see: Auckland Council (2017). This historical account adds to the three detailed recent articles covering the vegetation and flora of the Manukau Harbour's northern urban forest margin coordinated by Mike Wilcox (Wilcox & Kowhai 2015, Wilcox 2016, Wilcox & Warden 2017).

1 March 1991

Dear Mr D. Webster

We provide as requested our report on the botanical values of the area of proposed subdivision (7.5 ha), bounded by 350-386 Hillsborough Road, Waikowhai Reserve and Wesley Bay on the northern side of the Manukau Harbour. Known locally as the "Captains Block".

Botanical Report on the Wesley Bay area

The following report is based on 6 person hours spent traversing the forested area, supplemented by 4 hours observations of the coastal slopes made from the beach on 20 and 23 February 1991 respectively.

Vegetation and Flora

The area was surveyed by the DSIR Regional botanist Alan Esler in 1982, as part of a larger survey from Blockhouse Bay to White Bluff. His survey demonstrated the importance of this portion of coastline as a surviving remnant of natural vegetation of the Auckland isthmus. Additionally, the area is one of the few remaining forested areas, away from the Waitakere coast, that abuts the Manukau Harbour. It should be noted that relatively little of Auckland's original vegetation cover is known, and only a few minuscule fragments of indigenous vegetation are presently reserved. Much of the area is steep and the south facing aspect of the coast means that the communities found differ significantly from those of north facing and inland areas, where summer water stress is an important factor.

Esler [1983] found 213 native plant species in his survey, over 50 more than is present in reserves such as Kauri Park and Kauri Glen on the North Shore. In our brief survey of Wesley Bay we

recorded 95 native species, and would expect the total to reach about 125 with more extensive searching, including visits in spring when ground orchids and annuals will be apparent. A listing of the native species we recorded is appended. Amongst species of particular interest were the ferns *Pteris saxatilis* and *Asplenium gracillimum*, both local species near Auckland, neither of which were recorded by Esler from anywhere along this coast. To date there has been no survey of the 'lower' plants such as the mosses, liverworts, lichens and fungi.

The vegetation away from the immediate coast can be classified as modified coastal forest dominated by kohekohe (*Dysoxylum spectabile*), kowhai (*Sophora microphylla*) and rewarewa (*Knightia excelsa*), with occasional large karaka (*Corynocarpus laevigatus*), and pohutukawa (*Metrosideros excelsa*). Vines are abundant, with NZ jasmine (*Parsonsia ?heterophylla*) throughout, and dense tangles of supplejack (*Ripogonum scandens*) on damp ground. Milk tree (*Streblus heterophyllus*), kawakawa (*Piper excelsum*), coastal karamu (*Coprosma macrocarpa*), hangehange (*Geniostoma ligustrifolium*) and ponga (*Cyathea dealbata*) are common in the understorey. The ferns *Asplenium lamprophyllum* and *Lastreopsis microsora* were common on the forest floor. The 'living fossils' *Tmesipteris lanceolata* and *T. elongata*, which provide a link with the first land plants, occur on tree fern trunks.

The outstanding feature of the forest is the groves of large kowhai, up to 52cm DBH (diameter at breast height) and 12 m in height, emergent above a dense canopy of mature kohekohe, up to 41cm DBH and about 8-10 m in height. While both species are widespread, we are not aware of any comparable groves anywhere in the Auckland region, or for that matter elsewhere in the country. (See Table 1 for large dimensions of other tree species).

Table 1. Largest dimensions for tree species recorded February 1991.

Species	dbh (cm)	Approx. height (m)
<i>Corynocarpus laevigatus</i>	63	12
<i>Dacrydium cupressinum</i>	35	9
<i>Dysoxylum spectabile</i>	41	9
<i>Knightia excelsa</i>	57	12
<i>Metrosideros excelsa</i>	91	16
<i>Pittosporum tenuifolium</i>	27	9
<i>Sophora microphylla</i> s.l.	52	12
<i>Streblus heterophyllus</i>	33	8

Much of the forest is in an active stage of regeneration, with abundant mapou (*Myrsine australis*), mahoe (*Melicactus ramiflorus*), and occasional kowhai, kotukutuku (*Fuchsia excorticata*) and kohuhu (*Pittosporum tenuifolium*). A few young rimu (*Dacrydium cupressinum*) and kahikatea (*Dacrydium dacrydioides*) are present, and a puriri (*Vitex lucens*) seedling was noted. Some areas of slumping have spectacular stands of the mamaku (*Cyathea medullaris*), the large black tree fern.

It is clear the forest has been subject to modification in the past. We noted a small midden indicating ancient Maori presence, and it is probable the area was swept by fires both in Maori and early European times. The diameter of the larger trees indicates they probably established about the turn of the century.

Along the coast unstable vegetation-covered slopes reach to the top of the shelly beach, flanked by sandstone cliffs in the east and west. Large pohutukawa line the cliff tops with scattered *Astelia banksii*, coastal flax (*Phormium cookianum*), houpara, (*Pseudopanax lessonii*), karo (*Pittosporum crassifolium*) and tutu (*Coriaria arborea*) clinging to the cliff and on the talus slope beneath. The shaded coastal rocks and thin soils provide habitat for native coastal grasses including the sand wind grass (*Lachnagrostis billardierei*), long-hair plume grass (*Dichelachne crinita*), and *Poa anceps*; and the coastal sedge *Ficinia nodosa* is common especially along seepages. Scattered pohutukawa and occasional kowhai occupy the soil slopes, above a dense understorey of tutu, coastal karamu, mahoe, and houpara. Whau (*Entelea arborescens*) occurs in a disturbed area near one small watercourse.

There is a small halophytic element, with the blue flowered *Lobelia anceps* on coastal rocks, and [the exotic] orache (*Atriplex prostrata*) on the shell bank at the top of the beach. Mangrove (*Avicennia marina*) 'seed' is washed up on the beach, but has not established.

As with all small forest remnants close to human habitation, a number of exotic species have established. Those of particular concern for the integrity of the vegetation include pampas grasses (*Cortaderia jubata* and *C. selloana*), ginger (*Hedychium gardnerianum*), and climbing asparagus (*Asparagus scandens*).

Possums are in the area, but local residents have trapped many as is evident by the healthy kohekohe and pohutukawa. Provided this trapping programme is maintained, there is little threat to the vegetation; indeed the area could provide a refuge for species which are particularly susceptible to possum attack.

Value of the area as a reserve

The botanical features of the area, including in particular the kowhai-kohekohe stands, are of regional significance and warrant reserving. The viability of the reserve will be enhanced by its abutting the adjacent Waikowhai Reserve, and with its kowhai stands will help keep the Maori name of the area real. Furthermore it will assist in preserving the existing continuous coastal green belt along the Manukau coast from the Waitakere Ranges to White Bluff (2 km east of the Captains Block). Taken as a whole this green strip allows a unique glimpse of the original vegetation of the Auckland isthmus, and provides an important corridor for animals close to the city.

The area, with its well-formed track and coastal access is well suited for educational purposes, showing many aspects of the native flora and ecological processes including regeneration.

There will be some need for weed control. Apart from the climbing asparagus by the coast, the problem is not major, and could be handled by working bees of local volunteers. As with other Auckland reserves, total weed control is unrealistic.

As a codicil to these comments, should the area become a reserve we would strongly oppose any planting in its boundaries. Present regeneration is extensive and effective, and the scientific values of the area would be prejudiced by bringing in species and genotypes foreign to the site.

Modification of the area by development

Establishment of housing on the area will severely reduce its botanical value by fragmenting the forest. A road along the present benched track from Aldersgate Road, or further up or down the slope, would involve cutting down many large trees, and the opening up of many more to wind throw. Additionally it will increase the spread of weeds and modify the stream areas by silting. Clearing of building sites would involve more destruction and modification. While a few of the large trees could be left, the area is too small for development on any scale not to severely compromise the ecological values. Development of the paper road along the foreshore would totally destroy the botanical values of the immediate coastal slope and cause severe erosion problems.

Acknowledgments

Congratulations to Des Webster on his successful campaign to protect the bush, and thanks to Brenda Osborne for extracting our 1991 report from the Auckland Council archives and to Duncan Benzie for providing the current area of the reserve.

References

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Appendix. Native vascular plants for Captains Block, Wesley Bay, recorded February 1991.

Key: a = abundant; c = common; o = occasional; l = local; s = scarce (< 5 seen)

Ferns (28)

<i>Adiantum cunninghamii</i>	o
<i>Adiantum hispidulum</i>	o
<i>Asplenium bulbiferum</i> s.s.	s
<i>Asplenium flaccidum</i>	o
<i>Asplenium gracillimum</i>	s
<i>Asplenium lamprophyllum</i>	a
<i>Asplenium oblongifolium</i>	o
<i>Asplenium polyodon</i>	o
<i>Blechnum filiforme</i>	c
<i>Blechnum membranaceum</i>	o
<i>Blechnum novae-zelandiae</i>	o
<i>Cyathea dealbata</i>	a
<i>Cyathea medullaris</i>	lc
<i>Dicksonia squarrosa</i>	s
<i>Doodia australis</i>	lc
<i>Lastreopsis microsora</i>	a
<i>Lastreopsis glabella</i>	o
<i>Microsorium pustulatum</i>	o
<i>Microsorium scandens</i>	o
<i>Paesia scaberula</i>	s
<i>Pneumatopteris pennigera</i>	o
<i>Polystichum</i> sp.	s
<i>Pteridium esculentum</i>	o
<i>Pteris saxatilis</i>	s
<i>Pteris tremula</i>	o
<i>Pyrrosia eleagnifolia</i>	o
<i>Tmesipteris elongata</i>	o
<i>Tmesipteris lanceolata</i>	o

Conifers (2)

<i>Dacrycarpus dacrydioides</i>	o
<i>Dacrydium cupressinum</i>	r

Dicotyledons (40)

<i>Apium prostratum</i>	o
<i>Brachyglottis repanda</i>	o
<i>Callitriche muelleri</i>	l
<i>Calystegia sepium</i>	l
<i>Calystegia tuguriorum</i>	l
<i>Carmichaelia australis</i>	s
<i>Coprosma macrocarpa</i>	c
<i>Coprosma rhamnoides</i>	o
<i>Coprosma robusta</i>	o
<i>Coriaria arborea</i>	lc
<i>Corynocarpus laevigatus</i>	c
<i>Dysoxylum spectabile</i>	c
<i>Entelea arborescens</i>	o
<i>Fuchsia excorticata</i>	c
<i>Geniostoma ligustrifolium</i>	l
<i>Haloragis erecta</i>	o

<i>Hebe stricta</i>	o
<i>Hedycarya arborea</i>	c
<i>Knightia excelsa</i>	c
<i>Kunzea robusta</i>	l
<i>Leptospermum scoparium</i>	l
<i>Leucopogon fasciculatus</i>	o
<i>Litsea calicaris</i>	s
<i>Lobelia anceps</i>	lc
<i>Meliclytus ramiflorus</i>	c
<i>Metrosideros excelsa</i>	o
<i>Metrosideros robusta</i>	s
<i>Muehlenbeckia australis</i>	o
<i>Muehlenbeckia complexa</i>	l
<i>Myrsine australis</i>	c
<i>Parsonsia ? heterophylla</i>	c
<i>Piper excelsum</i>	c
<i>Pittosporum crassifolium</i>	l
<i>Pittosporum tenuifolium</i>	c
<i>Pseudopanax crassifolius</i> × <i>P. lessonii</i>	l
<i>Pseudopanax lessonii</i>	o
<i>Rhabdothamnus solandri</i>	lc
<i>Schefflera digitata</i>	o
<i>Sophora microphylla</i> s.l.	c
<i>Streblus heterophyllus</i>	c
<i>Vitex lucens</i>	s

Monocotyledon (24)

<i>Astelias banksii</i>	l
<i>Carex dissita</i>	o
<i>Carex flagellifera</i>	lc
<i>Carex lessoniana</i>	c
<i>Carex uncinata</i>	o
<i>Cordyline banksia</i>	o
<i>Cordyline pumilio</i>	o
<i>Cordyline hybrids</i>	o
<i>Cyperus ustulatus</i>	o
<i>Dichelachne crinita</i>	o
<i>Ficinia nodosa</i>	l
<i>Gahnia lacera</i>	a
<i>Gahnia setifolia</i>	l
<i>Juncus edgariae</i>	l
<i>Lachnagrostis billardierei</i>	lc
<i>Lachnagrostis filiformis</i> s.s.	o
<i>Microlaena stipoides</i>	lc
<i>Oplismenus hirtellus</i>	o
<i>Phormium cookianum</i>	l
<i>Phormium tenax</i>	s
<i>Poa anceps</i>	lc
<i>Rhopalostylis sapida</i>	s
<i>Ripogonum scandens</i>	la
<i>Rytidosperma unarede</i>	o