

HAMURANA ROAD BUSH

John F.F. Hobbs

The bush-clad northern scarp of the Rotorua caldera between Wilson's Bay and Mission Bay has for a long time interested me and having a bit of spare time, I decided to give it a go. The land straddles Hamurana Road for about two kilometres (as the kereru flies) and is probably privately owned but I worked on the principle of "if there's no fence, it's fair game". This worked fine on the first foray up the scarp on but I almost came to grief on the way out when I nearly tripped over some barbed wire that had once been a fence. No further fences were encountered on the roadside over the several part-days of the exercise.

Above the road it was difficult to travel horizontally for more than a hundred metres or so due to rocky bluffs and the scarp was also difficult due to the gradient. At the top of the scarp for the most part the terrain was fairly flat, with more or less regular gullies dropping down towards the lake. There is a fence along the farm/bush boundary at the top of the scarp.

Below the road, where gullies run towards the lake, the ridges between provided best access to the lower slopes. Between these ridges near the road the ground was quite steep due to road-works spoil. Along the lake edge there is a very steep drop-off to the lake, varying from five metres to about twenty metres. I found only one site where I was able to get down to the lake edge safely. In one area it appears that some farming may have taken place in the past but it is now gorse/bracken/blackberry scrub which I did not go into. Apart from this area, it was mostly reasonably easy to get through.

The forest in the whole area was kamahi (*Weinmannia racemosa*), mangeao (*Litsea calicaris*) with emergent rewarewa (*Knightsia excelsa*) and mamaku (*Cyathea medullaris*) in the gullies.

Both kohekohe (*Dysoxylum spectabile*) and kotukutuku (*Fuchsia excorticata*) were common throughout but the biggest trees of both species were found below the road. The understorey was predominantly of kawakawa (*Macropiper excelsum*), hangehange (*Geniostoma ligustrifolium*), mahoe (*Melicytus ramiflorus*) and kanono (*Coprosma grandifolia*).

Occasional ground cover consisted of gully fern (*Pneumatopteris pennigera*), sweet fern (*Pteris macilenta*), shining spleenwort (*Asplenium oblongifolium*) and nini (*Blechnum chambersii*).

The epiphytes hound's tongue (*Microsorium pustulatum*), fragrant fern (*M. scandens*), leatherleaf (*Pyrrosia eleagnifolia*) and hanging spleenwort (*Asplenium flaccidum*) were quite common, while the green fleshy-leaved orchid (*Drymoanthus adversus*) was noted mainly on fallen branches and is probably more common than it appears.

Species which raised my eyebrows were karaka (*Corynocarpus laevigatus*), two saplings of which were seen in a gully below the road, and Hooker's spleenwort (*Asplenium hookerianum*), which was quite common throughout from lakeside to the upper reaches of the scarp on steep banks. Ecroyd *et al.* (1990) only mention that this species is common on the eastern side of the district. Titoki (*Alectryon excelsus*) seedlings were also quite common but no mature trees were seen.

The lower side of this stretch of road had been used as a dumping ground for many years until the local council figured that raising the ground a metre or so on pull-off areas would make it more difficult to push old vehicles and various home appliances down the bank. The dumping of garden waste also seems to have diminished.

Looking at the distribution of exotic species (see Table 1), the effect of dumping of garden (exotic) refuse on the lower side of the road becomes apparent, with seventy exotic species on the lake side of the road (fifty-three exclusively), as against twenty-four species above the road (seven species exclusively). Japanese honeysuckle (*Lonicera*

japonica) and wandering Jew (*Tradescantia fluminensis*) are quite common along the roadside and in the scrubby areas where there has been vehicular access in the past. Jasmine (*Jasminum polyanthum*), Chinese lantern (*Abutilon darwinii* × *A. pictum*), artillery plant (*Lamium galeobdolon*) and hydrangea (*Hydrangea macrophylla*) were recorded from an abandoned section of road. On the lakeshore, alder (*Alnus glutinosa*), crack willow (*Salix fragilis*) and grey willow (*Salix cinerea*) were noted; all three species are common around the shore of the lake. German ivy (*Delairea odorata*) was seen at the lake shore and roadside, probably arriving by different modes of dispersal.

Table 1. Distribution of species above and below Hamurana Road.

	Exotic	Native	Total
Above road	24	93	117
Below road	70	89	109
Total	77	109	186
Above road only	7	20	27
Below road only	53	16	69
Both above and below	17	73	90

REFERENCE:

Ecroyd C.E.; Clarkson B.D. and Wilcox M.D. (1990): An annotated list of vascular plants in the Rotorua Lakes Ecological District. Rotorua Botanical Society Special Issue No. 1. 75 pp.

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* denotes naturalised; p? = possibly planted

Ferns and fern allies		Above Road	Below Road
<i>Adiantum cunninghamii</i>	common maiden hair	x	x
<i>Adiantum viridescens</i>	maiden hair	x	
<i>Asplenium bulbiferum</i>	hen and chickens fern	x	x
<i>Asplenium flaccidum</i>	hanging spleenwort	x	x
<i>Asplenium gracillimum</i>		x	
<i>Asplenium hookerianum</i>	Hooker's spleenwort	x	x
<i>Asplenium oblongifolium</i>	shinning spleenwort	x	x
<i>Asplenium polyodon</i>	sickle spleenwort	x	x
<i>Blechnum chambersii</i>	nini	x	x
<i>Blechnum filiforme</i>	climbing sweet fern	x	x
<i>Blechnum novae-zelandiae</i>	kiokio	x	x
<i>Blechnum vulcanicum</i>	korokio	x	
<i>Cardiomanes reniforme</i>	kidney fern	x	
<i>Ctenopteris heterophylla</i>		x	
<i>Cyathea cunninghamii</i>	gully tree fern		x
<i>Cyathea dealbata</i>	silver fern	x	x
<i>Cyathea medullaris</i>	mamaku	x	x
<i>Cyathea smithii</i>	soft tree fern		x
<i>Dicksonia fibrosa</i>	wheki-ponga	x	x
<i>Dicksonia squarrosa</i>	wheki	x	x
<i>Diplazium australe</i>	southern lady fern	x	x
<i>Histiopteris incisa</i>	water fern	x	
<i>Huperzia varia</i>	hanging clubmoss	x	
<i>Hymenophyllum demissum</i>	irirangi	x	x
<i>Hymenophyllum dilatatum</i>	broad filmy fern	x	x
<i>Hymenophyllum flexuosum</i>	wavy filmy fern	x	
<i>Hymenophyllum frankliniae</i>	rusty filmy fern	x	
<i>Hymenophyllum rarum</i>	thin filmy fern	x	x
<i>Hymenophyllum revolutum</i>	filmy fern	x	
<i>Hymenophyllum sanguinolentum</i>	piripiri	x	x
<i>Hypolepis ambigua</i>	pig fern		x
<i>Lastreopsis glabella</i>		x	x
<i>Lastreopsis microsora</i> subsp. <i>pentangularis</i>		x	x
<i>Leptopteris hymenophylloides</i>	heruheru	x	x
<i>Loxogramme dictyopteris</i>	lance fern	x	
<i>Lycopodium volubile</i>	climbing clubmoss	x	x
<i>Microsorium pustulatum</i>	hound's tongue fern	x	x
<i>Microsorium scandens</i>	fragrant fern	x	x

<i>Paesia scaberula</i>	lace fern		X
<i>Pellaea rotundifolia</i>	button fern	X	X
<i>Pneumatopteris pennigera</i>	gully fern	X	X
<i>Polystichum vestitum</i>	prickly shield fern	X	
<i>Polystichum wawranum</i>	common shield fern	X	X
<i>Pteridium esculentum</i>	bracken	X	X
<i>Pteris macilenta</i>	sweet fern	X	X
<i>Pyrrosia eleagnifolia</i>	leather-leaf fern	X	X
* <i>Selaginella kraussiana</i>	creeping clubmoss		X
<i>Tmesipteris elongata</i>	fork fern	X	X
<i>Trichomanes elongatum</i>	bristle fern	X	
<i>Trichomanes venosum</i>	veined filmy fern	X	X

Gymnosperm

* <i>Pinus radiata</i>	radiata pine	X	X
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Dicotyledonous plants

* <i>Abutilon darwinii</i> × <i>A. pictum</i>	Chinese lantern		X
* <i>Acanthus mollis</i>	bear's breeches		X
<i>Alectryon excelsus</i> subsp. <i>excelsus</i>	titoki	X	X
* <i>Alnus glutinosa</i>	alder		X
<i>Alseuosmia macrophylla</i>	karapapa	X	X
<i>Aristotelia serrata</i>	wineberry; makomako	X	X
<i>Beilschmiedia tawa</i>	tawa	X	X
* <i>Berberis glaucocarpa</i>	barberry		X
* <i>Betula pendula</i>	silver birch		X
<i>Brachyglottis repanda</i>	rangiora	X	X
* <i>Buddleja davidii</i>	buddleia	X	X
* <i>Cerastium fontanum</i> subsp. <i>vulgare</i>	mouse-ear chickweed		X
* <i>Cestrum elegans</i>	red cestrum		X
* <i>Cirsium arvense</i>	California thistle		X
* <i>Cirsium vulgare</i>	Scotch thistle		X
<i>Clematis cunninghamii</i>	clematis	X	
<i>Clematis paniculata</i>	clematis	X	X
* <i>Conyza sumatrensis</i>	broad-leaved fleabane		X
<i>Coprosma grandifolia</i>	kanono	X	X
<i>Coprosma lucida</i>	shining karamu	X	X
<i>Coprosma robusta</i>	karamu	X	X
<i>Coriaria arborea</i> var. <i>arborea</i>	tree tutu	X	X
<i>Corynocarpus laevigatus</i>	karaka		X
* <i>Cotoneaster lacteus</i>	cotoneaster		X
* <i>Crataegus monogyna</i>	hawthorn	X	
* <i>Crepis capillaris</i>	hawksbeard		X
* <i>Cytisus scoparius</i>	broom		X

* <i>Daucus carota</i>	wild carrot		x
* <i>Delairea odorata</i>	German ivy		x
* <i>Digitalis purpurea</i>	foxglove	x	x
<i>Dracophyllum strictum</i>	totorowhiti	x	x
<i>Dysoxylum spectabile</i>	kohekohe	x	x
* <i>Erigeron karvinskianus</i>	Mexican daisy		x
<i>Eucalyptus</i> sp.			p?
* <i>Euphorbia peplus</i>	milkweed		x
<i>Fuchsia excorticata</i>	kotukutuku	x	x
* <i>Fumaria muralis</i>	scrambling fumitory		x
* <i>Galium aparine</i>	cleavers, bedstraw	x	x
<i>Gaultheria antipoda</i>	snowberry	x	
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	hangehange	x	x
* <i>Geranium robertianum</i>	herb Robert	x	x
<i>Gunnera monoica</i>		x	
<i>Haloragis erecta</i> subsp. <i>erecta</i>	toatoa	x	x
<i>Hebe stricta</i> var. <i>stricta</i>	koromiko	x	x
* <i>Hedera helix</i>	ivy		x
<i>Hedycarya arborea</i>	pigeonwood	x	x
* <i>Hydrangea macrophylla</i>	hydrangea		x
* <i>Hypochaeris radicata</i>	catsear	x	x
* <i>Jacobaea vulgaris</i>	ragwort	x	
* <i>Jasminum polyanthum</i>	jasmine		x
<i>Knightia excelsa</i>	rewarewa	x	x
* <i>Lamium amplexicaule</i>	henbit		x
* <i>Lamium galeobdolon</i>	artillery plant		x
<i>Leptospermum scoparium</i>	manuka	x	
* <i>Leucanthemum vulgare</i>	oxeye daisy		x
<i>Litsea calicaris</i>	mangeao	x	x
* <i>Lonicera japonica</i>	Japanese honeysuckle		x
* <i>Lotus pedunculatus</i>	lotus	x	x
* <i>Lupinus arboreus</i>	tree lupin		x
* <i>Lythrum hyssopifolia</i>	hyssop loosestrife		x
<i>Macropiper excelsum</i> subsp. <i>excelsum</i>	kawakawa	x	x
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i>	mahoe	x	x
<i>Metrosideros diffusa</i>	rata	x	x
<i>Metrosideros excelsa</i>	pohutukawa		x
<i>Metrosideros fulgens</i>	rata	x	x
<i>Metrosideros perforata</i>	aka; white-flowered rata	x	x
<i>Muehlenbeckia australis</i>	pohuehue	x	x
* <i>Myosotis sylvatica</i>	garden forget-me-not		x
<i>Myrsine australis</i>	mapou	x	x
<i>Olearia rani</i> var. <i>colorata</i>	heketara		x
* <i>Oxalis latifolia</i>	fishtail oxalis		x

* <i>Oxalis vallicola</i>	oxalis		x
* <i>Paraserianthes lophantha</i>	brush wattle		x
<i>Parsonsia heterophylla</i>	NZ jasmine	x	
* <i>Phytolacca octandra</i>	inkweed	x	x
<i>Pittosporum colensoi</i>	kohuhu	x	x
<i>Pittosporum tenuifolium</i>	kohuhu	x	x
* <i>Plantago lanceolata</i>	narrow-leaved plantain		x
* <i>Polygonum aviculare</i>	wireweed		x
* <i>Populus</i> sp.	poplar		p?
* <i>Prunella vulgaris</i>	selfheal	x	x
* <i>Prunus serrulata</i>	Japanese hill cherry	x	x
<i>Pseudopanax arboreus</i>	five finger	x	x
* <i>Quercus</i> sp.	oak		p?
<i>Ranunculus reflexus</i>	buttercup	x	
* <i>Ranunculus repens</i>	creeping buttercup	x	x
* <i>Rosa rubiginosa</i>	sweet brier	x	
<i>Rubus cissoides</i> agg.	bush lawyer	x	x
* <i>Rubus fruticosus</i> agg.	blackberry	x	x
* <i>Rubus phoenicolasius</i>	Japanese wineberry		x
* <i>Rumex acetosella</i>	sheep's sorrel		x
* <i>Rumex obtusifolius</i>	dock		x
* <i>Salix cinerea</i>	grey willow		x
* <i>Salix fragilis</i>	crack willow		x
<i>Schefflera digitata</i>	pate	x	x
* <i>Senecio bipinnatisectus</i>	Australian fireweed	x	
* <i>Solanum nigrum</i>	black nightshade	x	x
<i>Solanum nodiflorum</i>	small-leaved nightshade		x
* <i>Solanum tuberosum</i>	potato		x
* <i>Sonchus oleraceus</i>	puha	x	x
* <i>Spergula arvensis</i>	spurrey		x
* <i>Stachys sylvatica</i>	hedge woundwort		x
* <i>Trifolium pratense</i>	red clover	x	
* <i>Trifolium repens</i>	white clover	x	
* <i>Tropaeolum majus</i>	garden nasturtium		x
<i>Tupeia antarctica</i>	pirita	x	x
* <i>Ulex europaeus</i>	gorse	x	x
<i>Wahlenbergia violacea</i>			x
<i>Weinmannia racemosa</i>	kamahi	x	x
Monocotyledonous plants			
<i>Astelia solandri</i>	kowharawhara	x	x
* <i>Bromus willdenowii</i>	prairie brome		x
<i>Collospermum hastatum</i>	kahakaha	x	x
<i>Cordyline australis</i>	cabbage tree; ti kouka	x	x

<i>Cortaderia fulvida</i>	toetoe		X
* <i>Cortaderia selloana</i>	pampas	X	
* <i>Crocsmia ×crocsmiiflora</i>	montbretia		X
* <i>Dactylis glomerata</i>	cocksfoot	X	X
<i>Dianella nigra</i>	turutu	X	X
<i>Dichelachne crinita</i>	patiti		X
<i>Drymoanthus adversus</i>	green fleshy orchid	X	X
<i>Earina autumnalis</i>	raupeka		X
<i>Earina mucronata</i>	peka-a-waka	X	X
* <i>Ehrharta erecta</i>	veld grass		X
* <i>Hedychium gardnerianum</i>	wild ginger		X
* <i>Holcus lanatus</i>	Yorkshire fog		X
<i>Microlaena stipoides</i>	patiti		X
* <i>Miscanthus nepalensis</i>	Himalayan fairy grass		X
* <i>Paspalum dilatatum</i>	paspalum		X
* <i>Pennisetum clandestinum</i>	kikuyu grass		X
<i>Phormium cookianum</i> subsp. <i>hookeri</i>	mountain flax		X
<i>Ripogonum scandens</i>	supplejack	X	X
<i>Rytidosperma gracile</i>	danthonia		X
* <i>Schedonorus arundinaceus</i>	tall fescue	X	X
<i>Schoenus tendo</i>	wiwi	X	
* <i>Tradescantia fluminensis</i>	wandering Jew		X
<i>Uncinia uncinata</i>	common hookgrass	X	X