

MOUTOA BUSH - A PRELIMINARY BIOLOGICAL SURVEY

B. J. Gill B.Sc.(Hons.)

Department of Zoology,  
University of Canterbury,  
CHRISTCHURCH 1.

March 1976

Introduction

In earlier times the coastal Manawatu was occupied intensively by Maoris, and was one of the first areas to be settled by Europeans. Under these circumstances the original vegetation was quick to suffer extensive modification, and historical records give virtually no information on its pristine state.

Except for the coastal strip of sand-dunes, the region has been transformed almost completely into farmland. However, several remnants of forest have survived to the present, and the two largest (Round Bush Scenic Reserve and Himatangi Bush Scientific Reserve) have been surveyed by botanists.

Moutoa Bush (NZMS 1, N152 382 134), a remnant encompassed by the Department of Lands and Survey's Moutoa farm settlement scheme, is one of the smaller vestiges of forest in the coastal Manawatu. Both Moutoa Bush and Himatangi Bush (NZMS 1, N143 835 256) are about 14km due east of the coast (but whereas Himatangi Bush is 20km west of the Tararua foothills, Moutoa Bush is only half as distant).

The special importance of Moutoa Bush is its position near the Manawatu River which sites it on alluvial soils, rather than on the sand-country soils which are characteristic to the north and south. Forests developed on alluvium are represented inland, but Moutoa Bush involves the unusual combination of alluvial soils and a coastal position.

Moutoa Bush, and the small remnant 600m to the north-east (owned and reserved by Mr B. Easton), are vestiges of the original vegetation of the Moutoa swamp. Prior to the activities of European settlers this swamp covered several thousand hectares north of the Manawatu River. It contained large lagoons and was flooded intermittently, this action resulting in the formation of alluvial soils.

Description

Moutoa Bush covers about 3ha (7.5 acres), and is in three sections each separated by open grassland. The western section is largest, and the central portion very small and close to the eastern section. The bush is 200m north-west of the Manawatu River at a point about 2.7m above mean sea level. The water table is relatively low because the land in the area slopes upwards towards the river.

The soil is classified as Parewanui fine sandy loam except for the western half of the western section which is Parewanui silty loam. The remnant was fenced to exclude stock early in 1975, and the fenced area is considerably larger than that of bush. This extra land has developed into a dense sward of grasses and introduced weeds.

### Native Flora

The forest has developed from semi-swamp vegetation, and is dominated today by emergent kahikatea. There are at least a dozen kahikatea that reach 20m (60-90 feet) high. These trees have begun to develop the mature form of the species with bare trunks and foliage concentrated towards the crown. Juvenile trees of conical profile are common, but there is a regeneration gap and saplings are absent. However, some small seedlings 2-3 years old survive in situations inaccessible to browsing, and there is prolific regeneration of seedlings from the seedfall of spring 1975.

The understorey up to 15m high is composed of juvenile kahikatea and broad-leaf trees - notably pukatea, mahoe and tawa. Titoki is less common, and many trees are represented by only a few specimens. Epiphytes are abundant, and have been largely immune from the influence of stock. Kiekie and Collospermum hastatum are conspicuous. The ground flora of ferns and herbs is at present restricted largely to crevices between rootlets at the base of trees, the periphery of fallen logs and any other sites less likely to have been browsed.

The edges of the bush are in most places relatively open, but especially at the eastern periphery they are dense. The canopy is moderately healthy, and sufficiently closed to prevent the growth of all but a few weeds on the forest floor. In all three sections there is an abrupt transition from the relatively weed-free interior of the bush to the prolific growth of grasses and weeds just outside.

The effect of grazing by stock has been to virtually eliminate small shrubs from the forest's interior, making it extremely open. Dead trunks of tree ferns are numerous; Dicksonia squarrosa has been exterminated, but a solitary specimen of Cyathea medullaris remains.

Wandering Jew (Tradescantia fluminensis), which has hampered regeneration in nearby Easton's bush, is absent from Moutoa Bush, and so the prospects for regeneration appear to be excellent. In addition to seedlings of kahikatea, there are encouraging signs of the regeneration of tawa, kaikomako, pigeonwood, supple-jack and Parsonsia heterophylla. It is to be hoped, and probably expected, that the bush in time will spread to occupy the entire fenced area.

### Preliminary List of Native Plants

The following list of 52 species is incomplete because it has not been possible to identify all the monocot and dicot herbs. However, the list of 25 trees and shrubs is probably exhaustive. For help in identifying some of the more difficult species I wish to thank Mr J. Campbell and Dr I. Atkinson.

The following symbols have been used to record the estimated abundance of each species:

- m     major component of canopy
- a     abundant
- l     locally abundant
- u     uncommon; from 2 to 5 specimens seen
- r     rare; only one specimen seen

TREES AND SHRUBS

*Alseodryon excelsum*  
*Beilschmiedia tawa*  
*Coprosma areolata*  
*C. propinqua*  
*C. rotundifolia*  
*Cordyline australis*  
*Dacrycarpus dacrydioides*  
*Griselinia lucida*  
*Hedycarya arborea*  
*Hoheria angustifolia*  
*H. sexstylosa*  
*Laurelia novaezelandiae*  
*Macropiper excelsum*  
*Melicytus ramiflorus*  
*Myrsine australis*  
*Paratrophis microphylla*  
*Pennantia corymbosa*  
*Pittosporum tenuifolium*  
*Plagianthus betulinus*  
*Podocarpus spicatus*  
*Pseudopanax crassifolius*  
*Schefflera digitata*  
*Sophora microphylla*

titoki  
 tawa  
  
 cabbage tree  
 kahikatea  
 puka  
 pigeonwood  
 narrow-leaved lacebark  
 long-leaved lacebark  
 pukatea  
 kawakawa  
 mahoe  
 red matipo  
 milk tree, turepo  
 kaikomako  
 kohuhu  
 lowland ribbonwood  
 matai  
 lancewood, horoeka  
 pate  
 kowhai

l  
m  
u  
u  
u  
a  
m  
u  
l  
u  
u  
m  
r  
m  
u  
a  
a  
u  
u  
r  
u  
r  
u

CLIMBERS

*Calystegia sepium*  
*Freycinetia banksii*  
*Metrosideros diffusa*  
*M. perforata*  
*Muehlenbeckia australis*  
*Parsonsia heterophylla*  
*Passiflora tetrandra*  
*Ripogonum scandens*  
*Rubus schmidelioides*

convolvulus  
 kiekie  
 climbing rata  
 aka  
 large-leaved pohuehue  
 Maori jasmine, kaiwhiria  
 native passion vine  
 supplejack  
 lawyer

l  
a  
a  
a  
a  
a  
a  
a  
u

MONOCOTYLEDONOUS HERBS

*Carex solandri*  
*Collospermum hastatum*  
*Earina mucronata*  
*Phormium tenax*  
*Scirpus reticularis*  
*Uncinia sp.*

perching lily  
 hanging orchid  
 flax (planted)  
  
 hook-grass

l  
a  
u  
l  
u  
l

*Diarylmis HERBS*  
*H. ...*

*perching lily*

FERNS

Asplenium bulbiferum	hen and chicken fern	u
A. falcatum		u
A. flaccidum	hanging spleenwort	a
A. lucidum	shining spleenwort	u
Blechnum filiforme		l
B. fluviatile		l
Cyathea medullaris	manaku	r
Cyclosorus pennigera		u
Lastreopsis glabella		a
Microsorium diversifolium		u
M. novaezealandiae		l
Pellaea rotundifolia		l
Pteris tremula		u
Pyrrhosia serpens	serpent fern	a

Fauna

The invertebrate fauna (especially that of fallen logs) is diverse, and may turn up some interesting species on examination by specialists. A rapid search beneath about a dozen logs revealed a specimen of Peripatus (Peripatoides novaezealandiae), and many other native invertebrates notably harvestmen, centipedes, spiders and land planaria. Cicadas are very abundant in summer.

Birds are common, especially finches, starlings and magpies. During summer starlings appear to use the trees for roosting between their sorties into the flax plantations for nectar. No native birds appear to be present other than the five species common throughout the Manawatu (fantail, grey warbler, silvereye, kingfisher, shining cuckoo). However, it is possible that moreporks or even tuis may visit the bush on occasions.

Recommendations for Management

1. The remnant should be given status as a reserve; reservation as a scientific reserve seems appropriate.
2. The boundary fence should be inspected periodically to ensure that stock are denied access.
3. Control measures should be taken at intervals against opossums.
4. All attempts should be made to ensure that Tradescantia does not colonise the remnant. A large colony of this weed is present only 500m from Moutoa Bush, and it is renowned for its ability to establish vegetatively from as little as a single node. Precautions could include signs asking people to clean their boots before entering the bush.
5. Exotic trees, particularly willows, should be removed. Though not significant at present these trees could spread, especially in the absence of stock. A specimen of edible fig is present in the bush and is multiplying by suckering.
6. By ensuring that areas of flax are retained close to the bush, tuis and bell-birds might be encouraged.