

G101 102 10.3.8
J. Rolfe (1989)

REPORT ON THE KAHIKATEA-PUKATEA SEMI-SWAMP FOREST ADJOINING OTAKI DOMAIN

Introduction

An inspection of approximately 2ha of kahikatea-pukatea semi-swamp forest adjoining Otaki Domain was made on 7 March 1989. An assessment of the condition of the forest was made, and a provisional checklist of species present was gathered. Identification of some adventive species was based on Parham and Healy (1986) and Webb, Sykes and Garnock-Jones (1988).

Semi-swamp forest is now very rare in the Wellington-Horowhenua-Manawatu area. The forest at Otaki Domain is a remnant of a type that once dominated wet valley floors of the Wellington-Horowhenua region and, apart from a degenerating remnant at Trentham Memorial Park, kahikatea-pukatea forest is unprotected in the region (Wassilieff et al 1986). North of Otaki few remnants of semi-swamp forest are protected. Part of Papaitonga Scenic Reserve is pukatea-tawa forest and kahikatea-pukatea-tawa forest (Wassilieff et al 1986), and Round Bush and Himatangi Scenic Reserves protect areas of kahikatea-pukatea forest that have had most of the original kahikatea removed (Esler 1978). The forest in these areas is now better characterised as pukatea forest.

Results

The Otaki Domain forest is greatly modified. A 30-50cm deep drainage channel has been cut through the forest, but it was difficult to assess the impact of that on the water table as this inspection was made during a prolonged dry spell, but the presence of species such as willow weed indicate usually damp soil conditions.

Only a small part of the area inspected has a continuous canopy comprising mainly kahikatea, pukatea, hinau, and tawa. Totara, rimu, kohekohe and titoki were also noted. Cabbage trees and mapou also reached canopy level in places. The canopy over most of the block is discontinuous, and adventive weeds are well established beneath it. Griselinia lucida is a common epiphyte, and the lianes kiekie, supplejack, and jasmine are also common. The understorey lacks the diversity of canopy species with Coprosma areolata dominant, almost to the exclusion of all other species through most of the block. Wheki, lancewood, and kawakawa are also present in the understorey in small numbers.

The floor, however, has a diverse assemblage of canopy and understorey species: kahikatea, pukatea, Coprosma areolata, and mapou being especially common. Seedlings of hinau, titoki, kohekohe, hangehange, totara, nikau, and kawakawa are also present. Also noted were scattered ground ferns including Asplenium oblongifolium, A. polyodon, A. bulbiferum, A. flaccidum, Blechnum filiforme, Phymatosorus diversifolius, Pteris tremula, and Pneumatopteris pennigera.

There appeared to be no sign of recent stock incursion into the forest despite the poor condition of fences. The understorey is dense, possibly a sign that stock have not been through for some time, but lacks diversity. This could reflect earlier browsing that eliminated palatable species at the seedling stage. The present seedling crop up to 100mm is very diverse and a sign that the forest would recover if protected.

Adventive weeds are well established through the block, and pose a serious threat to the recovery of the forest. Gorse grows around the margins and intrudes into light gaps in the forest. Blackberry is widespread throughout, and wandering jew and *Selaginella kraussiana* are present. Barberry and inkweed are established, although inkweed is not a long term threat. Old man's beard is also present, but is not a serious problem yet. Jerusalem cherry is well established and spreading. Willow weed grows densely in an old drainage channel, but would probably disappear as other species overtop it.

Conclusions and Recommendations

This piece of forest has been extensively damaged and is seriously degraded. Adventive weeds, including noxious species pose a threat. There is regeneration of a wide range of canopy and understorey species still at seedling stage, but most of these are absent from the understorey.

This is an important remnant of kahikatea-pukatea semi-swamp forest. Much of the Otaki plain was originally covered in totara forest with areas of this type less common, and remnants such as this are now rare. Although degraded, the forest shows potential for recovery if stock are excluded permanently and a weed control programme is initiated.

Despite its present condition, this forest should be protected because it represents a now very rare vegetation type and has the potential to recover.

REFERENCES

- Esler, A.E. 1978: Botany of the Manawatu. Government Printer, Wellington.
- Parham, B.E.V.; Healy, A.J. 1985: Common Weeds in New Zealand. Government Printer, Wellington.
- Wassilieff, M.C.; Clark, D.J.; Gabites, I. 1986: Scenic Reserves of the Lower North Island. Biological Survey of Reserves No. 14. Department of Lands and Survey, Wellington.
- Webb, C.J.; Sykes, W.; Garnock-Jones, P.J. 1988: Flora of New Zealand Vol. 4. Department of Scientific and Industrial Research, Christchurch.

APPENDIX

Provisional Checklist of Higher Plants in the Otaki Domain Kahikatea-Pukatea Semi-swamp Forest

This list is based on a superficial inspection of the bush. It is by no means exhaustive. Voucher specimens were not collected, grasses and many herbs were not recorded.

Trees and Shrubs

Native

<i>Alectryon excelsus</i>	Titoki
<i>Beilschmiedia tawa</i>	Tawa
<i>Coprosma areolata</i>	
<i>Cordyline australis</i>	Cabbage tree
<i>Dacrycarpus dacrydioides</i>	Kahikatea
<i>Dacrydium cupressinum</i>	Rimu
<i>Dysoxylum spectabile</i>	Kohekohe
<i>Elaeocarpus dentatus</i>	Hinau
<i>Geniostoma rupestre</i>	Hangehange
<i>Laurelia novae-zelandiae</i>	Pukatea
<i>Macropiper excelsum</i>	Kawakawa
<i>Myrsine australis</i>	Mapou
<i>Podocarpus totara</i>	Totara
<i>Pseudopanax crassifolius</i>	Lancewood
<i>Rhopalostylis sapida</i>	Nikau

Adventive

<i>Berberis glaucocarpa</i>	Barberry
<i>Solanum pseudocapsicum</i>	Jerusalem cherry
<i>Ulex europaeus</i>	Gorse

Climbers, scramblers, lianes

Native

<i>Freycinetia baueriana</i> ssp. <i>banksii</i>	Kiekie
<i>Griselinia lucida</i>	Puka
<i>Muehlenbeckia australis</i>	
<i>Parsonsia</i> sp.	Jasmine
<i>Ripogonum scandens</i>	Supplejack

Adventive

<i>Clematis vitalba</i>	Old man's beard
-------------------------	-----------------

Herbs

Native

<i>Collospermum hastatum</i>	
------------------------------	--

Adventive

<i>Digitalis purpurea</i>	Foxglove
<i>Phytolacca octandra</i>	Inkweed
<i>Polygonum persicaria</i>	Willow weed
<i>Tradescantia fluminensis</i>	Wandering jew

Ferns and Allies

Native

Asplenium bulbiferum
A. flaccidum
A. Oblongifolium
A. polyodon
Blechnum filiforme
B. minus
Dicksonia squarrosa
Lastreopsis glabella
Phymatosorus diversifolius
Pneumatopteris pennigera
Pteris tremula
Pyrrhosia serpens

Adventive

Selaginella kraussiana

Jeremy Rolfe

9 March 1989

