

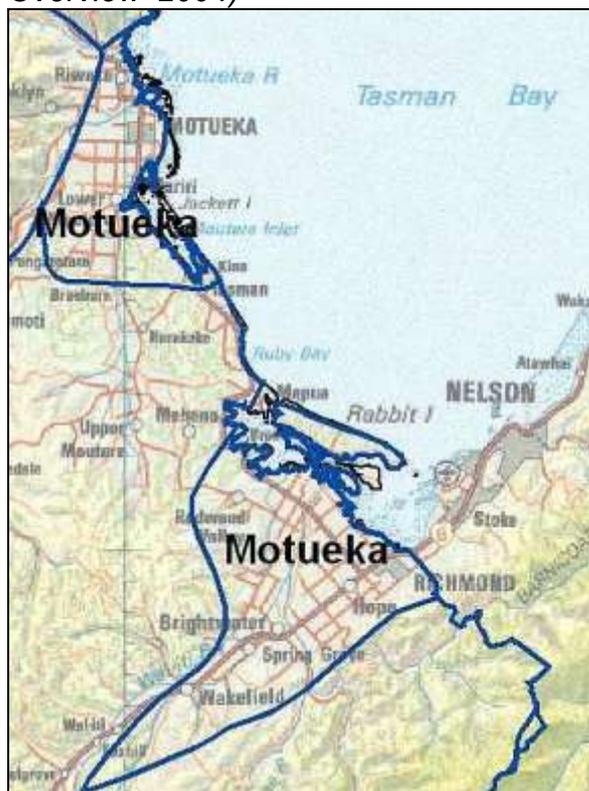
Native Habitats Tasman Site Assessment Report

Site No	MO 1
Property Name	Fearons Bush
Landowners/Occupiers	TDC leased to Steve & Jeanette Edwards (Top 10 Holiday Park)
Ecological District	Motueka
Grid Ref	N26 114 115
Surveyed By	Michael North
Date	10 December 2008
Survey time on site	¾ hr



The Setting - Motueka Ecological District (ED)

(Information copied from the TDC report 'Tasman District Biodiversity Overview' 2004)



Location and physical description

This small ecological district is in two parts, the western one where the Motueka River flows into Tasman Bay and the eastern where the Wairoa and Wai-iti Rivers come together to form the Waimea River before entering the bay. It comprises lowland and coastal alluvial plains and remnants of the Moutere Gravels. It has a coast of fertile deltas, large estuaries, sand islands and bluffs. Soils from the Moutere Gravels are clayey and not very fertile, those on stony terraces and sand are shallow and prone to drought, and alluvial soils are generally well drained and fertile. The climate is sunny and sheltered, with very warm summers and mild winters. The land is mostly in private ownership and is used for pastoral farming, forestry, horticulture and residential and commercial settlement. Tasman District Council has considerable land holdings in this district.

Ecosystem types originally present

Formerly the ecological district apart from the waterways would have been almost entirely covered in forest. The alluvial plains and terraces supported towering podocarp forests of totara, matai and kahikatea. On the low hills was mixed forest of black beech, hard beech, rimu, totara, kamahi, titoki and tawa. Along the coastal bluffs and fringing the estuaries, ngaio, cabbage tree, kowhai and totara would have been common. The estuaries were alive with wetland birds, fish and invertebrates. They had vegetation sequences grading from eelgrass and saline turf into rushes, sedges, harakeke (lowland flax) and shrubs (mainly saltmarsh ribbonwood, mingimingi and manuka), and finally into forest. Freshwater wetlands would have included fertile lowland swamps with kahikatea, harakeke, cabbage tree, tussock sedge (*Carex secta*) and

raupo. Rivers and streams, including riparian ecosystems (trees, shrubs, flaxes, toetoe, etc.) and some braided river beds, would have made up a significant portion of the district. The tabulation gives estimates of the extent of these original ecosystems.

Existing ecosystems

Most of the natural terrestrial ecosystems have been lost. What remains is mostly in small fragments of forest and freshwater wetland. The estuaries are still surprisingly intact, although their fringing vegetation sequences have largely gone. The tabulation gives estimates of the proportions of the original ecosystems that remain.

Degree of protection

There is little protected land within the ecological district. However, there are significant remnants protected in reserves and covenants. These include important tall forest remnants at Motueka, Brightwater and Wakefield, kanuka forest on alluvial flats at Brightwater, estuarine shores and sand islands. It also includes some small freshwater wetlands and hillslope forest patches. The tabulation gives estimates of how much of the original and remaining ecosystems have formal protection.

INDIGENOUS ECOSYSTEMS - MOTUEKA ECOLOGICAL DISTRICT				
Ecosystem type	Original extent (% of ED)	Proportion of original extent remaining (%)	Proportion of original extent/remaining area protected (%)	
			Original	Remain
Coastal sand dune and flat	10	<5	<5	100
Estuarine wetland	10	30	?12	?40
Fertile lowland swamp and pond	3	<1	<1	?40
Infertile peat bog	-	-	-	-
Upland tarn	-	-	-	-
Lake	-	-	-	-
River, stream and riparian	3	50	?5	?10
Lowland podocarp forest	50	<1	<1	90
Lowland broadleaved forest	5	<1	<1	90
Lowland mixed forest	12	<1	<1	90
Lowland beech forest	5	<1	<1	90
Upland beech forest	-	-	-	-
Subalpine forest	-	-	-	-
Lowland shrubland	2	<1	<1	50
Upland/subalpine shrubland	-	-	-	-
Frost flat communities	-	-	-	-
Tussock grassland	-	-	-	-
Alpine herbfield and fellfield	-	-	-	-

Site description

This open treeland site scattered over about 1.5ha lies within metres of sea level about 1.5km from the Tasman Bay coast. It is situated on the northern margins of Motueka on recent (Holocene) alluvial deposits of the modern floodplain of the Motueka River.

Vegetation

The site consists of c31 native trees that are relics of the original forest cover, mixed with exotic trees and standing over grassland and infrastructure related to the holiday park. They consist of (all mature trees) 11 kahikatea, 16 titoki, 1 turepo, 1 pigeonwood, 1 mahoe, and at least 1 lowland totara (a further c5 are probably too young to be part of the original cover and may have been planted, or were self sown in more recent times).

Botanical Values

Communities

Alluvial podocarp rich forest has been drastically depleted in Motueka ED with well less than 1% remaining of its original area. Of the c4500ha of indigenous forest and swamp that once covered the Motueka/Riwaka/Moutere floodplain delta, about 15ha remains in the form of two bush remnants and two treeland remnants. This is a loss of 99.7%. Thus even heavily modified sites such as this are of immense value in the district.

Within the Motueka River floodplain section of the ED only five tiny remnants remain, two of them treelands of which this is the most modified and compromised. In no sense can it be said to be a functional forest, and its interest is as much as evidence of what once stood as what is alive today. The kahikatea stands (there are two discrete groups) are the best and nearly only remaining evidence of the once widespread kahikatea dominated forests that once cloaked the floodplain in mosaics with small stands of matai-lowland totara-titoki-black beech on better drained ground, and open swamps.

Severely modified as it is, it is the rarity of the forest communities that once stood here (both kahikatea forest and titoki rich podocarp forest) that gives this site such a notable value.

Species

Seven native plant species were noted at the site, a very low number. None are rare in Motueka ED, but kahikatea are very rare in this northern sector of the ED being known elsewhere only from Thorp Bush.

Fauna

No native birds were noted, but undoubtedly the trees seasonally attract mobile forest birds at home in suburban settings, such as kereru, tui and fantail.

Weed and animal pests

None were noted.

Other threats

Root zone compaction and modification is undoubtedly the greatest threat to the health of the trees through vehicle passage under them and any ongoing or future infrastructural developments.

General condition

The site is in a perilous state in the longer term with no prospects for self regeneration and very limited scope for rehabilitation given the current use of the site. The health of the trees is generally very good other than for early dieback in the crowns of several of the kahikatea.

Landscape/Historic values

The towering kahikatea are a striking feature along the northern side of the town.

Assessment of ecological value

The following criteria are assessed:

Representativeness: *How representative is the site of the original vegetation?*

Rarity: *Are there rare species or communities?*

Diversity and pattern: *Is there a notable range of species and habitats?*

Distinctiveness/special features: *Are there any features that make the site stand out locally, regionally or nationally for reasons not addressed by the above criteria?*

Size/shape: *How large and compact is the site?*

Ecological Context: *How well connected is the site to other natural areas, to what extent does the site buffer and is buffered by adjoining areas, and what hydrological services to the catchment and critical resources to mobile species does it provide?*

Sustainability: *How well is the site able to sustain itself without intervention?*

Site Significance

The technical assessment of significance is tabled in the Appendix.

This site is significant for the following reasons:

Although poorly representative of the original forest cover, the community that the treelands represent is so rare within the Motueka ED that its value is sufficient for it to be deemed significant.

Management issues and suggestions

Given the commercial nature of the site and the imperative to use every available space for recreational or commercial use it is hard to see how any attempt can be made at restoration. The most that can be done is to ensure the long-term survival of the trees. The main area of kahikatea in the centre of the property appears to be accessible to vehicles pulling off the tarmac and it is questioned here whether this is sustainable from the perspective of tree longevity as podocarps are notoriously vulnerable to root compaction. Some expert advice should be taken if it has not already been done so. It is pleasing to see that some efforts have been made to deter foot passage away from tree bases with the use of bark and minor amenity plantings.

The kahikatea trees are a rare source of seed in this sector of the ecological district, and should be collected and grown by those involved with forest restoration projects in the Motueka area, to retain the particular genetic characteristics of the locality.

PHOTO GALLERY



The towering kahikatea are an imposing sight at this motorcamp



Three of the eleven large kahikatea are shown here; the use of the ground around their feet for motorcamping cannot be helping their survival as their roots are notoriously susceptible to compaction



The stand of titoki in the NE corner with a playground set in amongst them



Kahikatea with amenity plantings that remove the risk of any further compaction from human activity in their immediate vicinity



Many kahikatea crowns are in fine health...



...but a few are in obvious decline, a consequence of a number of impacts that are likely to include loss of a forest setting, lowering of water tables, natural aging and root compact

APPENDIX

Site Significance Technical Assessment

Each site is ranked according to the highest ranking vegetation community or habitat that occurs within it. However, a site will be divided into more than one area for assessment purposes if they vary markedly in character, size or condition. Some examples are:

- (a) a core area of vegetation (say, a podocarp gully remnant) is surrounded by/adjoins a much larger area of markedly different vegetation (say, kanuka scrub);
- (b) a core area of vegetation has *markedly* different ecological values to the surrounding/adjacent vegetation;
- (c) where artificially abrupt ecological boundaries occur between an area of primary vegetation and a surrounding/adjacent area of secondary vegetation.

Where such division of a site into two or more separately assessed areas occurs, such adjoining areas will also be considered in their buffering/connectivity roles to one another.

This site was assessed as one unit as the above considerations did not indicate the need to assess communities separately.

SITE EVALUATION UNDER THE SIGNIFICANCE CRITERIA		
	Score	Example/explanation
PRIMARY CRITERIA		
Representativeness		
The site includes primary vegetation that poorly or moderately poorly resembles its original condition.	M	Vegetation characterised by original canopy species or climax plant species, but which has been heavily impacted by herbivores or direct human intervention
Rarity		
The site includes a community depleted 5% or less of original pre-human cover in the Ecological District but in poor condition that may be of either primary or secondary climax canopy species	MH	Eg. A stand of alluvial podocarp or pukatea trees over pasture. This definition includes secondary forest/treeland where canopy species are those of the original/primary canopy.
Diversity and Pattern		
Indigenous plant communities species or habitats are present with less diversity than is typical for such sites in the Ecological District	L	
SECONDARY CRITERIA		
Ecological Context (highest score)		
Connectivity/Buffered by		
The site is significantly isolated	L	
Buffering		

The site is poorly buffered	L	
Provision of critical resources to mobile fauna		
The site provides seasonally important resources for indigenous mobile animal species and these species are present in the locality even though they may not have been observed at the site	ML	The site is probably of note in the locality as a source of seasonal podocarp fruit for forest birds
Hydrological services to the catchment		
The site provides hydrological services to the catchment	L	
Size		
OTHER CRITERION		
Sustainability (average score)	ML	
Physical and proximal characteristics		
Size shape buffering and connectivity provide for a low overall degree of ecological resilience	L	Size L Shape L Buffering L Connectivity L
Inherent fragility/robustness		
Indigenous communities are neither inherently resilient nor fragile	M	Forest where regeneration is problematic due to landform/climate/geology
Threats (lowest score taken; low score = high threat)		
Ecological impacts of grazing, surrounding land management, weeds and pests*	L	Grazing (mowing) L Surroundings H Weeds H Pests H

*observed pest impacts only

SUMMARY OF SCORES	Criterion	Ecological District Ranking
Primary Criteria	Representativeness Rarity Diversity and pattern	M MH L
Secondary Criteria	Size/shape Ecological context	L ML
Additional Criterion	Sustainability	ML

H=high MH=medium-high M=medium ML=medium-low L=low

If a site scores as highly as the combinations of primary and secondary scores in the table below, it is deemed significant for the purposes of this assessment.

	Primary Criteria		Secondary Criteria
	Any of the 3 primary criteria with a score at least as high as listed	&	Any of the 2 secondary criteria with a score at least as high as listed
1	H		-
2	2x MH		-
3	MH + M		-
4	MH	&	MH
5	2x M	&	H
6	2x M	&	2x MH
7	M	&	H + MH

Is the site 'significant' under the TDC SNA criteria? YES

Species List

r=rare o=occasional m=moderate numbers ml= moderate numbers locally c=common
lc= locally common f=frequent lf=locally frequent x=present but abundance not noted
P= planted R=reported

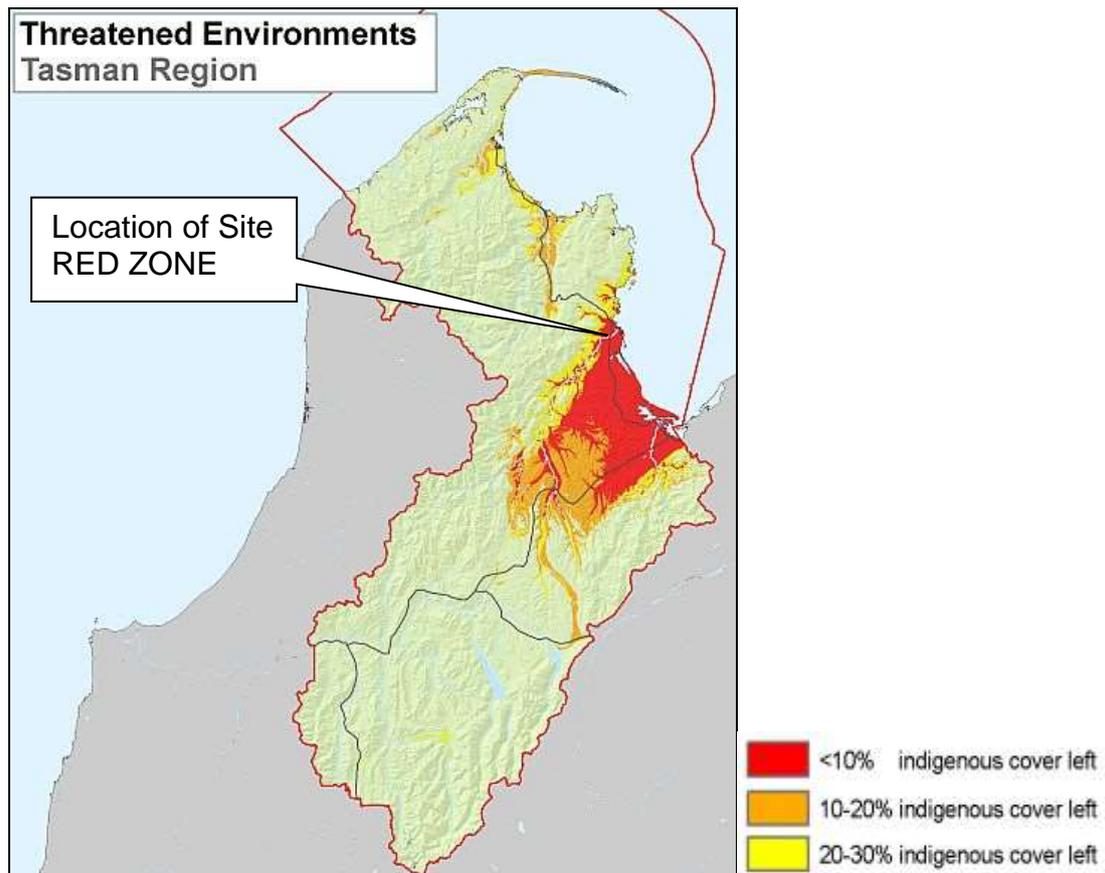
Species Name	Common Name
Trees Shrubs	
<i>Alectryon excelsus</i>	titoki
<i>Dacrycarpus dacrydioides</i>	kahikatea
<i>Hedycarya arborea</i>	pigeonwood
<i>Melicytus ramiflorus</i>	mahoe, whiteywood
<i>Podocarpus totara</i>	lowland totara
<i>Streblus heterophyllus</i>	small leaved milkwood/turepo
Lianes	
Dicot Herbs	
Monocot Herbs	
Grasses Sedges Rushes	
Ferns	
<i>Pyrrosia eleagnifolia</i>	leather leaf fern
Weeds	
Birds	

Land Environments of New Zealand (LENZ)

LENZ is a national classification system based on combinations of soil characteristics, climate and landform. These three factors combined are correlated to the distribution of native ecosystems and species.

When LENZ is coupled with vegetation cover information it is possible to identify those parts of the country (and those Land Environments) which have lost most of their indigenous cover. These tend to be fertile, flatter areas in coastal and lowland zones as shown in the map below for Tasman District.

Further information on the LENZ framework can be found at-
www.landcareresearch.co.nz/databases/lenz



National Priorities for Protecting Biodiversity on Private Land

Four national priorities for biodiversity protection were set in 2007 by the Ministry for the Environment and Department of Conservation.

National Priorities	Does this Site Qualify?
1 Indigenous vegetation associated with land environments (ie LENZ) that have 20 percent or less remaining in indigenous cover. This includes those areas colored in red and orange on the map above.	Yes
2 Indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity	No
3 Indigenous vegetation associated with 'naturally rare' terrestrial ecosystem types not already covered by priorities 1 and 2 (eg limestone scree, coastal rock stacks)	No
4 Habitats of threatened indigenous species	No

Further information can be found at -

www.biodiversity.govt.nz/pdfs/protecting-our-places-brochure.pdf

Significance of LENZ and National Priorities

What does it mean if your site falls within the highly depleted LENZ environments, or falls within one or more of the four National Priorities?

These frameworks have been included in this report to put deeper ecological context to the site. They are simply another means of gauging ecological value. This information is useful in assessing the relative value of sites within Tasman District when prioritising funding assistance. They otherwise have no immediate consequence for the landowner unless the area of indigenous vegetation is intended to be cleared, in which case this information would be part of the bigger picture of value that the consenting authority would have to take into account if a consent was required.

Site Map

