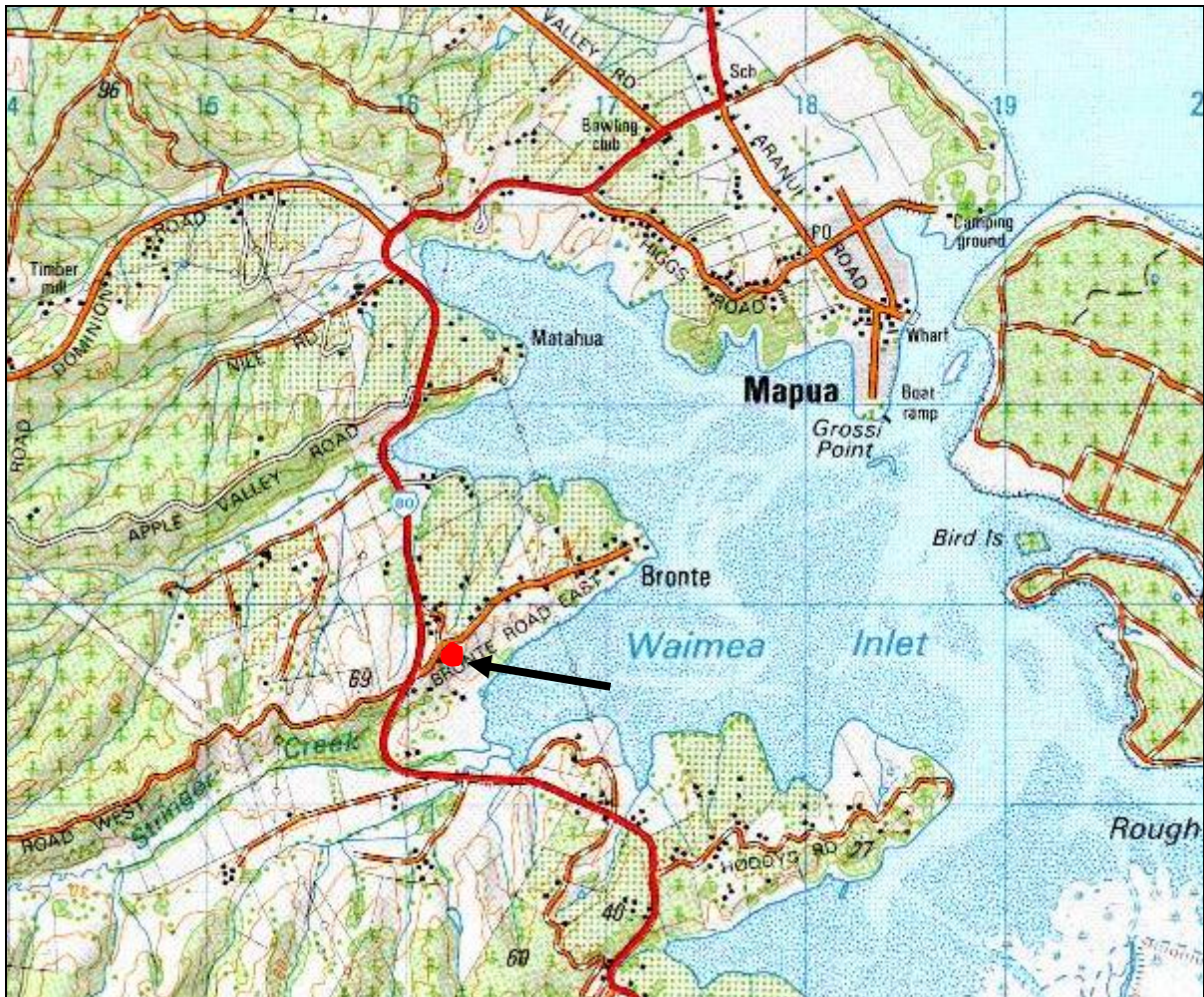


Native Habitats Tasman Ecological Assessment Report

Site:	MU 319
Landowners/Occupiers:	TDC – Bronte Rd East Reserve
Ecological District:	Moutere
Grid Ref:	E2516181 N5992701
Surveyed By:	Michael North
Date:	17 June 2010
Survey Time:	1 ½ hrs



THE SETTING – MOUTERE ECOLOGICAL DISTRICT (ED)

Location and Physical Description

The Moutere Ecological District occupies most of the Moutere Depression. It is rolling hill country founded on deeply weathered fluvio-glacial outwash gravels (Moutere Gravels), with a little limestone and granite in the west. The hills are drained by numerous valleys with flat alluvial floors. There is a small amount of coast containing an estuarine shore and a series of bluffs. The climate is sunny and sheltered, with very warm summers and mild winters. Most of the land is in private ownership and is used for pastoral farming, forestry, horticulture and small-scale settlement. Tasman District Council has considerable landholdings 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 valley floors supported towering podocarp forests of totara, matai, rimu, miro and kahikatea. On the hills, black beech was dominant at the seaward end of the District, with hard beech prominent further inland, giving way further inland still to red beech with silver beech. In sheltered coastal gullies were pockets of lush broadleaved forest containing tawa, titoki, pukatea, nikau and tree ferns. Along the coastal bluffs was forest of ngaio, titoki, nikau and other broadleaved trees, with totara and black beech. Fringing the estuary would have been a vegetation sequence like that in the neighbouring Motueka Ecological District. Freshwater

wetlands occurred in the coastal valleys and would have included fertile lowland swamps with kahikatea, harakeke, cabbage tree and tussock sedge (*Carex secta*). Rivers and streams, including riparian ecosystems (trees, shrubs, flaxes, toetoe, etc) and some braided river beds, would have made up an appreciable although not large portion of the District. The table below gives estimates of the extent of these original ecosystems.

Existing Ecosystems

Most of the natural terrestrial ecosystems have been lost. What remains is largely a scattering of fragments of beech forest, with some larger areas in the south. There are tiny remnants of coastal bluff forest, lowland broadleaved forest and podocarp forest only, and a few wee freshwater wetlands. The estuary margin is still surprisingly intact, although its fringing vegetation sequence has largely gone. The table below 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 a coastal bluff forest remnant at Ruby Bay, tawa forest at Eves Valley, podocarp forest remnants near Upper Moutere, several key remnants of beech forest and larger tracts of beech forest in the south. A few tiny wetlands are also protected. The table below gives estimates of how much of the original and remaining ecosystems have formal protection.

Indigenous Ecosystems – Moutere Ecological District				
Ecosystem type	Original extent (% of ED)	Proportion of original extent remaining (%)	Proportion of original extent / remaining area protected (%)	
			Original	Remaining
Coastal sand dune and flat	—	—	—	—
Estuarine wetland	<1	30	?	?
Fertile lowland swamp and pond	1	<5	<2	<20
Infertile peat bog	—	—	—	—
Upland tarn	—	—	—	—
Lake	—	—	—	—
River, stream and riparian	1	40	?	?
Lowland podocarp forest	20	1	<1	50
Lowland broadleaved forest	1	<5	<5	100
Lowland mixed forest	5	<5	<5	50
Lowland beech forest	65	5	2	40
Upland beech forest	5	50	40	80
Subalpine forest	—	—	—	—
Lowland shrubland	<1	<5	<1	<10
Upland/subalpine shrubland	—	—	—	—
Frost flat communities	—	—	—	—
Tussock grassland	—	—	—	—
Alpine herbfield and fellfield	—	—	—	—

SITE DESCRIPTION

Location, Geology, Hydrology

This 1.1 ha site lies at 30-50m asl on an east-facing slope cut by two small gullies, at the base of Bronte Peninsula, close to (within 200m of) Waimea Inlet.

The geology is Pliocene Moutere Gravel composed of clay-bound gravels. This material is outwash from the Southern Alps.

Vegetation

GENERAL

The site encompasses the forested sections of this reserve, largely of mixed broadleaved regeneration concentrated around two gullies. Until recently the gullies were surrounded by pine plantation, with this forest having regenerated naturally in this pine forest context.

COMMUNITIES

1 Putaputaweta-fivefinger-(mahoe) forest on side-slope gullies

Marbleleaf and fivefinger variably dominate the canopy with mahoe locally prominent, particularly in the upper ends of the gullies. In such upper sections understories can be sparse in areas of deeper shade. Elsewhere understories are moderate to dense. Gully bottoms and lower side-slopes support extensive fern beds locally, of crown fern, houndstongue fern, and occasionally *Blechnum vulcanicum*. Other ferns that are more scattered include shining spleenwort, hen and chickens fern, and *Blechnum procerum*. Through large areas however ferns are sparse. Inkberry is occasional. Woody understories comprise canopy regeneration, much shining coprosma, large-leaved coprosma, occasional mingimingi and regenerating mapou, and rare lowland totara <1m tall. Locally there is moderate regeneration of lemonwood and kohuhu. Ponga is reasonably common with some mature treeferns. One canopy rimu occurs. One large old man's beard vine is present but no seedlings were noted. The sedge *Gahnia setifolia* is locally common around forest margins, forming extensive beds in places.

Botanical Values

COMMUNITIES

Native forest in the northern end of the Moutere Ecological District (ED) (north-east of the Inland Highway) is very rare and all such areas, even young regenerating stands such as here are important in this context. Additionally it is of note for being located so close (within 200m of) the coast.

SPECIES

41 native species were noted, an impressive number for so small a site. Bootstrap sedge is rare in the Moutere Ecological District (ED). The hookgrass *Uncinia filiformis* is rare in the northern half of the ED.

Fauna

Native forest birds noted were piwakawaka/fantail,

It is likely that tui, korimako/bellbird, rioriro/grey warbler, kotare/kingfisher, kereru/pigeon and waxeye and possibly ruru/morepork are present in the locality and use this site.

Weed and Animal Pests

One mature old man's beard vine was noted (on the gully slope opposite the lone rimu). Rare radiata pine saplings are present. Himalayan honeysuckle is rare. Some blackberry occurs locally. Gorse occurs sporadically toward the margins but is largely controlled around the site.

Other Threats

None were noted.

General Condition

The site is in very good condition with excellent regeneration.

Landscape/Historic Values

Within a local context, the forest gives some natural character to the peninsula.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE

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 not significant in the context of the *entire* ecological district for the following reasons:

The site is too small and fragmented an example of young broadleaved forest regeneration to be significant in this context. However, and this is important to note, it is of considerable significance for this northern end of the ED where native forest is almost entirely absent. It is well worth preserving and restoring further.

It scores 3 x M for the three primary significance criteria and therefore only just fails to reach significance without sufficient support from the secondary criteria.

Management Issues and Suggestions

This reserve is being very well managed with an extensive restoration programme of revegetation in large areas of open ground around the forest pockets. Weed issues are minor. The large old man's beard vine should be removed as soon as possible. The silver birch that dot the site (and that incongruously appear to have been planted), should be removed.

PHOTO GALLERY



These two images show the reserve well, with secondary forest regenerating in the gullies and restoration plantings in grass and bracken on the slopes around





Upper gullies are open under the heavy shade of the canopy



Elsewhere vigorous regeneration has produced dense secondary forest



Fern beds are a feature of the site in places – in this instance here of crown fern



The sedge Gahnia setifolia is locally abundant around forest margins and adjoining slopes



Restoration plantings around the forest are extensive



*The hookgrass *Uncinia filiformis* is very rare in the northern half of the Moutere Ecological District*



Bootstrap sedge/Carex flagellifera is rare in the Moutere ED



A number of silver birch have been planted around the reserve – in what are otherwise appropriately native restoration plantings

APPENDIX

Technical Assessment of Site Significance

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.

Significance Evaluation		
	Score	Example/Explanation
Primary Criteria		
Representativeness		
The site contains secondary vegetation that moderately resembles pre-human natural regeneration	M	Egs. 1 Young regenerating forest with presence of beech or podocarps even as seedlings, OR good structural and functional diversity, and no more than moderate herbivore impacts. 2 Mature secondary forest in moderate condition
Rarity and Distinctiveness		
The site supports a locally endemic species or a species rare in the Ecological District (ED)	M	<i>Carex flagellifera</i> (1 plant)
Diversity and Pattern		
Indigenous plant communities species or habitats are present with greater diversity than is typical for such sites in the Ecological District	M	Plant species diversity fairly high for such a site
Secondary Criteria		
Ecological Context (highest score)	M	
Connectivity		
The site is significantly isolated	L	
Buffering to		
The site is buffered by landform	M	Forest remnant in an incised gully
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.	L	Unusually important stands of podocarp, tawa or kowhai trees that provide seasonally important benefits for forest birds.

Significance Evaluation		
	Score	Example/Explanation
Hydrological services to the catchment		
The site provides hydrological services to the catchment.	L	
Size and Shape		
The site is of moderately small size for its vegetation community and Ecological District but is not compact	L	
Other Criterion		
Sustainability (average score)	M	
Physical and proximal characteristics		
Size, shape, buffering and connectivity provide for a low overall degree of ecological resilience.	L	Size L Shape L Buffering M Connectivity L
Inherent fragility/robustness		
Indigenous communities are inherently resilient.	H	Gully forests are particularly resilient
Threats (low score = high threat; lowest score taken)		
Ecological impacts of grazing, surrounding land management, weeds and pests*	MH	Grazing H Surroundings H Weeds MH Pests H

* observed pest impacts only

NB where scores are averaged, the score must reach or exceed a particular score for it to apply

Summary of Scores	Criterion	Ecological District Ranking
Primary Criteria	Representativeness	M
	Rarity	M
	Diversity and Pattern	M
Secondary Criteria	Ecological Context	M
	Size/Shape	L
Additional Criteria	Sustainability	M

H = High MH = Medium-High M = Medium ML = Medium-Low L = Low

Summation of Scores to Determine Significance

If a site scores at least as highly as the combinations of primary and secondary scores set out below, it is deemed significant for the purposes of this assessment.

Primary Criteria		Secondary Criteria	
Any of the three primary criteria with a score at least as high as listed		Any of the two secondary criteria with a score at least as high as listed	
		Plus	
	H		—
	MH x 2		—
	MH + M		—
	MH	+	MH
	M x 2	+	H
	M x 2	+	MH x 2
	M	+	H + MH

H = High MH = Medium-High M = Medium

Is this site significant under the TDC assessment criteria? NO

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	Status
Trees Shrubs		x
<i>Aristotelia serrata</i>	makomako; wineberry	r
<i>Carpodetus serratus</i>	putaputaweta; marbleleaf	c
<i>Coprosma grandifolia</i>	large leaved coprosma; kanano	m
<i>Coprosma robusta</i>	karamu	r
<i>Dacrydium cupressinum</i>	rimu	r
<i>Leptospermum scoparium</i>	manuka	r
<i>Leucopogon fasciculatus</i>	mingimingi	o
<i>Melicytus ramiflorus</i>	mahoe, whiteywood	m
<i>Myrsine australis</i>	mapou, red matipo	o
<i>Olearia rani</i>	heketara	r
<i>Pittosporum eugenioides</i>	tarata; lemonwood	r
<i>Pittosporum tenuifolium</i>	kohuhu	r
<i>Podocarpus totara</i>	lowland totara	r
<i>Pseudopanax arboreus</i>	whauwhaupaku; fivefinger	c
<i>Weinmannia racemosa</i>	kamahi	r
Lianes		x
Dicot Herbs		x
Monocot Herbs		x
<i>Dianella nigra</i>	inkberry	ml
Grasses Sedges Rushes		x
<i>Baumea tenax</i>		r
<i>Carex dissita</i>		r
<i>Carex flagellifera</i>		r
<i>Carex virgata</i>	pukio	r
<i>Gahnia setifolia</i>	a cutty grass	lc
<i>Juncus australis</i>		r
<i>Juncus pallidus</i>		r
<i>Uncinia filiformis</i>		r
<i>Uncinia uncinata</i>	a hook grass	r
Ferns		x
<i>Asplenium bulbiferum</i>	hen & chickens fern	o
<i>Asplenium flaccidum</i>	hanging spleenwort	r
<i>Asplenium oblongifolium</i>	shining spleenwort	o
<i>Blechnum chambersii</i>		r
<i>Blechnum discolor</i>	crown fern	ml
<i>Blechnum novae-zelandiae</i>	kiokio	r
<i>Blechnum procerum</i>	beech hard fern	r
<i>Blechnum vulcanicum</i>		o

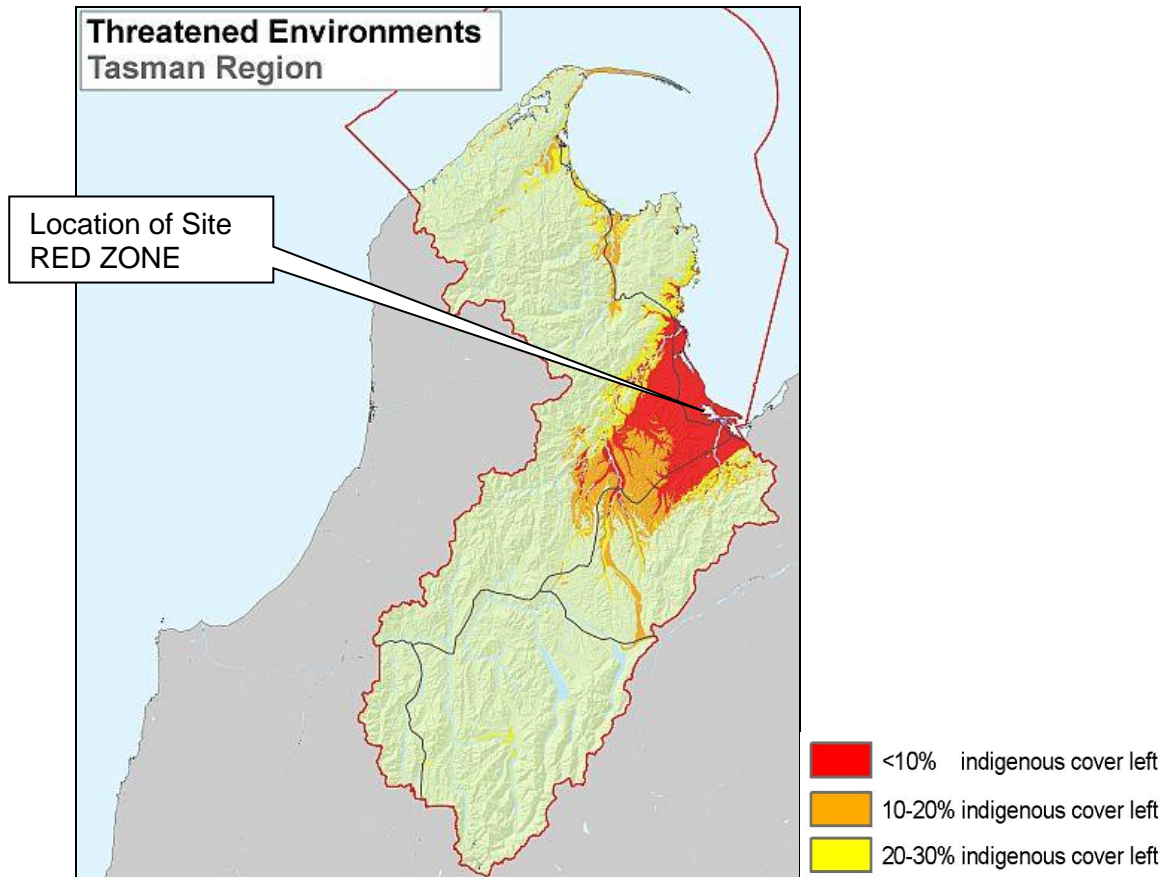
<i>Cyathea dealbata</i>	ponga, silver fern	m
<i>Dicksonia squarrosa</i>	wheki	r
<i>Lycopodium volubile</i>	waewaekoukou	r
<i>Microsorium pustulatum</i>	houndstongue fern	ml
<i>Paesia scaberula</i>	scented fern	r
<i>Pellaea rotundifolia</i>		r
<i>Polystichum vestitum</i>	prickly shield fern	r
<i>Pteridium esculentum</i>	bracken	ml
Weeds		x
<i>Clematis vitalba</i>	old man's beard	r
<i>Leycesteria formosa</i>	Himalayan honeysuckle	r
<i>Pinus radiata</i>	radiata pine	r
<i>Ulex europaeus</i>	gorse	r
Birds		x
fantail/piwakawaka	fantail/piwakawaka	x

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 nationally 'threatened' or 'at risk, declining' indigenous species	No

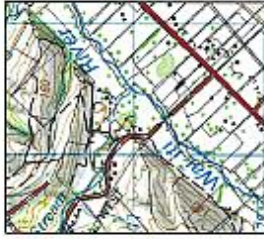
Further information can be found at -

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.



MU 319
TDC Bromte Rd
Reserve

! *Pūtāpūtāweta-fvefinger*
-(mahoe) forest on side-
slope + gully



