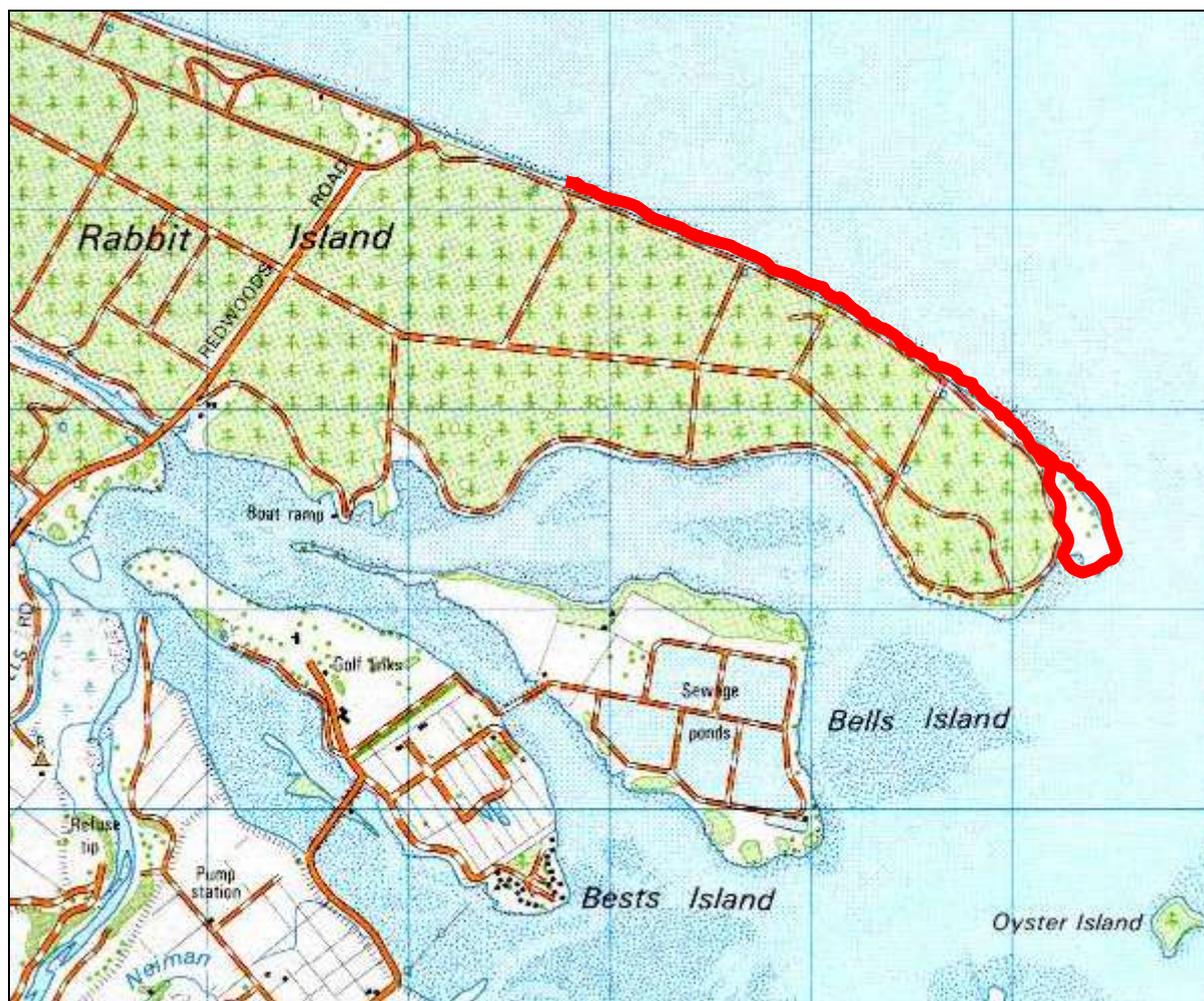


# Native Habitats Tasman Ecological Assessment Report

<b>Site:</b>	MO 91 Rabbit Island beach east
<b>Landowners/Occupiers:</b>	Common Marine & Coastal Area

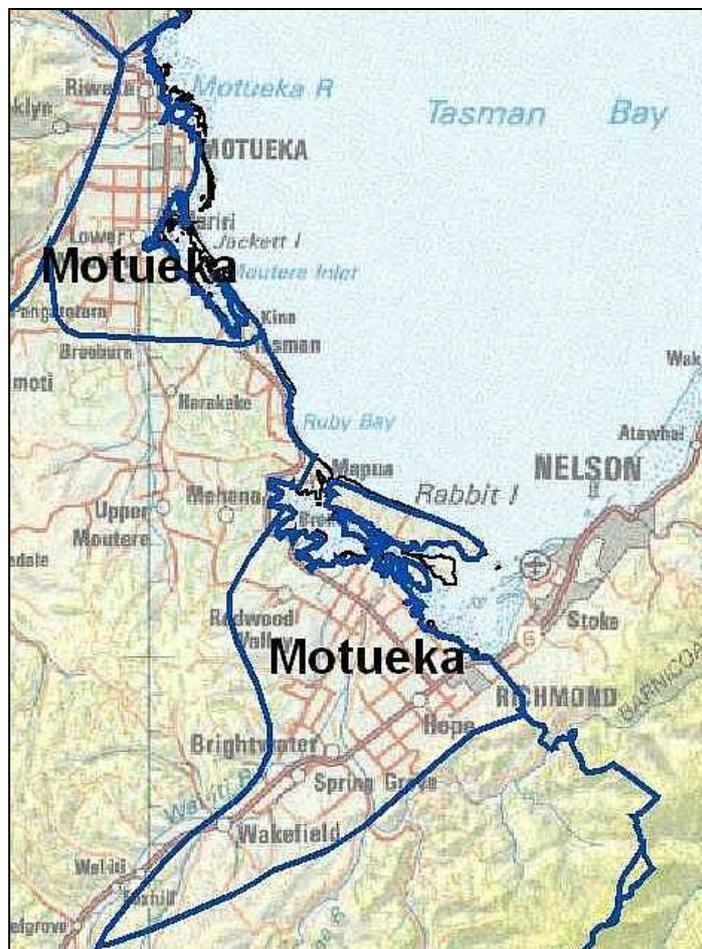
<b>Ecological District:</b>	Motueka
<b>Grid Ref:</b>	E2526261 N5991663
<b>Surveyed By:</b>	Michael North
<b>Date:</b>	22 May 2012
<b>Survey Time:</b>	2 hrs



# THE SETTING – MOTUEKA ECOLOGICAL DISTRICT (ED)

## Location and Physical Description

The Motueka Ecological District is small and 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, residential and commercial 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 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 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 mostly in small fragments of forest and freshwater wetland. The estuaries are still surprisingly intact, although their fringing vegetation sequences have 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 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 table below gives estimates of how much of the original and remaining ecosystems have formal protection.

<b>Indigenous Ecosystems – Motueka Ecological District</b>				
<b>Ecosystem type</b>	<b>Original extent (% of ED)</b>	<b>Proportion of original extent remaining (%)</b>	<b>Proportion of original extent / remaining area protected (%)</b>	
			<b>Original</b>	<b>Remaining</b>
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

## Location, Geology, Hydrology

This site encompasses the shoreline at and above MHW along the NE shore of Rabbit Island as far east as and including the bulbous spit that lies opposite Monaco.

## Habitat

The site comprises coastal dune sands of the upper beach, with much low lying driftwood in places, usually with open sandy areas amongst it. The upper beach rarely supports native plants such as several spinifex, pingao (planted?) and shore bindweed. Marram otherwise dominates the inland margin.

## Fauna

(David Melville and Willy Cook pers. comm.)

3-5 pairs of variable oystercatcher nest annually. This species is ranked nationally as 'at risk, recovering' with an estimated population of only 4000. Such numbers are of at least ecological district importance.

Roosting shorebirds share this site with the Bell Island shellbank and Sand Island off Nelson airport, their location dependant on the height of the high tides. Currently the site is not much favoured perhaps due to erosion of main roost area, but this could be temporary, reflective of the dynamic coastal environment. Until recently when the Bell Island shellbank was inundated at high tide, roosting shorebirds moved to here, but they now use the newly formed Sand Island under such circumstances.

According to Rob Schuckard (Wader Distribution at Farewell Spit, Golden Bay and Tasman Bay, 2002) this constellation of roosting waders includes variable oystercatcher and wrybill numbers that are internationally significant and bar-tailed godwit numbers that are nationally significant. (The assemblage is listed as 'Waimea Inlet: Bells Island' in the data.)

### Wrybill

For the period 1984-2001, January, June and November counts averaged 62, 21 and 0, with maximums of 102, 45 and 1 respectively.

### Variable oystercatcher

For the period 1984-2001, January, June and November counts averaged 130, 33 and 51, with maximums of 300, 103 and 182 respectively.

### Bar-tailed godwit

For the period 1984-2001, January, June and November counts averaged 1306, 155 and 1599 with maximums of 2001, 400 and 2930.

Other species (with maximum counts in brackets) include South Island pied oystercatcher (2711), pied stilt (218), banded dotterel (150), ruddy turnstone (53), and red knot (750).

## Weed and Animal Pests

Feral cats, a nest predator of variable oystercatcher are known to be in high numbers on the island. It is likely that hedgehog and stoat are also impacting.

## Other Threats

Disturbance from recreational beach activities are believed to be a major contributor to failed nesting attempts, in combination with potentially high impacts from pests. Trampling or general disturbance by walkers and horse riders is likely to occur (bicycles are not encouraged in this sector of the island).

Continual changes in erosion and deposition of coastal sediments, due to natural coastal dynamics affect the suitability of the site for nesting variable oystercatcher. It is possible that there is an

erosion trend linked to sea level rise, which seems certain to occur in the near future if it has not already begun.

## General Condition & Other Comments

N/a

## Landscape/Historic Values

N/a

## ASSESSMENT OF ECOLOGICAL SIGNIFICANCE

The following criteria are assessed:

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

**Rarity and Distinctiveness:** *Are there rare species or communities? Are there any features that make the site stand out locally, regionally or nationally for reasons not otherwise addressed?*

**Diversity and Pattern:** *Is there a notable range of species and habitats? To what degree is there complexity in this ie patterns and gradients?*

**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 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:

With high rarity values the site is readily significant.

## Management Issues and Suggestions

Pest mammals and human disturbance are likely to be responsible for nesting failures by variable oystercatcher at this site, where low numbers of young birds are fledged. Rabbit Island Trapping Group run a pest control programme in parts of the island, trapping for rodents, mustelids and possums. They are hoping to trap for cats in the near future.

It is important that appropriate signage for informing visitors is installed regarding the need to avoid oystercatcher nest site areas and shorebird roosting congregations.

There has been word that a cycle trail is being investigated for the eastern end of Rabbit Island. This can only result in increased disturbance to shorebirds. Considering that the western end has already been opened up for cyclists, it seems critical that at least the eastern end is left relatively undisturbed and that such a proposal does not go ahead.



*Two views of the upper shore where variable oystercatcher nest annually*





*Toward the NE end, spinifex and pingao are present but it is not known to the surveyor if these are planted or natural*



*Until recently the point regularly supported large numbers roosting waders seasonally, including South Island pied oystercatcher illustrated here*



*3-5 pairs of variable oystercatcher nest annually at this site but success is believed to be limited by disturbance and mammalian predators*



*Signage for horse riding on the north-eastern beach – horses are a likely factor in the disturbance of nesting variable oystercatcher*

# APPENDIX

## 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.

The above does not apply if such adjoining vegetation forms only a small part of the total site, or if such vegetation forms a critical buffer to the core area.

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.

**Note that the secondary and additional criteria cannot feasibly be scored as the habitat comprises physical substrate and weeds, and the fauna are highly mobile birds.**

Significance Evaluation		
	Score	Example/Explanation
<b>Primary Criteria</b>		
<b>Representativeness</b>		
	L	
<b>Rarity and Distinctiveness</b>		
A large population of an 'at risk (declining)' species	H	Roosting South Island pied oystercatcher
An important breeding, spawning, resting, roosting or foraging site of at least ecological district importance for an indigenous animal species	H	nesting site for variable oystercatcher of ecological district importance; roosting wader site of international importance (until recently)
<b>Diversity and Pattern</b>		
	L	
<b>Secondary Criteria</b>		
<b>Ecological Context (highest score)</b>		
<b>Connectivity</b>		
	N/A	
<b>Buffering to</b>		
	N/A	
<b>Provision of critical resources to mobile fauna</b>		
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.	N/A	
<b>Size and Shape</b>		
	N/A	
<b>Other Criterion</b>		

Significance Evaluation		
	Score	Example/Explanation
<b>Sustainability</b> (average score)		
<b>Physical and proximal characteristics</b>		
Size, shape, buffering and connectivity provide for a ***** overall degree of ecological resilience.	N/A	Size Shape Buffering Connectivity
<b>Inherent fragility/robustness</b>		
Indigenous communities are neither inherently resilient nor fragile.	N/A	
<b>Threats</b> (low score = high threat; lowest score taken)		
Ecological impacts of grazing, surrounding land management, weeds and pests*	N/A	Grazing Surroundings Weeds Pests

\* 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
<b>Primary Criteria</b>	Representativeness	L
	Rarity	H
	Diversity and Pattern	L
<b>Secondary Criteria</b>	Ecological Context	
	Size/Shape	
<b>Additional Criteria</b>	Sustainability	

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
	<b>Plus</b>
 H	—
MH x 2	—
MH + M	—
MH	+
M x 2	+
M x 2	+
M	+

H = High MH = Medium-High M = Medium

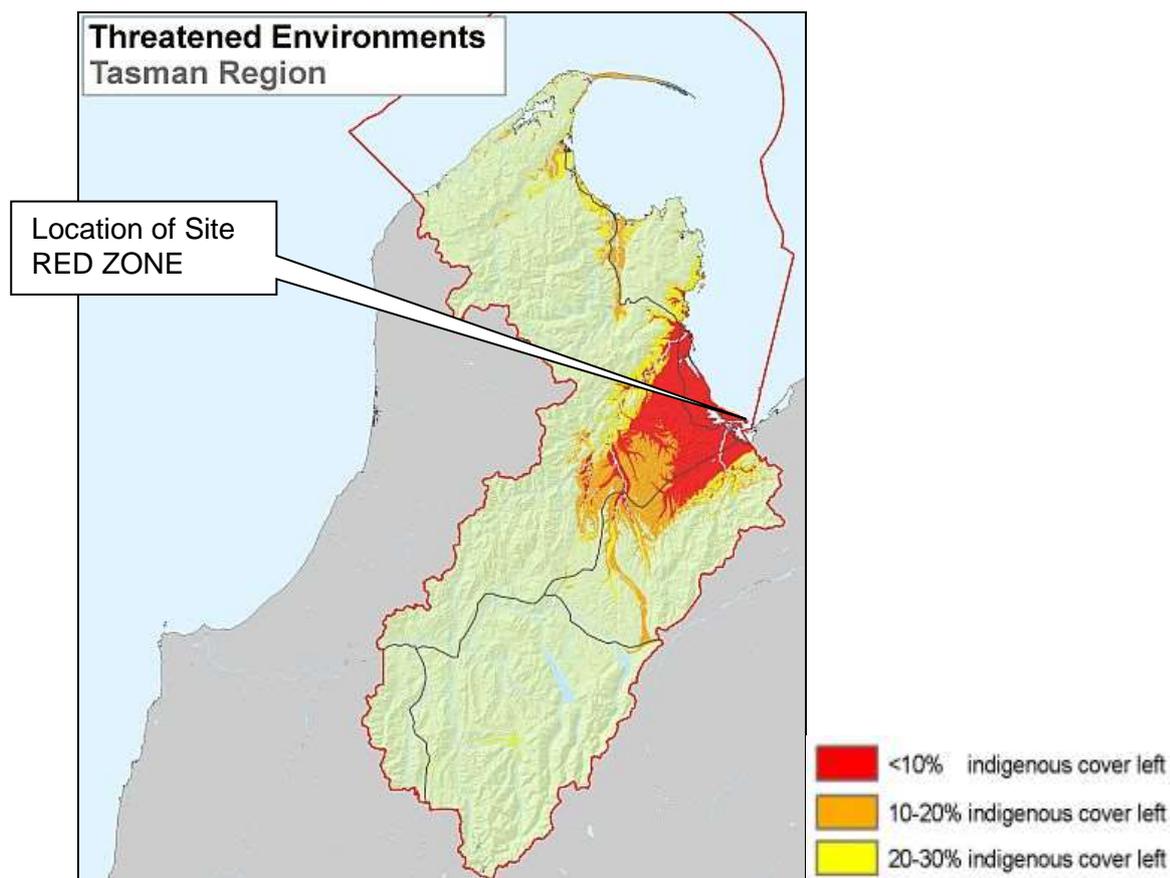
Is this site significant under the TDC assessment criteria? **YES**

## 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](http://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.

<b>National Priorities</b>	<b>Does this Site Qualify?</b>
<b>1</b> 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
<b>2</b> Indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity	No
<b>3</b> Indigenous vegetation associated with 'naturally rare' terrestrial ecosystem types not already covered by priorities 1 and 2 (eg limestone scree, coastal rock stacks)	No
<b>4</b> Habitats of nationally 'threatened' or 'at risk, declining' indigenous species	Yes

Further information can be found at -

[www.biodiversity.govt.nz/pdfs/protecting-our-places-brochure.pdf](http://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.



...in the park area...  
...in the park area...



Top of the South Maps MO 91 - detail

