

# Native Habitats Tasman Ecological Assessment Report

<b>Site:</b>	MO 97
<b>Landowners/Occupiers:</b>	Common Marine & Coastal Area

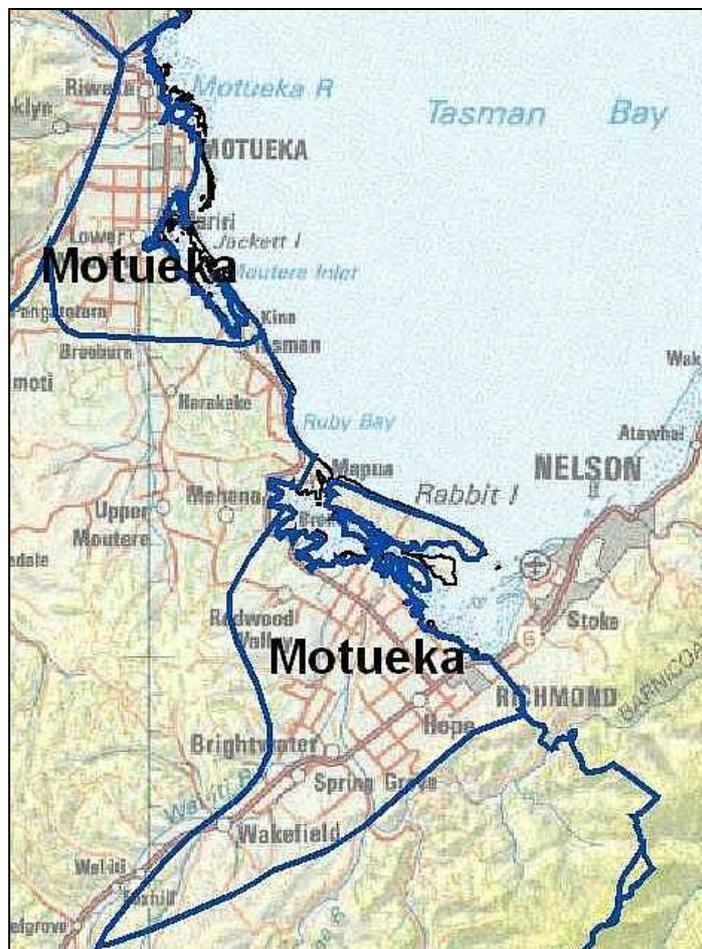
<b>Ecological District:</b>	Motueka
<b>Grid Ref:</b>	E2520176 N5994693
<b>Surveyed By:</b>	Michael North
<b>Date:</b>	22 May 2012
<b>Survey Time:</b>	2 hrs



# 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

The site occupies the upper shoreline >MHW between the Mapua channel in the west and the Rabbit Island carpark/recreation area.

## Habitat

The site comprises coastal dune sands of the upper beach, with much low lying driftwood in places, usually with open sandy spaces between. The upper beach supports scattered native plants such as several spinifex, a patch of sand sedge and shore bindweed. Marram otherwise dominates the inland margin.

## Fauna

3-4 pairs of variable oystercatcher attempt to breed along the upper shore. There is also a low tide shag roost at the mouth of the Mapua channel on the island's shoulder. (David Melville & Willie Cook pers.comm.) Variable oystercatcher is ranked nationally as 'at risk, recovering' with an estimated population of only 4000.

## 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. 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 breeding numbers of variable oystercatcher considered to be of ecological district importance, the site is considered significant.

## **Management Issues and Suggestions**

Feral cat numbers and human disturbance are likely to be responsible for nesting failures by variable oystercatcher at this site, where few if any young birds are fledged. This is likely to be exacerbated with the recent opening of the regional cycletrail just inland of the beach, particularly at the western end where formerly only low numbers of people accessed. Appropriate signage is highly recommended for informing visitors about the need to avoid nest site areas.

Rabbit Island Trapping Group have been trapping pests for several years. They are trapping for rodents, mustelids, hedgehogs and possums in certain locations of the island, and are planning to trap feral cats.



*Two views of the upper shoreline where variable oystercatcher nest, illustrating the variable nature of driftwood deposits and shoreline vegetation*





*3-4 pairs of variable oystercatcher attempt to nest each year*



*Several spinifex plants occur along this stretch of shoreline*



*One open stand of sand sedge was noted, growing amongst sparse shore bindweed*



*The extent of human activity toward the more eastern end of the site is well illustrated here*



*The blue line marks the route of the new regional cycleway that will likely increase disturbance to nesting variable oystercatcher - due to increased visits to the NW coast of the island; the ferry (and future bridge) that is associated with it also brings people over from Mapua to this previously fairly quiet NW corner of the island*

# 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>		
An important breeding, spawning, resting, roosting or foraging site of at least ecological district importance for an indigenous animal species	H	3-4 pairs nesting variable oystercatcher
<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	Unusually important stands of podocarp, tawa or kowhai trees that provide seasonally important benefits for forest birds.
<b>Size and Shape</b>		
	N/A	
<b>Other Criterion</b>		
<b>Sustainability (average score)</b>		

<b>Significance Evaluation</b>		
	<b>Score</b>	<b>Example/Explanation</b>
<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 (low score = high threat; lowest score taken)</b>		
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

<b>Summary of Scores</b>	<b>Criterion</b>	<b>Ecological District Ranking</b>
<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.

<b>Primary Criteria</b>	<b>Secondary Criteria</b>	
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	+	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? **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  
 v = Very. For example: vlc = very locally common, mvl = moderate numbers very locally

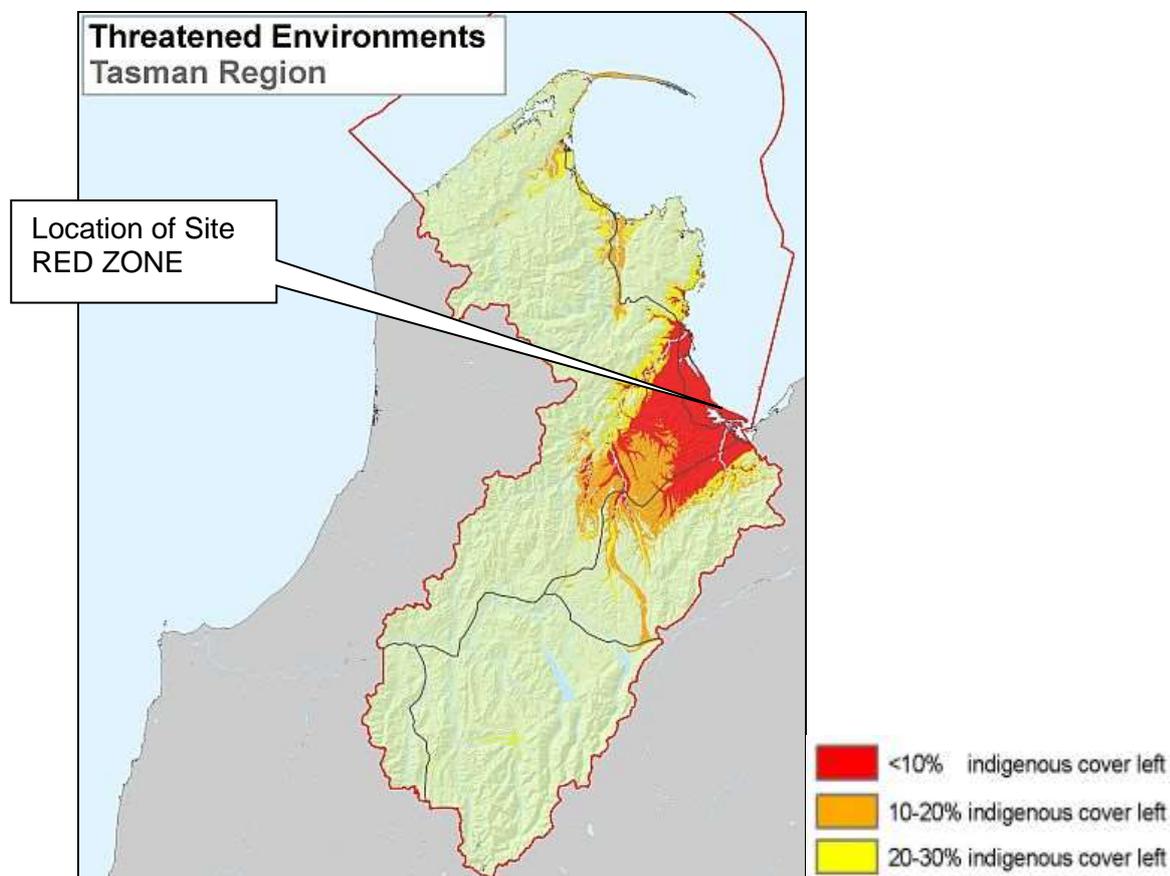
<b>Species Name</b>	<b>Common Name</b>	<b>Status</b>
<i>Calystegia soldanella</i>	shore bindweed	x
<i>Carex pumila</i>	sand sedge	x
<i>Spinifex sericeus</i>	spinifex	x
	variable oystercatcher	x

## 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](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	No

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.



Top of the South Maps MO 97



