

# Lake Kaikura

## At a glance (last updated: February 2006)

<b>TRC reference:</b>	0941-0	<b>Ecological district:</b>	Foxton
<b>Other reference:</b>	STDC SNA 18	<b>LENZ environment:</b>	F5.2c
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B, C
<b>GPS:</b>	2630721E – 6166826N	<b>Area:</b>	24.7 ha

## Location

Lake Kaikura is located on privately owned land, 15 km south-east of Hawera. The lake lies in the Foxton Ecological District.

## General description

Lake Kaikura is a lake that includes swampy gully arms, formed by wind-blown sands blocking the drainage of a gully system. The site is 24.7 ha in size.

## Ecological features

### Vegetation

Lake Kaikura and its environs have a variety of vegetation types that alter as the ground becomes drier away from the lake and into the gully arms.

A large raupo (*Typha orientalis*) wetland is located at the top end of the lake. The wetland contains the uncommon small tree 'wharangi' (*Melicope ternata*), which is an uncommon and depleted species in the region. Other vegetation types include flax (*Phormium tenax*) – karamu (*Coprosma robusta*) – toetoe (*Cortaderia toetoe*) flaxland, and raupo – *Carex* spp. reedland.

### Fauna

Lake Kaikura and its environs provide habitat for a variety of native birds, which are present in large numbers. Of particular note is the presence of the 'Acutely Threatened (Nationally Endangered)' Australasian bittern (*Botaurus poiciloptilus*). Spotless crane (*Porzana tabuensis plumbea*), which is identified as 'At Risk (Sparse)' are also present. Spotless Crane is particularly uncommon in the Taranaki region.

The Lake is also an important habitat for water fowl, including New Zealand scaup (*Aythya novaeseelandiae*) and the New Zealand shoveler (*Anas rhynchos*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' Australasian bittern and the 'At risk' spotless crane, which is particularly uncommon in the region Also contains wharangi ( <i>Melicope ternata</i> ), which is uncommon and depleted in the region
Representativeness	High	Contains indigenous vegetation on F5.2c – an 'Acutely Threatened' LENZ environment
Ecological context	High	Provides core habitat for the threatened Australasian bittern and spotless crane
Sustainability	Positive	Relatively large area in good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

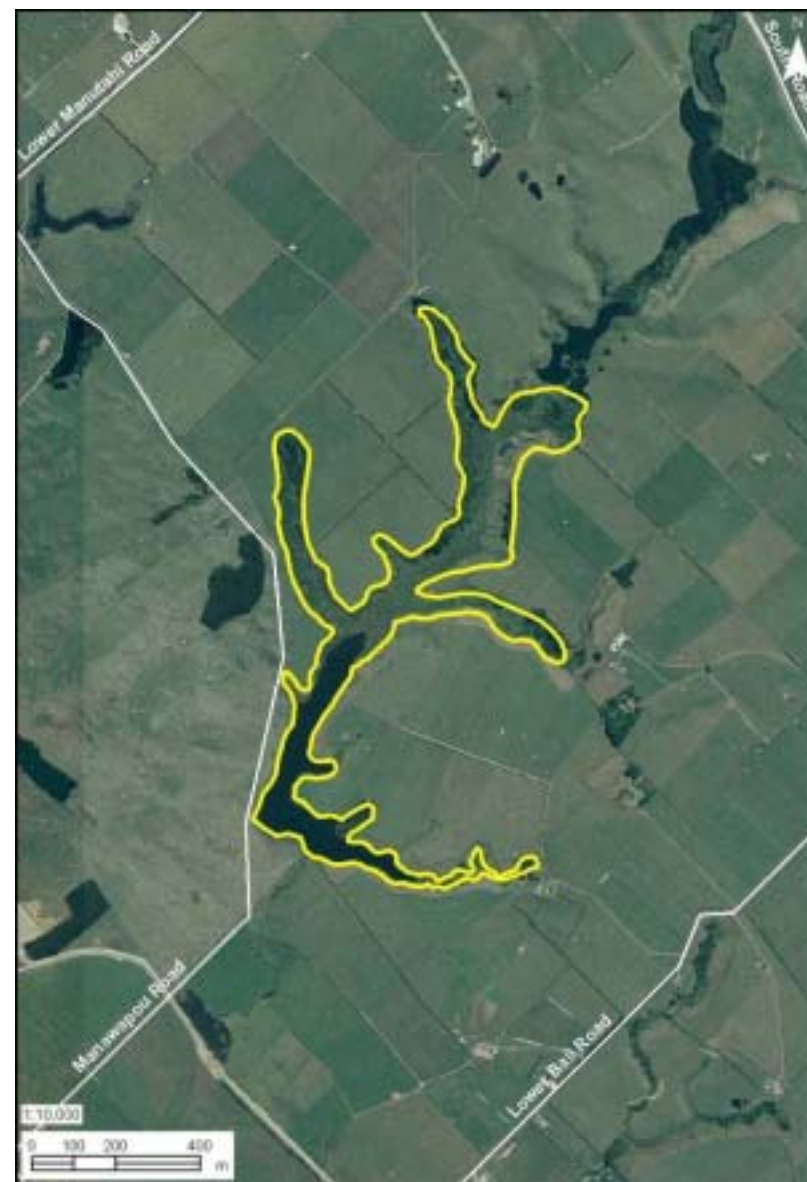
## Management threats and response

Potential and actual threats to the sustainability of the Lake Kairura's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Low	
Habitat modification	Low to medium	Grazing is a threat on unfenced margins

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A	Public ownership or formal agreement	Yes <b>In part:</b> TRC memorandum of encumbrance (over part of the area)
B	Regulatory protection by local government	Yes Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIB of the Regional Fresh Water Plan) – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
C	Active protection	Yes Partially fenced Enhancement planting along majority of the wetland margin



# Lake Mangawhio North

At a glance (last updated: February 2006)			
TRC reference:	0970-0	Ecological district:	Matemateaonga
Other reference:		LENZ environment:	F1.3b
Land tenure:	Private	Protection status:	B, C
GPS:	2664455E – 6171423N	Area:	3.8 ha

## Location

Adjacent to the Mangawhio Lake Scenic Reserve is the privately owned Lake Mangawhio North. This lake is located 31 km north-east of Patea and is also within the Matemateaonga Ecological District.

## General description

Lake Mangawhio North is 3.8 ha in size and is located in a small slump in the eastern hill country of Taranaki. Surrounding the shoreline, moderate to steep slopes are covered in tawa-podocarp forest to the east with plantation pine forest on the other margins.

## Ecological features

### Vegetation

The vegetation surrounding the lake is predominantly tawa-podocarp forest (*Beilschmiedia tawa*).

### Fauna

Banded kokopu (*Galaxias fasciatus*) have been recorded in tributary streams of the lake. Also of note is the presence of spotless crake (*Porzana tabuensis plumbea*) and fernbird (*Bowdleria punctata*), which are identified as being 'At Risk (Sparse)' and are particularly uncommon in the Taranaki region.

Other birdlife found in the Reserve and around the northern lake include New Zealand dabchick (*Poliocephalus rufopectus*), which is identified as 'At Risk (Sparse)', and New Zealand scaup/black tern (*Aythya novaeseelandiae*) and whitehead (*Mohoua albicilla*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'At Risk' spotless crake and fernbird which are particularly uncommon in the region
Representativeness	Low	LENZ environment not threatened
Ecological context	Medium	The Scenic Reserve and Lake Mangawhio North are in close proximity to each other, providing ecological connectivity for threatened species between the two ecosystems
Sustainability	Positive	In fair vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of the Lake Mangawhio North's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, goats, mustelids, pigs, hedgehogs, and rats
Weeds	Low	
Habitat modification	Medium	Grazing is a threat on unfenced margins. Vegetation clearance is also a potential threat, including damage during logging of surrounding pines

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A Public ownership or formal agreement	No	
B Regulatory protection by local government	Yes	General regional or district rules might apply
C Active protection	Yes	Partially fenced



# Lake Okoia

At a glance (last updated: February 2006)			
<b>TRC reference:</b>	0973-0	<b>Ecological district:</b>	Manawatu Plains
<b>Other reference:</b>		<b>LENZ environment:</b>	C3.1b
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B, C
<b>GPS:</b>	2654219E – 6152849N	<b>Area:</b>	10.9 ha

## Location

Lake Okoia is located on privately owned land, 8 km south-east of Waverley. The Lake lies in the Manawatu Plains Ecological District.

## General description

Lake Okoia includes a small pond, narrow and deep, surrounded by wetland to the north of the Lake. The site is a relatively large (10.9 ha), surrounded by farmland, and is one in a series of southern coastal lakes and provides habitat for a variety of birdlife.

## Ecological features

### Vegetation

The vegetation surrounding the Lake Okoia includes raupo (*Typha orientalis*), sedges (*Carex* spp.), and rushes (*Juncus* spp.).

Weeds such as gorse (*Ulex europaeus*) and willow (*Salicaceae* species) are also present.

### Fauna

The little black shag (*Phalacrocorax sulcirostris*), which is identified as 'At Risk (Sparse)' nationally, is found at the site.

Lake Okoia also provides habitat for paradise shelduck (*Tadorna variegata*), pukeko (*Porphyrio porphyrio*) and Australasian harrier (*Circus approximans*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'At Risk' little black shag
Representativeness	High	Contains indigenous vegetation on C3.1b – an 'Acutely Threatened' LENZ environment
Ecological context	High	Lake Okoia is one of a series of southern coastal lakes and is located close to and is interconnected with Lake Waiau Wildlife Management Reserve, Waitotara and Hawkins Lagoon Conservation Area, Ihupuku Swamp Wildlife Management Area, and lakes Herengawe and Oturi
Sustainability	Positive	In fair vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of Lake Okoia's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, and rats
Weeds	Low to medium	Gorse and willow
Habitat modification	Medium	The wetland is only partially fenced and is grazed and used as a water source for cattle. Willow encroachment.



Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A	No	Public ownership or formal agreement
B	Yes	General regional or district rules might apply
C	Yes	Partially fenced



# Lake Oturi

At a glance (last updated: December 2005)			
TRC reference:	0943-0	Ecological district:	Manawatu Plains
Other reference:	STDC SNA 21	LENZ environment:	A5.3a (6.3 ha) C2.1a (2.5 ha) C3.2d (4.6 ha) F5.2c (19.5 ha)
Land tenure:	Private	Protection status:	B, C
GPS:	2648485E – 6157000N	Area:	33.1 ha

## Location

Lake Oturi is located on privately owned land, 1.5 km south-west of Waverley. The lake is within the Manawatu Plains Ecological District.

## General description

Lake Oturi is a broad gully system located in a terrace of the Rapanui Series, which has been dammed by wind-blown sand. This process has formed a lake of moderate depth with marshy edges. The site covers 33.1 ha and contains a wide variety of vegetation types, which provide habitat for water fowl and other native birds. The site forms an important extension of habitat types to the Ihupuku Swamp Wildlife Management Area.

## Ecological features

### Vegetation

The vegetation communities around Lake Oturi have a high diversity of plant species, including species that are uncommon in the Manawatu Ecological District and unlike most of those in the adjoining Foxton Ecological District.

Approximately one third of Lake Oturi is open water. The lake is bordered by raupo (*Typha orientalis*). In shallower regions, raupo gives way to flax dominated communities. In the north-east tip and some of the south, flax and *Carex secta* dominate. Further west karamu (*Coprosma robusta*), toetoe (*Cortaderia toetoe*), and swamp kiokio (*Blechnum minus*) are also common. Cabbage trees (*Cordyline australis*) become more common towards the west.

Several small trees and shrubs are also present throughout the wetland. Species include mahoe (*Melicactus ramiflorus*), mapou (*Myrsine australis*), manuka (*Leptospermum scoparium*), koromiko (*Hebe stricta*), five-finger (*Peudopanax arboreus*), swamp coprosma (*Coprosma tenuicaulis*), and coastal tree daisy (*Olearia solandri*). Sedges include *Schoenoplectus validus* and *Baumea rubiginosa*.

New Zealand spinach (*Tetragonia trigyna*) and the convolvulous *Calystegia sepium*, are scattered throughout the flaxland. Pine (*Pinus radiata*), some poplars (*Populus* sp.), bracken (*Pteridium esculentum*) and umbrella sedge (*Cyperus ustulatus*) border the edges of this wetland vegetation.

### Fauna

Lake Oturi provides valuable habitat for water fowl and native birds, including fantails (*Rhipidura fuliginosa*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Low	Does not contain any 'Acutely Threatened' species, but does contain vegetation communities that are uncommon in Taranaki
Representativeness	High	Contains indigenous vegetation on A5.3a, C2.1a, C3.2d and F5.2c – all 'Acutely Threatened' LENZ environments
Ecological context	High	Located close and interconnected with Waitotara and Hawkens Lagoon Conservation Area, Lake Waiau Wildlife Management Reserve, Lake Okoia and Lake Herengawe. Important extension of habitat types in the Ihupuku Swamp Wildlife Management Area  Also a valuable habitat for waterfowl and other indigenous bird species
Sustainability	Positive	Large area in relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of the Lake Oturi's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, and rats
Weeds	Low to medium	Potential for introduction of water weeds by recreational boating
Habitat modification	Low	Most margins of the lake are fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply <ul style="list-style-type: none"> <li>- Taranaki Regional Council rules for wetlands (refer Appendix IIB of the Regional Fresh Water Plan)</li> <li>- South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan)</li> </ul> General regional or district rules might also apply
<b>C</b> Active protection	Yes	Most margins of the lake are fenced





## Lake Rotokare Scenic Reserve

At a glance (last updated: February 2006)			
<b>TRC reference:</b>	0900-0	<b>Ecological district:</b>	Egmont
<b>Other reference:</b>	DOC 70187	<b>LENZ environment:</b>	F1.1b (82.1 ha) F1.1d (0.9 ha) F1.3b (7.0 ha) F5.2a (22.0 ha) F7.2a (130.6 ha)
<b>Land tenure:</b>	Crown	<b>Protection status:</b>	A, B, C
<b>GPS:</b>	2631444E – 6194142N	<b>Area:</b>	242.8 ha

### Location

The Crown owned Lake Rotokare Scenic Reserve is located approximately 12 km east of Eltham. The Reserve lies in the Egmont Ecological District.

### General description

The Rotokare Scenic Reserve, while owned by the Crown, is jointly administered by the South Taranaki District Council and a community group – the Rotokare Scenic Reserve Trust. The native forest remnant, which is the last large (242.8 ha) remnant of the Ngaere Swamp and the only large area of native vegetation in the south-western part of Taranaki, surrounds Lake Rotokare. The lake has a surface area of 17.8 ha and an average depth of over 6 metres. The lake is fed entirely by natural springs and is drained at the western end of the lake by the Ararata Stream.

### Ecological features

#### Vegetation

The swamp area is dominated by raupo (*Typha orientalis*), flax (*Phormium tenax*), and purei/makura (*Carex secta*), along with juvenile pukatea (*Laurelia novaezealandiae*) and kahikatea (*Dacrycarpus dacrydioides*), and coprosma (*Coprosma tenuicaulis*).

In low-lying areas, pukatea, swamp maire swamp maire (*Syzygium maire*) and large kahikatea dominate. Understorey species also include mahoe (*Melicytus ramiflorus*), pigeonwood (*Hedycarya arborea*), pate/seven finger (*Schefflera digitata*), and nikau (*Rhopalostylis sapida*). The drier hill slopes and ridges primarily consist of tawa (*Beilschmiedia tawa*), rimu (*Dacrydium*

*cupressinum*), and rewarewa/New Zealand honeysuckle (*Knightia excelsa*).

The lake is rich in plant life, including water millet (*Isachne globosa*) and jointed baumea/jointed twig rush (*Baumea articulata*), which are uncommon in Taranaki.

#### Fauna

A large number of bird species are present in the Reserve, including the 'Acutely Threatened (Nationally Endangered)' Australasian bittern (*Botaurus poiciloptilus*) and the 'At Risk (Sparse)' spotless crake (*Porzana tabuensis plumbea*) and fernbird (*Bowdleria punctata vealeae*). Spotless crake and fernbird are particularly uncommon in Taranaki.

Other notable birdlife present include the North Island robin (*Petroica australis longipes*) and North Island brown kiwi (*Apteryx australis mantelli*), which are both identified as 'Chronically Threatened (Serious Decline)', and New Zealand pigeon (*Hemiphaga novaezealandiae*), which is 'Chronically Threatened (Gradual Decline)'. The 'At Risk' Black shag (*Phalacrocorax sulcirostris*), identified as being 'Range Restricted'; and New Zealand dabchick (*Poliiocephalus rufopectus*), identified as being 'Sparse', are also present.

The Reserve is a breeding ground for the grey duck (*Anas superciliosa*), which is classified as 'Chronically Threatened (Serious Decline)'. Other native birds present are the bellbird (*Anthornis melanura*), tui (*Prosthemadera novaeseelandiae*), and New Zealand scaup/black teal (*Aythya novaeseelandiae*). The Reserve is also a breeding ground for the shoveler duck (*Anas rhynchotis*) and the mallard (*Anas platyrhynchos*).

The gold striped gecko (*Hoplodactylus chrysosireticus*), which is identified as 'Chronically Threatened (Gradual Decline)' is present in the flax margins. Banded kokopu (*Galaxias fasciatus*) is present in forest creeks and the lake.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' Australasian bittern and the regionally uncommon spotless crake, water millet and jointed baumea/jointed twig rush
Representativeness	High	Contains indigenous vegetation 'Acutely Threatened' (F5.2a) and 'At Risk' (F7.2a) LENZ environments
Ecological context	High	Provides important breeding and core habitat for threatened bird and plant species. Last large remnant of the Ngaere Swamp

Sustainability	Positive	Lake and wetland well buffered by surrounding forest and is in excellent condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats
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### Other Values

The Scenic Reserve is a very popular site for recreational water sports and has good public access. It is also has cultural and historical significance with evidence of temporary Maori food gathering areas on-site.

### Management threats and response

Potential and actual threats to the sustainability of Lake Rotokare Scenic Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low	Possums, cats, goats, mustelids, hedgehogs, and rats
Weeds	Medium	Crack willow, barberry, Himalayan honeysuckle, hemlock, and ragwort. Free floating water weeds such as lagarosiphon oxygen weed dominate the lake water margins
Habitat modification	Low	Formally protected and fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIA of the Regional Fresh Water Plan) – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Fenced and stock proof (predator proof fence proposed) Intensive pest control plus adjacent farm area in the Self-help Possum Control Programme providing a 'buffer' effect Willow control on the lake edge Enhancement planting around the wetland



## Lake Taumaha

At a glance (last updated: February 2006)			
TRC reference:	0959-0	Ecological district:	Foxton
Other reference:		LENZ environment:	F5.2c
Land tenure:	Private	Protection status:	B, C
GPS:	2627699E – 6169834N	Area:	5.2 ha

### Location

Lake Taumaha is located on privately owned land, 12 km south-east of Hawera. The Lake lies in the Foxton Ecological District.

### General description

Lake Taumaha covers 5.2 ha and is surrounded by farmland. The natural dune lake is spring-fed and is located in a gully. An important landform feature within the Foxton Ecological District, it is one of a series of coastal lakes extending southwards from this location.

### Ecological features

#### Vegetation

The vegetation surrounding the lake is predominantly pine trees (*Pinus radiata*) with some raupo (*Typha orientalis*), flax (*Phormium tenax*), and sedge (*Carex* species). Water buttercup (*Ranunculus trichophyllus*), sharp spike-sedge (*Eleocharis acuta*), water milfoils (*Myriophyllum* species), and creeping bent (*Agrostis stolonifera*) are also present.

#### Fauna

A variety of bird species are found at Lake Taumaha. These include grey ducks (*Anas superciliosa*), which are identified as 'Acutely Threatened (Nationally Endangered)', and little black shags, which are identified as 'At Risk (Sparse)'.

Other bird species present include mallard ducks (*Anas platyrhynchos*), black swan (*Cygnus atratus*), Australasian harrier (*Circus approximans*), pukeko (*Porphyrio porphyrio*), skylark (*Alauda arvensis*), and welcome swallow (*Hirundo tahitica neoxena*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' grey duck and the 'At Risk' little black shags
Representativeness	High	Contains indigenous vegetation on F5.2c – an 'Acutely Threatened' LENZ environment
Ecological context	High	Provides core habitat for threatened grey ducks and little black shags
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of Lake Taumaha's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, rabbits, hares, mustelids, and rats
Weeds	Low to medium	Boxthorn, pampas and willow
Habitat modification	Low	

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A	No	Public ownership or formal agreement QEII Covenant in progress
B	Yes	Regulatory protection by local government General regional or district rules might apply
C	Yes	Active protection Fenced Enhancement planting 2005



# Lake Waiau Wildlife Management Reserve

At a glance (last updated: February 2006)			
TRC reference:	0907-0	Ecological district:	Manawatu Plains
Other reference:	DOC 70230	LENZ environment:	A5.3a (26.6 ha) C2.1a (1.3 ha) C3.2d (8.7 ha) F5.2c (12.0 ha)
Land tenure:	Crown	Protection status:	A, B, C
GPS:	2653902E – 6155493N	Area:	48.8 ha

## Location

The Crown-owned Lake Waiau Wildlife Management Reserve is located approximately 6 km south-east of Waverley. The lake lies in the Manawatu Plan Ecological District.

## General description

The Lake Waiau Wildlife Management Reserve covers 48.8 ha, with extensive swamps at the northern and southern ends. A small 'island' is surrounded by swamp at the southern end. The site includes some fringing swamp and reed beds on the longer eastern and western margins. The lake is one of a series of southern coastal lakes and is in excellent condition.

## Ecological features

### Vegetation

Vegetation at the Lake Waiau Wildlife Management Reserve includes dense raupo (*Typha orientalis*), flax (*Phormium tenax*), puri/makura (*Carex secta*), cabbage trees (*Cordyline australis*), beds of jointed twig rush (*Baumea articulata*), karamu (*Coprosma robusta*), toetoe (*Cortaderia toetoe*), karaka (*Corynocarpus laevigatus*), and mahoe (*Melicytus ramiflorus*). Exotic vegetation present includes a poplar shelterbelt (*Populus deltoids yunnanensis*).

The wetland also contains forked sundew (*Drosera binata*), burr-reed/maru (*Sparganium subglobosum*), willow herbs (*Epliohium* spp.), and orchids in mesotrophic bog. The island is covered with mahoe forest.

## Fauna

Birdlife in the Lake Waiau Wildlife Management Reserve includes matuku/Australasian bittern (*Botaurus poiciloptilus*), which is identified as 'Acutely Threatened (Nationally Endangered)'. There are also fernbird (*Bowdleria punctata vealeae*), spotless crane (*Porzana tabuensis plumbea*), and New Zealand dabchick (*Poliiocephalus rufopectus*), which are all identified as being 'At Risk (Sparse)'.

Other native birds present include grey teal (*Anus gracilis*). Introduced waterfowl, present include paradise shelduck (*Tadorna variegata*). Canadian geese (*Branta canadensis*), and mallard duck (*Anas platyrhynchos*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' matuku/Australasian bittern and the 'At Risk' fernbird, spotless crane and New Zealand dabchick
Representativeness	High	Contains indigenous vegetation on A5.3a, C2.1a, C3.2d and F5.2c – all 'Acutely Threatened' LENZ environments
Ecological context	High	Provides habitat for several threatened and uncommon indigenous bird species and is located close to and is interconnected with Waitotara and Hawkins Lagoon Conservation Area, Ihupuku Swamp Wildlife Management Area, Lake Herengawe, Lake Oturi and Lake Okaia
Sustainability	Positive	In excellent vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Other Values

Lake Waiau Wildlife Management Reserve has historical and cultural value. There are Maori food storage pits on the ridge of the island.



## Management threats and response

Potential and actual threats to the sustainability of Lake Waiau Wildlife Management Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Low to medium	Gorse, thistles and some willow at the southern end
Habitat modification	Low	The wetland is fenced, so the threat from grazing is low

Site protection measures addressing potential threats and actual threats are as follows

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Wildlife Management Reserve)
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix III of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	The wetland is fenced The gorse is being controlled



## Lake Waikare and catchment

### At a glance (last updated: February 2006)

<b>TRC reference:</b>	0972-0	<b>Ecological district:</b>	Matemateaonga
<b>Other reference:</b>	STDC SNA 28	<b>LENZ environment:</b>	F1.3b
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B
<b>GPS:</b>	2664917E – 6169097N	<b>Area:</b>	73.4 ha

### Location

Lake Waikare and adjacent area is located on privately owned land, 20 km north-east of Waverley. The lake lies in the Matemateaonga Ecological District.

### General description

Lake Waikare (and catchment) covers 73.4 ha and is located in the eastern Taranaki hill country. Lake Waikare is surrounded on most sides by a pine (*Pinus radiata*) plantation but on the western margin is adjacent to a large area of native bush, which has been identified with the lake as a Significant Natural Area by the South Taranaki District Council.

### Ecological features

#### Vegetation

There is a diverse range of terrestrial and wetland plant communities surrounding the lake. Vegetation on the western margin of the lake comprises of black beech (*Nothofagus solandri*) – kamahi (*Weinmannia racemosa*) – rewarewa (*Knightia excelsa*) – wheki (*Dicksonia squarrosa*) forest. The lake has a fringe vegetation of raupo (*Typha orientalis*), rushes and sedges (*Juncus* spp.).

#### Fauna

Of particular note is the presence of the nationally 'At Risk (Sparse)' spotless crane (*Porzana tabuensis plumbea*), which is particularly uncommon in the Taranaki region. The wetland also provides habitat for fernbird (*Bowdleria punctata vealeae*), which is identified as 'At Risk (Sparse)', as well as other native birds.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Does not contain 'Acutely Threatened' species, but does contain the 'At Risk' fernbird and spotless crane
Representativeness	Low	Ecosystem type not threatened.
Ecological context	High	In close proximity, and interconnected with Lake Mangawhio North and Mangawhio Lake Scenic Reserve providing habitat for birds
Sustainability	Positive	In good vegetative condition with an excellent range of terrestrial and wetland plant communities. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of Lake Waikare's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, goats, pigs, mustelids, hedgehogs, and rats
Weeds	Low	
Habitat modification	Medium	Partially fenced. Future logging of the adjacent pine plantation may cause damage to the site

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	No	Partially fenced



# Lake Waikato

At a glance (last updated: February 2006)			
TRC reference:	0985-0	Ecological district:	Foxton
Other reference:	STDC SNA 32 SSBI R22/H011 SSBI R22/H043	LENZ environment:	F5.2c
Land tenure:	Private	Protection status:	B, C
GPS:	2662943E – 6151331N	Area:	12.4 ha

## Location

Lake Waikato is located on privately owned land, 16 km south-east of Waverley. The lake lies in the Foxton Ecological District.

## General description

Lake Waikato is a 12.4 ha dune lake, surrounded by swamp. The lake includes a main body of water, a shallow arm extending to the east and a small 'island'. This 'island' consists of semi-coastal karaka forest, possibly planted by Maori in pre-European times. The lake itself has little vegetation around it and in parts is grazed to the edge.

## Ecological features

### Vegetation

Most of Lake Waikato is open water with pasture to the edges and pine (*Pinus radiata*) forest in the south-east. A 1 hectare area of the shallow arm is vegetated with indigenous spike sedge (*Eleocharis sphacelata*) over exotic water lily. Some sharp spike sedge (*Eleocharis acuta*) and raupo (*Typha orientalis*) are also present.

The lake 'island' has semi-coastal karaka (*Corynocarpus laevigatus*) forest with ngaio (*Mycoprum laetum*), cabbage trees (*Cordyline australis*), karamu (*Coprosma robusta*), kawakawa (*Macropiper excelsum*), and rangiora (*Brachyglottis repanda*). Willows (*Salix fragilis*) are present on the north-east side of the site. The island has been identified as a 'Recommended Area for Protection in the Foxton Ecological District Protected Natural Areas Survey'.

There is little vegetation surrounding the lake, and parts of the lake margins are grazed to the edge.

## Fauna

The lake provides an important habitat for a number of indigenous bird species including Australasian bittern (*Botaurus poiciloptilus*), which is identified as 'Acutely Threatened (Nationally Endangered)' and New Zealand dabchick (*Poliiocephalus rufopectus*), which is identified as 'At Risk (Sparse)'.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' Australasian bittern and the 'At Risk' New Zealand dabchick
Representativeness	High	Contains indigenous vegetation on F5.2c – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Provides core habitat for the threatened matuku/Australasian bittern and the New Zealand dabchick. It is possible that karaka were originally planted by Maori in pre-European times. Such karaka groves are now rare in the Ecological District
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

## Other values

Lake Waikato has recreational value. The lake is used for duck hunting and boating.

## Management threats and response

Potential and actual threats to the sustainability of Lake Waikato's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, rabbits, hares, mustelids, hedgehogs, and rats
Weeds	Low to medium	Crack willow, and gorse along the lake margins and water lily ( <i>Nymphaea alba</i> ) in the lake
Habitat modification	Medium	The lake is not completely fenced, and grazing to the lake edge causes pugging of the lake margin

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description	
<b>A</b>	Public ownership or formal agreement	No	
<b>B</b>	Regulatory protection by local government	Yes	Site specific rules apply – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b>	Active protection	Yes	Partially fenced Enhancement planting in some areas Taranaki Regional Council assisted willow control Land owner gorse control





# Landcorp Looney's Lake

## At a glance (last updated: February 2006)

<b>TRC reference:</b>	0898-0	<b>Ecological district:</b>	Egmont
<b>Other reference:</b>	DOC 78025	<b>LENZ environment:</b>	F5.2a
<b>Land tenure:</b>	Crown	<b>Protection status:</b>	A, B, C
<b>GPS:</b>	2590335E – 6203949N	<b>Area:</b>	5.8 ha

## Location

The Crown-owned Landcorp Looney's Lake is located 12 km north-east of Opunake. The lake lies in the Egmont Ecological District.

## General description

Landcorp Looney's Lake covers 5.8 ha and is located in a depression on lahar deposits. This semi-natural lake contains lowland swamp maire forest remnants and provides habitat for uncommon indigenous fauna and flora. The wetland is a popular bird watching site.

## Ecological features

### Vegetation

The lake margins contain raupo (*Typha orientalis*) and sedges (*Carex* spp.).

Vegetation remnants near the lake include swamp maire (*Syzygium maire*), pukatea (*Laurelia novae zelandiae*) and tawa (*Beilschmiedia tawa*).

### Fauna

The 'At Risk (Sparse)' fernbird (*Bowdleria punctata vealeae*) and spotless crane (*Porzana tabuensis plumbea*), are present. Fernbird and spotless crane are particularly uncommon in the region.



The lake is an important moulting site for the paradise shelduck (*Tadorna variegata*). Canadian geese (*Branta canadensis*), mallard duck (*Anas platyrhynchos*) and black swan (*Cygnus atratus*) are also present.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Regionally distinctive in that it contains the 'At Risk' fernbird and spotless crane, which are particularly uncommon in the region
Representativeness	High	Contains indigenous vegetation on F5.2a – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Provides core habitat for a wide variety of birds including the threatened and regionally rare fernbird and spotless crane
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Other Values

Landcorp Looney's Lake also has recreational value. The wetland is a popular bird watching site.

## Management threats and response

Potential and actual threats to the sustainability of Landcorp Looney Lake's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Low	Ragwort and blackberry
Habitat modification	Low to medium	Partially fenced with natural barrier around much of the remaining boundary. Still some livestock access but little damage to date

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b>	Yes	Public ownership or formal agreement Department of Conservation Covenant
<b>B</b>	Yes	Regulatory protection by local government Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIA of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b>	Yes	Active protection Partially fenced Self-help Possum Control Programme



# Lepperton Bush

At a glance (last updated: February 2006)			
TRC reference:		Ecological district:	Egmont
Other reference:	DOC 77007	LENZ environment:	5.2b
Land tenure:	Private	Protection status:	A, B
GPS:	2674212E – 6237073N	Area	4.9 ha

## Location

Lepperton Bush is located on privately owned land, close to Lepperton township, 8 km south-west of Waitara. It lies in the Egmont Ecological District.

## General description

Lepperton Bush is a small (4.9 ha) semi-coastal forest remnant on the Egmont Ring Plain. It comprises primarily of tawa forest and kohekohe forest on a gentle slope.

## Ecological features

### Vegetation

On the dry hill top, the canopy consists primarily of kohekohe (*Dysoxylum spectabile*) with associates of tawa (*Beilschmiedia tawa*), titoki (*Alectryon excelsus*), and rewarewa (*Knightia excelsa*). Further down the slope and on the stream margin, tawa is dominant with pukatea (*Laurelia novaezelandiae*) also frequent.

### Fauna

New Zealand pigeon (*Hemiphaga novaseelandiae*), which is identified as 'Chronically Threatened (Gradual Decline)' has been noted in the forest. It is likely that these birds also utilise the other small remnants in the area as well.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' New Zealand pigeon
Representativeness	High	Contains indigenous vegetation on F5.2b – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Connected to other small remnants in the area by native vegetation on riparian margins
Sustainability	Medium	Small area so edge effects have an impact but key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats.

## Management threats and response

Potential and actual threats to the sustainability of ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium - low	Possums, cats, mustlids, and rats.
Weeds	Low	
Habitat modification	Medium	Edge effects have modified these small remnants

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Protected private land, Department of Conservation
<b>B</b> Regulatory protection by local government	Yes	Regional and district rules may apply
<b>C</b> Active protection	Yes	Fenced, possum control



## Maitahi Scenic Reserve

At a glance (last updated: February 2006)			
TRC reference:	Ecological district:	Egmont	
Other reference:	LENZ environment:	F5.2b	
Land tenure:	Crown	Protection status:	A, B
GPS:	2585463E – 6228900N	Area:	0.7 ha

### Location

The Crown-owned Maitahi Scenic Reserve is located 7 km south of Oakura. The Reserve lies in the Egmont Ecological District.

### General description

Maitahi Scenic Reserve is a small area (0.7 ha) of coastal forest remnant. It is a narrow coastal strip of cliffs and a boulder beach, which is only exposed at low tide. Two lahatic promontories (points of high land jutting out to sea) occur near either end of the Reserve. A small wetland lies at the mouth of the Mangakino Stream, which traverses the middle of the Reserve.

### Ecological features

#### Vegetation

Taupata (*Coprosma repens*) and karaka (*Corynocarpus laevigatus*) dominate the cliffs. A variety of native plants are found in the small coastal herbfields that exist on both promontories. Of particular note is the presence of two herbs that are very rare in Taranaki. *Scandia rosaefolia* is identified as 'At Risk (Sparse)' nationally. However, the Reserve is the only known site of this plant in Taranaki. *Peperomia* (*Peperomia urvilleana*) is also present. This plant, while not threatened nationally, is only known to occur in one other site in Taranaki.

In the wetland area, raupo (*Typha orientalis*) and sedges (*Carex* species) predominate. Flax (*Phormium tenax*) occurs in patches throughout the Reserve.

#### Fauna

Birdlife present at the Maitahi Scenic Reserve include southern black-backed gull (*Larus dominicanus dominicanus*), variable oystercatcher (*Hematopus unicolor*), and fantail (*Rhipudura fuliginosa*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Regionally distinctive in that it contains the regionally uncommon <i>Scandia rosaefolia</i> and <i>Peperomia urvilleana</i>
Representativeness	High	Very small example of indigenous vegetation on F5.2b – an 'Acutely Threatened' LENZ environment
Ecological context	High	Provides core habitat for regionally rare flora species
Sustainability	Positive	In fair to good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of Maitahi Scenic Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums and rats
Weeds	Low to medium	Boxthorn
Habitat modification	Medium to high	Significant cattle browsing of the understorey. Also stock trampling is exacerbating erosion rate at the top of the cliffs. Coastal erosion

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description	
A	Public ownership or formal agreement	Yes	Public conservation estate (Foreshore and Scenic Reserve)
B	Regulatory protection by local government	Yes	General regional or district rules might apply
C	Active protection	Yes	Self-help Possum Control Programme





## Maitahi Wetlands

At a glance (last updated: February 2006)			
TRC reference:	1000-0	Ecological district:	Egmont
Other reference:		LENZ environment:	F5.2b
Land tenure:	Private	Protection status:	A, B, C
GPS:	1. 2586020E – 6226421N	Area:	1. 4.1 ha
	2. 2585906E – 6226343N		2. 3.4 ha
		Total area:	7.5 ha

### Location

The Maitahi Wetlands comprise of two small wetlands located on privately owned land, 3km north-east of Okato, in the Egmont Ecological District.

### General description

The Maitahi Wetlands are a thin riparian strip (no more than 10 metres wide) that follows tributaries to the Maitahi Stream. The combined sites cover 7.5 ha. The wetlands lie in a swampy gully bottom and contain a large variety of wetland vegetation and habitat. The wetlands acts as a natural riparian filter for the Maitahi Stream and is important due to its close proximity to the coast.



## Ecological features

### Vegetation

Vegetation within the wetland includes mahoe (*Melicytus* species) and wharangi (*Melicope ternata*), which is uncommon in the area. Pigeonwood (*Hedycarya arborea*), cabbage trees (*Cordyline australis*), raupo (*Typha orientalis*), sedges (*Carex* species), and flax (*Phormium tenax*) are also present.

Additional plantings on the dry-land and marginal areas include taupata (*Coprosma repens*), karamu (*Coprosma* species), koromiko (*Hebe stricta*), five finger/puahou (*Pseudopanax arboreus*), and toetoe (*Cortaderia fulvida*). Kowhai (*Sophora microphylla*) has also been planted, though is struggling to survive in its current environment.

### Fauna

Birdlife in the wetland includes Australasian bittern (*Botaurus poiciloptilus*), which is identified as 'Acutely Threatened (Nationally Endangered)' and spotless crane (*Porsana tabuensis plumbea*), which is identified as 'At Risk (Sparse)'.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' Australasian bittern. Also contains 'At Risk' spotless crane and wharangi, which are uncommon to the region
Representativeness	High	Contains indigenous vegetation on F5.2b – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	The wetlands act as a natural riparian filter for the Maitahi Stream, and are close to the coast. They also provide core habitat for the uncommon wharangi and the threatened Australasian bittern and spotless crane
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of the Maitahi Wetland's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Medium to high	Willow, honeysuckle, pampas, gorse, greater bindweed ( <i>convolvulus</i> ) and Japanese walnut
Habitat modification	Low	Fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Taranaki Regional Council Memorandum of Encumbrance covering the whole site
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix III of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Both wetlands fenced Both land owners have Taranaki Regional Council Conservation Plans Enhancement planting around wetland margins Taranaki Regional Council assisted spray programme to control willows and gorse growing in and around the wetlands Self Help Possum Control Programme



## Maketawa Marshall

At a glance (last updated: February 2006)		
TRC reference:	Ecological district:	Egmont
Other reference: DOC 77002	LENZ environment:	F5.2a
Land tenure: Private	Protection status:	A, B
GPS: 2615298E – 6221879N	Area:	3.1 ha

### Location

The Maketawa Marshall site is located on privately owned land, 4.7 km south of Inglewood. It lies in the Egmont Ecological District.

### General description

The Maketawa Marshall site comprises of two small (3.1 ha) areas of lowland tawa forest and swamp forest located beside the Maketawa Stream close to State Highway 3A. The remnants areas are connected by other riparian vegetation along the Maketawa Stream. The site is adjacent to another Key Native Ecosystem – the Maketawa Stream Forests.

### Ecological features

#### Vegetation

The canopy comprises primarily of tawa (*Beilschmiedia tawa*) forest with canopy associates of pukatea (*Laurelia novaezealandiae*) and swamp maire (*Syzygium maire*) in the swampy area, which is closer to the road.

In the drier remnant emergent rewarewa (*Knightia excelsa*), rata (*Metrosideros robusta*), kamahi (*Weinmannia racemosa*), and hinau (*Elaeocarpus dentatus*) are present.

#### Fauna

New Zealand pigeon (*Hemiphaga novaseelandiae*), which is identified as 'Chronically Threatened (Gradual Decline)' has been noted in the forest. It is likely that these birds also utilise the other small remnants in the area as well.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' New Zealand pigeon
Representativeness	High	Contains indigenous vegetation on F5.2a – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Connected to other small remnants in the area by native vegetation on riparian margins, including another Key Native Ecosystem (Maketawa Stream Forests)
Sustainability	Positive	Small areas so edge effects have an impact but key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Other values

The Maketawa Marshall site adjoining the State Highway 3A also has important scenic and landscape values.

### Management threats and response

Potential and actual threats to the sustainability of Maketwa Marshall's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium - low	Possums, cats, mustlids, and rats
Weeds	Low	Willow on road edge
Habitat modification	Medium	Edge effects have modified these small remnants

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A	Yes	Public ownership or formal agreement Department of Conservation covenant
B	Yes	Regulatory protection by local government General regional or district rules might apply
C	Yes	Active protection Fenced Some possum control





## Maketawa Stream Forests

At a glance (last updated: February 2006)			
<b>TRC reference:</b>		<b>Ecological district:</b>	Egmont
<b>Other reference:</b>	NPDC SNA 18	<b>LENZ environment:</b>	F5.2a
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B, C
<b>GPS:</b>	1. 2615841E – 6223573N	<b>Area:</b>	1. 4.5 ha
	2. 2616055E – 6222831N		2. 5.8 ha
		<b>Total area:</b>	10.3 ha

### Location

The Maketawa Stream Forests are located on privately owned land, 5 km south of Inglewood. The forests lie in the Egmont Ecological District.

### General description

The Maketawa Stream Forests comprises of two small areas (combined area of 10.3 ha) of lowland forest adjacent to the Piakau Stream and Maketawa Stream. The vegetation comprises of lowland tawa forest, representative of forest once widespread on the ring plain. The remnants are surrounded by farmland but lie close to another Key Native Ecosystem – Maketawa Marshall.

### Ecological features

#### Vegetation

The canopy is dominated by tawa although sycamore is a frequent canopy associate in the northern remnant. Emergent rewarera, rata (*Metrosideros robusta*), kamahi (*Weinmannia racemosa*), and hinau (*Elaeocarpus dentatus*) are also present in the canopy.

#### Fauna

New Zealand pigeon (*Hemiphaga novaseelandiae*), which is identified as 'Chronically Threatened (Gradual Decline)', is present in the area.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' New Zealand pigeon
Representativeness	High	Contains indigenous vegetation on F5.2a – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Close to and interconnected with several other small remnants (Maketawa Marshall covenants) and riparian vegetation
Sustainability	Positive	Fair vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of the Maketawa Stream Forests' ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, and rats
Weeds	Medium	Sycamores in the northern remnant
Habitat modification	Low to medium	Partially fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – New Plymouth District Council rules for Significant Natural Areas (refer Appendix 21 of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Self-help Possum Control Programme



# Mangahinau Stream Esplanade Reserve

At a glance (last updated: February 2006)			
TRC reference:	0866-0	Ecological district:	Egmont
Other reference:	DOC 70253	LENZ environment:	F5.2b
Land tenure:	Crown	Protection status:	A, B, C
GPS:	2617000E – 6243413N	Area:	1.3 ha

## Location

The Crown-owned Mangahinau Stream Esplanade Reserve is located on the outskirts of the Waitara township. The Reserve lies in the Egmont Ecological District.

## General description

The Mangahinau Stream Esplanade Reserve is a small (1.3 ha) wetland strip alongside the lower Mangahinau Stream. This long narrow strip drains into and is part of the tidal reaches of the lower Waitara River just upstream of the confluence of the Mangahinau Stream and the Waitara River.

The lower Mangahinau Stream Mouth is modified by flood control works with a residential area on the northern bank of the wetland. This site is a significant spawning habitat for whitebait.

## Ecological features

### Vegetation

Vegetation in the Mangahinau Stream Esplanade Reserve includes tidal rushes and introduced grasses, willows (*Salicaceae*), and other weeds.

### Fauna

The Mangahinau Stream Esplanade Reserve (combined with similar type wetlands in the vicinity) provides one of the most significant habitat for whitebait spawning in the Waitara River.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Low	Not known to contain any 'Acutely Threatened' species or species uncommon in Taranaki
Representativeness	High	Contains indigenous vegetation on F5.2b – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Significant habitat and spawning area for whitebait
Sustainability	Positive	Fair but improving vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats.

## Other Values

Mangahinau Stream Esplanade Reserve is a popular area for whitebait fishing.

## Management threats and response

Potential and actual threats to the sustainability of the Mangahinau Stream Esplanade Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, and rats
Weeds	High	High density of willow, woolly nightshade, black walnut and arum lilies
Habitat modification	Low	Formally protected

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b>	Yes	Public Conservation Estate (Government Purpose Esplanade Reserve)
<b>B</b>	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIB of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b>	Yes	Partially fenced Enhancement plantings



# Mangamiemi Bush

At a glance (last updated: February 2006)			
<b>TRC reference:</b>		<b>Ecological district:</b>	Egmont
<b>Other reference:</b>	NPDC SNA 16	<b>LENZ environment:</b>	F5.2b
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B
<b>GPS:</b>	2609585E – 6237708N	<b>Area:</b>	2.7 ha

## Location

The Mangamiemi Bush is on privately owned land, 2.6 km south of Bell Block, in the Egmont Ecological District.

## General description

Mangamiemi Bush is a small (2.7 ha) semi-coastal puriri-kohekohe forest remnant. This type of forest on uplifted coastal terraces is now very rare.

## Ecological features

### Vegetation

Vegetation in Mangamiemi Bush includes puriri (*Vitex lucens*), kohekohe (*Dysoxylum spectabile*), tawa (*Beilschmiedia tawa*), karaka (*Corynocarpus laevigatus*), rimu (*Dacrydium cupressinum*), and rewarewa (*Knightia excelsa*). Pukatea (*Laurelia novae-zelandiae*) also occurs in the canopy on the east facing sideslopes.

### Fauna

Unknown. No specific indigenous fauna species have been recorded for the Mangamiemi Remnant Bush.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Low	Not known to contain any 'Acutely Threatened' species or species uncommon in Taranaki
Representativeness	High	Contains indigenous vegetation on F5.2b – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Close to and interconnected with several other small forest remnants
Sustainability	Positive	Fair but improving vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of the Mangamiemi Remnant Bush's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium	Possums, cats, mustelids, and rats
Weeds	Low	
Habitat modification	Medium	Small area so strongly influenced by edge effects

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – New Plymouth District Council rules for Significant Natural Areas (refer Appendix 21 of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	No	





# Mangaone Scenic Reserve

## At a glance (last updated: February 2006)

<b>TRC reference:</b>	<b>Ecological district:</b>	North Taranaki
<b>Other reference:</b>	<b>LENZ environment:</b>	F5.2b
<b>Land tenure:</b>	<b>Protection status:</b>	A, B
<b>GPS:</b>	<b>Area:</b>	233.2 ha

## Location

The Crown owned Mangaone Scenic Reserve is located 15 km south-east of Mokau and 6 km north-west of Waitaanga Plateau. The Reserve lies in the North Taranaki Ecological District.

## General description

The Mangaone Scenic Reserve is administered by the Department of Conservation. It comprises of a large (233.2 ha) tract of primary hillslope forest and alluvial terrace forest within the forested reaches of the Mohakatino River. It is one of the few unlogged alluvial terrace forests remaining in the North Taranaki Ecological District. The Reserve adjoins the Mohakatino Conservation Area.

## Ecological features

### Vegetation

The Mangaone Scenic Reserve supports pure hard beech (*Nothofagus truncata*) forest adjoining a riparian tongue of podocarp rich rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*), pukatea (*Laurelia novae-zelandiae*) / kamahi (*Weinmania racemosa*) – tawa (*Beilschmiedia tawa*) forest.

### Fauna

Kaka (*Nestor meridionalis*), which is identified as 'Acutely Threatened (Nationally Endangered)' and North Island brown kiwi (*Apteryx mantelli*), which is identified as 'Chronically Threatened (Serious Decline)' are found in adjacent forest and are assumed to be present in Mangaone.

Other birds recorded in the adjacent forest (Department of Conservation) include North Island robin (*Petroica australis longipies*) and the 'Acutely Threatened (Nationally Endangered)' North Island kokako (*Callaeas cinerea wilsoni*) and parakeets (species unconfirmed – red crowned parakeets are

not threatened but yellow crowned parakeets are in 'Gradual Decline') have also in the past been recorded as present in the forest by the Department of Conservation. However, it is not known whether kokako and parakeet still survive in this area.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' kaka Also contains the 'Chronically Threatened' North Island brown kiwi
Representativeness	Low	LENZ environment not threatened
Ecological context	High	High quality area of indigenous vegetation on alluvial terrace and is one of the few unlogged alluvial terraces in North Taranaki. Provides core habitat for threatened indigenous birds
Sustainability	Positive	Large area well buffered. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

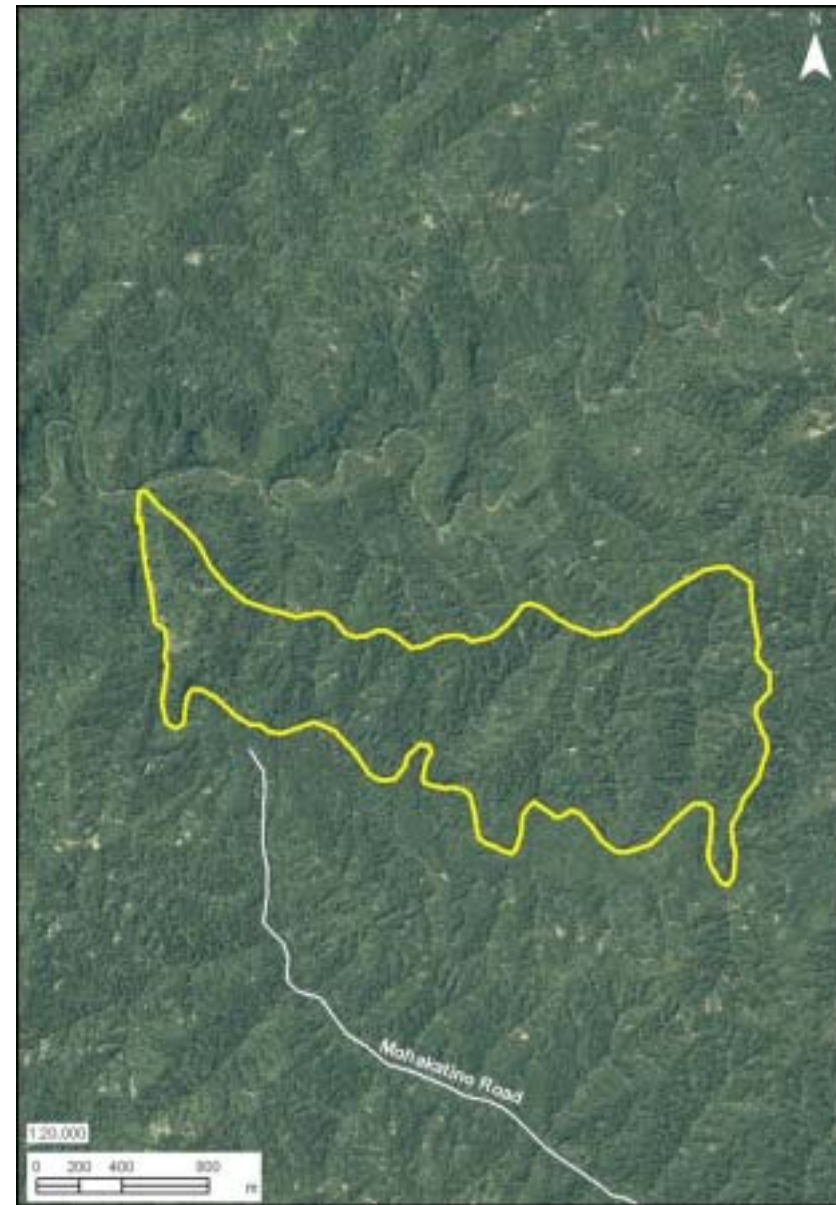
## Management threats and response

Potential and actual threats to the sustainability of Mangaone's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium	Possums, goats, mustelids, and rats
Weeds	Low-medium	Not known
Habitat modification	Low	Large area well buffered

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A	No	Public ownership or formal agreement
B	Yes	Regulatory protection by local government General regional or district rules might apply
C	No	Active protection



## Mangawhio Lake Scenic Reserve

At a glance (last updated: February 2006)			
TRC reference:	0903-0	Ecological district:	Matemateaonga
Other reference:	DOC 70230	LENZ environment:	F1.3b (8.8 ha) F5.2c (21.3 ha) F7.2a (0.3 ha)
Land tenure:	Crown	Protection status:	A, B
GPS:	2664004E – 6170829N	Area:	30.4 ha

### Location

The Crown-owned Mangawhio Lake Scenic Reserve is located approximately 30 km north-east of Patea. The Reserve lies in the Matemateaonga Ecological District.

### General description

The Mangawhio Lake Scenic Reserve covers 30.4 ha and is located in a small slump in the eastern hill country of Taranaki. Surrounding the Mangawhio Lake shoreline, moderate to steep slopes are covered in tawa-podocarp forest.

Adjacent to the Reserve is another regionally significant wetland – Lake Mangawhio North, which is 3.8 ha in size and in private ownership. The ecosystems of these two sites are interconnected due to the close proximity of the wetland systems.

## Ecological features

### Vegetation

The vegetation surrounding the lake is predominantly tawa-podocarp forest (*Beilschmiedia tawa*).

### Fauna

Banded kokopu (*Galaxias fasciatus*) have been recorded in tributary streams of the lake. Also of note is the presence of the 'At Risk (Sparse)' fernbird (*Bowdleria punctata vealeae*) and spotless crane (*Porzana tabuensis plumbea*). Both bird species are particularly uncommon in the region.

Other notable birdlife found in the Reserve and around the northern lake include New Zealand dabchick (*Poliocephalus rufopectus*), which is also identified as being nationally 'At Risk (Sparse)'. Also present are New Zealand scaup (*Aythya novaeseelandiae*) and whitehead (*Mohoua albicilla*).

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'At Risk' fernbird and spotless crane, which are particularly uncommon in the region
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2c) and 'At Risk' (F7.2a) LENZ environments
Ecological context	Medium	The Scenic Reserve and Lake Mangawhio North are in close proximity to each other, providing ecological connectivity between the two ecosystems
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Other Values

The Mangawhio Lake Scenic Reserve also has recreational value. The reserve has public walking access, and limited four wheel drive access in the summer months.



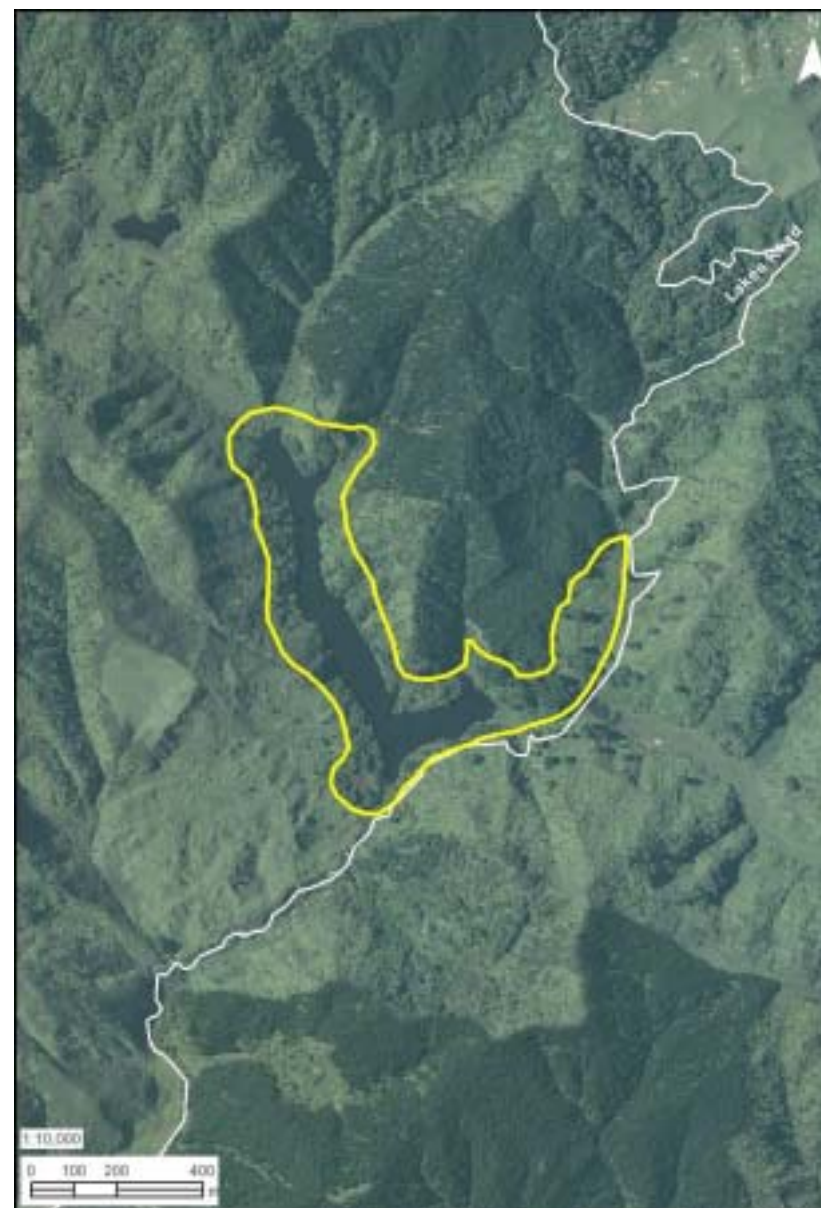
## Management threats and response

Potential and actual threats to the sustainability of the Mangawhio Lake Scenic Reserve ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums, goats, and hedgehogs
Weeds	Medium	Lagarosiphon oxygen weed ( <i>Lagarosiphon major</i> ) in the lake
Habitat modification	Low to medium	Natural barriers surround the site but some fencing would be beneficial

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIA of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b> Active protection	No	





## Matuku Bush

### At a glance (last updated: February 2006)

<b>TRC reference:</b>		<b>Ecological district:</b>	Manawatu Plains
<b>Other reference:</b>	STDC SNA 14 SSBI Q21/H004	<b>LENZ environment:</b>	F5.2c
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B
<b>GPS:</b>	2643500E – 6163500N	<b>Area:</b>	100.0 ha

### Location

Matuku Bush is located on privately owned land, 8 km north-east of Patea. The remnant lies in the Manawatu Plains Ecological District.

### General description

Matuku Bush is a large area (100.0 ha) of forest and scrub on gullies, which have been incised in the marine terrace.

### Ecological features

#### Vegetation

Vegetation consists of forest and scrub, though no specific indigenous or exotic flora species have been recorded for the Matuku Bush Remnant.

#### Fauna

Matuku Bush provides habitat for a number of indigenous bird species including the North Island brown kiwi (*Apteryx australis mantelli*), which is identified as being Chronically Threatened (Serious Decline). However, there is little information about the kiwi population at this site and its long term viability.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' North Island brown kiwi
Representativeness	High	Contains indigenous vegetation on F5.2c – an 'Acutely Threatened' LENZ environment
Ecological context	High	Provides habitat for the threatened North Island brown kiwi. Gully system with nearby forest remnants
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of the Matuku Bush Remnant's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, and rats
Weeds	Low	Unknown
Habitat modification	Low	

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	No	



## Meeting of the Waters Scenic Reserve

At a glance (last updated: February 2006)		
<b>TRC reference:</b>		<b>Ecological district:</b> Egmont
<b>Other reference:</b> DOC 70421, LD No 57		<b>LENZ environment:</b> F5.2b (10.7 ha) G 3.3a (0.1 ha) H1.3a (21.8 ha) H2.2a (0.7 ha)
<b>Land tenure:</b> Crown		<b>Protection status:</b> A, B, C
<b>GPS:</b>		<b>Area:</b> 33.5 ha

### Location

The Crown owned Meeting of the Waters Scenic Reserve is situated at the junction of the Waiwhakaiho River and Mangorei Stream, 8 km south-east of New Plymouth on State Highway 3. The Reserve lies in the Egmont Ecological District.

### General description

The Meeting of the Waters Scenic Reserve is administered by the Department of Conservation and comprises mostly of flat river terraces together with some hill slopes to the north-west. The Reserve supports an excellent example of lowland podocarp broadleaved forest. The Reserve is 33.5 ha in size.

### Ecological features

#### Vegetation

The predominant vegetation type is totara (*Podocarpus totara*)/tawa (*Beilschmiedia tawa*) forest. Large totara, matai (*Prumnopitys taxifolia*), miro (*Prumnopitys ferruginea*) and rimu (*Dacrydium cupressinum*) are emergent over a canopy dominated by tawa. In the southern portion of the Reserve, matai is the predominant emergent podocarp.

Other species locally important in the canopy include white maire (*Nestegis lanceolata*), black maire (*Nestegis cunninghamii*), titoki (*Alectryon excelsus*), and kamahi (*Weinmannia racemosa*). The understorey is quite open with common species being *Coprosma rhamnoides* and *Lophomyrtus obcordata*. Hybrids between *Lophomyrtus obcordata* and *Lophomyrtus bullata* present.

There is also an area of regenerating mixed broadleaved forest - shrubland in the south-western portion of the Reserve.

The wood rose *Dactylanthus taylori*, a species identified as 'Chronically Threatened (Serious Decline)', was recorded here historically and may still be present.

#### Fauna

New Zealand wood pigeon (*Hemiphaga novaseelandiae*), which is identified as 'Chronically Threatened (Gradual Decline)', is present in the area.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium - high	Contains the 'Chronically Threatened' New Zealand wood pigeon. May also contain the regionally rare wood rose ( <i>Dactylanthus taylori</i> )
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2b, G3.3a, H1.3a) LENZ environments
Ecological context	Medium	Interconnected with gully systems throughout city, which support native vegetation
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Other values

The Meeting of the Waters Scenic Reserve is also a popular picnic and recreation area close to New Plymouth – swimming hole, barbeques and picnic tables.

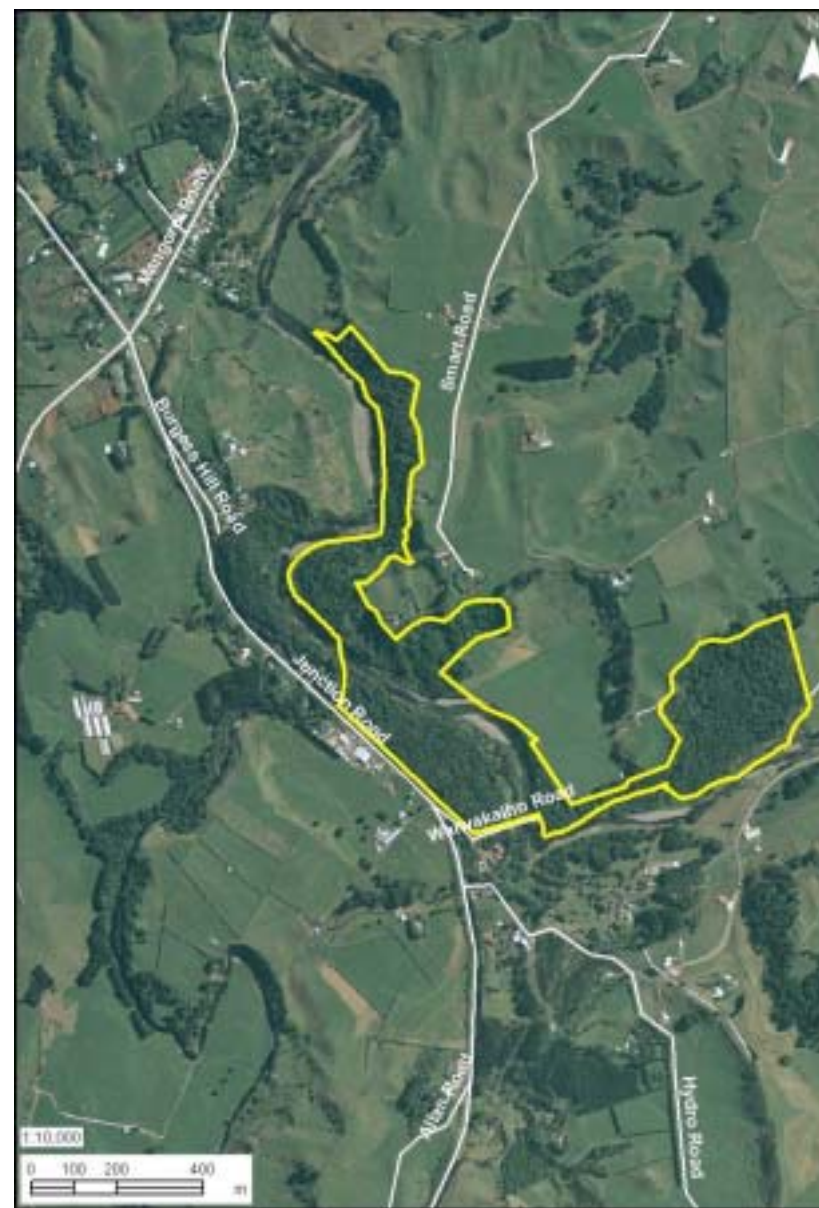
## Management threats and response

Potential and actual threats to the sustainability of Meeting of the Waters' ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Med- low	Possums, cats, and mustelids
Weeds	Medium	Presence of invasive weeds will require management. Wandering willy, Japanese honeysuckle, strawberry tree, willows – mostly on river edge
Habitat modification	Medium	A plantation of <i>Thuja plicata</i> (2.4 ha) in the northern portion of the Reserve Several other planted native plants not natural to the reserve recorded by Department of Conservation in 1980

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
<b>B</b> Regulatory protection by local government	Yes	General regional or district rules might apply
<b>C</b> Active protection	Yes	Possum control



## Mimi Scenic Reserve

### At a glance (last updated: February 2006)

<b>TRC reference:</b>	<b>Ecological district:</b>	North Taranaki
<b>Other reference:</b>	<b>LENZ environment:</b>	C1.2a (6.1 ha) F1.1b (1.7 ha) F5.2a (1.2 ha)
<b>Land tenure:</b>	<b>Protection status:</b>	A, B
<b>GPS:</b>	<b>Area:</b>	9.1 ha

### Location

The Crown owned Mimi Scenic Reserve is located on the true right bank of Mimi River, 21.5 km east of Waitara and 1.5 km from the sea. The Reserve lies in the North Taranaki Ecological District.

### General description

Mimi Scenic Reserve, which is administered by the Department of Conservation, consists mainly of steep cliffs facing south-south east beside the Mimi River. It supports a small (9.1 ha) semi-coastal forest.

### Ecological features

#### Vegetation

The predominant forest type is tawa (*Beilschmiedia tawa*), rewarewa (*Knightia excelsa*) and mamaku (*Cyathea medullaris*). However karaka (*Corynocarpus laevigatus*), pukatea (*Laurelia novaezelandiae*), and kohekohe (*Dysoxylum spectabile*) are also present in the canopy. A small area of river terrace has pukatea dominated forest.

*Brachyglottis turneri*, a lowland species classified nationally as 'Range Restricted' and known from only one other location (Rerekino Conservation Area) in the North Taranaki Ecological District, is present.

#### Fauna

Native birds present in the Mimi Scenic Reserve include pukeko (*Porphyrio porphyrio melanotus*), black shag (*Phalacrocorax carbo*), southern black-backed gull (*Larus dominicanus dominicanus*), tui (*Prothemadera novaeseelandiae*), grey warbler (*Gerygone igata*), fantail (*Rhipidura fuliginosa placabilis*), and kingfisher (*Halcyon sancta vagans*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	One of only two known location of <i>Brachyglottis turneri</i> in the North Taranaki Ecological District
Representativeness	High	Contains indigenous vegetation on C1.2a and F5.2c – both 'Acutely Threatened' LENZ environments
Ecological context	Medium	Close to and interconnected with another Key Native Ecosystem (Pukatea). It provides core habitat for the regionally rare <i>Brachyglottis turneri</i>
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Other values

Mimi Scenic Reserve is visible from State Highway 3 and has important scenic landscape values.

### Management threats and response

Potential and actual threats to the sustainability of Mimi Scenic Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low-medium	Possums, cats, mustelids, and rats
Weeds	Medium	Montbretia, wandering willy
Habitat modification	Low	Natural erosion processes – cliffs are prone to slipping



Site protection measures addressing potential threats and actual threats are as follows:

Site protection		Yes/No	Description
A	Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
B	Regulatory protection by local government	Yes	General regional or district rules might apply
C	Active protection	No	



## Miro Scenic Reserve

### At a glance (last updated: February 2006)

<b>TRC reference:</b>		<b>Ecological district:</b>	North Taranaki
<b>Other reference:</b>	DOC 70518, LD No 47a	<b>LENZ environment:</b>	F1.1b
<b>Land tenure:</b>	Crown	<b>Protection status:</b>	A, B
<b>GPS:</b>	2646710E – 6246943N	<b>Area:</b>	11.1 ha

### Location

The Crown owned Miro Scenic Reserve is located 45 km north east of New Plymouth. The Reserve lies in the North Taranaki Ecological District.

### General description

The Miro Scenic Reserve, which is administered by the Department of Conservation, is 11.1 ha in area. Adjoining Waiwekeho 1, Uruti Scenic Reserve, Moki Scenic Reserve and Waiwekeho 2, it is part of one large forested area.

### Ecological features

#### Vegetation

Tawa (*Beilschmiedia tawa*) forest covers most of the Miro Scenic Reserve with associates of hinau (*Elaeocarpus dentatus*), kamahi (*Weinmannia racemosa*), pukatea (*Laurelia novaezealandiae*), and rewarewa (*Knightia excelsa*). Occasional podocarps such as miro (*Prumnopitys ferruginea*), rimu (*Dacrydium cupressinum*) and totara (*Podocarpus totara*) are emergent as are northern rata (*Metrosideros robusta*) some of which are dead.

Several black beech (*Nothofagus solandri*), together with occasional hard beech, are locally prominent in the canopy on a small sandstone outcrop. 39 degrees south latitude marks the transition zone where hard beech (*Nothofagus truncata*) from the north meets black beech from the south with associated hybrids.

On the moderately steep colluvial slope at the base of the bluff kohekohe (*Dysoxylum spectabile*) is dominant in the canopy with mamaku (*Cyathea medullaris*), nikau (*Rhopalostylis sapida*), and supplejack (*Ripogonum scandens*), also in the canopy. This type is uncommon in North Taranaki. Crimson rata (*Metrosideros carminea*), a species of limited natural distribution in Taranaki is also found in this area.

### Fauna

Notable birdlife present in the Miro Scenic Reserve include the 'Chronically Threatened (Gradual Decline)' New Zealand pigeon (*Hemiphaga novaezealandiae*) and the 'Chronically Threatened (Serious Decline)' North Island brown kiwi (*Apteryx mantelli*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' New Zealand pigeon and North Island brown kiwi. Also contains <i>Metrosideros carminea</i> , a plant of very limited natural distribution in Taranaki
Representativeness	Low	LENZ environments not threatened
Ecological context	High	Ecologically unique in terms of the site representing the distributional limits of several species, including hybrids between black and hard beech. Kohekohe forest on colluvial slopes uncommon in North Taranaki  Adjoins and is interconnected with other Key Native Ecosystems – Moki Scenic Reserves and Waiwekeho 1
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

## Management threats and response

Potential and actual threats to the sustainability of Miro Scenic Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium	Possums, goats, cats, mustelids, rats, and stock
Weeds	Low-medium	No known
Habitat modification	Low	Some past logging in parts

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
B Regulatory protection by local government	Yes	General regional or district rules might also apply
C Active protection	No	



## Mohakatino Conservation Area (in part)

At a glance (last updated: February 2006)		
<b>TRC reference:</b>		<b>Ecological district:</b> North Taranaki
<b>Other reference:</b> DOC 70439		<b>LENZ environment:</b> C1.1c (260.8 ha) C1.2a (7.3 ha) D2.1a (2.2 ha) D2.3a (2.3 ha) D2.3b (5.2 ha) F1.1b 2,733.4 ha F1.1d (1,956.0 ha) F7.2a (36.5 ha) F7.2b (2.9 ha)
<b>Land tenure:</b> Crown		<b>Protection status:</b> A, B, C
<b>GPS:</b> 2664154E – 6270552N		<b>Area:</b> 5,006.6 ha

### Location

The Crown owned Mohakatino Conservation Area is located 12 km south-east of Mokau in the North Taranaki Ecological District. Only part of the Conservation Area lies within the Taranaki region and is shown in the aerial photograph.

### General description

The Mohakatino Conservation Area is a large forested area administered by the Department of Conservation. That part of the Conservation Area that lies in the Taranaki region is 5,006.6 ha in size. It incorporates hillslopes and alluvial terrace vegetation of the Waipapa Stream, which is part of the Mohakatino River catchment.

The Mohakatino Conservation Area, along with other Key Native Ecosystems adjacent to or near it – the Hutawai Conservation Area, Mangaone Scenic Reserve, Kahu, and Hutawai Conservation Area– are part of a continuum of forest comprising of a now very rare sequence of coastal, lowland and hill country forest and which extends from the coast to Waitaanga Plateau.

### Ecological features

#### Vegetation

The hillslopes have a mosaic of tawa (*Beilschmiedia tawa*) forest and hard beech forest which combined with Hutawai Conservaton Area is the most extensive in

the district. There are also very large kahikatea (*Dacrycarpus dacrydioides*) in Waipapa Stream, approx 8.6 metres in circumference.

#### Fauna

Kaka (*Nestor meridionalis*), which is identified as 'Acutely Threatened (Nationally Endangered)', is present in the Mohakatino Conservation Area. Other notable birdlife in the area includes the North Island brown kiwi (*Apteryx mantelli*), which is identified as 'Chronically Threatened (Serious Decline)' and fernbird (*Bowdleria punctata vealeae*), which is identified as 'At Risk (Sparse)'. Fernbird are particularly uncommon in Taranaki.

Other birds recorded here (Department of Conservation) include North Island robin (*Petroica australis longipies*). The 'Acutely Threatened (Nationally Endangered)' North Island kokako (*Callaeas cinerea wilsoni*) and parakeets (species unconfirmed – red crowned parakeets are not threatened but yellow crowned parakeets are in 'Gradual Decline') have also in the past been recorded as present in the forest by the Department of Conservation. However, it is not known whether kokako and parakeet still survive in this area.

The valley is also significant breeding area for native fish, particularly the banded kokupu (*Galaxia fasciatus*). Native invertebrate species present include the paua slug.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' kaka and 'At Risk' and regionally uncommon fernbird Also contains the 'Chronically Threatened' North Island brown kiwi
Representativeness	High	Relatively large area of high quality indigenous vegetation on 'Acutely Threatened' (C1.2a) and 'Chronically Threatened' (C1.1a) LENZ environments Also contains 'At Risk' (D2.3a, F7.2a) and 'Underprotected' (D2.3a) LENZ environments
Ecological context	High	Provides core habitat for threatened indigenous birds and is a significant breeding site for native fish. Part of a unique continuum of forest that extends from the coast to Waitaanga Plateau
Sustainability	Positive	Large area well buffered. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats



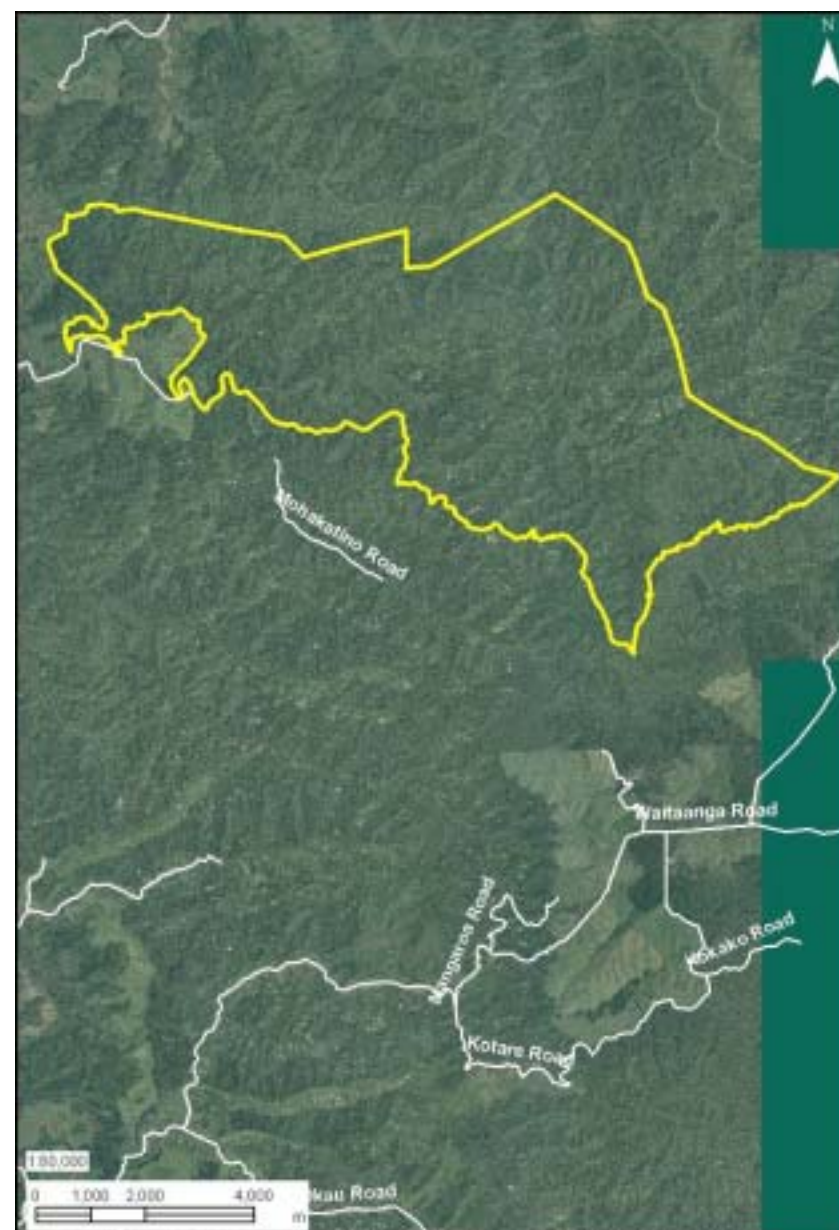
## Management threats and response

Potential and actual threats to the sustainability of Mohakatino Conservation Area's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium	Possums, goats, mustelids, and rats
Weeds	Low-medium	Not known
Habitat modification	Low	Large area well buffered. However, margins may be affected by trespassing cattle

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
A Public ownership or formal agreement	Yes	Public Conservation Estate (Conservation Area)
B Regulatory protection by local government	Yes	General regional or district rules might also apply
C Active protection	No	





## Mohakatino Swamp Conservation Area

At a glance (last updated: February 2006)			
<b>TRC reference:</b>	0843-0	<b>Ecological district:</b>	North Taranaki
<b>Other reference:</b>	DOC 70441	<b>LENZ environment:</b>	F5.2b (1.2 ha) F 7.2a (1.1 ha) G5.1a (8.4 ha)
<b>Land tenure:</b>	Crown	<b>Protection status:</b>	A, B, C
<b>GPS:</b>	2650295E – 6273860N	<b>Area:</b>	10.7 ha

### Location

The Crown-owned Mohakatino Swamp Conservation Area is located approximately 4 km south of Mokau. The swamp lies in the North Taranaki Ecological District.

### General description

The Mohakatino Swamp Conservation Area contains a 10.7 ha wetland. The area is located on a flat coastal wetland bounded by sand dunes, the Mohakatino Estuary and State Highway 3. The wetland is also backed by a steep hill slope of coastal forest.

### Ecological features

#### Vegetation

Vegetation within the Mohakatino Swamp Conservation Area is dominated by raupo (*Typha orientalis*), reed – rushland (*Isolepis prolifer* – *Cyperus ustulatus*), and flax (*Phormium tenax*). Also present is 'Acutely Threatened (Nationally Critical)' Tainui (*Pomaderris apetala*), and wharangi (*Meticope tenata*) and crimson rata (*Metrosideros carminea*), which are uncommon in the North Taranaki Ecological District.

#### Fauna

The Mohakatino Swamp Conservation Area has a wide variety of birdlife including the Australasian bittern (*Botaurus poiciloptilus*), which is identified as 'Acutely Threatened (Nationally Endangered)'.

Other notable birdlife present includes the 'At Risk (Sparse)' fernbird (*Bowdleria punctata vealeae*) and spotless crane (*Porzana tabuensis*

*plumbea*). Fernbird and spotless crane are particularly uncommon in Taranaki.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' tainui and Australasian bittern, and the 'At Risk' and regionally uncommon spotless crane and fernbird
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F7.2b), 'At Risk' (F7.2a), and 'Underprotected' (G5.1a) LENZ environments
Ecological context	High	The site provides core habitat for threatened native plants and animal species
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats

### Other values

The Mohakatino Swamp Conservation Area is a popular recreational fishing area.

The area is also of cultural and historical significance – the area contains many significant wāhi tapu sites. It is an historical garden area, valuable to Ngati Tama, where the cultivation of taewa and kumara was a specialist activity. The garden kaitiaki were the local people from the Hukumui and Pukekarirua pas. The area was also used by Ngati Tama for access to mahinga kai and cultivation of other crops. The area is subject to Schedule 7 of the Ngati Tama Claims Settlement Act 2003.

## Management threats and response

Potential and actual threats to the sustainability of the Mohakatino Swamp Conservation Area's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Medium to high	Contains significant infestations of pampas, boxthorn, lupin, woolly nightshade, gorse, blackberry, water primrose, climbing dock, ragwort, crack willow and grey willow
Habitat modification	Low	Formally protected. Partially fenced with the remaining boundary being inaccessible to livestock

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Conservation Area)
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix IIA of the Regional Fresh Water Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Department of Conservation control programmes for goat and possum Partially fenced – fenced along the roadside and northern boundary with the estuary and beach providing a natural boundary



## Moki Conservation Area and Makino Conservation Area

At a glance (last updated: February 2006)			
<b>TRC reference:</b>		<b>Ecological district:</b>	North Taranaki
<b>Other reference:</b>	DOC 70091, 70017	<b>LENZ environment:</b>	C1.1c (0.9 ha) D2.3a (2.0 ha) D2.3b (267.1 ha) D2.3c (0.3 ha) F1.1b (1,259.5 ha) F1.1c (410.9 ha) F1.1d (6,595.6 ha) F5.2a (201.1 ha) F7.2a (2,259.1 ha)
<b>Land tenure:</b>	Crown	<b>Protection status:</b>	A, B, C
<b>GPS:</b>	2657161E – 6244562N	<b>Area:</b>	10,996.5 ha

### Location

The Crown owned Moki Conservation Area and Makino Conservation Area are located 13 km east of the Tongaporutu Estuary. It lies in the North Taranaki Ecological District.

### General description

The Moki and Makino conservation areas are administered by the Department of Conservation. Combined the two conservation areas represent a very large area (10,996.5 ha) of mainly primary forest on dissected hill country centred around the headwaters of the Waitara River.

### Ecological features

#### Vegetation

The Moki and Makino conservation areas primarily consist of rimu (*Dacrydium cupressinum*) and tawa (*Beilschmiedia tawa*) forest. There is also particular abundance of maire species (especially *Nestegis cunninghamii* and *N. montana*) and frequent kahikatea (*Dacrycarpus dacrydioides*), matai (*Prumnopitys taxifolia*), and rimu on the broad alluvial terraces of the Mairenunui Stream and along the Waitara River.

### Fauna

A significant number of threatened fauna species have all been recorded at Moki-Makino. They include the 'Acutely Threatened (Nationally Endangered)' northern short tailed bat (*Mystacina tuberculata aoupourica*), kaka (*Nestor meridionalis septentrionalis*), and North Island kokako (*Callaeas cinerea wilsoni*). The Acutely Threatened (Nationally Vulnerable)' New Zealand falcon/kararea (*Falco novaeseelandiae*) is also present.

Other notable wildlife present in the conservation areas are the North Island brown kiwi (*Apteryx australis mantelli*), identified as 'Chronically Threatened (Serious Decline)', the New Zealand pigeon (*Hemiphaga novaseelandiae*) identified as 'Chronically Threatened (Gradual Decline)', and the Short-tailed bat (*Mystacina tuberculata rhyacobia*), which is identified as 'At Risk (Range Restricted)'.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains a large number of 'Acutely Threatened' species
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2a), 'At Risk' (F7.2a, D2.3a, F1.1c) and 'Underprotected' (D2.3c) LENZ environments
Ecological context	High	Very large area providing core habitat for a large number of threatened bird and bat species
Sustainability	High	Very large area well buffered. In good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats





## Moki Scenic Reserve

At a glance (last updated: February 2006)		
TRC reference:		Ecological district: North Taranaki
Other reference:	DOC 70326, LD No 44a	LENZ environment: F1.1b (5.2 ha) F5.2a (9.4 ha)
Land tenure:	Crown	Protection status: A, B
GPS:	2648659E – 6246100N	Area: 14.6 ha

### Location

The Crown owned Moki Scenic Reserve is located 46 km north east of New Plymouth. The Reserve lies in the North Taranaki Ecological District.

### General description

The Moki Scenic Reserve, which is administered by the Department of Conservation, comprises of steep papa slopes that rise to an undulating ridge. There is a near vertical bluff approximately 90 m high on the western side of the Reserve with colluvial slopes at the base of the bluff. It is 14.6 ha in area.

Adjoining Waiwhekeho 1, Uruti Scenic Reserve, Miro Scenic Reserve and Waiwhekeho 2, it is part of one large forested area.

### Ecological features

#### Vegetation

Tawa (*Beilschmiedia tawa*) forest covers most of the Moki Scenic Reserve with associates of hinau (*Elaeocarpus dentatus*), kamahi (*Weinmannia racemosa*), pukatea (*Laurelia novaezealandiae*), and rewarewa (*Knightia excelsa*). Occasional podocarps such as miro (*Prumnopitys ferruginea*), rimu (*Dacrydium cupressinum*) and totara (*Podocarpus totara*) are emergent as are northern rata (*Metrosideros robusta*) some of which are dead.

Several black beech (*Nothofagus solandri*), together with occasional hard beech, are locally prominent in the canopy on a small sandstone outcrop. 39 degrees south latitude marks the transition zone where hard beech (*Nothofagus truncata*) from the north meets black beech from the south with associated hybrids.

On the moderately steep colluvial slope at the base of the bluff kohekohe (*Dysoxylum spectabile*) is dominant in the canopy with mamaku (*Cyathea medullaris*), nikau (*Rhopalostylis sapida*), and supplejack (*Ripogonum scandens*) also in the canopy. This type is uncommon in North Taranaki. Crimson rata (*Metrosideros carminea*), a species of limited natural distribution in Taranaki is also found in this area.

#### Fauna

Notable birdlife present in the Moki Scenic Reserve include the 'Chronically Threatened (Gradual Decline)' New Zealand pigeon (*Hemiphaga novaezealandiae*) and the 'Chronically Threatened (Serious Decline)' North Island brown kiwi (*Apteryx mantelli*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Contains the 'Chronically Threatened' New Zealand pigeon and North Island brown kiwi. Also contains <i>Metrosideros carminea</i> , a plant of very limited natural distribution in Taranaki
Representativeness	Low	LENZ environments not threatened
Ecological context	High	Ecologically unique in terms of the site representing the distributional limits of several species, including hybrids between black and hard beech. Kohekohe forest on colluvial slopes uncommon in North Taranaki  Adjoins and is interconnected with Miro, and Moki Scenic Reserves and Waiwhekeho 1 and Waiwhekeho 2 sites
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management it can remain resilient to existing or potential threats



## Management threats and response

Potential and actual threats to the sustainability of Moki Scenic Reserve's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium	Possums, goats, cats, mustelids, rats, and stock
Weeds	Low-medium	No known
Habitat modification	Low	Some past logging in parts

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Public Conservation Estate (Scenic Reserve)
<b>B</b> Regulatory protection by local government	Yes	General regional or district rules might also apply
<b>C</b> Active protection	No	



## Moumahaki Lakes and catchment

### At a glance (last updated: February 2006)

<b>TRC reference:</b>	0905-0	<b>Ecological district:</b>	Matemateaonga
<b>Other reference:</b>	STDC SNA 24	<b>LENZ environment:</b>	F1.3b (295.3 ha) F5.2c (2.0 ha) F7.1b (2.0 ha) F7.2a (7.2 ha)
<b>Land tenure:</b>	Crown and private	<b>Protection status:</b>	A, B
<b>GPS:</b>	1. 2654711E – 6170704N 2. 2655000E – 6169000N 3. 2655000E – 6169000N 4. 265232E – 6168332N	<b>Area:</b>	306.5 ha

### Location

The Moumahaki Lakes (and catchment) are located 12 km north-east of Waverley. The lake beds are Crown owned land with the remainder of the catchment being privately owned. The catchment lies in the Matemateaonga Ecological District.

### General description

The Moumahaki Lakes (and catchment) comprises of four fragmented but nearby sites (combined area of 306.5 ha). The area includes a series of five small but deep lakes on the Moumahaki Stream (combined surface area of 20.7 ha). The lakes were formed by separate slump events.

The lakes are surrounded by steep hills and are part of a wider forested catchment. The catchments are significant as rare examples of uninterrupted vegetation sequence from wetland to dry ridge forest.

### Ecological features

#### Vegetation

Tawa (*Beilschmiedia tawa*) is the most common forest type on the slopes above the lakes. However, other canopy species present include rimu (*Dacrydium cupressinum*), totara (*Podocarpus totara*), miro (*Prumnopitys ferruginea*), matai (*Prumnopitys taxifolia*), hinau (*Elaeocarpus dentatus*), rewarewa (*Knightia excelsa*), and pukatea (*Laurelia novae-zelandiae*). Puka (*Griselinia lucida*) is a well established epiphyte in the canopy. The

dense understorey contains kanono (*Coprosma grandifolia*), shining karamu (*Coprosma lucida*) and other *Coprosma* species, kawakawa (*Macropiper excelsum*), hangehange (*Geniostoma rupestre* var. *ligustrifolium*), rangiora (*Brachyglottis repanda*), pate (*Schefflera digitata*), and shrub daisy (*Olearia townsonii*), which is near its southern distribution limit here.

The black beech (*Nothofagus solandri*) dominated forest occurs on the drier ridges and spurs and the flat area on the west of the northern lake. Other trees present in the canopy include a few hinau and totara. The understorey consists mainly of heketara (*Olearia rani* var. *colorata*), mingimingi, *Coprosma rhamnoides* and *Helichrysum aggregatum*.

The lake margins comprise of raupo (*Typha orientalis*), rautahi sedge (*Carex lessoniana*), toetoe (*Cortaderia fulvida*), manuka (*Leptospermum scoparium*), giant umbrella sedge (*Cyperus ustulatus*), wheki, and *Carex secta*. Kiekie (*Freycinetia baueriana* subsp. *banksii*), native passionfruit (*Passiflora tetrandra*), and bush lawyer (*Rubus cissoides* and *R. schmidelioides*) are present in forested areas near the lakes. Both *Dracophyllum strictum*, and snowberry (*Gaultheria oppositifolia*), which are at or near their southern distribution limits, have been recorded nearby and are also likely to be present.

#### Fauna

The Moumahaki catchment contains the New Zealand falcon (*Falco novaeseelandiae*), which is identified as 'Acutely Threatened (Nationally Vulnerable)'. Also present are the 'At Risk (Sparse)' fernbird (*Bowdleria punctata vealeae*) and spotless crane (*Porzana tabuensis plumbea*). Fernbird and spotless crane are particularly uncommon in Taranaki.

Other notable bird species in the area are the North Island robin (*Petroica australis longipes*), and North Island brown kiwi (*Apteryx australis mantelli*), which are identified as 'Chronically Threatened (Serious Decline)' nationally. Grey teal (*Anas gracilis*) are also present in and around the lakes.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Acutely Threatened' New Zealand falcon and the regionally uncommon and 'At Risk' fernbird and spotless crane. Also at or near the southern distribution limits for the plants <i>Dracophyllum strictum</i> and <i>Gaultheria oppositifolia</i> (which are suspected to be in the area)
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2c) and 'At Risk' (F7.1b, F7.2a) LENZ environments

Ecological context	High	The remnant areas are interconnected with each other and provide core habitat for threatened species. They are a rare example of an uninterrupted vegetation sequence from wetland to dry ridge forest
Sustainability	Positive	A significantly large area in good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Other values

Moumahaki Lakes (and catchments) have high scenic value and are used for recreational duck shooting.

### Management threats and response

Potential and actual threats to the sustainability of the Moumahaki Lakes and Catchment's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, goats,pigs, cats, mustelids, hedgehogs, and rats
Weeds	Low	
Habitat modification	Medium	Unfenced - large parts of the lake and bush margins are accessible to livestock

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	<b>In part:</b> Lake beds are Crown owned and the wetlands are protected by Conservation Covenant
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply <ul style="list-style-type: none"> <li>- Taranaki Regional Council rules for wetlands (refer Appendix III of the Regional Fresh Water Plan)</li> <li>- South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan)</li> </ul> General regional or district rules might also apply
<b>C</b> Active protection	No	





## Mudfish 1 (Eltham)

At a glance (last updated: February 2006)			
TRC reference:	1010-0	Ecological district:	Egmont
Other reference:	STDC SNA 13	LENZ environment:	C1.1a (1.5 ha) F5.2a (0.3 ha)
Land tenure:	Private	Protection status:	A, B, C
GPS:	2626888E – 6196269N	Area:	1.8 ha

### Location

The Mudfish 1 (Eltham) wetland is located on privately owned land, 8 km east of Eltham. The site lies in the Egmont Ecological District.

### General description

The 1.8 ha wetland is a remnant of the Eltham Peat Swamp (which once covered approximately 1,200 ha but has now largely been drained and used as dairy farmland). The lower half of the wetland has pools of water under a forest canopy while the upper half has good vegetative cover among flax and raupo. Little open water remains in the summer months, which is the preferred habitat for the threatened brown mudfish.



## Ecological features

### Vegetation

The wetland is made up of two different vegetation types. On one side of the wetland, harakeke/ flax (*Phormium tenax*) and raupo (*Typha orientalis*) dominate, while the other side consists mainly of regenerating forest with trees such as pukatea (*Laurelia novaezelandiae*) and swamp maire (*Syzygium maire*).

### Fauna

The wetland contains some notable fauna. The wetland contains an abundant population of the 'Chronically Threatened (Gradual decline)' brown mudfish (*Neochanna apoda*). The last Department of Conservation survey (August 2002) identified a population of 23 individual brown mudfish, which makes it one of the most significant known populations of this fish in the Taranaki region.

The wetland is also believed to contain other notable fauna such as gold striped geckos (*Hoplodactylus chrysosireticus*), spotless crake (*Porzana tabuensis plumbea*), and striped skinks.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains a regionally significant and distinctive population of the 'Chronically Threatened' brown mudfish
Representativeness	High	Contains a small examples of indigenous vegetation on 'Acutely Threatened' (F5.2a) and 'Chronically Threatened' (C1.1a) LENZ environments
Ecological context	High	Provides core habitat for brown mudfish
Sustainability	Positive	In relatively good vegetative condition despite edge effects. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

## Other values

The Mudfish 1 (Eltham) wetland also has scientific value in that it is used by the Department of Conservation for research and monitoring of the threatened brown mudfish.

## Management threats and response

Potential and actual threats to the sustainability of the Mudfish 1 (Eltham) wetland's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low	Possums, cats, mustelids, and rats
Weeds	Low	Willows
Habitat modification	Low	Formally protected and fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	Yes	Taranaki Regional Council Memorandum of Encumbrance (with both land owners)
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix III of the Regional Fresh Water Plan) – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Fenced and planted around margins Willows controlled Taranaki Regional Council assisted predator control Self Help Possum Control Programme





## Mudfish 2

At a glance (last updated: February 2006)			
TRC reference:	1013-0	Ecological district:	Egmont
Other reference:	STDC SNA 10	LENZ environment:	F5.2c
Land tenure:	Private	Protection status:	A, B, C
GPS:	2600085E – 6183430N	Area:	1.1 ha

### Location

The Mudfish 2 wetland is located on privately owned land, 6.5 km west of Manaia. The wetland lies in the Egmont Ecological District.

### General description

The Mudfish 2 wetland covers 1.1 ha, with the Kuporaho Stream running through the centre. The site provides habitat for the nationally threatened brown mudfish.

### Ecological features

#### Vegetation

Vegetation within the wetland includes flax (*Phormium tenax*), raupo (*Typha orientalis*), and sedges (*Carex* spp). Some macrocarpa trees (*Cupressus macrocarpa*) are also present.

#### Fauna

The wetland provides habitat for the brown mudfish (*Neochanna apoda*), which has been identified as being 'Chronically Threatened (Gradual decline)'.

The last Department of Conservation survey (in 2002) failed to find any brown mudfish. However, the brown mudfish can aestivate (hibernate out of water) plus other brown mudfish have been found upstream therefore the site may be repopulated in the future.

The wetland also provides potential habitat for other notable fauna such as the Australasian bittern (*Botaurus poiciloptilus*), which has been identified as being 'Acutely Threatened (Nationally Endangered)' and spotless crane (*Porsana tabuensis plumbea*), which has been identified as 'At Risk (Sparse)'. The presence of these birds has yet to be confirmed however.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium to high	Suspected but unconfirmed populations of the 'Acutely Threatened Australasian bittern, the 'Chronically Threatened' brown mudfish and the 'At Risk' spotless crane
Representativeness	High	Contains small area of indigenous vegetation on F5.2c – an 'Acutely Threatened' LENZ environment
Ecological context	Medium	Potential core habitat for brown mudfish and other threatened fauna which may extend downstream
Sustainability	Positive	In relatively good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Other values

The Mudfish 2 wetland has scientific value in that it is used by the Department of Conservation for research and monitoring of the threatened brown mudfish.

### Management threats and response

Potential and actual threats to the sustainability of the Mudfish 2 wetland's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums, cats, mustelids, hedgehogs, and rats
Weeds	Low	Willows
Habitat modification	Low	Fenced

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b>	Yes	<b>In part:</b> Taranaki Regional Council Memorandum of Encumbrance (1 of 2 land owners)
<b>B</b>	Yes	Site specific rules apply – Taranaki Regional Council rules for wetlands (refer Appendix III of the Regional Fresh Water Plan) – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b>	Yes	Fenced Self-help Possum Control Programme



## Ngaere Peat Bog

At a glance (last updated: February 2006)			
<b>TRC reference:</b>		<b>Ecological district:</b> Egmont	
<b>Other reference:</b> STDC SNA 12 SSBI Q20/H012		<b>LENZ environment:</b> C1.1a	
<b>Land tenure:</b> Private		<b>Protection status:</b> B, C	
<b>GPS:</b> 2627700E – 6198300N		<b>Area:</b> 14.8 ha	

### Location

The Ngaere Peat Bog (Ngaere Scrub) is located on privately owned land, 6 km north-east of Eltham. The Bog lies within the Egmont Ecological District.

### General description

The Ngaere Peat Bog is significant as being one of the last remnants of Ngaere Peat Swamp. The 14.8 ha site is an ombrogenous peat bog with manuka and gorse canopy. A network of drains traverse the area. Another Key Native Ecosystem, the Ngaere Swamp Forest, is located only 500 metres to the north.

### Ecological features

#### Vegetation

The Ngaere Peat Bog contains a number of rare and uncommon plants, including bladderwort (*Utricularia novae zelandiae*), peat bog sedge (*Baumea teretifolia*), sun orchid (*Thelymitra formosa*) which are identified as nationally 'At Risk (Sparse)'. Star sedge (*Carex echinata*) is also present.

The 'Acutely Threatened (Nationally Endangered)' swamp hood orchid (*Pterostylis micromega*) was last recorded at the site in 1948.

#### Fauna

Unknown. No specific indigenous fauna species have been recorded for the Ngaere Peat Bog.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains nationally 'At Risk (Sparse)' and regionally uncommon bladderwort, peat bog sedge, sun orchid
Representativeness	High	Contains high quality example of indigenous vegetation on C1.1a – a 'Chronically Threatened' LENZ environment
Ecological context	Medium	One of the last remaining remnants of Ngaere Peat Swamp. Provides core habitat for threatened and other regionally uncommon indigenous plant species.
Sustainability	Positive	In fair vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of the Ngaere Peat Bog's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low	Possums, cats, mustelids, and rats
Weeds	Low to medium	Willow and gorse
Habitat modification	Low to medium	Sympathetic management of drains required

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Some weed control



## Ngaere Swamp Forests

At a glance (last updated: February 2006)			
TRC reference:	0932-0	Ecological district:	Egmont
Other reference:	STDC SNA 11	LENZ environment:	C1.1a (8.7 ha) F5.2a (8.5 ha)
Land tenure:	Private	Protection status:	B, C
GPS:	1. 2628233E – 6199626N 2. 2627961E – 6199147N	Area:	17.4 ha

### Location

The Ngaere Swamp Forests are located on privately owned land, 7 km north-east of Eltham in the Egmont Ecological District.

### General description

The Ngaere Swamp Forests contain five small areas of native bush and wetland that are the remnants of the once large Ngaere peat dome. The sites have a combined area of 17.4 ha and are significant as the only remaining forest on Ngaere Peat.

Dark still pools of water are scattered throughout the swamp forest floor and are home to a significant population of brown mudfish. These pools make up 30% of the total forest floor and this can increase during the winter months. Another Key Native Ecosystem, the Ngaere Peat Bog, is located only 500 metres to the south.



### Ecological features

#### Vegetation

The forest remnants in the area are predominantly tawa (*Beilschmiedia tawa*) with pukatea (*Laurelia novae zelandiae*) as a common, sometimes locally dominant, component. There are also scattered large kahikatea

(*Dacrycarpus dacrydioides*) trees and some swamp maire (*Syzygium maire*). Several of the forest remnants are drier with canopy dominant of tawa and do not contain pools of water and musfish.

The understorey consists mainly of mahoe (*Melicytus ramiflorus*), with wheki (*Dicksonia squarrosa*) and supplejack (*Ripogonum scandens*). Fern and hooked grasses, along with seedlings of pukatea, kahikatea and some pigeonwood (*Hedycarya arborea*), are also present.

#### Fauna

The Ngaere Swamp Forests support diverse indigenous fauna. Of particular note is the presence of brown mudfish (*Neochanna apoda*) in the wetland areas. The buttresses of the larger trees assist in the damming of the water and provide cover for adult fish. The fish also use the root systems of the trees for aestivating (period of inactivity) during dry periods and for laying eggs during the breeding season.

The brown mudfish, which is identified as being 'Chronically Threatened (Gradual decline)' have been found in most areas of the pool system in the bush. The population is the largest in the Wanganui Conservancy (in 2005, a Department of Conservation survey recorded a population of 142 brown mudfish).

Birdlife present in the wetlands includes New Zealand pigeon (*Hemiphaga novaeseelandiae*), which is identified as 'Chronically Threatened (Gradual Decline)', fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), and silvereve (*Zosterops lateralis*).

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	High	Contains the 'Chronically Threatened' brown mudfish and New Zealand pigeon Distinctive in terms of having the largest recorded population of brown mudfish in the region
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2a) and 'Chronically Threatened' (C1.1a) LENZ environments
Ecological context	High	Provides core habitat for brown mudfish during different stages of their lifecycle (eg, breeding and aestivating)
Sustainability	Positive	Though fragmented still in very good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats



## Other values

The Ngaere Swamp Forests also has scientific value in that the wetlands are used by the Department of Conservation for research and monitoring of the threatened brown mudfish.

## Management threats and response

Potential and actual threats to the sustainability of the Ngaere Swamp Forests' ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low	Possums, cats, mustelids, and rats
Weeds	Low	
Habitat modification	Low to medium	Smaller wetland fenced, larger wetland unfenced. Potential threat of land drainage and grazing (see photograph).

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply <ul style="list-style-type: none"> <li>- Taranaki Regional Council rules for wetlands (refer Appendix IIB of the Regional Fresh Water Plan)</li> <li>- South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan)</li> </ul> General regional or district rules might also apply
<b>C</b> Active protection	Yes	One wetland has been fenced Enhancement planting Taranaki Regional Council assisted predator control Self Help Possum Control Programme



# Ngakotana Gorge

At a glance (last updated: February 2006)			
TRC reference:		Ecological district:	Manawatu Plains
Other reference:	STDC SNA 19	LENZ environment:	C 2.1a (0.2 ha) F1.3b (213.1 ha) F5.2c (73 ha)
Land tenure:	Private	Protection status:	B
GPS:	2638000E – 6168300N	Area:	286.3 ha

## Location

Ngakotana Gorge is located on privately owned land, 5 km north-east of Kakaramea. The Gorge lies in the Manawatu Plains Ecological District.

## General description

Ngakotana Gorge covers approximately 286.3 ha and is located along the Ngakotana Stream, a tributary of the Patea River.

Ngakotana Gorge is significant as one of the best defined examples of the type of deep gully/gorge systems typical of the part of the Manawatu Plains inland from Patea. This site is part of a series of gorges and deep gullies which have cut through flat marine terraces around 180 metres above sea level. This site is also one of the few areas which contains examples of the original forest cover of the area and contains the epiphyte *Pittosporum cornifolium* which is uncommon in the Manawatu Plains Ecological District.

## Ecological features

### Vegetation

The original forest, confined largely to parts of the faces that rise to the north-east of the Ngakotana Stream, is predominantly podocarp-hardwood forest. The broadleaf species include tawa (*Beilschmiedia tawa*), rewarewa (*Knightia excelsa*), kaikomako (*Pennantia corymbosa*), ngaio (*Mycoprum laetum*), lancewood (*Pseudopanax crassifolium*), mahoe (*Meliclytus ramiflorus*), pigeonwood (*Hedycarya arborea*) and karaka (*Corynocarpus laevigatus*). The podocarp species include rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*), totara (*Podocarpus totara*), matai (*Prumnopitys taxifolia*), and miro (*Prumnopitys ferruginea*).

Less common canopy species include pukatea (*Laurelia novaezealandiae*), ramarama (*Lophomyrtus bullata*), black maire (*Nestegis cunninghamii*), black beech (*Nothofagus solandri*), nikau (*Rhopalostylis sapida*), mamaku (*Cyathea medullaris*), and gully tree fern (*Cyathea cunninghamii*). Miro and black beech both have restricted distributions in the Manawatu Plains Ecological District.

The understorey consists of kiekie (*Freycinetia baueriana* subsp. *banksii*), supplejack (*Ripogonum scandens*) as well as shrubs and small trees such as hangehange (*Geniostoma rupestre* var. *ligustrifolium*), kawakawa (*Macropiper excelsum*) and mapou (*Myrsine australis*). Several saplings of canopy species are also present, including mahoe, pigeonwood, lancewood and ramarama.

The ground cover also includes a wide range of plants, such as parataniwha (*Elatostema rugosum*), turutu (*Dianella nigra*), Hairy buttercup (*Ranunculus reflexus*), and several common ferns. The epiphyte *Pittosporum cornifolium*, uncommon in the Manawatu Plains Ecological District, is also present.

Much of the rest of the Ngakotana Gorge has similar forest, but lacks the large podocarps. The remaining areas of the Gorge are covered in secondary scrub. Mahoe is the most common shrub species, while ngaio, lancewood, lemonwood and hangehange are also common. Pate, kaikomako, ramarama, mapou, kanono (*Coprosma grandifolia*) and mamaku are also present, as is heketara (*Olearia rani* var. *colorata*), which also has a restricted distribution in the Ecological District.

### Fauna

Unknown. No specific indigenous fauna species have been recorded for the Ngakotana Gorge.

## Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Medium	Regionally distinctive in terms of the number of regionally rare flora species ie, miro, black beech, heketara and <i>Pittosporum cornifolium</i>
Representativeness	High	Contains indigenous vegetation on F5.2c and C2.1a – both 'Acutely Threatened' LENZ environments
Ecological context	High	One of the best defined examples of the type of deep gully/gorge systems typical of the part of the Manawatu Plains inland from Patea. It is therefore interconnected with a variety of ecosystems and provides habitat for a number of regionally uncommon flora species.
Sustainability	Positive	In good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

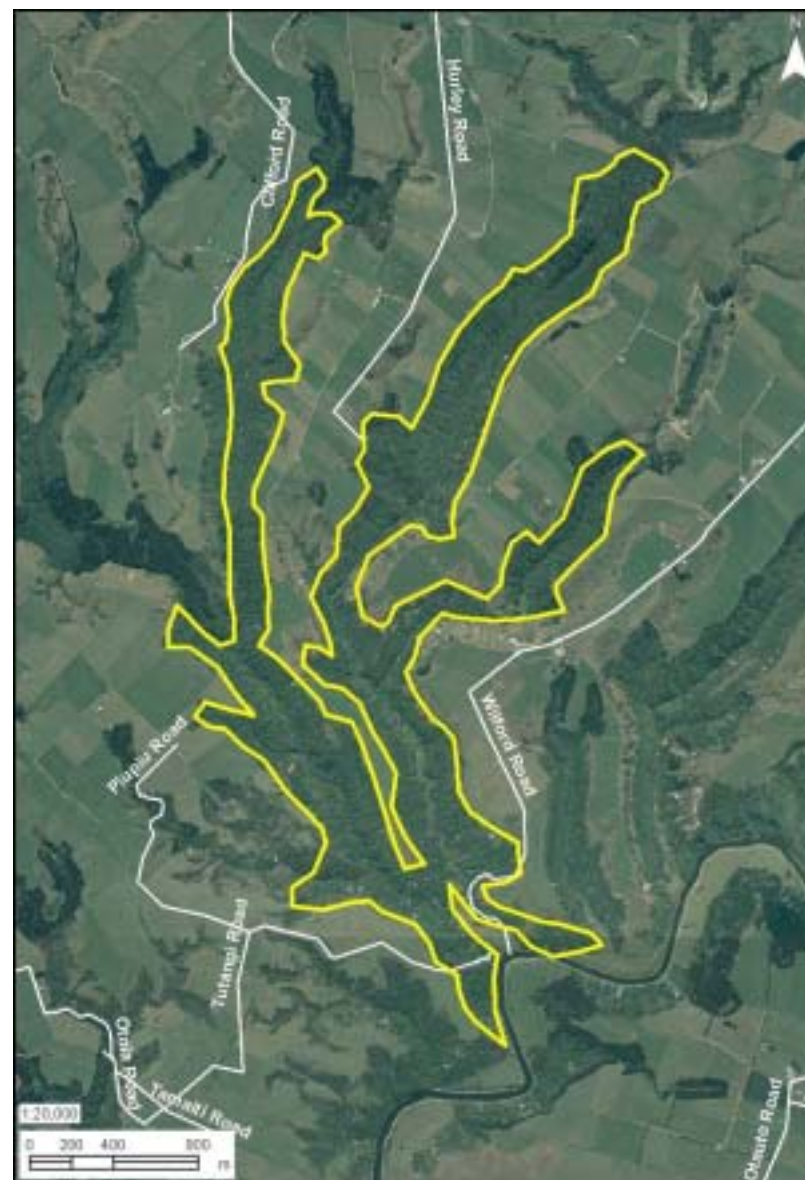
## Management threats and response

Potential and actual threats to the sustainability of Ngakotana Gorge's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Medium to high	Possums, goats, and pigs
Weeds	Medium	Pampas and wilding pines
Habitat modification	Medium	Vegetation clearance and stock grazing

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – South Taranaki District Council rules for Significant Natural Areas (refer Schedule II of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	No	



## Norfolk Road

At a glance (last updated: February 2006)			
<b>TRC reference:</b>		<b>Ecological district:</b>	Egmont
<b>Other reference:</b>	NPDC SNA 21	<b>LENZ environment:</b>	F5.2a (6.5 ha) H1.3b (0.8 ha) F7.2a (0.8 ha)
<b>Land tenure:</b>	Private	<b>Protection status:</b>	B, C
<b>GPS:</b>	2619384E – 6224491N	<b>Area:</b>	8.1 ha

### Location

The Norfolk Road site is located on privately owned land, 5.1 km south-east of Inglewood. The site lies in the Egmont Ecological District.

### General description

A small remnant of forest (8.1 ha) nevertheless the Norfolk Road site is one of the larger and better remnants of lowland tawa forest on the ring plain. The area has been fenced for a considerable length of time and so is in excellent condition.

### Ecological features

#### Vegetation

Tawa (*Beilschmiedia tawa*) is the dominant canopy species on the steep slopes with pukatea (*Laurelia novaezelandiae*) becoming increasingly frequent on the lower slopes and fluve.

#### Fauna

Unknown. No specific indigenous fauna species have been recorded for the Norfolk Road site.

### Ecological values

Ecological values	Rank	Comment
Rarity and distinctiveness	Low	Not known to contain any 'Acutely Threatened' species or species uncommon in Taranaki
Representativeness	High	Contains indigenous vegetation on 'Acutely Threatened' (F5.2a, H1.3b) and 'At Risk' (F7.2a) LENZ environments
Ecological context	Low	Nearest small forest remnants several kms away
Sustainability	Positive	In very good vegetative condition. Key ecological processes still influence the site. Under appropriate management, it can remain resilient to existing or potential threats

### Management threats and response

Potential and actual threats to the sustainability of Norfolk Road site's ecological values are as follows:

Threats to ecological values	Level of risk	Comment
Pest animals	Low to medium	Possums, goats, and pigs
Weeds	Low	
Habitat modification	Low	

Site protection measures addressing potential threats and actual threats are as follows:

Site protection	Yes/No	Description
<b>A</b> Public ownership or formal agreement	No	
<b>B</b> Regulatory protection by local government	Yes	Site specific rules apply – New Plymouth District Council rules for Significant Natural Areas (refer Appendix 21 of the District Plan) General regional or district rules might also apply
<b>C</b> Active protection	Yes	Fenced Self-help Possum Control Programme



