# **OPARERA STREAM**

Survey no. O04/091

Survey date August 1994

Grid reference O04 526 866

Area 23.1 ha

Altitude sea level-100 m asl

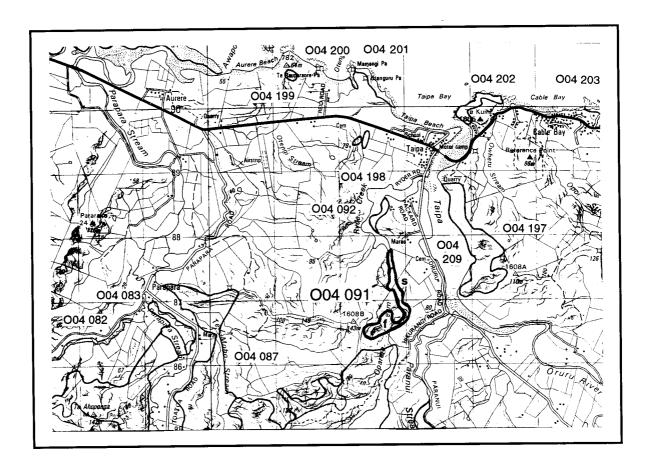
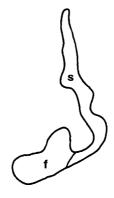


Figure 181. Oparera Stream, O04 091 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.



## Ecological unit

- (a) Kanuka shrubland on hillslope
- (b) Secondary totara-kanuka forest on hillslope
- (c) Manuka shrubland on stream margin

## Landform/geology

Motatau Complex calcareous mudstone and sandstone hill country.

### Vegetation

Type (a) Kanuka shrubland. Most of the area consists of kanuka up to 6 m with frequent totara and occasional kauri, tanekaha, cabbage tree and rimu.

Type (b) Secondary totara-kanuka forest. One-third of the area comprises totara-kanuka with towai and taraire. Associated species are kahikatea, rewarewa, puriri, cabbage tree, tanekaha, lacebark, toru, lancewood and mamangi.

Type (c) Manuka shrubland. This area is linked to Ryders Creek (O04/092) by a narrow intermittent strip of 2-3 m high manuka with the twining vine *Cassytha*.

#### Fauna

Not surveyed.

## Significance

Part of the Oparera Stream catchment and a partial linkage from the estuary at Ryders Creek (O04/092) to Hikurangi (O04/090) and Kaurinui (O04/088).

## TAYLOR (BLUE GORGE)

Survey no. O04/096

Survey date 26 August 1994 Grid reference 004 520 790

Area 27.2 ha

Altitude 140-280 m asl

### Ecological unit

- (a) Taraire forest on steep hillslope
- (b) Mamaku-pampas shrubland on steep hillslope
- (c) Manuka shrubland on steep hillslope

## Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone lithofacies.

### Vegetation

Type (a) Taraire forest. Mostly taraire-dominant with kohekohe, puriri and nikau. Other species present are totara, rewarewa, rimu, northern rata, pukatea, kahikatea, towai, karaka and tree ferns.

Type (b) Mamaku-pampas shrubland. On an old slip site is mamaku with pampas and pate and there is some low manuka on the margins.

Type (c) Manuka shrubland. The adjoining hillside on the northwest side is scattered with manuka and the occasional towai and kahikatea. The area is very steep and, at the time of survey, heavily browsed (goats) with a discontinuous

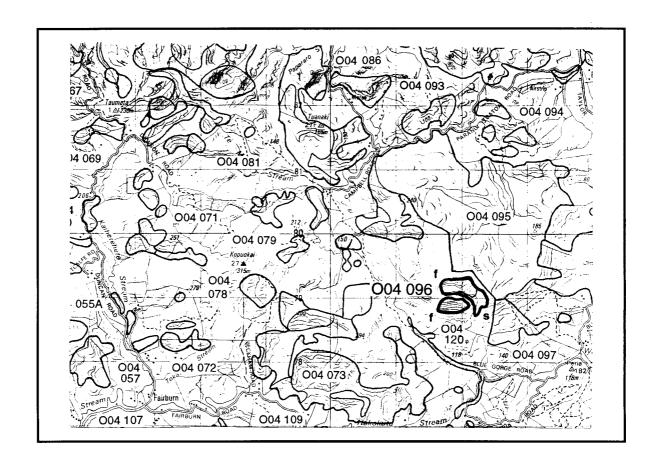
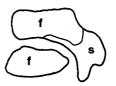


Figure 182. Taylor (Blue Gorge), O04 096 Each grid is 1000 m  $\times$  1000 m and equals 100 ha. f = forest; s = shrubland.



canopy. It is almost contiguous with the Paranui Scenic Reserve (O04/096) and Olsen (O04/097).

## Fauna

Not surveyed but presence of NI brown kiwi (Category A threatened species) likely as present in adjacent area.

# Significance

Catchment protection and likely habitat for kiwi.

# **TAYLOR RD**

Survey no. O04/102

Survey date 5 August 1994 Grid reference 004 545 816

Area 4 ha

Altitude 30-70 m asl

# Ecological unit

- (a) Puriri-kanuka forest on hillslope
- (b) Secondary kahikatea forest on alluvium

# Landform/geology

Hill country of Motatau Complex calcareous mudstone.

## Vegetation

A puriri-kanuka remnant with kahikatea and occasional rimu, totara and tree fern. The canopy is discontinuous.

There is also a small stand of kahikatea with occasional puriri and totara.

#### Fauna

Not surveyed.

# Significance

Food source for NZ pigeon. Kahikatea and puriri stands are uncommon in this Ecological District.

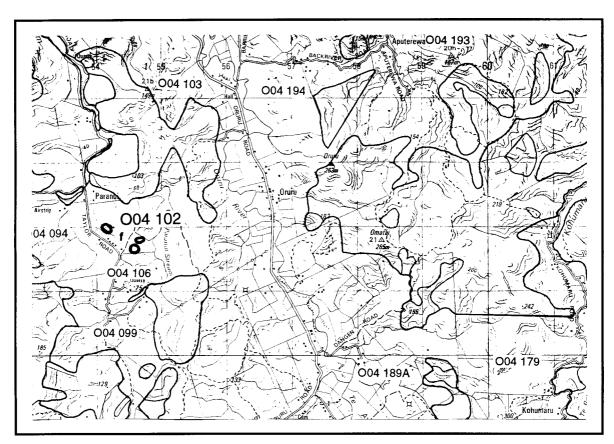


Figure 183. Taylor Road, O04 102

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest.

# WELLS RD WEST/FAIRBURN RD

Survey no. O04/109

Survey date 16 August 1994 Grid reference 004 494 766

Area 4.3 ha

Altitude 60-100 m asl

# Ecological unit

- (a) Taraire-totara forest on hillslope
- (b) Kanuka-manuka shrubland on hillslope

# Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

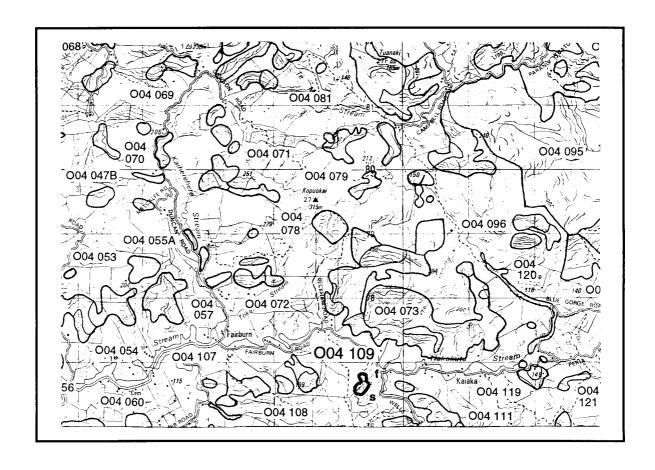


Figure 184. Wells Road West/Fairburn Road, O04 109 Each grid is 1000 m  $\times$  1000 m and equals 100 ha. f = forest; s = shrubland.



### Vegetation

About half of this area is taraire-totara with towai and kanuka. Nikau, puriri, rimu and kahikatea also occur.

The remaining half is kanuka with occasional totara, kahikatea and pine.

#### Fauna

NI brown kiwi (Category A threatened species).

## Significance

Remnant providing habitat for kiwi, although limited by small size. Also a potential source of food for NZ pigeon.

## **WELLS STREAM #2**

Survey no. 004/117

Survey date 12 September 1994

Grid reference O04 525 747

Area 5.6 ha

Altitude 80-120 m asl

## Ecological unit

- (a) Secondary kahikatea forest on hillslope
- (b) Secondary totara forest on hillslope
- (c) Towai-totara forest on hillslope
- (d) Manuka-kanuka shrubland on hillslope

### Landform/geology

Hill country of Mangakahia Complex sandstone and siliceous mudstone with Holocene alluvial flats along the valley of Wells Stream.

#### Vegetation

A series of small podocarp remnants, three of which are kahikatea-dominant.

Type (a) Secondary kahikatea forest. Occurs in 30% of the northern remnant, in the central remnant (with occasional totara and puriri), and in the southern remnant, with occasional totara.

Type (b) Secondary totara forest. Comprises 70% of the northern remnant with frequent kahikatea.

Type (c) Towai-totara forest. West of Jacentho Rd is a small towai-totara remnant with occasional kahikatea.

Type (d) Manuka-kanuka shrubland. Also west of Jacentho Rd. Tall manuka-kanuka shrubland with occasional totara and towai.

### Fauna

Not surveyed.

## Significance

Podocarp forest is an uncommon vegetation type in this Ecological District.

These remnants are a potential food source for NZ pigeon.

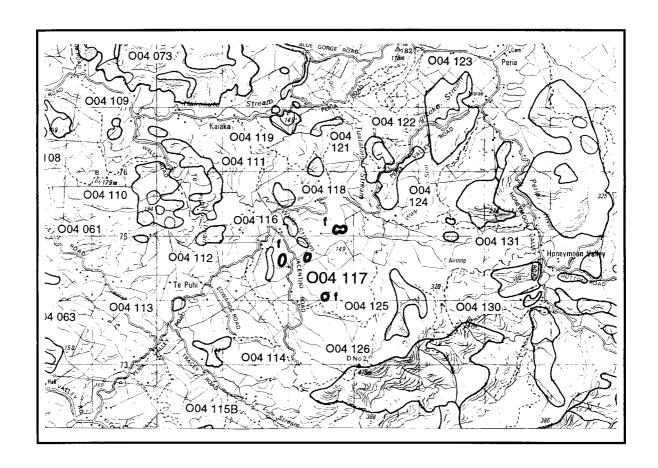
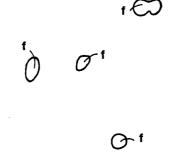


Figure 185. Wells Stream #2, O04 117 Each grid is 1000 m  $\times$  1000 m and equals 100 ha. f = forest.



# LLOYD

Survey no. O04/118
Survey date 16 August 1994
Grid reference O04 520 756
Area 11.5 ha
Altitude 80-120 m asl

# Ecological unit

- (a) Totara-taraire forest on hillslope
- (b) Secondary kahikatea-totara forest on hillslope

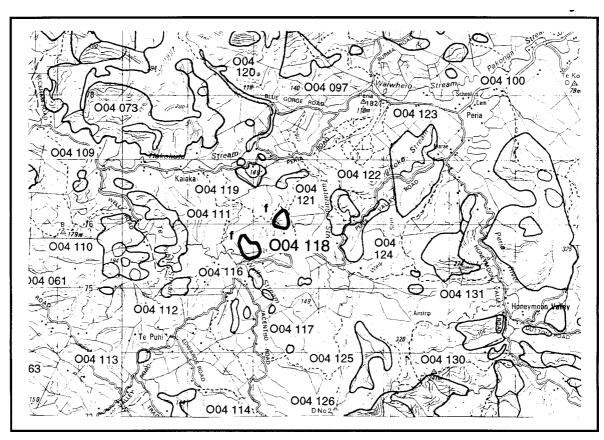


Figure 186. Lloyd, O04 118

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest.

- (c) Secondary kahikatea-nikau forest on hillslope
- (d) Taraire forest on hillslope

# Landform/geology

Hill country of Mangakahia Complex sandstone and siliceous mudstone.

### Vegetation

This area consists of two sites:

The first, on the banks of the Wells Stream, is tall totara-taraire forest (Type (a)) with kahikatea and towai. Also present are pukatea, puriri, kohekohe, titoki, nikau, kawaka, cabbage tree and mamaku and emergent kauri, rimu and northern rata. About 10% of this site is kahikatea-totara (type (b)), with abundant nikau, and 10% is Type (c).

The other area has been recently logged. It is taraire dominant (Type (d)) with kahikatea. Also present are puriri, pukatea, rimu, rewarewa and totara.

Significant flora

Kawaka - notable in the Ecological District.

#### Fauna

Not surveyed.

# Significance

The first area is diverse, although small and unfenced.

# **BLUE GORGE**

Survey no. 004/119

Survey date 16 August 1994 Grid reference 004 520 768

Area 13.8 ha
Altitude 80-150 m asl

# Ecological unit

(a) Secondary totara-towai forest on hillslope

(b) Taraire-kahikatea-nikau forest on hillslope

(c) Manuka-kanuka shrubland on hillslope

(d) Secondary kahikatea forest on hillslope

(e) Towai-taraire forest on hillslope

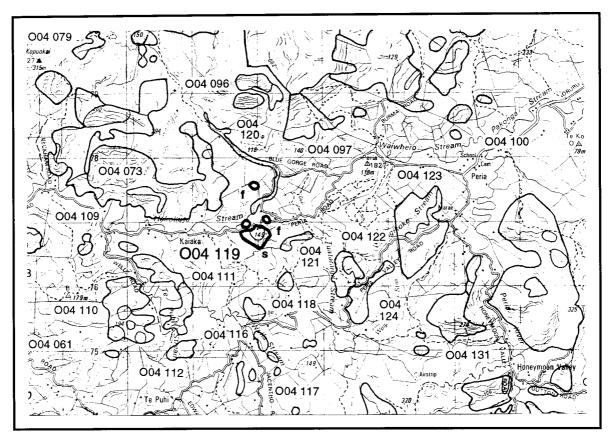


Figure 187. Blue Gorge, O04 119 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.





## Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

### Vegetation

Type (a) Secondary totara-towai forest. Comprises the main site, with frequent kahikatea and bracken. Other species present are kanuka, taraire, rewarewa, cabbage tree, mamaku, hangehange and gorse.

Type (b) Kahikatea-nikau-taraire forest. About 10% of the area, with frequent puriri.

Type (c) Manuka-kanuka shrubland. Tall vegetation with puriri, towai, totara, titoki, towai and kohekohe.

Type (d) Secondary kahikatea forest. Across the road are two small stands containing pukatea and kauri.

Type (e) Taraire-towai forest. A remnant on the edge of the Hokokutu Stream which contains tawa and mangaeo as well as other common species.

Significant flora

Mangaeo - uncommon in the Ecological District.

#### Fauna

Not surveyed.

## Significance

Food source for NZ pigeon.

Podocarp stands are a much reduced vegetation type in the Ecological District and mangaeo is uncommon; however, the value of this site is limited by the size of the areas.

### TUATARANUI STREAM WETLAND

Survey no. 004/121

Survey date 16 August 1994 Grid reference 004 525 767

Area 5.4 ha
Altitude 60 m asl

## Ecological unit

(a) Raupo reedland on alluvium

(b) Constructed pond in valley bottom

### Landform/geology

Holocene alluvial flats and wetland in Tuataranui Stream Valley.

### Vegetation

About half the area is open water and the remainder raupo. Some willow and isolated kahikatea are present.

## Fauna

Not surveyed.

### Significance

Potential wildlife habitat.

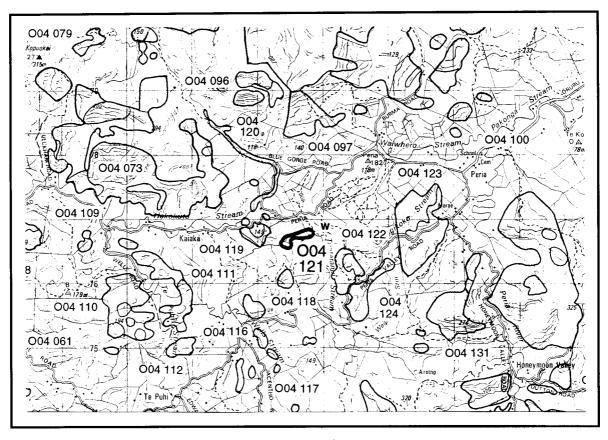


Figure 188. Tuataranui Stream Wetland, O04 121 Each grid is 1000 m x 1000 m and equals 100 ha. w = wetland.

## PERIA VALLEY RD

Survey no. 004/124

Survey date 12 September 1994

Grid reference O04 535 757

Area 19.6 ha

Altitude 80-100 m asl

# Ecological unit

- (a) Manuka-kanuka shrubland on hillslope
- (b) Towai-taraire forest on hillslope

# Landform/geology

Hill country of Mangakahia Complex sandstone and siliceous mudstone.

### Vegetation

The majority of this area consists of tall manuka-kanuka with emergent kahikatea. Cabbage tree, puriri, rimu, tanekaha, towai, mamaku and pine are also present.

About one-quarter of the area is low manuka-kanuka with gorse and occasional towai, kahikatea and mamaku.

There is a tiny remnant of towai-taraire forest (not mapped), with tanekaha, manuka and swamp maire (along the stream). Miro, puriri, kahikatea, rimu, totara and rewarewa are also present.

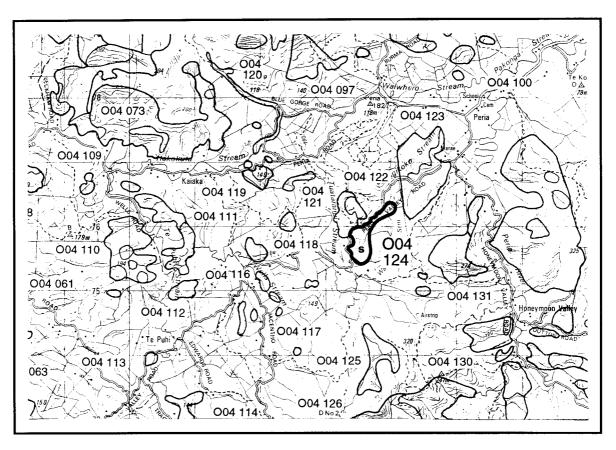


Figure 189. Peria Valley Road, O04 124

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. s = shrubland.

## Significant flora

Swamp maire - uncommon in the Ecological District.

### Fauna

NI brown kiwi (Category A threatened species) likely but not confirmed.

# Significance

Riparian buffer with presence of swamp maire (an uncommon species in this Ecological District).

# **PUHANGATOHORAKA**

Survey no. O04/135
Survey date 19 July 1994
Grid reference O04 585 770
Area 176.6 ha
Altitude 30-290 m asl

# Ecological unit

- (a) Taraire forest on hillslope
- (b) Manuka-kanuka shrubland on hillslope

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

# Vegetation

Almost three-quarters of this large area is manuka-kanuka shrubland.

On the southern side is an area consisting of about 20% of the total which is a mixture of manuka-kanuka, bracken and mistweed with some tutu, mamaku and towai.

On the north-eastern side an area of taraire with frequent puriri and occasional karaka, rimu and nikau comprises about 10% of the whole.

## Fauna

NI brown kiwi (Category A threatened species) reported.

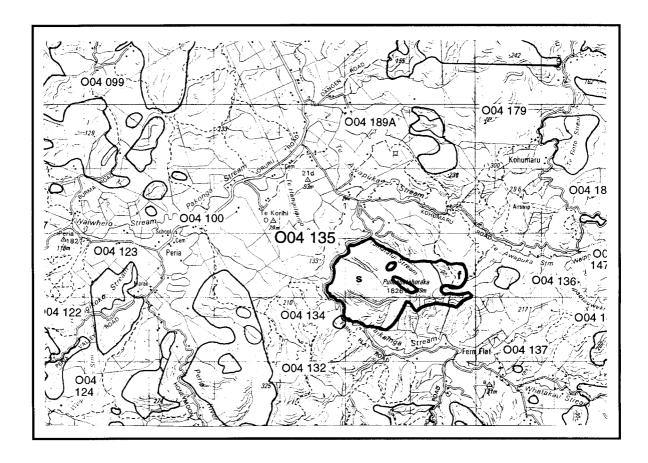
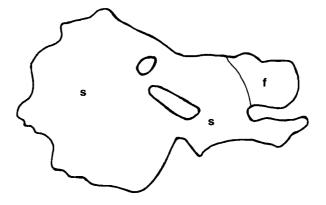


Figure 190. Puhangatohoraka, O04 135 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.



# Significance

This area is a large conspicuous feature in the landscape, and is regenerating after having been reportedly completely cleared (apart from the broadleaf forest) three times, the last occurrence being about 30 years ago.

Kiwi presence has been reported.

# TE AWAPUKA STREAM

Survey no. O04/136
Survey date 19 July 1994
Grid reference O04 604 773
Area 7.9 ha

Altitude 100-160 m asl

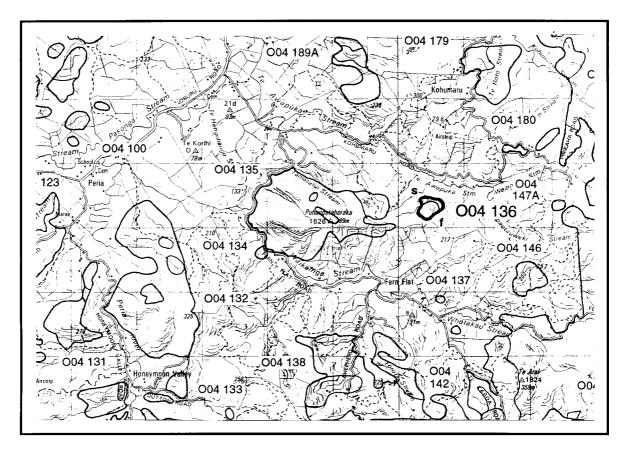


Figure 191. Te Awapuka Stream, O04 136 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.



# Ecological unit

(a) Taraire forest on hillslope

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

## Vegetation

A taraire-dominant remnant with frequent rewarewa and occasional rimu, totara, karaka and northern rata.

#### Fauna

Not surveyed.

# Significance

Potential source of fruit for NZ pigeon. Close to Puhangatohoraka (O04/135).

# WHATAKAU STREAM

Survey no. 004/137

Survey date 28 October 1994

Grid reference O04 608 754

Area 2.3 ha

Altitude 80-120 m asl

## Ecological unit

- (a) Puriri-taraire forest on hillslope
- (b) Taraire-towai forest on hillslope

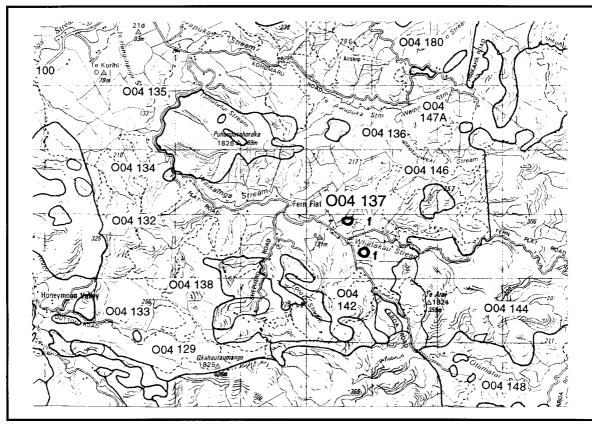


Figure 192. Whatakau Stream, O04 137

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest.

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

## Vegetation

The remnant in Te Karoa Rd is puriri-taraire forest with frequent totara and occasional towai, rimu, kahikatea, pukatea, rewarewa and mamaku.

The Fern Flat Rd remnant is towai-taraire forest with occasional totara, puriri, nikau and mamaku.

### Fauna

Not surveyed.

# Significance

Potential source of fruit for NZ pigeon; also water and soil protection above watercourses.

# PIRIHAKA RD

Survey no. O04/147A
Survey date 19 July 1994
Grid reference O04 625 774

Area 2.4 ha

Altitude 200-220 m asl

# Ecological unit

(a) Taraire-kahikatea forest on hillslope

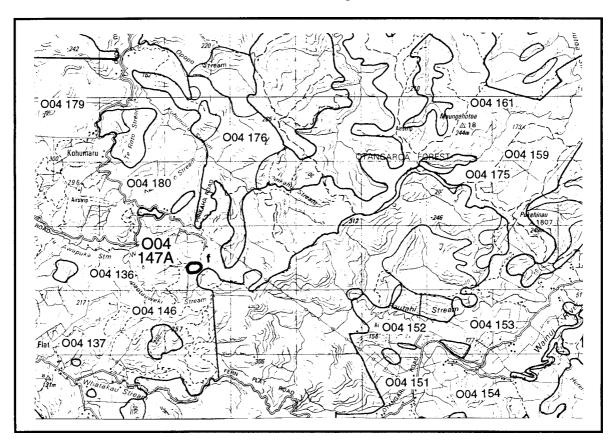


Figure 193. Pirihaka Road, O04 147A Each grid is 1000 m × 1000 m and equals 100 ha. f = forest.

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

### Vegetation

A taraire-kahikatea remnant with frequent rewarewa and occasional rimu, totara, kauri and puriri. It is almost contiguous with Te Karoa (O04/144) but is in a different catchment.

#### Fauna

Not surveyed.

# Significance

Potential food source for NZ pigeon.

### **OTAMATAI STREAM**

Survey no. 004/148

Survey date 24 November 1994

Grid reference O04 624 738

Area 5 ha

Altitude 120-140 m asl

### Ecological unit

- (a) Raupo reedland on alluvium
- (b) Secondary kahikatea forest on gentle hillslope
- (c) Towai-taraire forest on hillslope

### Landform/geology

Ridge of Mangakahia Complex sandstone and wetland in the valley of Otamatai Stream.

# Vegetation

Type (a) Raupo reedland. A somewhat modified raupo wetland with kahikatea on the margins.

To the south are 2 remnants:

Type (b) Secondary kahikatea forest. A stand of secondary kahikatea up to 10 m tall with occasional totara.

Type (c) Taraire-towai forest. Tall forest with occasional northern rata, kahikatea, puriri, totara, rewarewa, pukatea, rimu and nikau. It is stock free and has a good understorey.

#### Fauna

NI brown kiwi (Category A threatened species) likely but not confirmed.

## Significance

The broadleaf remnant is in good condition, the kahikatea stand is of a type not common in the Ecological District, and the wetland is an example of a diminishing habitat type.

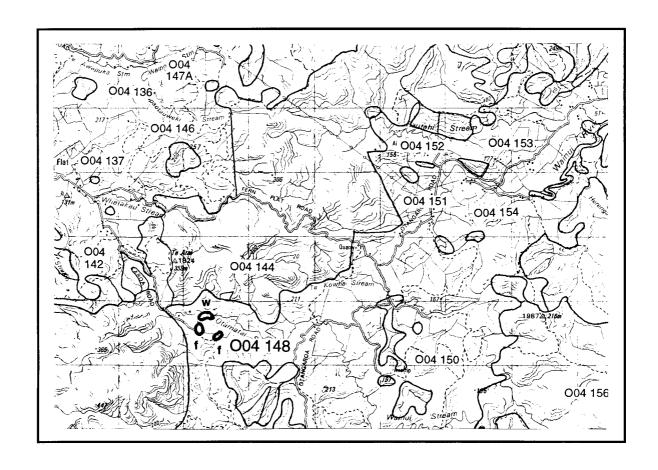


Figure 194. Otamatai Stream, O04 148 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; w = wetland.



# AIRSTRIP RD REMNANT

Survey no. O04/151
Survey date 18 July 1994
Grid reference O04 655 760
Area 4.3 ha
Altitude 70-100 m asl

# Ecological unit

(a) Taraire forest on hillslope

# Landform/geology

Valley in Mangakahia Complex sandstone hill country.

# Vegetation

Taraire-dominant with frequent rewarewa and totara. Pukatea, kauri, puriri, kahikatea, northern rata, emergent rimu and nikau are scattered throughout.

#### Fauna

Not surveyed.

# Significance

Potential source of fruit for NZ pigeon.

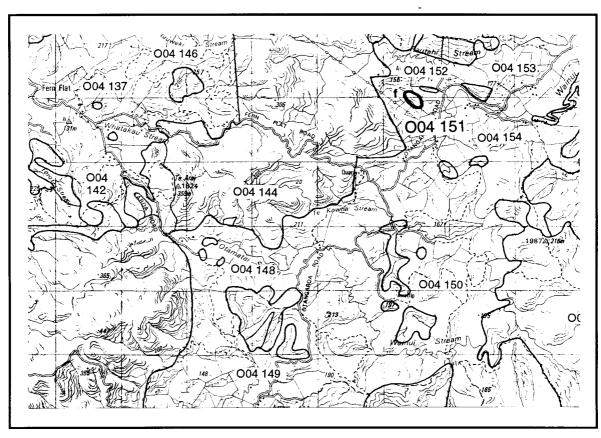


Figure 195. Airstrip Road Remnant, O04 151
Each grid is 1000 m × 1000 m and equals 100 ha. f = forest.

# AIRSTRIP RD SWAMP

Survey no. O04/152
Survey date 18 July 1994
Grid reference O04 657 762
Area 2.1 ha
Altitude 70 m asl

# Ecological unit

(a) Raupo reedland in stream valley

# Landform/geology

Wetland along tributary of the Wainui River in an area of Mangakahia Complex sandstone lithofacies.

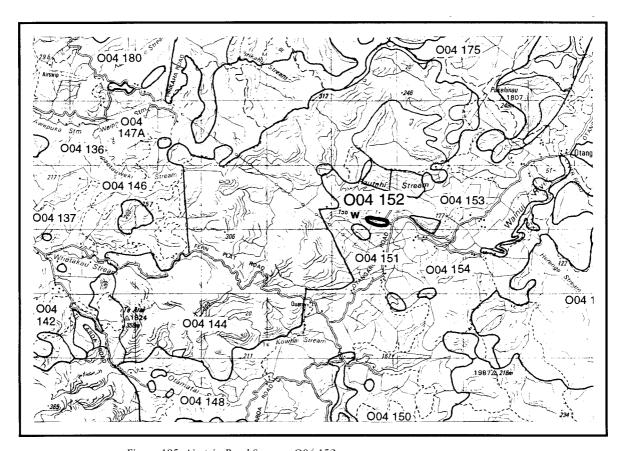


Figure 195. Airstrip Road Swamp, O04 152
Each grid is 1000 m × 1000 m and equals 100 ha. w = wetland.

# Vegetation

Raupo reedland.

## Fauna

Not surveyed.

# Significance

A small example of an uncommon habitat type.

# **OTANGAROA 177**

Survey no. O04/153
Survey date 18 July 1994
Grid reference O04 665 762
Area 6 ha
Altitude 90-177 m asl

# Ecological unit

(a) Puriri-taraire forest on steep hillslope

# Landform/geology

Hillslope on Tangihua Complex igneous rock units.

# Vegetation

A puriri-taraire remnant with frequent totara and occasional rewarewa on a steep southfacing slope.

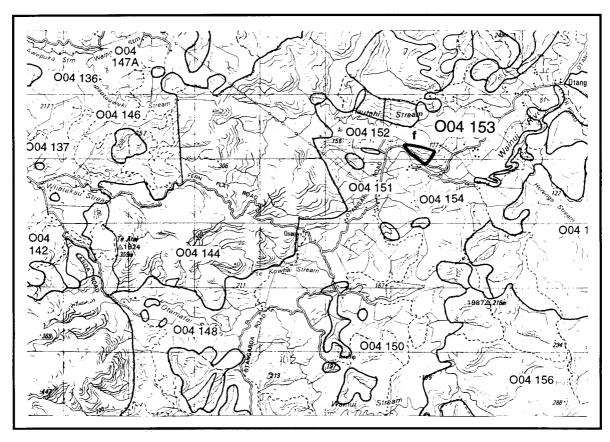


Figure 197. Otangaroa 177, O04 153

Each grid is 1000 m  $\times$  1000 m and equals 100 ha. f = forest.

### Fauna

Not surveyed.

# Significance

Potential source of fruit for NZ pigeon and slope stability above Wainui River.

# WAINUI RIVER

Survey no. 004/154

Survey date 15 December 1994

Grid reference O04 680 760

Area 35.8 ha
Altitude 40-80 m asl

# Ecological unit

- (a) Secondary totara forest on hillslope and alluvium
- (b) Taraire forest on hillslope
- (c) Kanuka-totara shrubland on hillslope

# Landform/geology

Holocene alluvium along the Wainui River Valley.

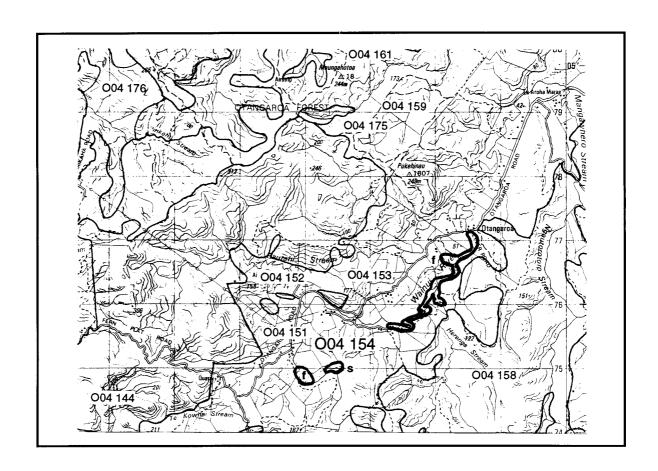
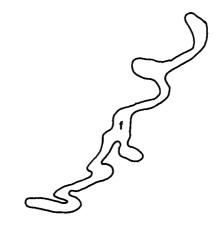


Figure 198. Wainui River, O04 154 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.





# Vegetation

Type (a) Secondary totara forest. Riparian vegetation along the riverbank consists of secondary totara forest with kanuka and occasional puriri and kahikatea. A totara-dominant remnant adjoining this also has frequent taraire.

Type (b) Taraire forest. Further upstream on the banks of a tributary is a taraire-dominant remnant with kahikatea and totara and occasional kauri, pukatea and northern rata.

Type (c) Totara-kanuka shrubland. Occurs upstream with towai and occasional kahikatea and mamaku.

#### Fauna

Banded kokopu (Category C threatened species).

## Significance

Riparian buffer on the Wainui River which is an important part of the Oruaiti River system draining from the north side of the Omahuta complex and the southern side of the Maungataniwha-Te Karoa complex, to the Mangonui Harbour, providing a corridor for freshwater fauna. The vegetation may also provide a corridor for other significant wildlife such as kiwi.

### **MAUNGAHOTOA**

 Survey no.
 O04/175

 Survey date
 13 July 1994

 Grid reference
 O04 663 789

 Area
 12.8 ha

Altitude 160-200 m asl

## Ecological unit

- (a) Towai forest in gully
- (b) Manuka-kanuka shrubland on hillslope

# Landform/geology

Valley in hill country of Tangihua Complex igneous rock units.

### Vegetation

This area is very similar to the remnants on the rest of Kohumaru Station (O04/174), in the next catchment.

Type (a) Towai forest. About 60% is towai dominant with rewarewa, taraire, totara and kanuka with emergent rimu and kauri, puriri, nikau and lacebark.

Type (b) Manuka-kanuka shrubland. On the edges is a buffer of manuka-kanuka up to 3 m tall.

#### Fauna

NI brown kiwi (Category A threatened species) likely but not confirmed.

### Significance

Protective vegetation at the head of a steep gully, and likely kiwi habitat.

## **KOHUMARU SUMMIT**

Survey no. O04/180
Survey date 19 July 1994
Grid reference O04 620 783

Area 8.7 ha
Altitude 200 m asl

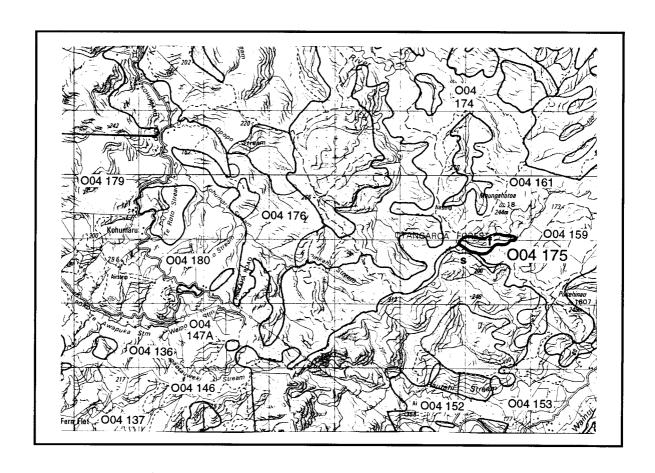
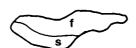


Figure 199. Maungahotoa, O04 175 Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.



# Ecological unit

- (a) Taraire-rewarewa forest on hillslope
- (b) Taraire forest on hillslope

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

# Vegetation

Two taraire-dominant remnants on either side of the road at the Kohumaru Rd summit.

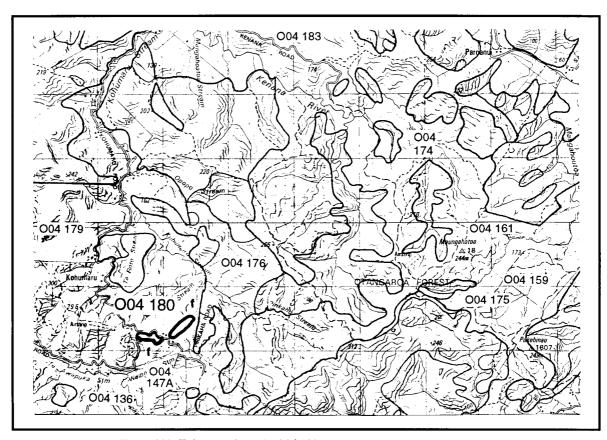


Figure 200. Kohumaru Summit, O04 180
Each grid is 1000 m × 1000 m and equals 100 ha. f = forest.

Type (a) Taraire-rewarewa forest. The north-facing remnant, almost contiguous with the larger Kohumaru habitat (O04/176). Rewarewa is common, and other species present are northern rata, totara, rimu, towai, kauri, puriri, and kanuka.

Type (b) Taraire forest. At the summit proper, puriri, nikau and rewarewa are frequent, with karaka, kohekohe, kahikatea, totara, towai, mapou and tree ferns occasional. This remnant is heavily grazed, with considerable weed presence in the understorey. Fruiting taraire were noted at the time of inspection.

### Fauna

Not surveyed, but NI brown kiwi (Category A threatened species) recorded approximately 100 m from this site in 1996.

### Significance

Food supply for NZ pigeon, and likely kiwi habitat.

### **SALEYARDS 236**

Survey no. O04/189A
Survey date 3 August 1994
Grid reference O04 595 795
Area 38.7 ha
Altitude 60-220 m asl

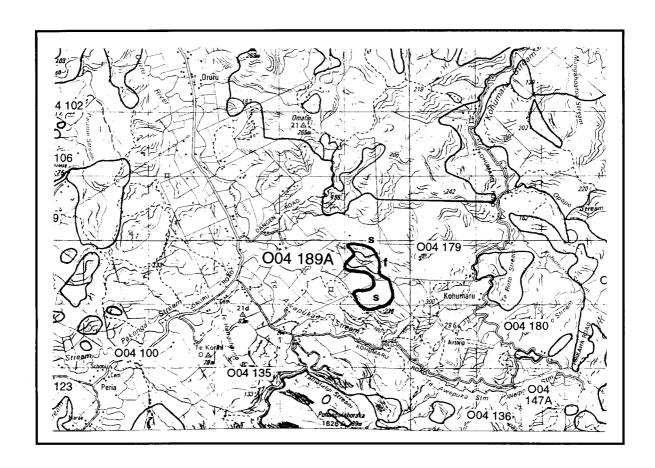
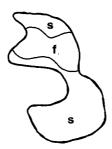


Figure 201. Saleyards 236, O04 189A Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest; s = shrubland.



# Ecological unit

- (a) Taraire forest on hillslope
- (b) Manuka-kanuka shrubland on hillslope

# Landform/geology

Hill country of Tangihua Complex igneous rock units.

## Vegetation

Type (a) Taraire forest. About one-quarter of the area is a taraire-dominant remnant with frequent puriri and occasional rewarewa, kanuka and totara.

Type (b) Manuka-kanuka shrubland. A buffer to Type (a) up to 6 m tall with occasional mamaku and cabbage tree. Below the Trig Point 238, the vegetation

is either manuka-kanuka shrubland up to  $4\,\mathrm{m}$  with frequent tree ferns or manuka-kanuka shrubland to  $6\,\mathrm{m}$  tall with frequent towai and occasional puriri, totara and tree ferns.

#### Fauna

NI brown kiwi (Category A threatened species) likely but not confirmed.

# Significance

A large area, and likely kiwi habitat.

# REID

Survey no. 004/199

Survey date 14 November 1994

Grid reference O04 513 906

Area 3 ha

Altitude 40-60 m asl

## Ecological unit

(a) Secondary kanuka forest on hillslope

# Landform/geology

Coastal hills of Tangihua Complex igneous rock units.

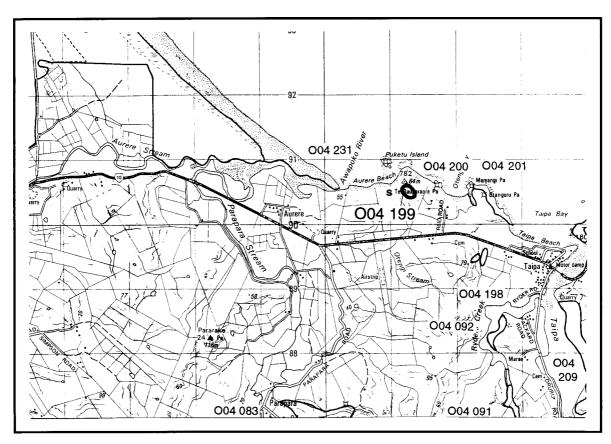


Figure 202. Reid, O04 199

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. s = shrubland.

# Vegetation

Kanuka 3-5 m tall with frequent ponga. Other species are mamangi, mapou, totara, kahikatea, rimu, towai and cabbage tree.

#### Fauna

Not surveyed.

# Significance

There is very little native vegetation in the vicinity of the coast.

# WAIHAPA QUARRY

Survey no. P04/019

Survey date 22 March 1995 Grid reference P04 725 780

Area 72 ha

Altitude 20-120 m asl

## Ecological unit

(a) Manuka shrubland on hillslope

# Landform/geology

Hill country of Mangakahia Complex siliceous mudstone with a large slip and erosion.

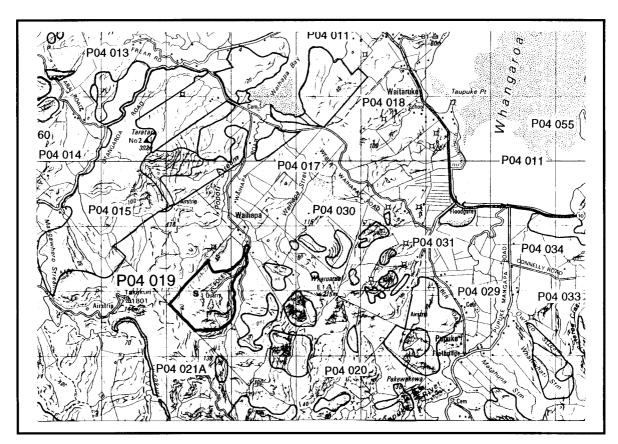


Figure 203. Waihapa Quarry, P04 019

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. s = shrubland.

#### Vegetation

A mosaic of manuka shrubland from 2 to 6 m with occasional mamaku, towai, pine, totara, rewarewa and tanekaha.

Behind the pa site is a tiny broadleaf remnant.

Along the stream, the vegetation is manuka about 2 m tall, with flax.

#### Fauna

Not surveyed.

### Significance

A large area of shrubland contiguous with exotic forest and linked to another area of native forest on Hayes Brothers' Farm (P04/020).

### KAINGAPIPIWAI

Survey no. P04/021

Survey date 14 December 1994

Grid reference P04 738 748

Area 44.8 ha

Altitude 20-100 m asl

## Ecological unit

- (a) Manuka-towai shrubland on hillslope
- (b) Towai shrubland on hillslope
- (c) Mamaku shrubland on hillslope
- (d) Manuka-kanuka shrubland on hillslope
- (e) Taraire forest on hillslope
- (f) Taraire-towai forest on hillslope

### Landform/geology

Hill country of Mangakahia Complex sandstone lithofacies.

### Vegetation

This area is 90% regenerating, at varying stages.

Type (a) Manuka-towai shrubland. Comprises most of the area and is between 3 and 6 m tall with an open canopy and occasional cabbage tree, rewarewa and mamaku.

Type (b) Towai shrubland. Taller than (a), with kahikatea, totara and rimu emerging.

Type (c) Mamaku fernland. A small area on the eastern side.

Type (d) Manuka-kanuka shrubland. Only 1-2 m tall, and contains pine and wattle.

There are two small pockets of more mature forest, one taraire-dominant Type (e), and the other towai-taraire Type (f).

### Fauna

Not surveyed but habitat suitable for kiwi.

# Significance

More than half of the area is steep and provides a riparian buffer. Linked to P04/020 through an area of pine plantation. Possibly kiwi present.

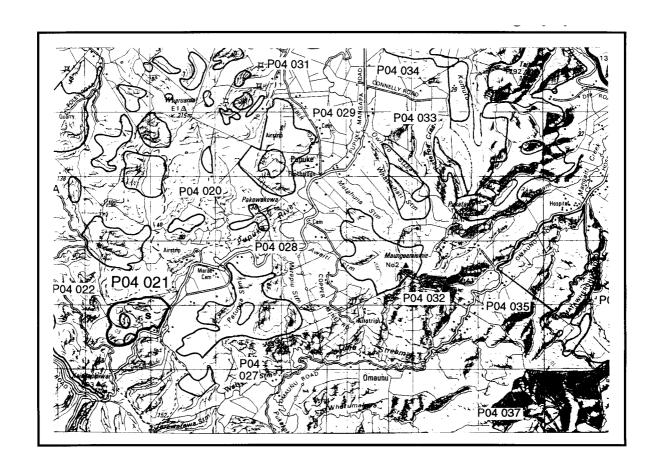
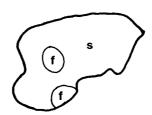


Figure 204. Kaingapipiwai, P04 021 Each grid is  $1000~\text{m} \times 1000~\text{m}$  and equals 100~ha. f = forest;~s = shrubland.



# **POPOTI STREAM**

Survey no. P04/021A

Survey date 22 March 1995

Grid reference P04 728 768

Area 4.9 ha

Altitude 60-100 m asl

# Ecological unit

(a) Taraire forest on hillslope

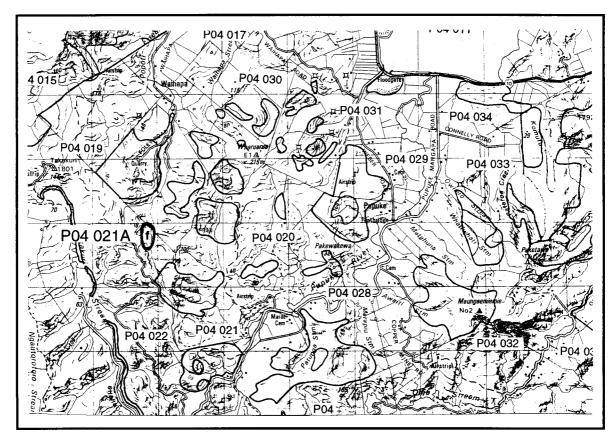


Figure 205. Popoti Stream, P04 021A

Each grid is  $1000 \text{ m} \times 1000 \text{ m}$  and equals 100 ha. f = forest.

- (b) Secondary manuka-kanuka forest on hillslope
- (c) Manuka shrubland on hillslope

# Landform/geology

Mangakahia Complex sandstone and mudstone lithofacies.

### Vegetation

Type (a) Taraire forest. Primarily a taraire-dominant broadleaf remnant with emergent northern rata, rimu, kauri, tawa and tanekaha.

Type (b) Secondary manuka-kanuka forest. On the margin, manuka-kanuka secondary forest occurs with kahikatea, totara, puriri and kauri.

Type (c) Manuka-kanuka shrubland. Adjacent there is also some manuka shrubland.

### Fauna

Not surveyed.

# Significance

Part of a larger contiguous area (see Waihapa Quarry P04/019 and Hayes Brothers' Farm P04/020) through linkage via pine plantation and a riparian buffer.

# **MARAPIU-PATUNGA**

Survey no. P04/027

Survey date 13 January 1995 Grid reference P04 755 750

Area 132 ha

Altitude 50-100m asl

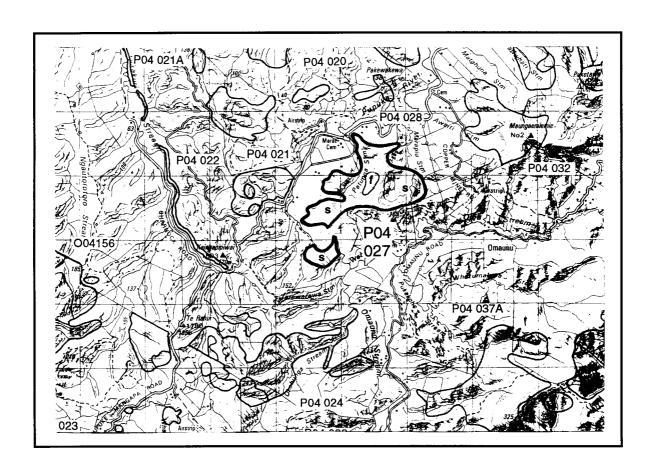
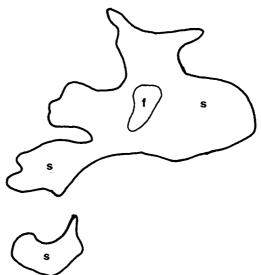


Figure 206. Marapiu-Patunga, P04 027 Each grid is 1000 m  $\times$  1000 m and equals 100 ha. f = forest; s = shrubland.



# Ecological unit

- (a) Manuka shrubland on hillslope
- (b) Secondary totara forest on hillslope
- (c) Taraire forest on hillslope
- (d) Puriri-totara forest on hillslope

# Landform/geology

Hill country of Mangakahia Complex mudstone.

## Vegetation

Type (a) Manuka shrubland. About 90% of this area is manuka shrubland up to 3 m tall with totara, mamaku, towai, gorse, puriri and pine and wattle on the margins.

Type (b) Secondary totara forest. Comprises the remainder of the site apart from the two small broadleaf-podocarp remnants in a gully (Types (c) and (d)). Kahikatea is frequent and mamaku occasional.

Type (c) Taraire forest. Puriri, kahikatea, totara, northern rata, rimu and rewarewa are present.

Type (d) Puriri-totara forest. Kahikatea is frequent, and rimu, taraire and rewarewa occasional.

The site appears to be grazed.

### Fauna

Not surveyed, but habitat suitable for kiwi.

## Significance

A large area which may be used by kiwi.