

KAURINUI

Survey no.	O04/088
Survey date	August/September 1994
Grid reference	O04 510 840
Area	283.6 ha
Altitude	40-150 m asl

Ecological unit

- (a) Taraire-kanuka forest on hillslope
- (b) Taraire-kahikatea forest on hillslope
- (c) Taraire forest on hillslope
- (d) Kanuka forest on hillslope
- (e) Manuka-kanuka shrubland on hillslope
- (f) Gorse scrub on hillslope
- (g) Secondary totara-kahikatea forest on hillslope
- (h) Puriri forest on steep hillslope
- (i) Taraire-puriri forest on steep hillslope

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone, with Holocene alluvial flats in the valley of Toatoa stream.

Vegetation

This area is about half shrubland and half secondary forest. South of Hikurangi is an extensive area of forest, with three main vegetation types:

Type (a) Taraire-kanuka forest. With totara, kahikatea and emergent kauri.

Type (b) Taraire-kahikatea forest. Taraire is abundant with kahikatea common.

Type (c) Taraire forest. With puriri, totara and kanuka. Associated species include northern rata, puriri, rewarewa, rimu, tanekaha, matai, lancewood, mamangi, towai, pukatea, hinau, karaka, nikau, tree fern and cabbage tree.

Type (d) Kanuka forest. In the south-east corner Types (a) to (c) adjoin tall kanuka in which totara and kahikatea are locally frequent, and cabbage tree and mamaku are occasionally present.

Also occurs in the upper Moho Stream valley with totara and occasional rimu, kauri, rewarewa, mamangi, tanekaha and cabbage tree.

Type (e) Manuka-kanuka shrubland. On the south-west side there is an extensive area of manuka-kanuka shrubland which forms a mosaic of different aged stands between 2 and 6 m tall. Totara, towai, cabbage tree and mamaku are either frequent or sparsely occurring. Kahikatea occurs rarely. Small areas of scrub (mainly gorse - Type (f)) as well as pockets of secondary totara-kahikatea (Type (g)) are contained within this broader area that acts as a corridor between two areas of bush.

Type (h) Puriri forest. With frequent totara, towai and nikau and occasional karaka, kohekohe and rewarewa, occurring near Toatoa Rd.

Type (i) Puriri-taraire forest. Similar to (h) above.

Also occurs in the upper Moho Stream valley, but the species occurring within it are kauri, northern rata, rimu, totara and kahikatea.

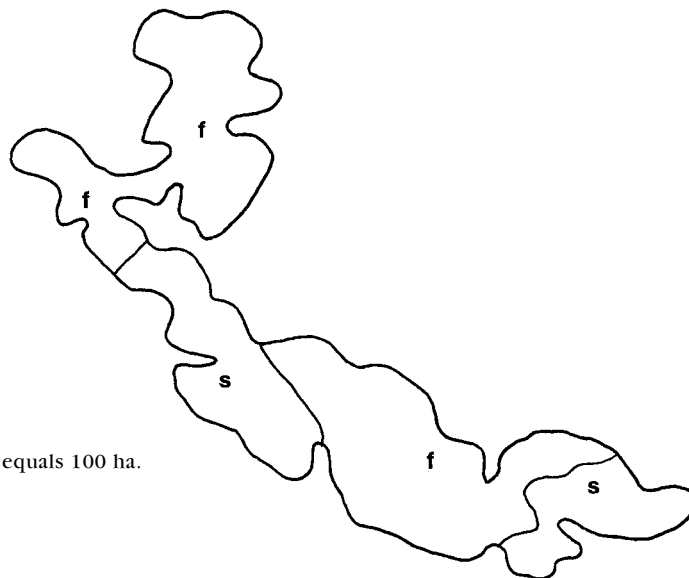
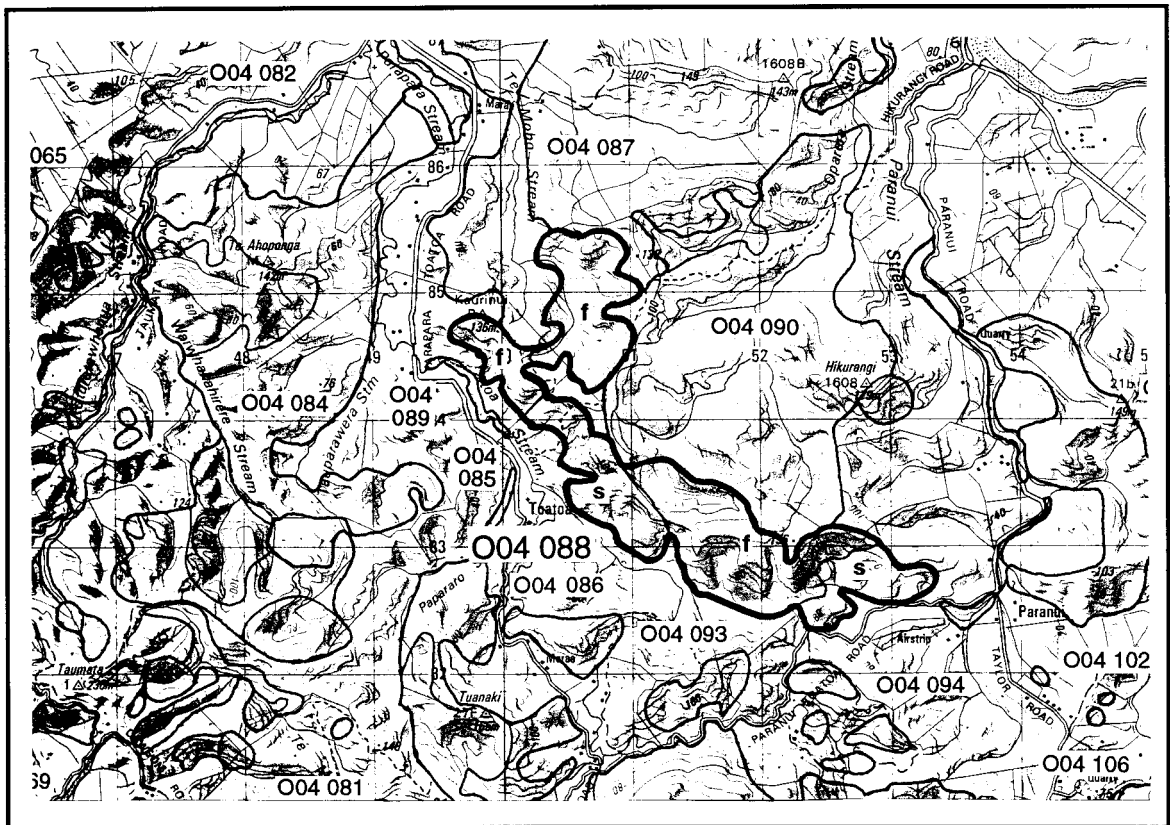


Figure 79. Kaurinui, O04 088

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.

Fauna

NI brown kiwi (Category A threatened species).

Significance

A large, contiguous area, linked to Te Moho Stream (O04/097) and Hikurangi (O04/090) and habitat for kiwi.

A representative site for taraire forest, taraire-kanuka forest and kanuka forest.

TOATOA STREAM

Survey no. O04/089
Survey date 8 August 1994
Grid reference O04 500 840
Area 8.1 ha
Altitude 0-20 m asl

Ecological unit

- (a) Manuka-kanuka forest on alluvium
- (b) Cabbage tree forest on alluvium

Landform/geology

Holocene alluvial flats in the valley with surrounding hill country of Motatau Complex calcareous mudstone and sandstone.

Vegetation

Type (a) Manuka-kanuka shrubland. Primarily manuka-kanuka with cabbage tree and occasional kahikatea.

Type (b) Cabbage tree shrubland. Comprises about 10% of the area with totara, kanuka and occasional flax and kowhai.

Fauna

Terrestrial area not surveyed; banded kokopu (Category C threatened species), red-finned bully, torrentfish, inanga, short-finned eel and koura in Toatoa Stream.

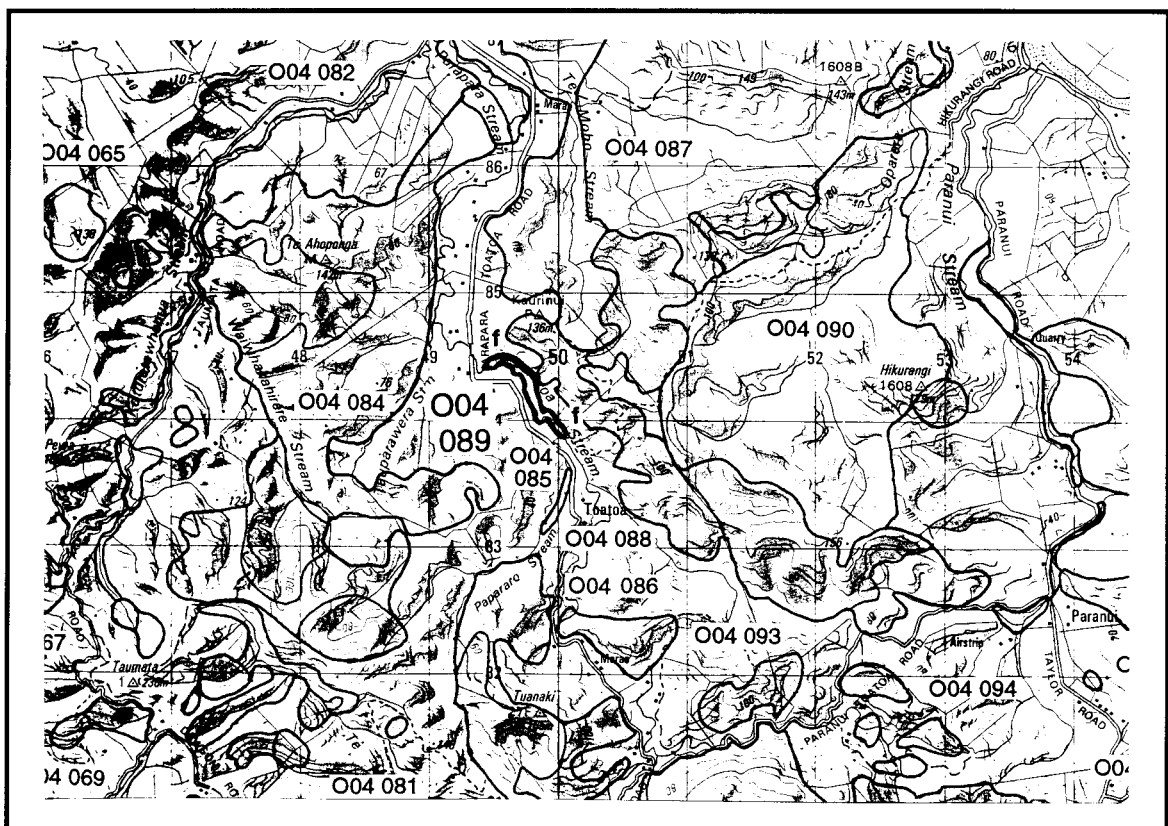


Figure 80. Toatoa Stream, O04 089

Each grid is 1000 m x 1000 m and equals 100 ha. f = forest.

Significance

A representative site for both of these riparian vegetation types; cabbage tree shrubland is an uncommon vegetation type in the Ecological District, with only four sites recorded, and this is one of the few remaining sites of manuka-kanuka on alluvium.

HIKURANGI

Survey no.	O04/090
Survey date	August 1994
Grid reference	O04 520 845
Area	450.7 ha [c. 200 ha cleared since survey]
Altitude	20-180 m asl

Ecological unit

- (a) Manuka-kanuka shrubland on gentle to moderate hillslope
- (b) Kanuka forest on hillslope
- (c) Secondary totara forest on hillslope
- (d) Taraire forest on hillslope
- (e) Puriri-totara forest on hillslope
- (f) Gorse scrub on undulating basin

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

Vegetation

More than half of this area is a central basin of reverted farmland with gorse-dominated scrub which is not of high botanical value. However, around this is indigenous vegetation in advanced stages of regeneration, and some pockets of secondary forest which are all linked by the area of scrub. Since the area was surveyed, forestry development has resulted in the removal of much of the vegetation.

Type (a) Manuka-kanuka shrubland. The regenerating shrublands are manuka-kanuka dominant, with various combinations of tree fern, cabbage tree, mamangi, towai, tanekaha, totara, kahikatea, puriri, gorse, wattle and tobacco weed.

Type (b) Kanuka forest. On the western and southern sides the regeneration is well advanced tall kanuka with towai, totara, puriri or kahikatea and tanekaha, rimu, rewarewa, cabbage tree, kauri and mamaku also occurring.

Type (c) Secondary totara forest. A small area with frequent kauri rickers and occasional puriri on the western side.

Type (d) Taraire forest. On the south-eastern flank of Mt Hikurangi there is a small area of taraire dominance with puriri.

Type (e) Puriri-totara forest. Occurs on the edge of the pine trees with taraire and kanuka. Rewarewa, kahikatea, pukatea and northern rata are also present.

Fauna

NI brown kiwi (Category A threatened species).

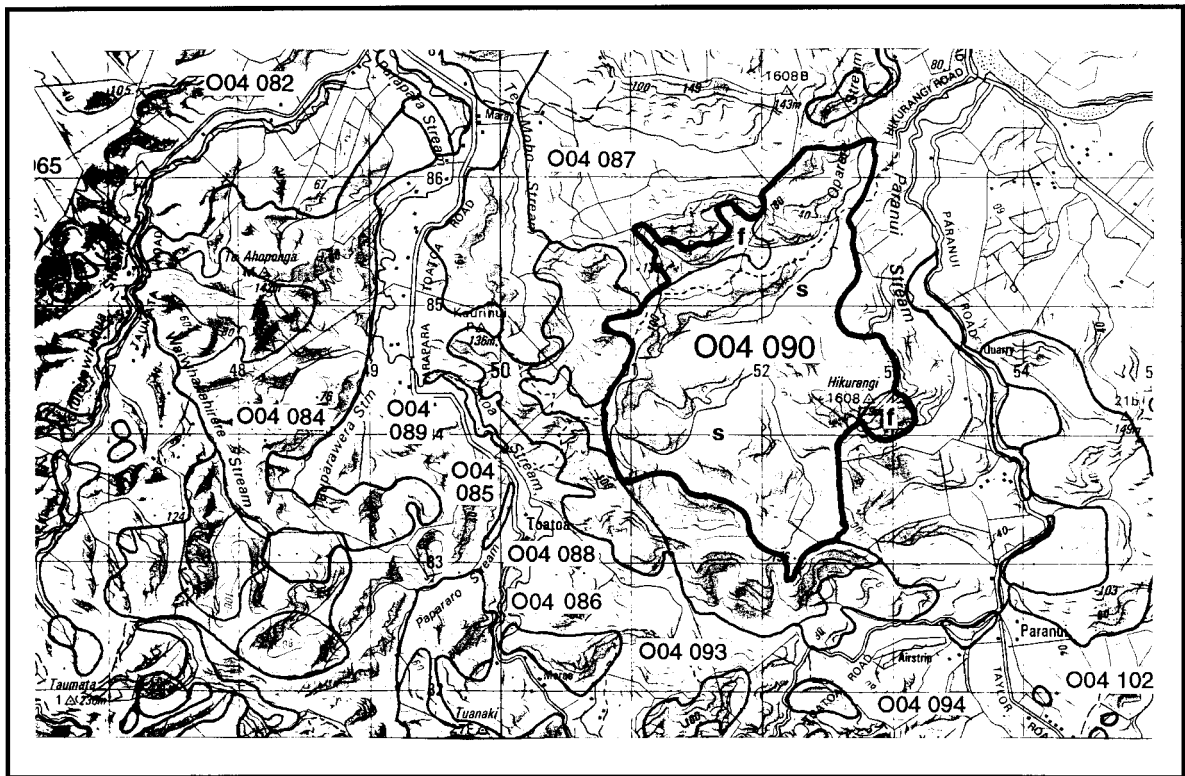
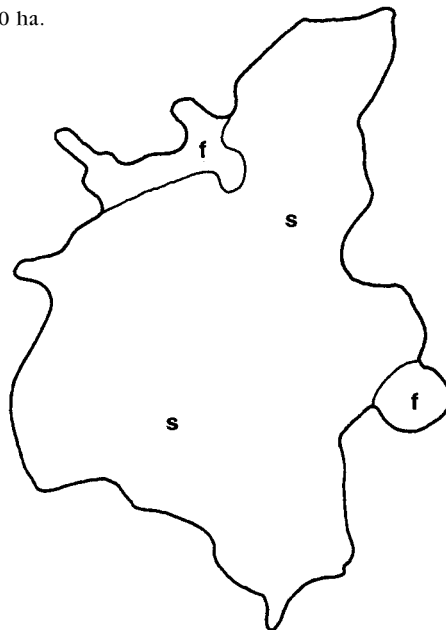


Figure 81. Hikurangi, O04 090

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.



Significance

A large habitat with some good examples of secondary forest and contiguous with Kaurinui (O04/088).

Kiwi habitat.

RYDERS CREEK

Survey no. O04/092
Survey date 5 August 1994
Grid reference O04 527 885
Area 5.8 ha
Altitude sea level to 20 m asl

Ecological unit

- (a) Manuka-kanuka-wattle shrubland on estuary margin
- (b) Flax shrubland on estuarine margin

Landform/geology

Coastal hills of Motatau Complex calcareous mudstone and sandstone adjoining part of the Taipa estuary.

Vegetation

Type (a) Manuka-kanuka-wattle shrubland. Adjacent to the mangroves there is a fringe of manuka-kanuka with wattle and occasional totara, pohutukawa and macrocarpa.

Type (b) Flax shrubland. On the north side of the creek is a band of flax with cabbage tree, raupo and bracken. *Baumea articulata* and mamaku also occur. Pampas and tobacco weed are growing on the road edge.

Fauna

Not surveyed.

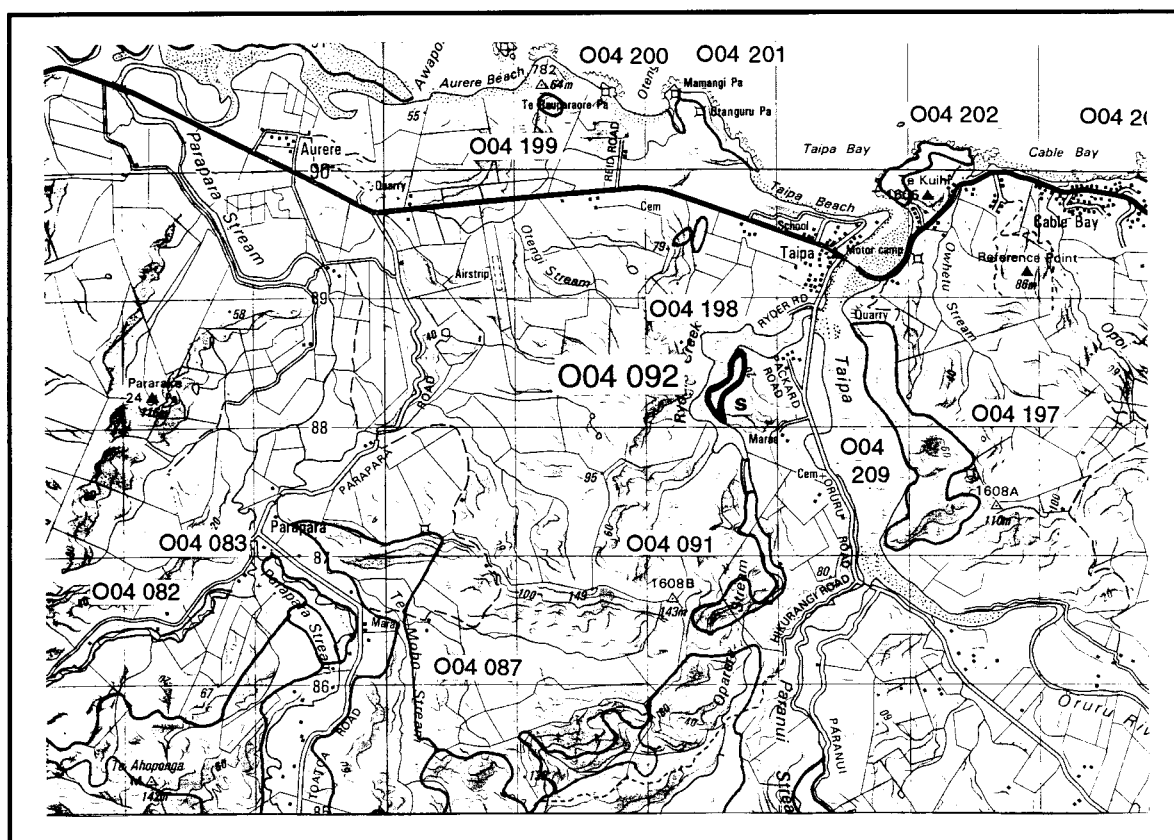


Figure 82. Ryders creek, O04 092

Each grid is 1000 m x 1000 m and equals 100 ha. s = shrubland.

Significance

Contains a small fringe of coastal vegetation and provides a buffer to the estuary.

The flax shrubland is one of only two examples of its type recorded in the Ecological District.

PARANUI-TOATOA RD

Survey no. O04/093
Survey date 8 August 1994
Grid reference O04 514 817
Area 23.4 ha
Altitude 60-140 m asl

Ecological unit

- (a) Manuka-kanuka shrubland on hillslope
- (b) Kahikatea-cabbage tree shrubland on hillslope

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

Vegetation

Almost all of the area is manuka-kanuka shrubland with occasional totara, mamaku and cabbage tree.

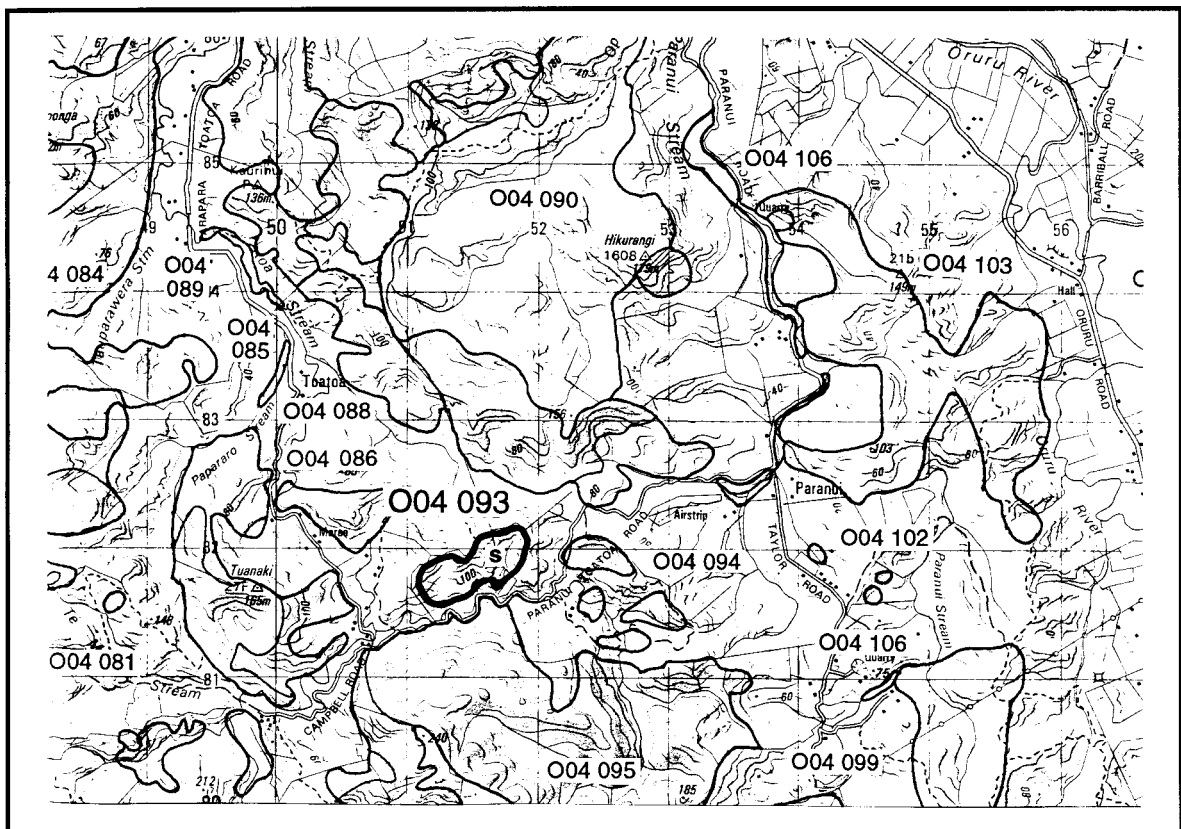


Figure 83. Paranui-Toatoa Road, O04 093

Each grid is 1000 m x 1000 m and equals 100 ha. s = shrubland.

There is a small area of kahikatea and cabbage tree with mamaku and occasional nikau and puriri.

Fauna

NI brown kiwi (Category A threatened species)

Significance

Partial corridor between Paranui Scenic Reserve (O04/095) and Kaurinui (O04/088), with kiwi present.

Type (b) is uncommon in the Ecological District, being one of only three examples recorded.

KEARNEY

Survey no.	O04/094
Survey date	5 September 1994
Grid reference	O04 525 818
Area	29 ha
Altitude	60-100 m asl

Ecological unit

- (a) Raupo reedland in stream gully
- (b) Mixed shrubland on steep hillslope
- (c) Taraire forest on hillslope
- (d) Manuka-kanuka shrubland on hillslope
- (e) Taraire-totara forest on hillslope
- (f) Secondary kanuka-totara forest on hillslope

Landform/geology

Motatau Complex calcareous mudstone and sandstone hill country.

Vegetation

Type (a) Raupo reedland. A small swamp by the road with kiokio, wheki and pampas.

Type (b) Mixed shrubland. Tall shrubland adjoins the raupo wetland and consists of manuka-kanuka, lacebark, mamaku and cabbage tree with occasional pate, towai, kohekohe, mahoe, pigeonwood, nikau and bracken.

Type (c) Taraire forest. With kanuka and totara; grades into (b) above. Also present are puriri, towai, rimu, kohekohe, kawaka, kowhai, kauri, rewarewa and northern rata.

Near the reserve boundary a taraire remnant has occasional pukatea, kahikatea, totara, kohekohe, puriri, tanekaha, rewarewa and nikau.

Type (d) Manuka-kanuka shrubland. With mamaku and totara, forms a buffer to the second taraire area.

Type (e) Totara-taraire forest. Several remnants in which kanuka occurs frequently, as does tanekaha in the eastern-most block. One block is tall forest including kauri, rimu, kahikatea, miro, matai, puriri and kawaka.

Type (f) Kanuka-totara forest. With pampas, gorse and cabbage tree, occurs as a buffer to (d).

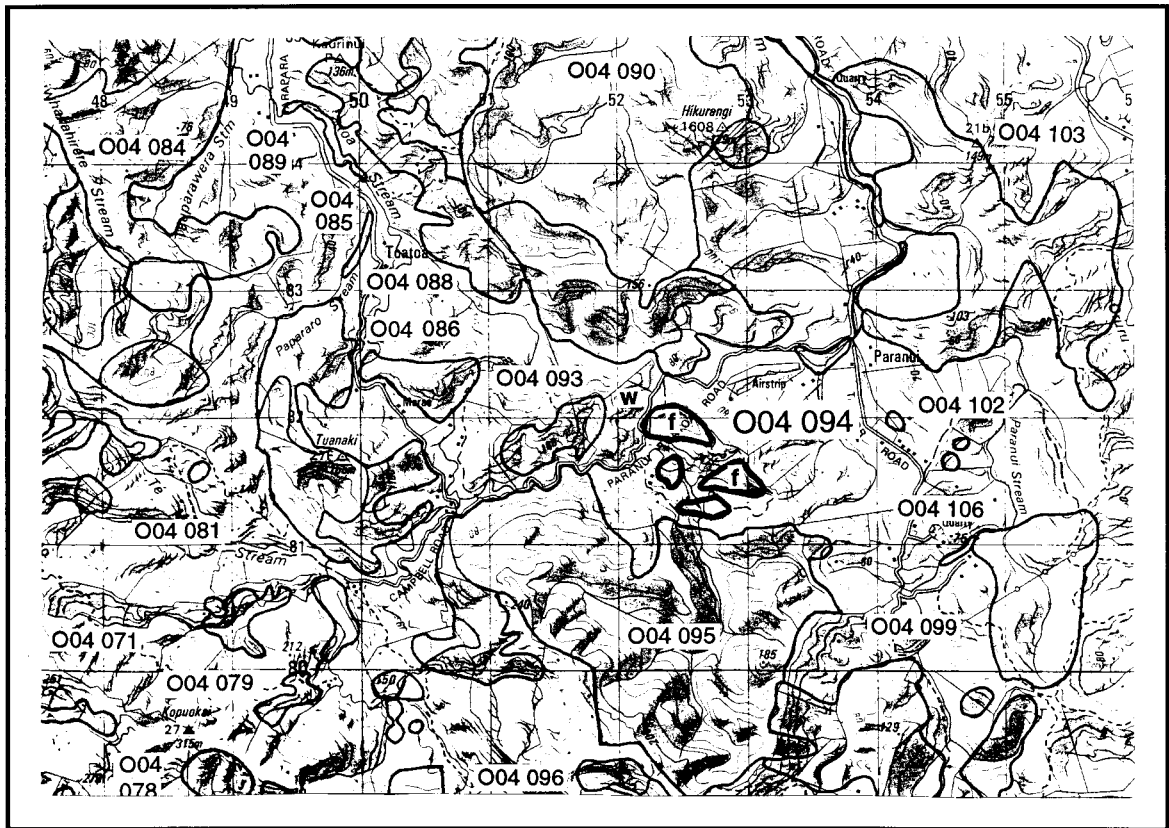
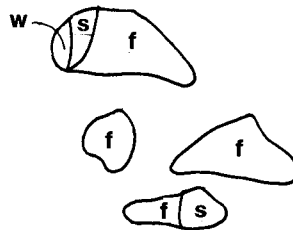


Figure 84. Kearney, O04 094

Each grid is 1000 m × 1000 m and equals 100 ha.

f = forest; s = shrubland; w = wetland.



Significant flora

Kawaka - notable in the Ecological District.

Fauna

NI brown kiwi (Category A threatened species), NZ pigeon (Category B threatened species).

Significance

Habitat for NZ pigeon.

The roadside remnant has a diverse combination of canopy species and is representative of broadleaf shrubland in the successional stage.

The large block contains kawaka, as well as some good-sized trees, and is a good example of its type.

PARANUI SCENIC RESERVE & ENVIRONS

Survey no.	O04/095
Survey date	August, September 1994
Grid reference	O04 525 800
Area	460.1 ha
Altitude	20-240 m asl

Ecological unit

- (a) Totara-kahikatea-rimu forest on hillslope
- (b) Taraire-puriri forest on hillslope
- (c) Taraire-puriri-totara forest on hillslope
- (d) Taraire forest on hillslope
- (e) Taraire-totara forest on hillslope
- (f) Kauri forest on ridge
- (g) Secondary totara forest on hillslope
- (h) Secondary totara-kanuka forest on hillslope
- (i) Secondary kanuka forest on hillslope
- (j) Taraire-tanekaha forest on hillslope
- (k) Manuka-kanuka shrubland on hillslope

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone lithofacies.

Vegetation

The Paranui Scenic Reserve forms the core of this area. It generally consists of tall taraire dominant forest of high diversity. On the margins of the reserve and on adjoining land there is a variety of vegetation types including shrubland and secondary forest.

The main forest types are:

Type (a) Totara-kahikatea-rimu forest with occasional emergent kauri and northern rata (on the northern ridges).

Type (b) Taraire-puriri forest. With frequent towai and emergent totara and kahikatea comprising the most extensive vegetation type on the northern side.

Type (c) Taraire-puriri-totara forest with occasional towai, kahikatea, rewarewa, pukatea and nikau (a remnant adjoining the shrubland south of Campbell Rd).

Type (d) Taraire forest. With tanekaha, kahikatea and totara. Scattered within are emergent kauri, northern rata and rimu, kawaka, matai, puriri and rewarewa. This occurs in the southwestern sector.

Taraire dominance also occurs with similar species composition but with all other species occurring only occasionally. This type is found in the south-eastern sector.

Type (e) Taraire-totara forest. With tanekaha, rimu and kanuka. Other species present are puriri, rewarewa, towai, matai and emergent kauri and kahikatea, occurring in the central north and eastern area.

Type (f) Kauri forest. With kanuka and occasional tanekaha and emergent rimu, also in the north eastern area.

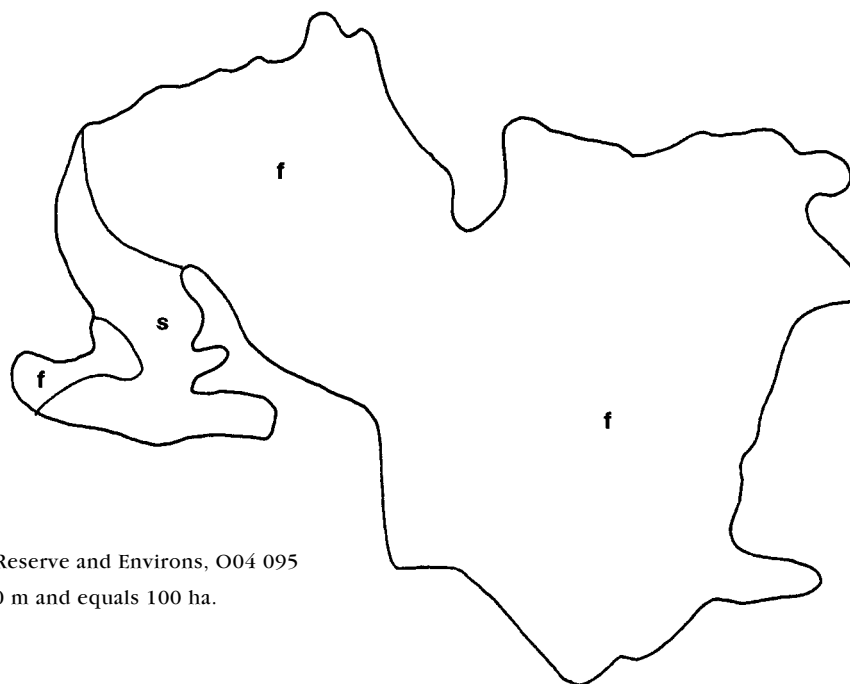
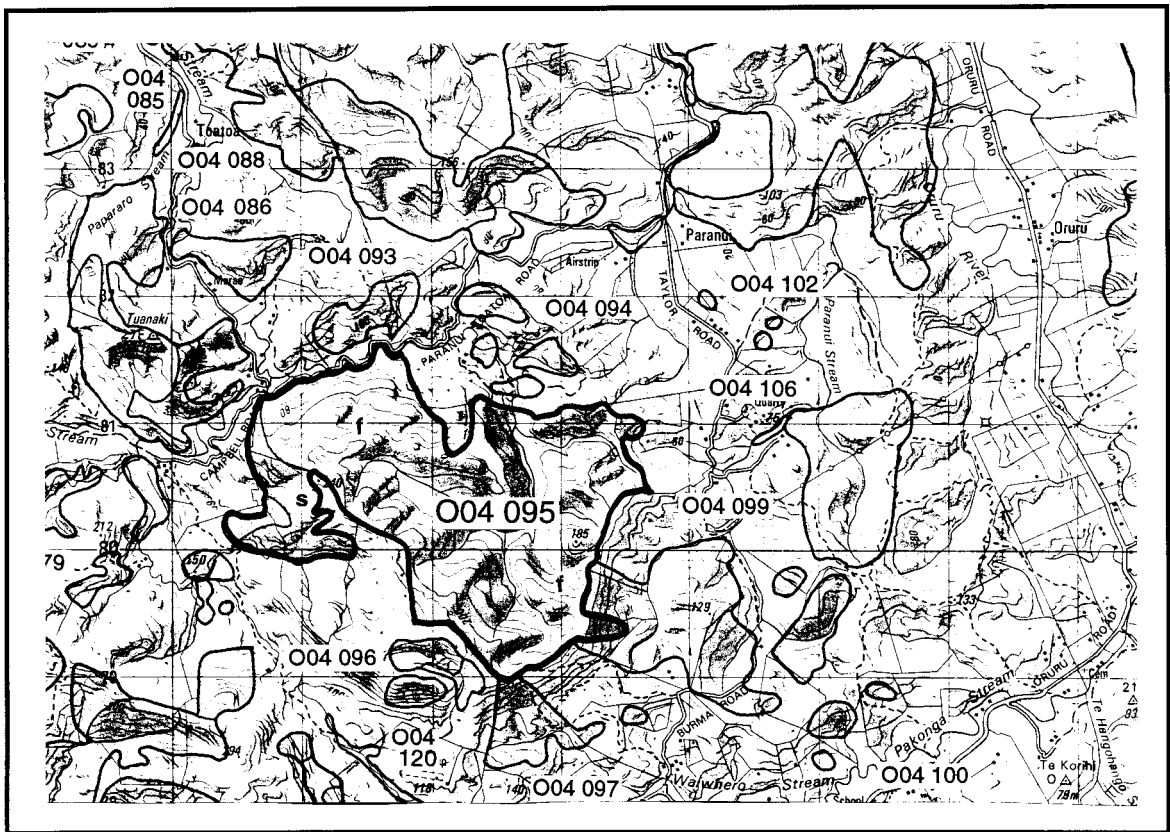


Figure 85. Parauui Scenic Reserve and Environs, O04 095

Each grid is 1000 m × 1000 m and equals 100 ha.

f = forest; s = shrubland.

Type (g) Secondary totara forest. With occasional rimu and puriri.

Type (h) Kanuka-totara forest. With rimu, kauri, tanekaha and puriri occurring occasionally.

Type (i) Secondary kanuka forest. With emerging totara, rimu, kahikatea and tanekaha (eastern side). With totara, kahikatea and puriri (north-eastern side).

Type (j) Manuka-kanuka shrubland. Tall with occasional puriri, totara and towai (western side). Low manuka-kanuka shrubland (both east and western edges).

Significant flora

Kawaka - notable in the Ecological District.

Anecdotal reports of wood rose, *Dactylanthus taylorii* (Recovering - Conservation Dependent), having been collected from this area.

Fauna

NI brown kiwi (Category A threatened species), NZ pigeon (Category B threatened species); kauri snail (Category C threatened species).

Significance

A large, diverse area of tall forest including a considerable number of very large emergent canopy trees, particularly totara and kauri, now uncommon in the Ecological District.

The area contains representative examples of taraire forest, taraire-totara forest and kauri forest, and is the only site in the Ecological District where taraire-tanekaha forest and kahikatea-totara-rimu forest have been recorded.

The site is also important for threatened species.

A regionally significant soils site:

- (i) a good example of a moderate range of Northland yellow-brown earths under indigenous vegetation;
- (ii) many Riponui soils have been developed for agriculture (Arand et al. 1993).

A large part of this site (366.2 ha) is protected, 364.9 ha being Scenic Reserve and the remainder being marginal strip along the Toatoa Stream across the road.

OLSEN

Survey no.	O04/097
Survey date	26 August 1994
Grid reference	O04 527 786
Area	36.8 ha
Altitude	60-180 m asl

Ecological unit

- (a) Taraire forest on hillslope
- (b) Secondary kauri forest on hillslope
- (c) Secondary kanuka forest on hillslope

Landform/geology

Hill slope of Motatau Complex calcareous mudstone and sandstone lithofacies, and adjoining hill country of Mangakahia Complex sandstone and siliceous mudstone.

Vegetation

Type (a) Taraire forest. A reasonably large taraire-dominant area, almost contiguous with the Paranui Scenic Reserve. Northern rata, kahikatea, rimu, pukatea, kauri, puriri and totara are also present.

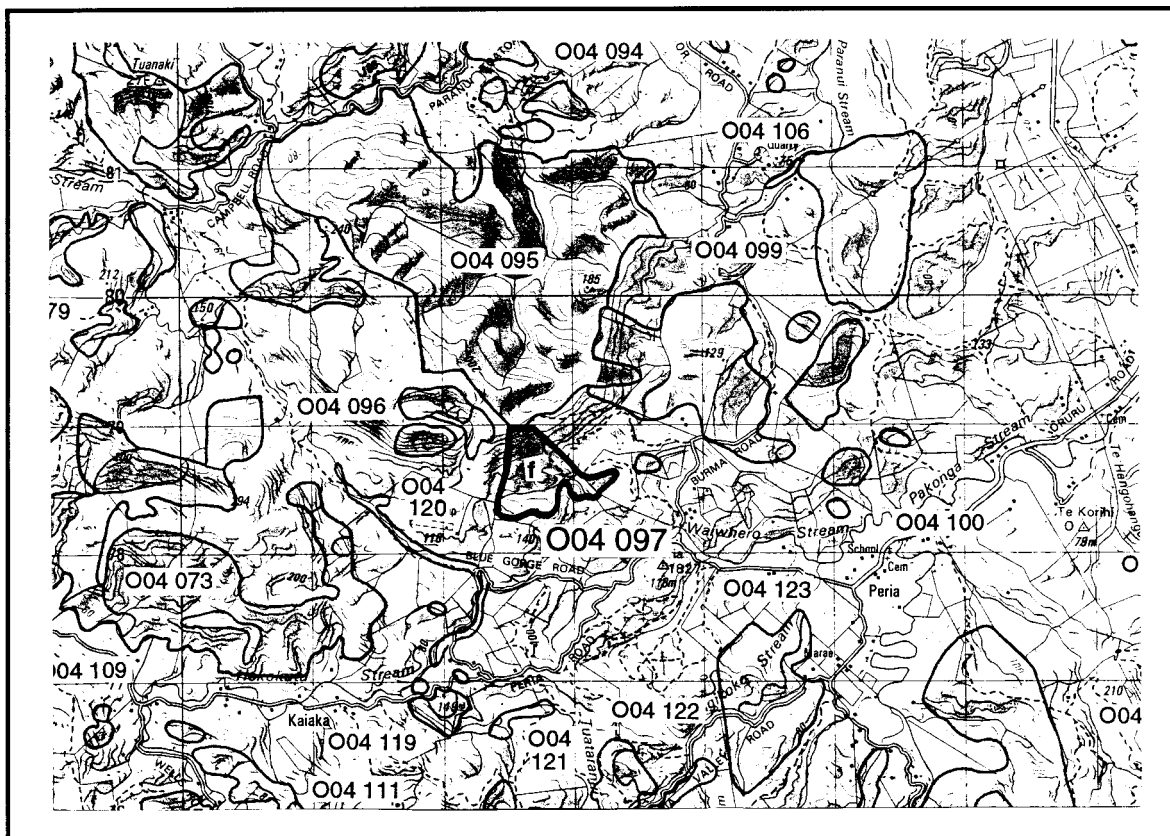


Figure 86. Olsen, O04 097

Each grid is 1000 m x 1000 m and equals 100 ha. f = forest.

Type (b) Secondary kauri forest. There is a small area of secondary kauri with kanuka and tanekaha.

Type (c) Secondary kanuka forest. About 20% is kanuka with rimu and towai with kahikatea, kauri and rewarewa scattered.

Fauna

NI brown kiwi (Category A threatened species).

Significance

A large area, almost contiguous with the Paranui Scenic Reserve.

Kiwi habitat.

It is a representative site for taraire forest and secondary kauri forest.

BURMA RD

Survey no.	O04/099
Survey date	4-5 August 1994
Grid reference	O04 555 800
Area	266.7 ha
Altitude	20-130 m asl

Ecological unit

- (a) Manuka-kanuka shrubland on hillslope
- (b) Manuka-gorse shrubland on hillslope

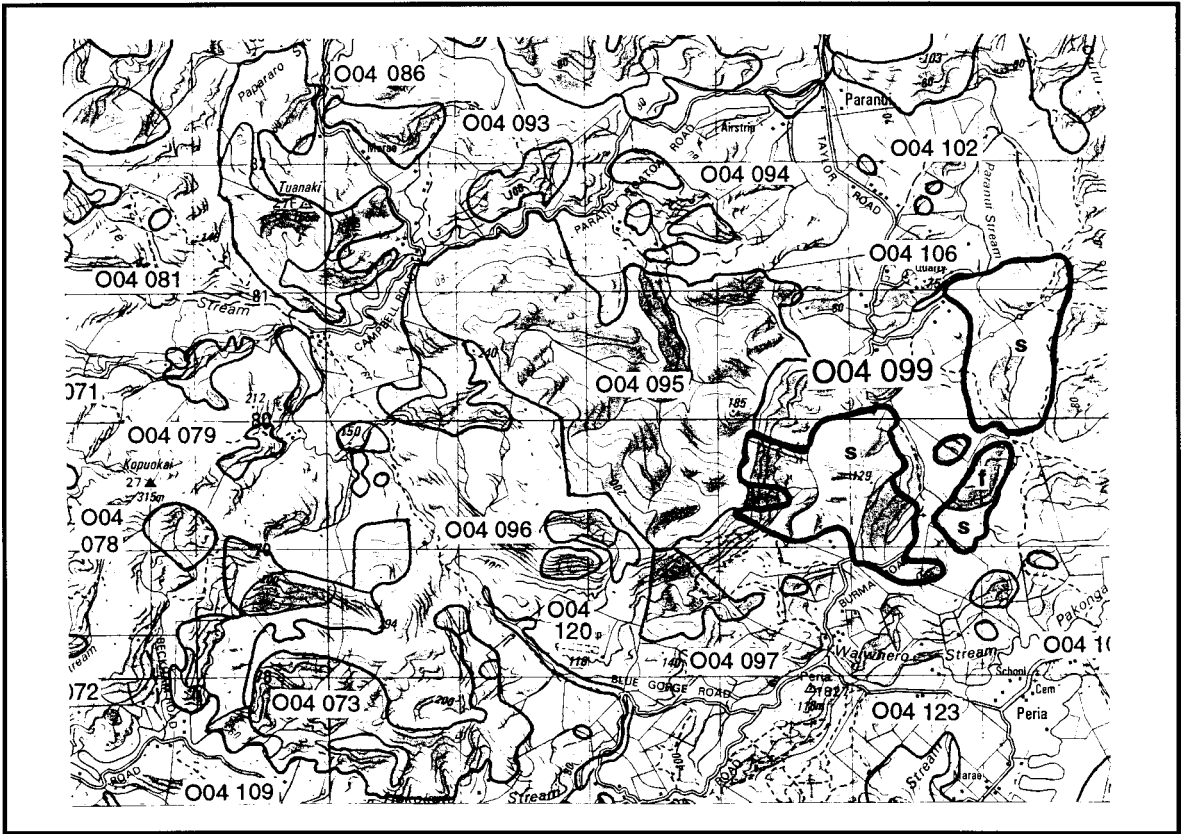
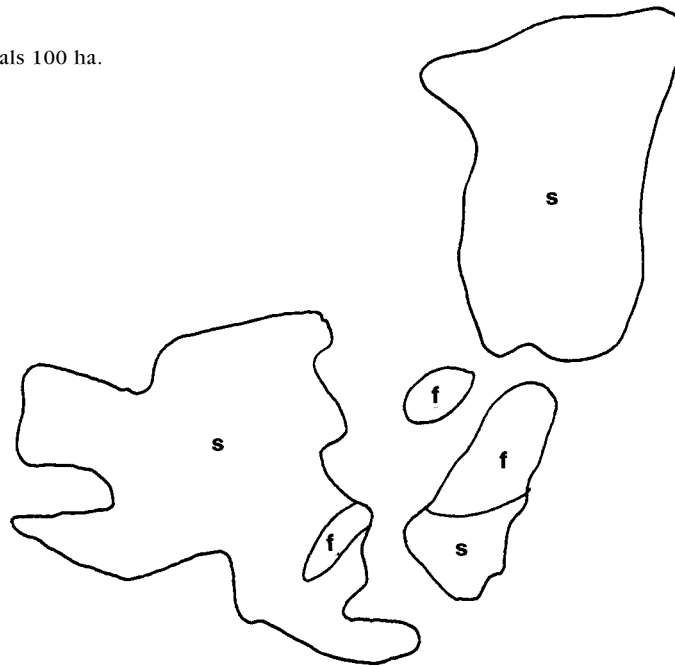


Figure 87. Burma Road, O04 099
Each grid is 1000 m × 1000 m and equals 100 ha.
f = forest; s = shrubland.



- (c) Secondary kanuka forest on hillslope
- (d) Taraire forest on hillslope
- (e) Secondary kahikatea-totara forest in gully
- (f) Taraire-kanuka forest on hillslope

Landform/geology

Hill country of Mangakahia Complex sandstone and siliceous mudstone.

Vegetation

Type (a) Manuka-kanuka shrubland. The majority of this area is manuka-kanuka shrubland between 2 and 4 m tall which also contains gorse. The gorse is common in the north-eastern part (Type (b)), where scattered pine, *Hakea* and tree fern occur. Elsewhere totara, tanekaha, kahikatea, rimu and tree fern are scattered.

Type (c) Secondary kanuka forest. Occurs in a gully in the south-eastern block with kauri and puriri and occasional rewarewa, towai, tanekaha and taraire.

Also occurs in the south-western block with kahikatea, totara, tanekaha, rimu and mamaku.

Type (d) Taraire forest. A separate remnant (GR O04 547 797) is taraire with puriri and nikau. Other species present are kauri, kahikatea, rewarewa, pukatea, northern rata and rimu.

Type (e) Secondary totara-kahikatea forest. A small area (< 5 % of the south-east block).

Type (f) Taraire-kanuka forest. Occurs in the south-east block with frequent kauri. Rimu, kahikatea, tanekaha, rewarewa, totara, puriri and emergent northern rata are occasional.

Fauna

NI brown kiwi (Category A threatened species).

Significance

A large area providing a partial link through a pine plantation from Paranui Scenic Reserve through to the Paranui Stream Bush and Shrubland O04/103.

Habitat for kiwi.

Representative site for taraire-kanuka forest.

MILLS

Survey no.	O04/100
Survey date	4 August 1994
Grid reference	O04 553 786
Area	12 ha
Altitude	60-120 m asl

Ecological unit

(a) Puriri forest on hillslope

(b) Taraire-kanuka forest on hillslope

Landform/geology

Hill country of Mangakahia Complex sandstone.

Vegetation

Three broadleaf remnants.

Type (a) Puriri forest comprises the two smaller remnants. In the northernmost, kanuka and taraire are frequent and rewarewa occasional. In the

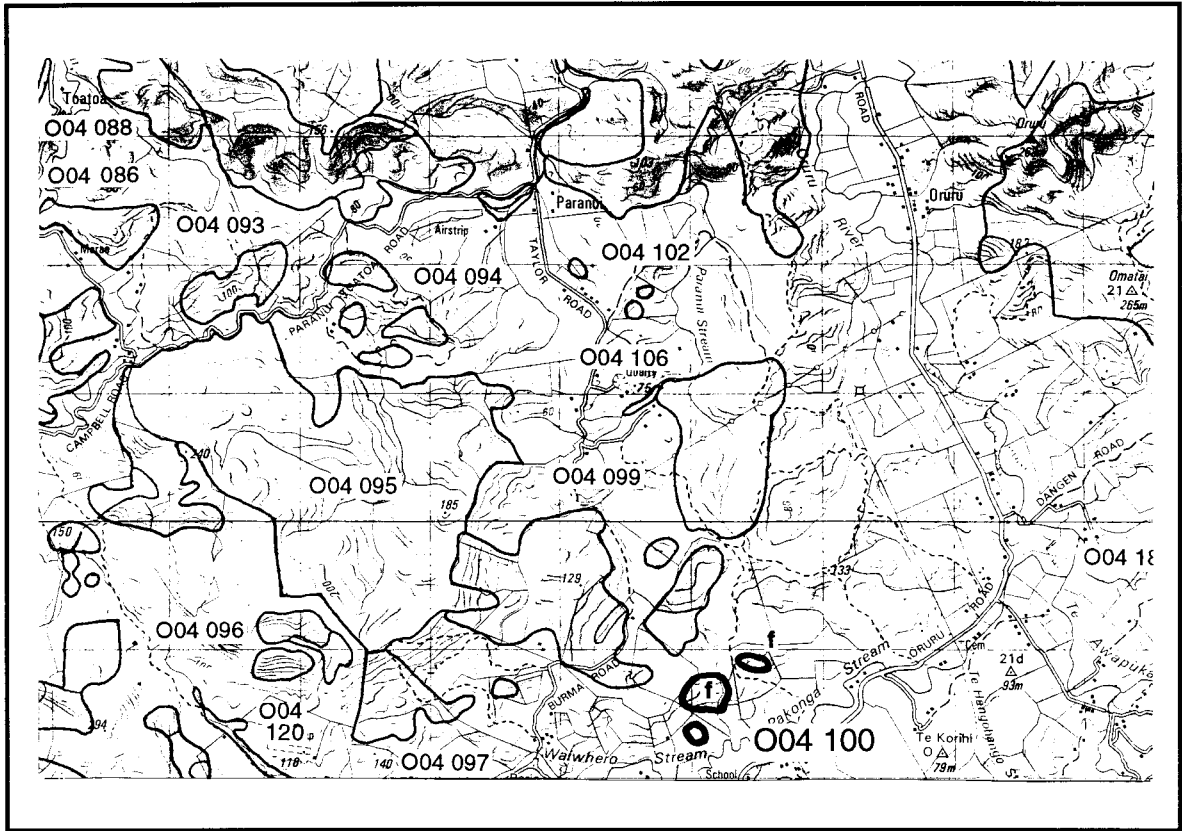
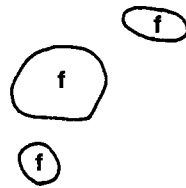


Figure 88. Mills, O04 100

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest.



southern-most, taraire is frequent, with kauri, kahikatea, rimu, totara, rewarewa, cabbage tree, pukatea, and titoki occasional.

Type (b) Taraire-kanuka forest. Puriri is frequent with occasional emergent kauri, kahikatea, rewarewa, rimu, nikau, mamaku, totara, northern rata and pukatea.

The two larger areas are linked to each other, and to Burma Rd (O04/099) by manuka, gorse and pine trees.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Linked to Burma Rd (O04/099) and habitat for threatened species.

Puriri dominance is uncommon in the Ecological District.

PARANUI STREAM BUSH AND SHRUBLAND

Survey no. O04/103
 Survey date 5 August 1994
 Grid reference O04 550 830
 Area 254.6 ha [c. 30 ha cleared since survey]
 Altitude 10-150 m asl

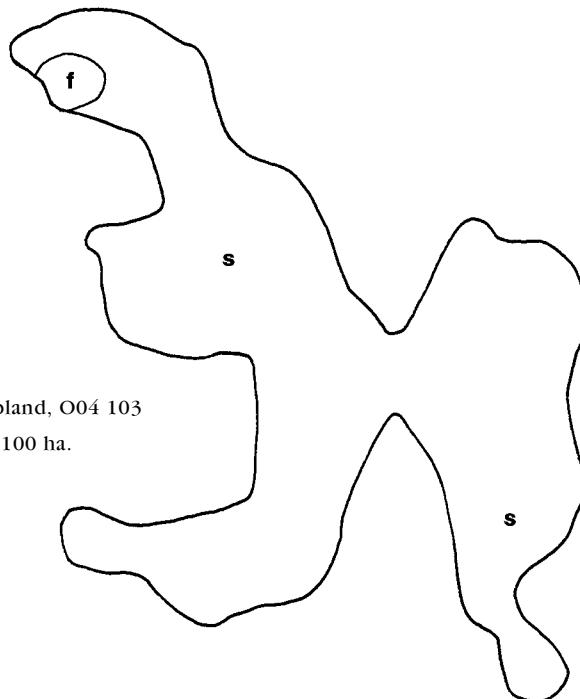
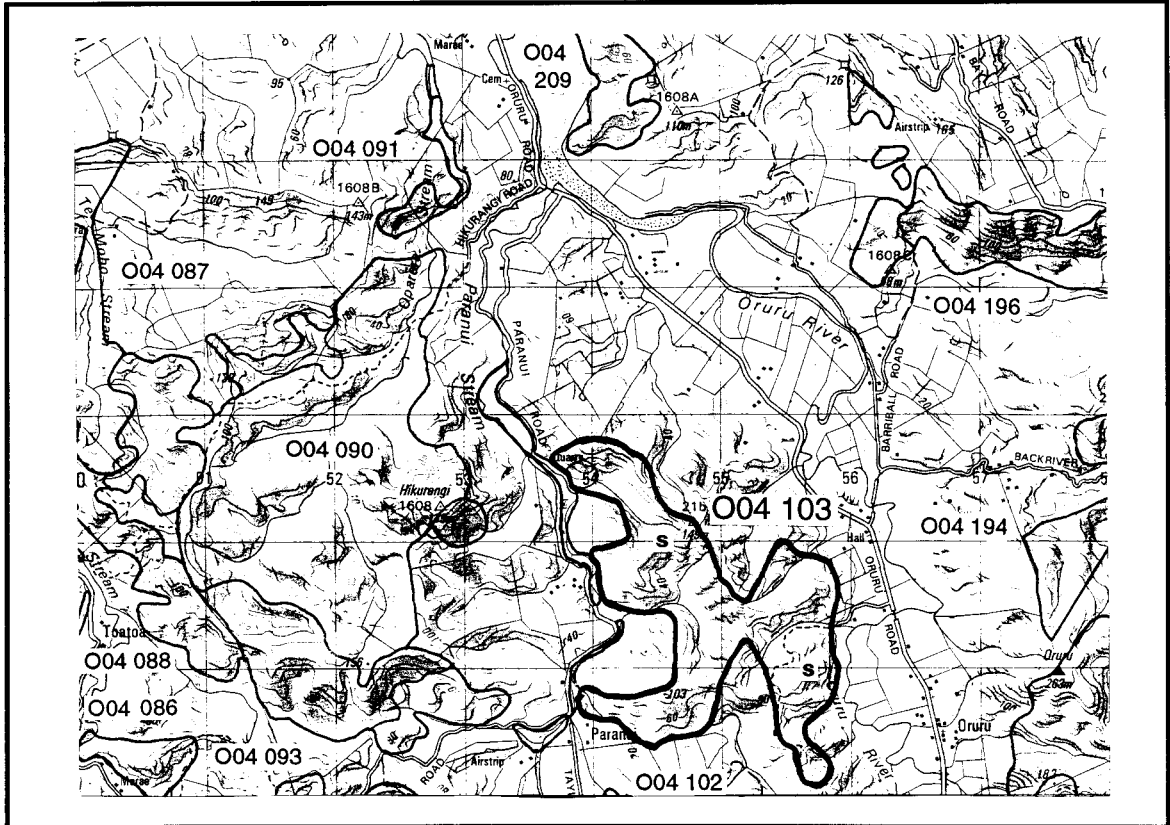


Figure 89. Paranui Stream Bush and Shrubland, O04 103
 Each grid is 1000 m x 1000 m and equals 100 ha.
 f = forest; s = shrubland.

Ecological unit

- (a) Manuka-kanuka shrubland on hillslope
- (b) Manuka-gorse shrubland on hillslope
- (c) Totara-towai-kanuka-rimu-tanekaha forest

Landform/geology

Hill country of Mangakahia Complex siliceous mudstone in the east, Motatau Complex calcareous mudstone in the south-west, and with Holocene alluvial flats and wetlands along the Paranui Stream valley.

Vegetation

Types (a) and (b) Manuka-kanuka shrubland and manuka-gorse shrubland. The majority of the area is manuka-kanuka shrubland between 2 and 4 m tall. Gorse, *Hakea*, pine, cabbage tree, pate, mahoe, and mamaku are present, as is the vine *Cassytha* (near Paranui Quarry – approaching its southern naturally occurring limit). Closer to Taylor Rd is some taller manuka-kanuka shrubland with occasional puriri, kahikatea, cabbage tree and mamaku. This area is joined to Burma Rd (O04/099) by gorse and pine.

Type (c) Totara-towai-kanuka-rimu-tanekaha forest. At the Paranui Quarry is a tiny but intact remnant of forest in which the main species are totara, towai, tanekaha and kanuka. Also present are rewarewa, rimu, kohekohe, karaka, kowhai, and emergent kauri and matai.

Fauna

NI brown kiwi in low numbers (Category A threatened species).

Significance

Kiwi habitat and a buffer to the Paranui Stream, one of the least modified streams in the Ecological District.

Adjoins O04/106, Paranui Stream Swamp.

It is the only site in the Ecological District where a totara-towai-kanuka-rimu association has been recorded.

7.81 ha of this site protected under a Queen Elizabeth II National Trust covenant.

PARANUI STREAM SWAMP

Survey no.	O04/106
Survey date	5 August 1994
Grid reference	O04 533 850
Area	45.3 ha
Altitude	0-20 m asl

Ecological unit

- (a) Kahikatea-cabbage tree swamp forest on alluvium
- (b) Cabbage tree-flax swamp on alluvium
- (c) Raupo reedland on alluvium
- (d) Flax swamp on alluvium
- (e) Cabbage tree swamp on alluvium
- (f) Bracken-manuka shrubland on hillslope

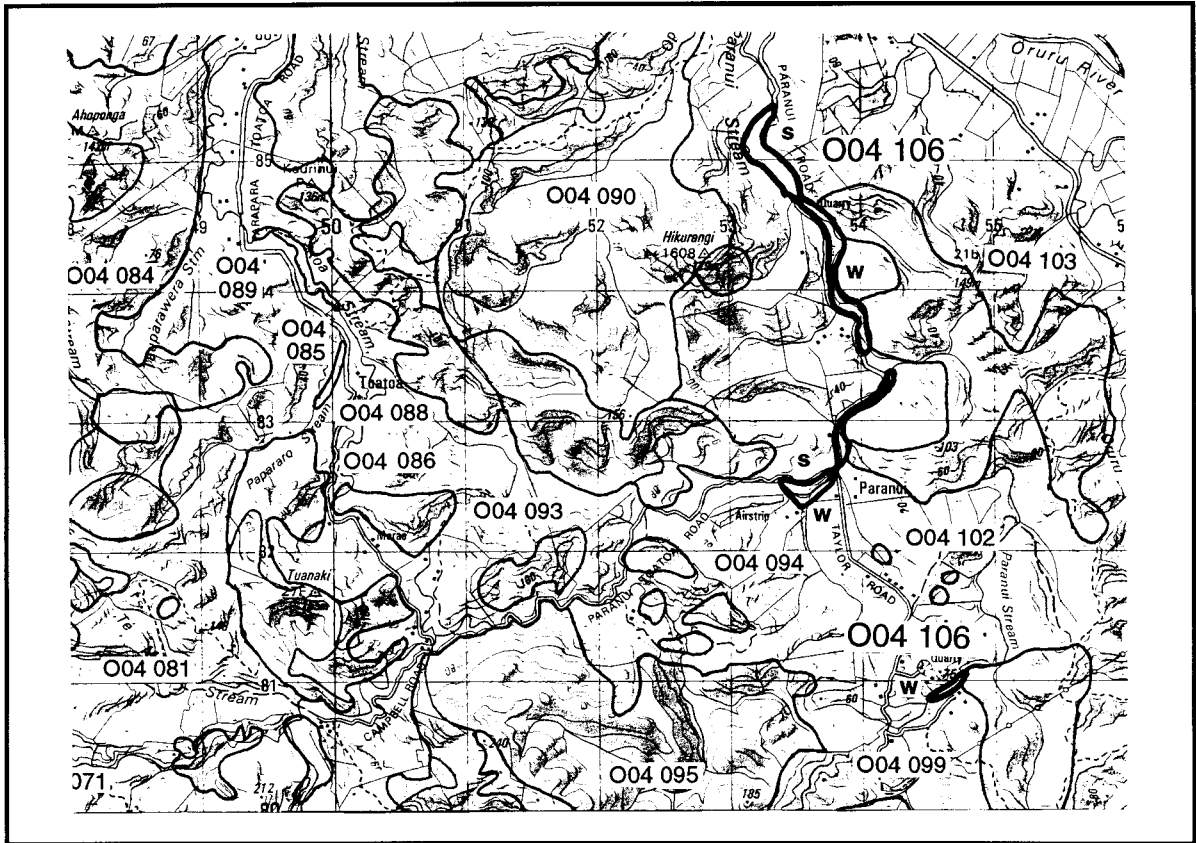


Figure 90. Paranui Stream Swamp, O04 106

Each grid is 1000 m x 1000 m and equals 100 ha.

s = shrubland; w = wetland.



Landform/geology

Holocene swamp in the upper reaches of the Paranui Stream valley.

Vegetation

Type (a) Kahikatea-cabbage tree swamp forest. Downstream of the Paranui Rd bridge, kahikatea and cabbage tree are dominant with frequent putaputaweta, kohuhu, *Coprosma tenuicaulis* and flax. Also present are swamp maire, kowhai, lacebark, koromiko, *Astelia grandis*, *Coprosma propinqua* and on the drier ground, *Gleichenia* sp., kanuka, mahoe, mapou and bracken.

Type (b) Flax and cabbage tree swamp. Occurs upstream of the bridge, with kahikatea frequent. Swamp maire and *Coprosma propinqua* recur. There is some raupo on the stream margin and *Potamogeton suboblongus* within the stream.

Upstream of the quarry is an extensive area of wetland of three main types:

Type (c) Raupo reedland. With frequent flax and cabbage tree and occasional *Coprosma propinqua* and kahikatea.

Approaching Taylor Rd there is more open water and occasional willow. Raupo continues to occur as well as cabbage tree and flax. *Carex secta* is also present.

North of the Taylor Rd intersection, and in the stream headwaters there are numerous areas of raupo. Other species occurring are cabbage tree, willow, *Carex* sp., *Juncus* sp. and kiokio.

Near the limeworks is an area of open water. There is some kahikatea on the banks near Taylor Rd

Type (d) Flax swamp. With frequent cabbage tree and occasional raupo and kahikatea.

Type (e) Cabbage tree swamp. With frequent flax and occasional kahikatea.

Type (f) Bracken-manuka shrubland. Occurs near the Taylor Rd intersection.

Significant flora

Astelia grandis - regionally significant.

Swamp maire - uncommon in the Ecological District.

Fauna

Australasian bittern (Category O threatened species), NI fernbird, spotless crane (both regionally significant species), grey duck; banded kokopu (Category C threatened species); giant bully (regionally significant species).

Significance

The least modified and best example of a lowland waterway in the Ecological District, and potentially valuable for freshwater fish such as the threatened giant and short-jawed kokopu. A continuous sequence from mangroves, saltmarsh to freshwater swamp and rare kahikatea swamp forest.

About 25% of this site (13.4 ha) is administered by the Department of Conservation under the Conservation Act. At the time of writing, a further area is being considered for land exchange.

MANGATOETOE WETLANDS

Survey no. O04/107
Survey date 10 November 1994
Grid reference O04 470 765
Area 5.6 ha
Altitude 40 m asl

Ecological unit

(a) Raupo wetland in valley bottom

Landform/geology

Holocene freshwater wetlands along stream valleys in hill country of Motatau Complex calcareous mudstone and sandstone lithofacies.

Vegetation

Two raupo swamps. The first, 600 m south of Fairburn Rd, is approximately 10 m wide. It has farmland on two sides and adjoins the habitat O04/108 Fairburn 199. The second area is 1.2 km south of Fairburn Rd.

Fauna

Spotless crane (regionally significant species).

Significance

Representative of a diminished habitat type in the Ecological District.

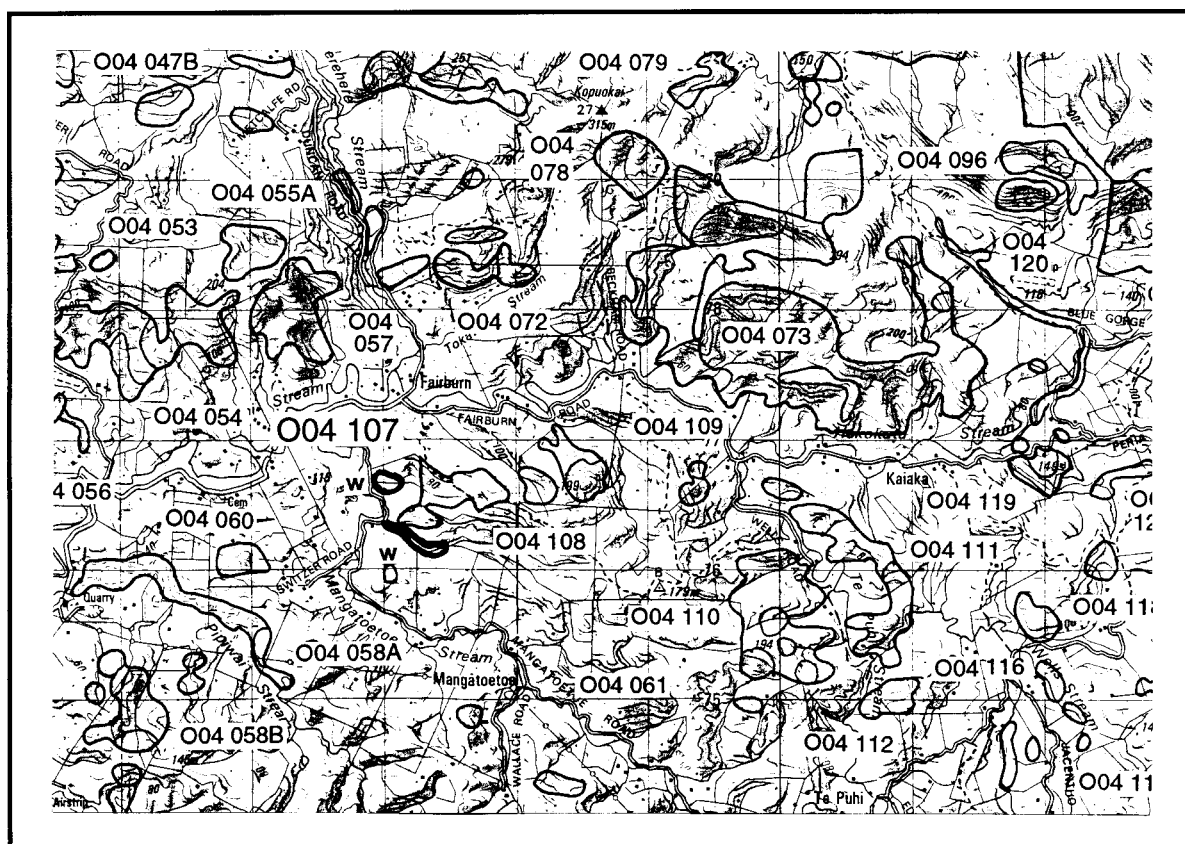


Figure 91. Mangatoetoe Wetlands, O04 107

Each grid is 1000 m x 1000 m and equals 100 ha. w = wetland.

FAIRBURN "199"

Survey no. O04/108
Survey date 28 August 1994
Grid reference O04 485 767
Area 41.6 ha
Altitude 80-200 m asl

Ecological unit

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

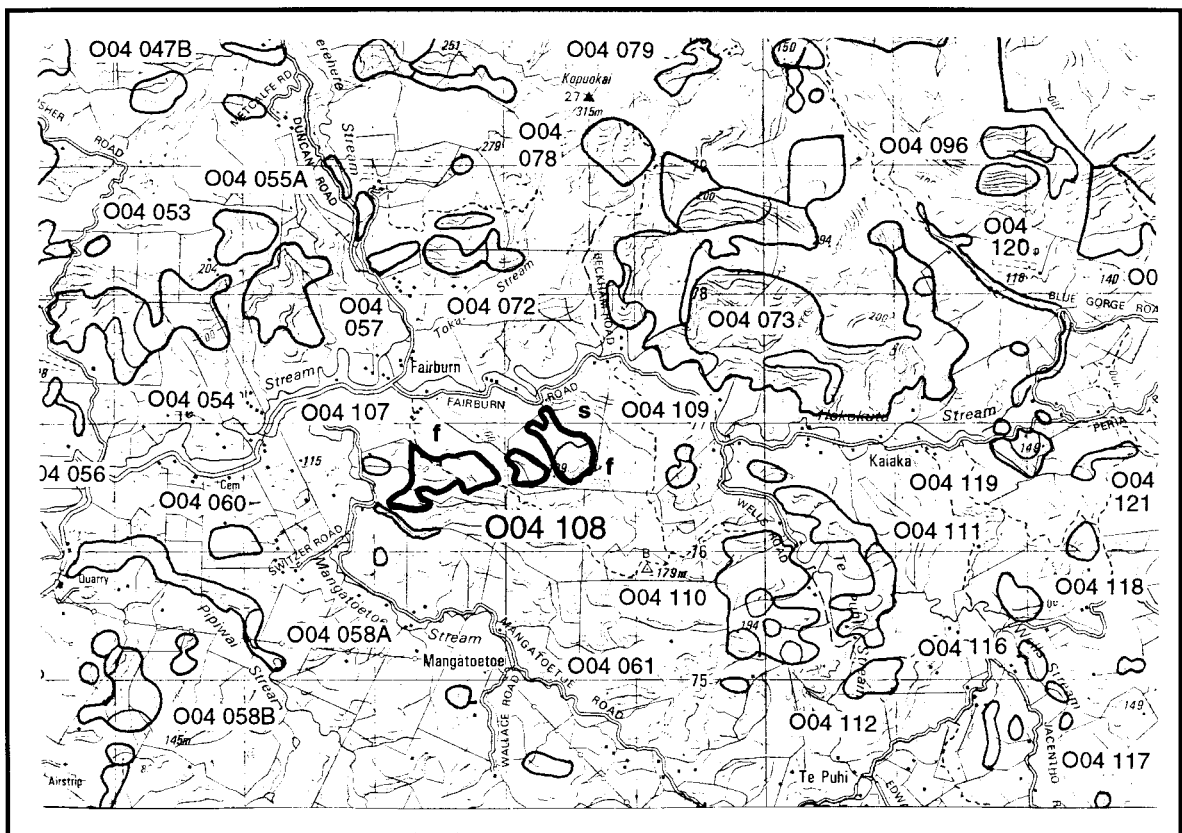
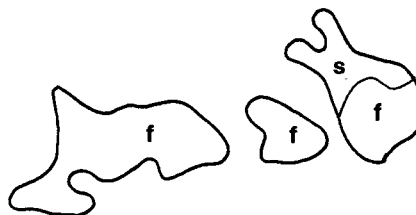


Figure 92. Fairburn "199", O04 108

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.



Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

Vegetation

A semi-contiguous area, mainly of taraire dominant forest.

Type (a) Taraire forest. With puriri, totara, kahikatea and towai. Kohekohe, rewarewa, nikau and mamaku are also present.

Type (b) Manuka-kanuka shrubland. About 4 m tall with totara and tree fern adjoins (a). Some of this, with frequent grass and blackberry, runs into a small area of raupo (900 m south of Fairburn Rd).

Type (c) Secondary totara-kanuka forest. With kahikatea, puriri and towai.

Type (d) Secondary kahikatea-totara forest. With puriri and cabbage tree.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Remnants are habitat for kiwi and a potential source of food for NZ pigeon, with the shrubland providing a linkage function.

WELLS RD SOUTH

Survey no.	O04/110
Survey date	16 August 1994
Grid reference	O04 500 756
Area	55 ha
Altitude	50-200 m asl

Ecological unit

(a) Manuka-kanuka shrubland on hillslope

(b) Kahikatea-totara forest on hillslope

(c) Secondary totara forest on hillslope

(d) Taraire forest on hillslope

(e) Towai-kahikatea forest on hillslope

Landform/geology

Hill country of Motatau Complex limestone.

Vegetation

Type (a) Manuka-kanuka shrubland. The area is mostly an almost contiguous manuka-kanuka shrubland between 2 and 4 metres, with bracken and grass in some places. Occasionally occurring are totara, towai, cabbage tree and mingimingi.

Type (b) Totara-kahikatea forest. Taraire and totara are frequent with occasional puriri and rimu.

Type (c) Secondary totara forest. A small area on the margins with occasional puriri.

Type (d) Taraire forest. About 10% of the area is taraire-dominant with frequent towai and kahikatea and occasional northern rata, rimu, miro, nikau and mamaku.

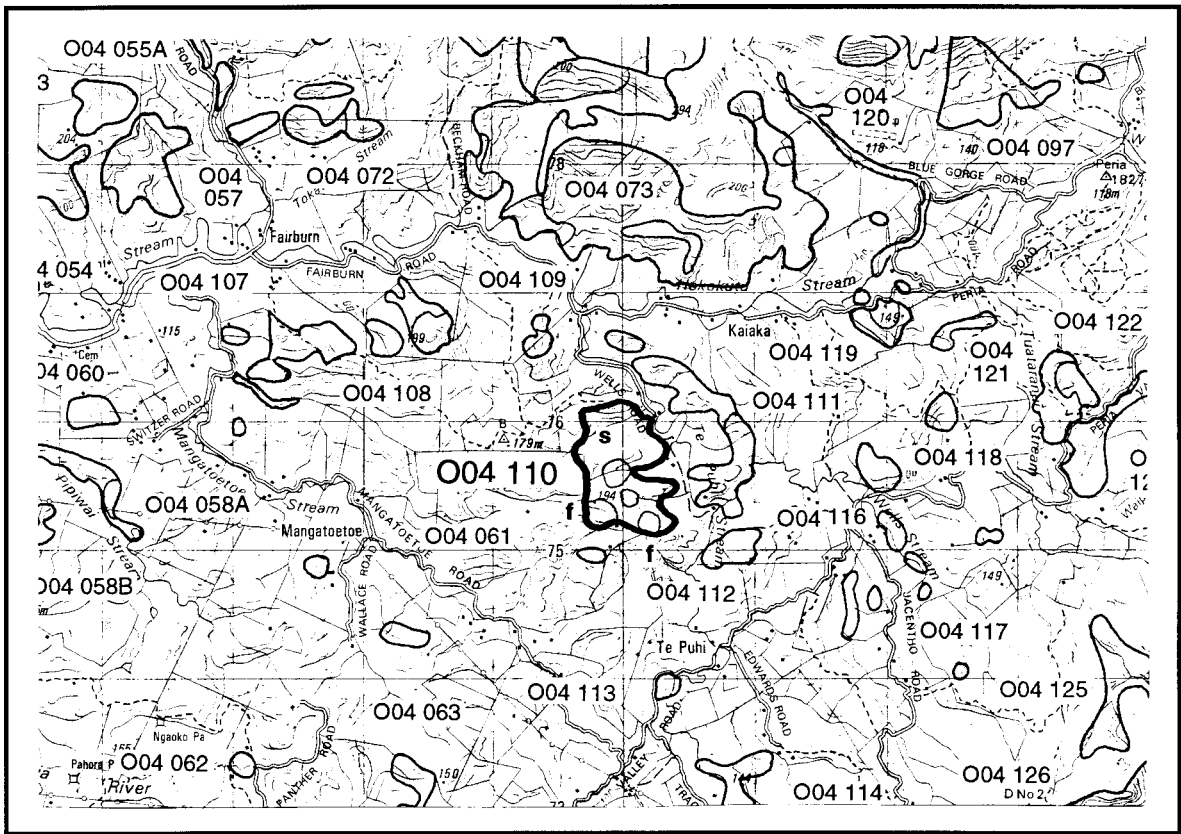
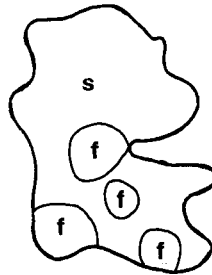


Figure 93. Wells Road South, O04 110

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.



Type (e) Towai-kahikatea forest. With occasional puriri, also about 10% of the total area.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Kiwi habitat.

Representative site for taraire forest, towai-kahikatea forest and manuka-kanuka shrubland on limestone.

HIGGINSON/KHAINE

Survey no. O04/111
Survey date 16 August 1994
Grid reference O04 507 756
Area 39.3 ha
Altitude 60-120 m asl

Ecological unit

- (a) Manuka-kanuka shrubland on hillslope
- (b) Totara-kahikatea forest on hillslope
- (c) Kohekohe forest on hillslope
- (d) Taraire forest on hillslope

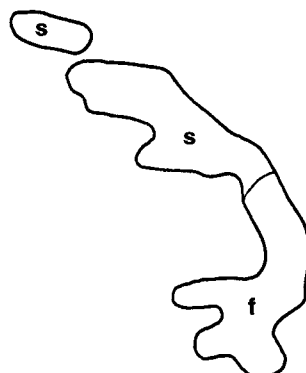
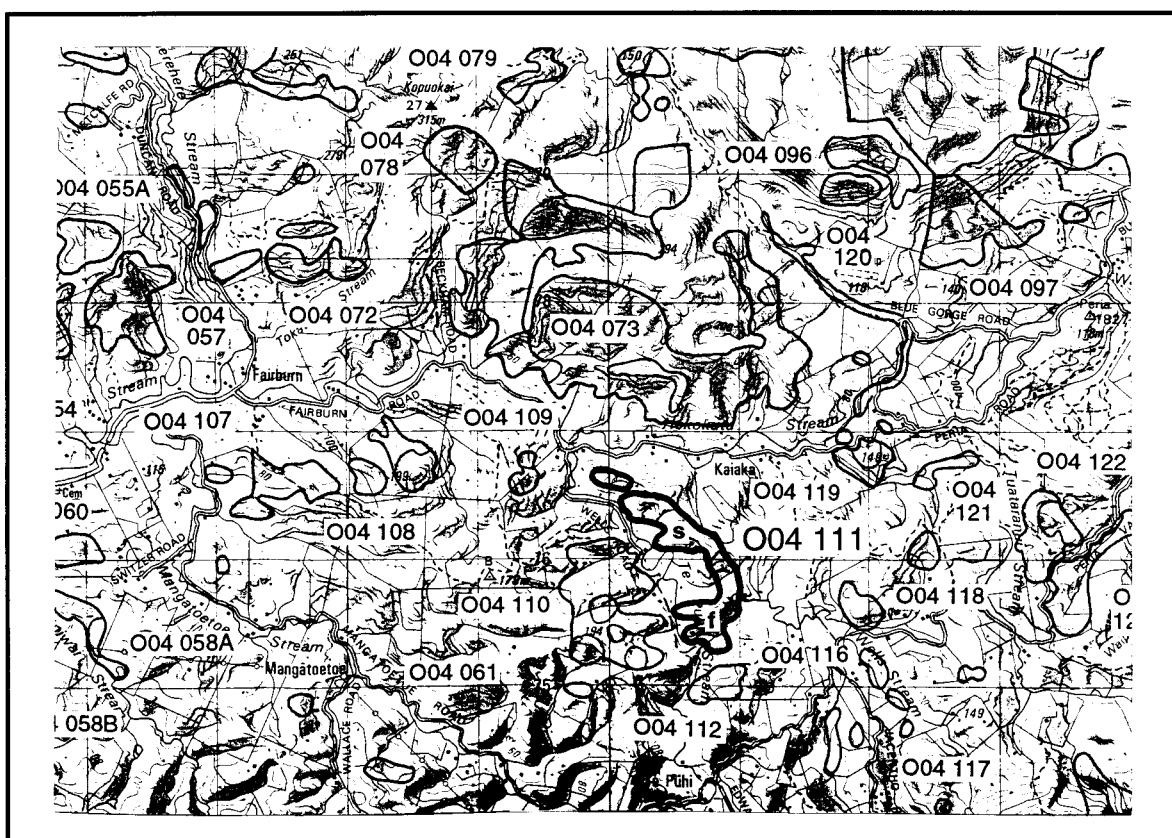


Figure 94. Higginson/Khaine, O04 111

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.

(e) Towai-taraire forest on hillslope

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone and adjoining Holocene alluvial flats along valley of Te Puhi stream.

Vegetation

Type (a) Manuka-kanuka shrubland. Comprises more than half of the area, with puriri, totara, towai, kahikatea, mamaku, five-finger and cabbage tree occurring occasionally.

Type (b) Totara-kahikatea forest. A small area along the Wells Stream.

Type (c) Kohekohe forest. On an old slip site is a tiny area (c. 1%) of kohekohe with nikau and tree ferns.

Types (d) Taraire forest and (e) Taraire-towai forest. The remaining forest is either taraire-dominant or towai-taraire with kahikatea. A wide range of other canopy species are present including kauri, northern rata, tawa, hinau and kawaka. Carmine rata is one of the 135 indigenous species noted. Much of this area is stock-free.

Significant flora

Carmine rata - uncommon in the Ecological District.

Kawaka - notable in the Ecological District.

Fauna

NI brown kiwi (Category A threatened species), NZ pigeon (Category B threatened species); kauri snail (Category C threatened species); glow worms reported.

Significance

Representative site for towai-taraire forest and manuka-kanuka shrubland, and is the only site in the Ecological District where kohekohe forest has been recorded. The site exhibits well established regeneration and is an area of forest not degraded by stock.

The area is also important habitat for threatened and regionally significant species.

KITCHEN

Survey no.	O04/112
Survey date	16 August 1994
Grid reference	O04 510 750
Area	8.7 ha
Altitude	60-100 m asl

Ecological unit

(a) Taraire forest on hillslope

Landform/geology

Hill country of Motatau Complex calcareous mudstone and sandstone.

Vegetation

A taraire-dominant remnant with totara and towai and isolated rimu. There is kauri on the ridges.

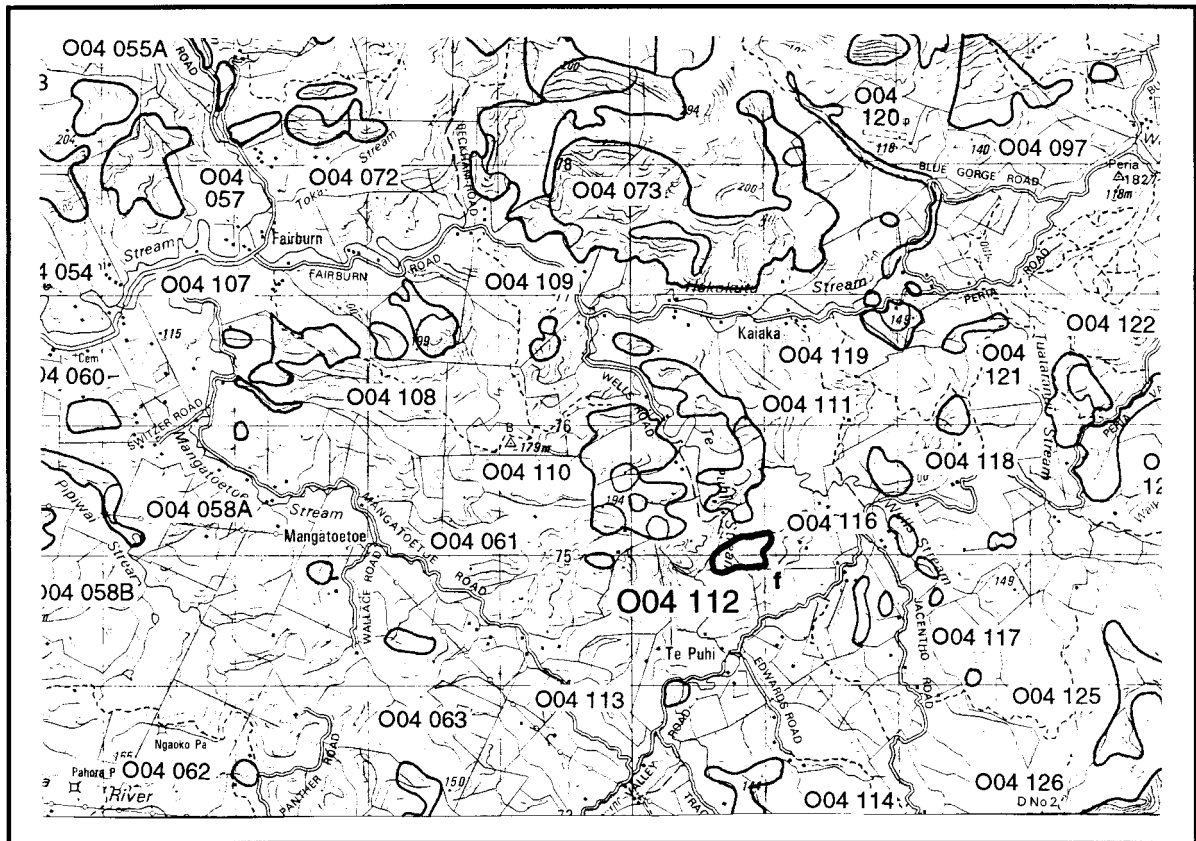


Figure 95. Kitchen, O04 112
 Each grid is 1000 m x 1000 m and equals 100 ha. f = forest.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Habitat for kiwi and a potential food source for NZ pigeon.

TE PUHI

Survey no. O04/113
 Survey date 12 September 1994
 Grid reference O04 503 740
 Area 3.4 ha
 Altitude 80 m asl

Ecological unit

(a) Kahikatea forest on alluvium and gentle hillslope

Landform/geology

Hillslope of Motatau Complex limestone.

Vegetation

A small, but high quality kahikatea remnant. Totara and taraire occur frequently, and pukatea, puriri, rimu, lacebark, nikau and cabbage tree are also present.

Fauna

Not surveyed.

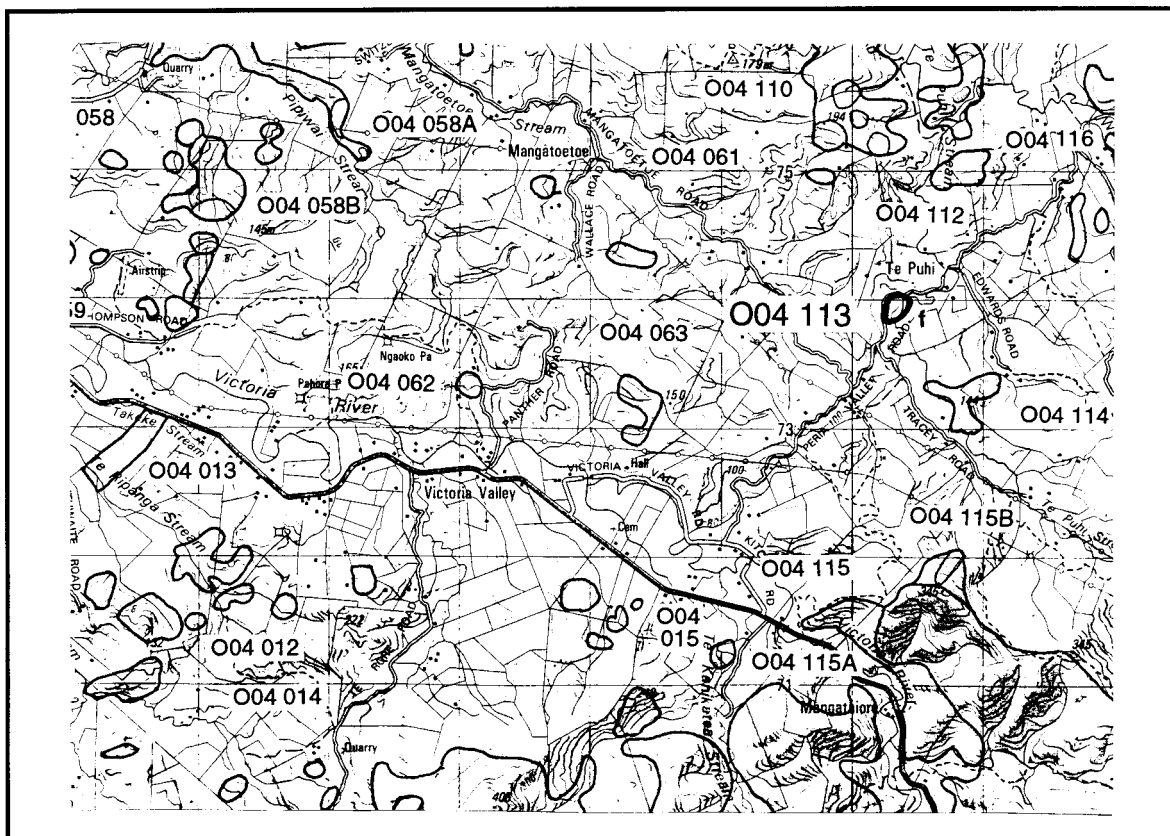


Figure 96. Te Puhi, O04 113

Each grid is 1000 m x 1000 m and equals 100 ha. f = forest.

Significance

A representative site for podocarp bush on limestone, a rare vegetation type in the Ecological District, and notable for being fenced.

TRACEY/EDWARDS RDS

Survey no.	O04/114
Survey date	12 September 1994
Grid reference	O04 510 732
Area	12 ha
Altitude	90-149 m asl

Ecological unit

- (a) Towai-taraire forest on hillslope
- (b) Secondary kahikatea forest on toeslope

Landform/geology

Hill country of Mangakahia Complex sandstone and adjoining Holocene alluvial flats.

Vegetation

This area is predominantly towai-taraire-dominant with totara. Other species present are northern rata, rewarewa, puriri, kahikatea, rimu and pine.

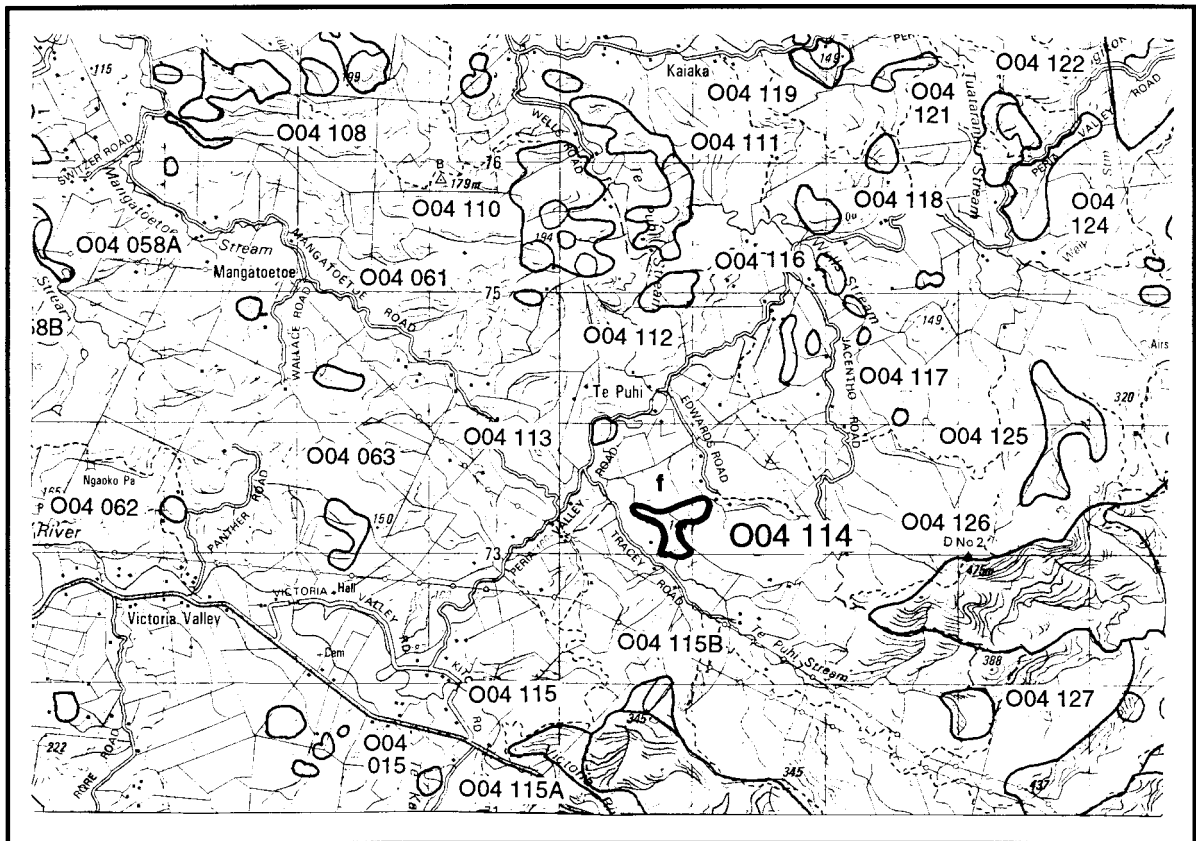


Figure 97. Tracey/Edwards Road, O04 114
 Each grid is 1000 m x 1000 m and equals 100 ha. f = forest.

On a ridge near Edwards Rd there is some kauri.
 About 5% of the area is secondary kahikatea.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Habitat for kiwi and a riparian buffer.

Kahikatea is an uncommon vegetation type in the Ecological District.

VICTORIA RIVER

Survey no.	O04/115
Survey date	September 1994
Grid reference	O04 500 714
Area	47.7 ha [12 ha cleared since survey]
Altitude	90-345 m asl

Ecological unit

- (a) Towai-manuka shrubland on hillslope
- (b) Manuka-kanuka shrubland on hillslope

Landform/geology

Hill country of Tangihua Complex igneous rock units.

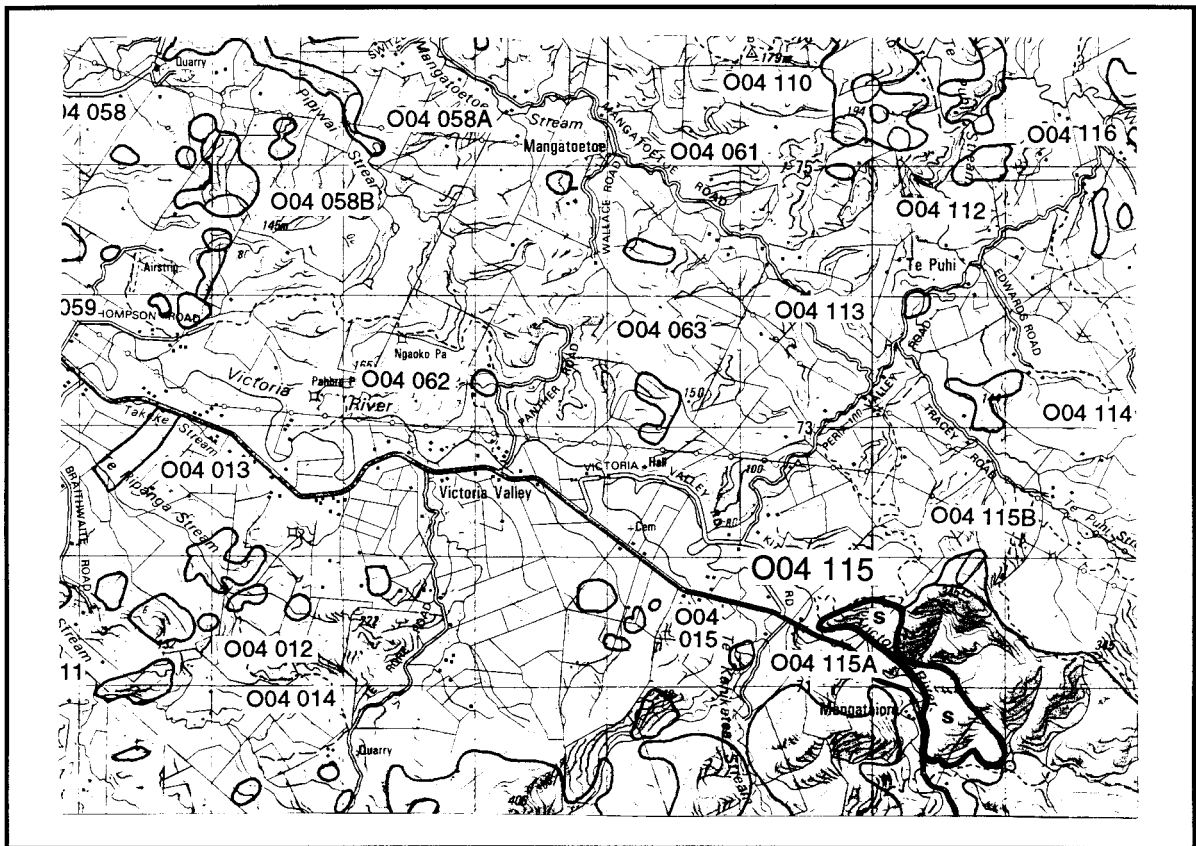


Figure 98. Victoria River, O04 115
 Each grid is 1000 m x 1000 m and equals 100 ha. s = shrubland.

Vegetation

Type (a) Most of this area is tall towai-manuka shrubland with frequent mamaku and occasional kahikatea, mahoe, pate, tutu, rewarewa and mamangi. Some of this has been cleared.

Type (b) Manuka-kanuka shrubland. To the south is a small area of low manuka shrubland with isolated towai, mamaku and cabbage tree. Across the road is manuka-kanuka shrubland up to 4 m tall with occasional totara, puriri, tutu and mamaku. There are also some scattered pine and macrocarpa trees within this area.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Kiwi habitat, and a buffer on the edge of Raetea Forest and Victoria River.

TE KAHIKATEA STREAM

Survey no.	O04/115A
Survey date	8 May 1994
Grid reference	O04 490 705
Area	129.8 ha [c. 100 ha cleared since survey]
Altitude	90-300 m asl

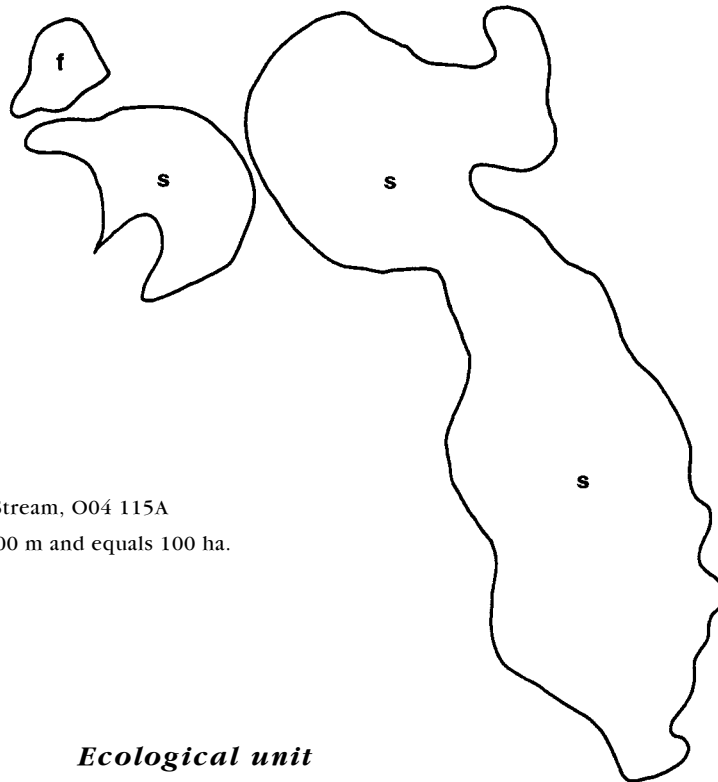
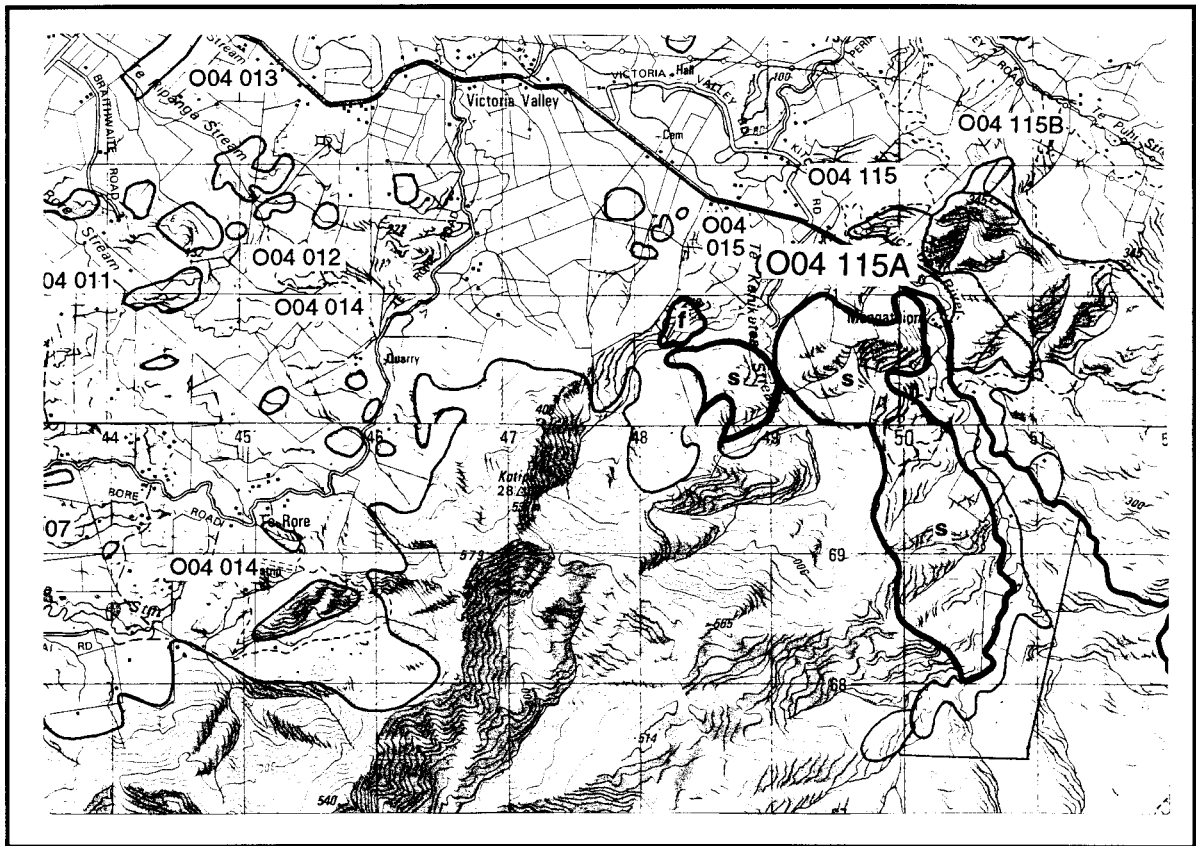


Figure 99. Te Kahikatea Stream, O04 115A
 Each grid is 1000 m x 1000 m and equals 100 ha.
 f = forest; s = shrubland.

Ecological unit

- (a) Manuka shrubland on hillslope
- (b) Manuka-towai shrubland on hillslope
- (c) Secondary kahikatea forest on alluvium
- (d) Bracken fernland on hillslope
- (e) Manuka-mamaku shrubland on hillslope

Landform/geology

Hill country of Tangihua Complex igneous rock units.

Vegetation

A mosaic of regeneration on the northern foothills of the Maungataniwha Range.

Type (a) Manuka shrubland. Between 2 and 4 m tall with towai, mamaku, and mahoe, and comprises most of the area.

Type (b) Secondary manuka-towai shrubland. With occasional totara, rimu, kahikatea, puriri and mamaku.

Type (c) Secondary kahikatea forest. Occurs in the upper valley bottom with totara and towai, and the occasional puriri.

Type (d) Bracken fernland. With ring fern, some areas of grass, and scattered manuka, towai, totara and tree fern.

Type (e) Manuka-mamaku shrubland. Occurs in the north-central part of the site.

Fauna

NI brown kiwi (Category A threatened species).

Significance

Contiguous with and a buffer to the Maungataniwha Range as well as being habitat for kiwi.

WELLS STREAM #1

Survey no.	O04/116
Survey date	12 September 1994
Grid reference	O04 518 748
Area	10.4 ha
Altitude	c. 8 m asl

Ecological unit

(a) Secondary kahikatea forest on alluvium and hillslope

Landform/geology

Hill country of Mangakahia Complex sandstone and siliceous mudstone.

Vegetation

This area consists of three kahikatea dominant sites:

- (i) In the south-western block along a tributary of Wells Stream, taraire and totara occur frequently with the occasional puriri, nikau and tree fern. Along the Wells Stream.
- (ii) The northern block is similar to the above but also containing frequent kanuka and occasional rewarewa, rimu and pukatea.
- (iii) The smaller block is mostly kahikatea with occasional puriri and totara.

Fauna

Not surveyed.

Significance

A representative site for kahikatea forest, a vegetation type much reduced from its former extent in this Ecological District.

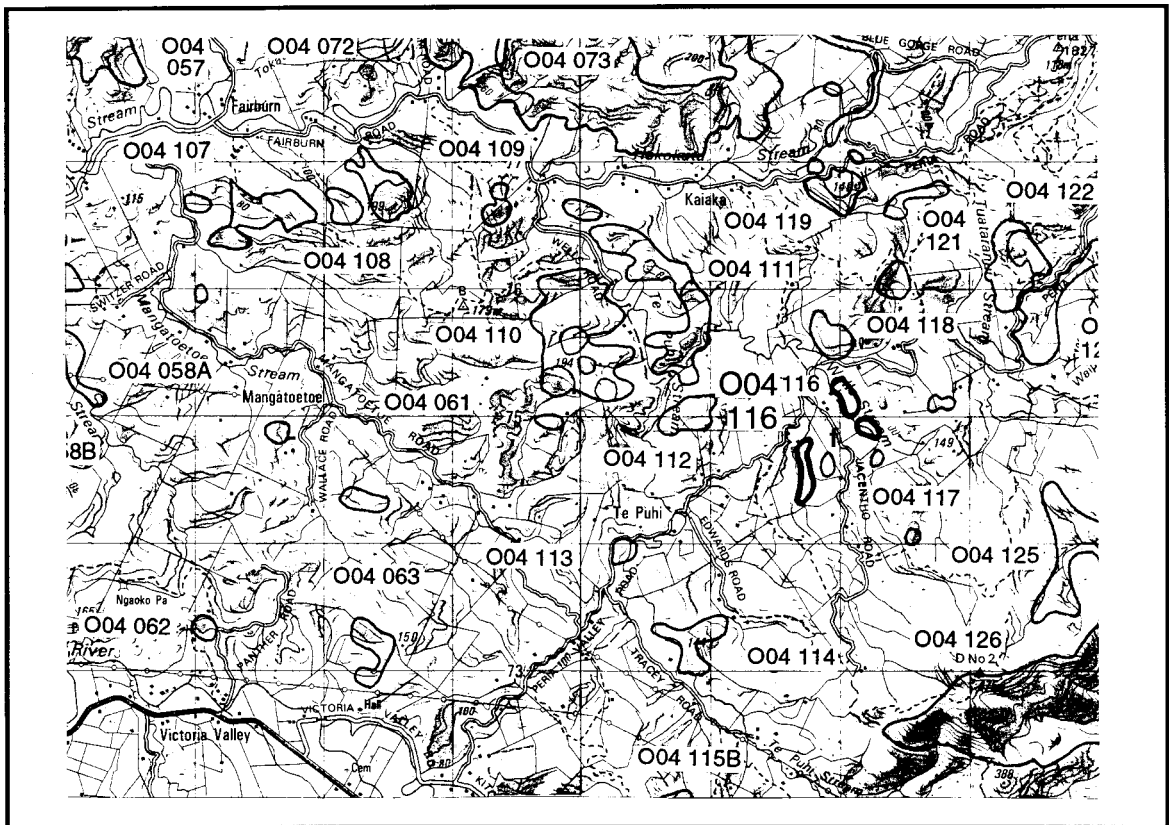


Figure 100. Wells Stream #1, O04 116
 Each grid is 1000 m × 1000 m and equals 100 ha. f = forest.

BLUE GORGE SWAMP

Survey no. O04/120
 Survey date 26 August 1994
 Grid reference O04 520 780
 Area 22.1 ha
 Altitude c. 70 m asl

Ecological unit

- (a) Raupo reedland in stream valley
- (b) Constructed pond in stream valley

Landform/geology

Holocene alluvial flats and wetlands along the valley of the Hokokutu Stream.

Vegetation

The upper reaches are mostly raupo. Some manuka and rushes occur on the edge, but the surrounding land is mostly grazed pasture (including goats). There are 2-3 areas of open water with a little floating pond weed. The lower reaches are half open water with rushes and occasional willows, and half raupo. Kahikatea occurs rarely.

Fauna

Not surveyed.

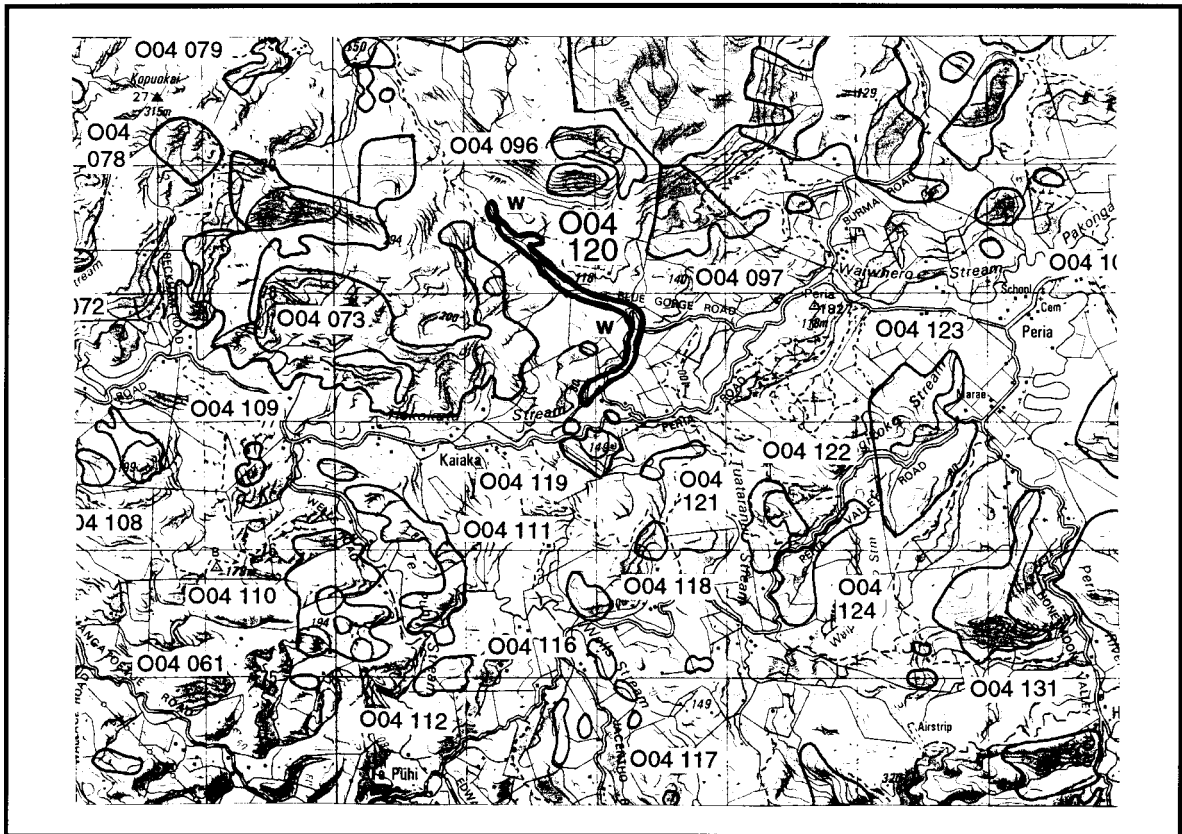


Figure 101. Blue Gorge Swamp, O04 120
 Each grid is 1000 m × 1000 m and equals 100 ha. w = wetland

Significance

One of the best examples of its type in the Ecological District, and as one of the largest wetland areas left in the District, likely to be an important site for threatened wetland bird species such as Australasian bittern and spotless crane.

TUATARANUI STREAM

Survey no.	O04/122
Survey date	12 September 1994
Grid reference	O04 534 764
Area	19.9 ha
Altitude	100 m asl

Ecological unit

- (a) Secondary kauri-rimu forest on hillslope
- (b) Secondary towai-kanuka-taraire forest on hillslope
- (c) Manuka shrubland on hillslope
- (d) Manuka-kanuka-towai shrubland on hillslope
- (e) Secondary manuka-kauri-tanekaha forest on hillslope
- (f) Secondary kahikatea forest on hillslope

Landform/geology

Hill country of Mangakahia Complex sandstone and mudstone.

Vegetation

Type (a) Secondary kauri-rimu forest. Comprises almost one-third of the area with kanuka and tanekaha. Rewarewa, totara, taraire and puriri are also present.

Type (b) Secondary towai-taraire-kanuka forest. A smaller area in the gully with occasional tawa, kauri, rimu, kahikatea, rewarewa and swamp maire.

Type (c) Manuka shrubland. A large area about 2-3 m tall, with occasional towai, *Hakea* and pine buffering (b).

Type (d) Secondary towai-manuka-kanuka forest with occasional kahikatea, totara, kauri, mamaku, rewarewa and tanekaha.

Type (e) Secondary manuka-kauri-tanekaha forest. Manuka (up to 6 m) with emergent kauri and tanekaha rickers common and occasional towai.

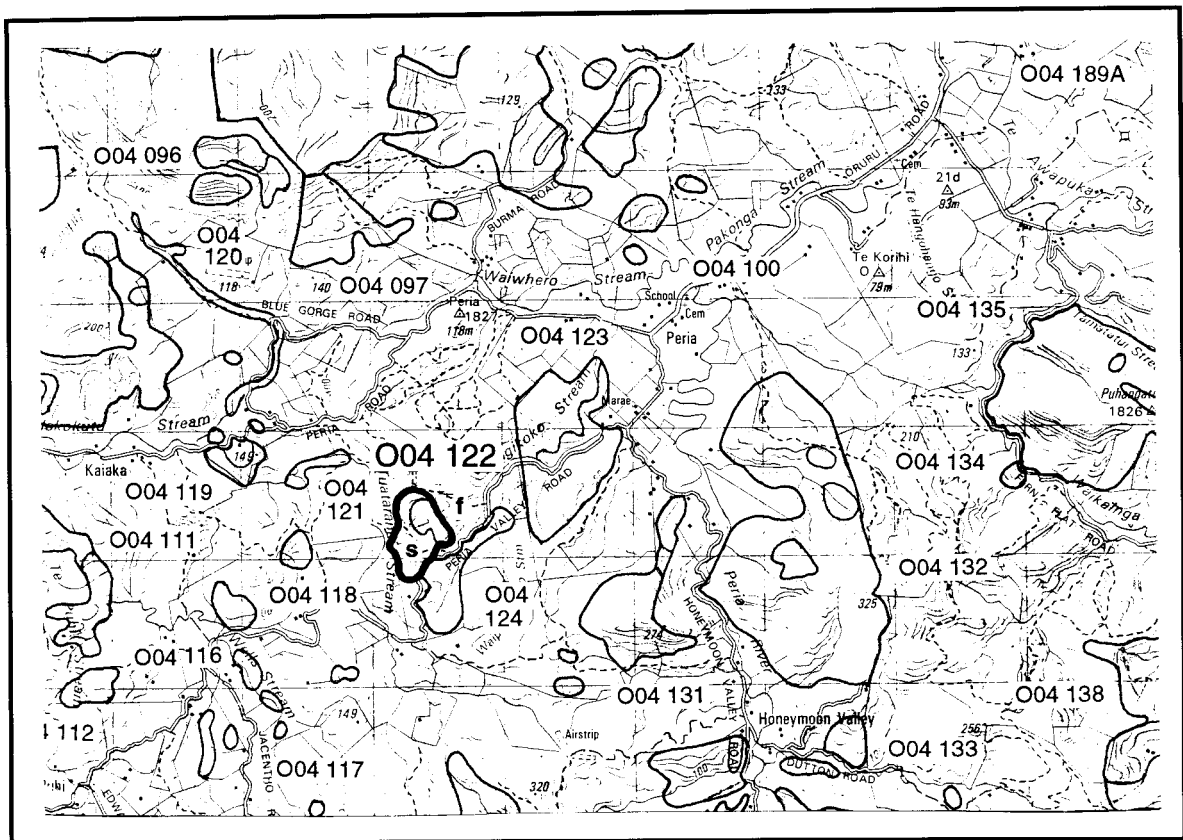


Figure 102. Tuataranui Stream, O04 122

Each grid is 1000 m x 1000 m and equals 100 ha.

f = forest; s = shrubland.



A remnant to the south-east has only a minor component of tanekaha and frequent totara and taraire.

Type (f) Secondary kahikatea forest. Also occurs in the isolated remnant to the south-east, recently logged. Kauri, rimu, cabbage tree, towai, taraire and totara are occasional.

Significant flora

Swamp maire - uncommon in the Ecological District.

Fauna

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

Significance

Representative site for kauri-rimu forest, manuka-kauri-tanekaha forest, and is the only site of towai-taraire-kanuka forest recorded in the Ecological District.

TANGIKOKO STREAM

Survey no.	O04/123
Survey date	12 September 1994
Grid reference	O04 545 770
Area	72.3 ha [c. 12 ha cleared since survey]
Altitude	50-120 m asl

Ecological unit

- (a) Kanuka forest on hillslope
- (b) Manuka shrubland on hillslope
- (c) Raupo reedland on alluvium

Landform/geology

Hill country of Mangakahia Complex siliceous mudstone.

Vegetation

Type (a) Kanuka forest. On the north side of the road is an area of secondary mixed forest of kanuka with kauri and tanekaha. Other species present include rimu, pukatea, taraire, totara, tawa, hinau, rewarewa, towai, kahikatea, white maire, and along the stream a stand of swamp maire. At one place there has been some clearing of kanuka.

Type (b) Manuka shrubland. Between the bush and the pine trees is manuka shrubland 2-3 m tall with a small amount of *Hakea* and towai.

Across the road is an extensive area of manuka-kanuka shrubland up to 6 m tall which also contains small amounts of wattle, towai and tanekaha. Within this area has been a small burn, and some forestry development is planned.

Type (c) Raupo reedland (not mapped). The stream itself contains a great deal of raupo, and is very close to nearby forestry blocks.

Significant flora

Swamp maire - uncommon in the Ecological District.

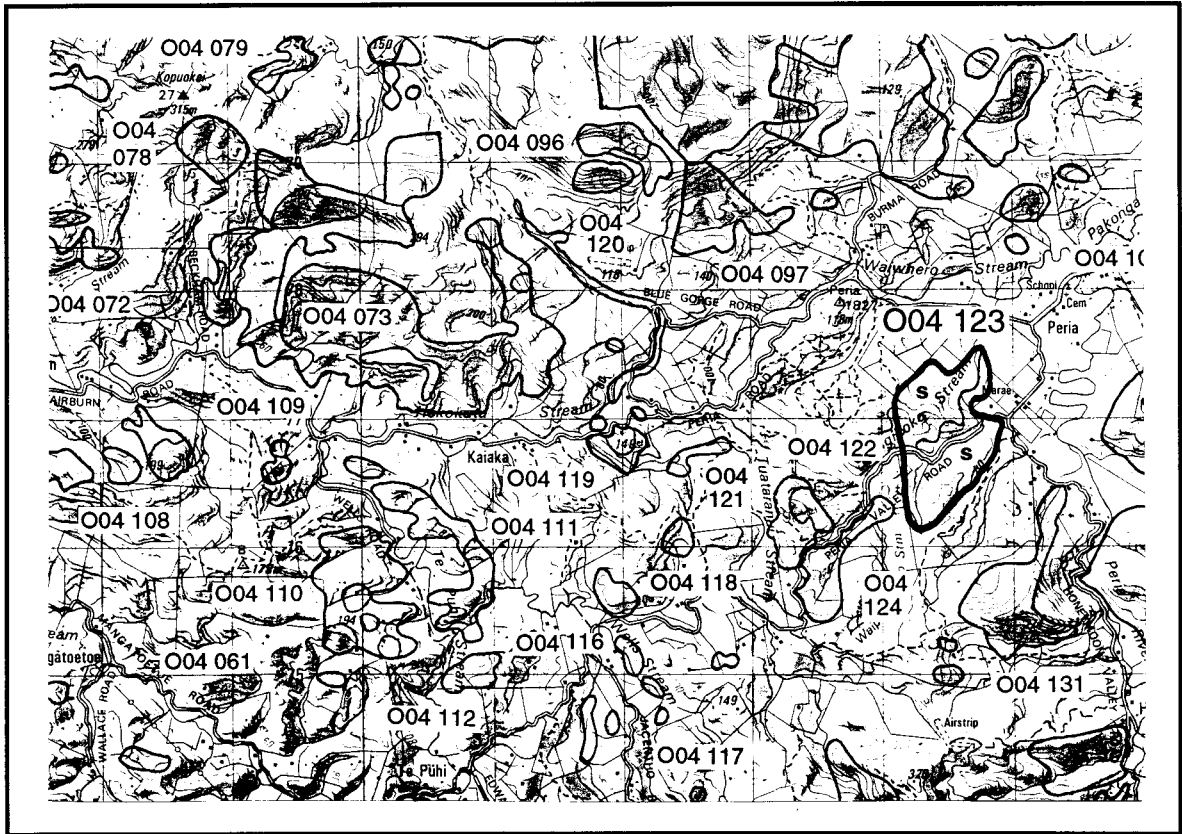
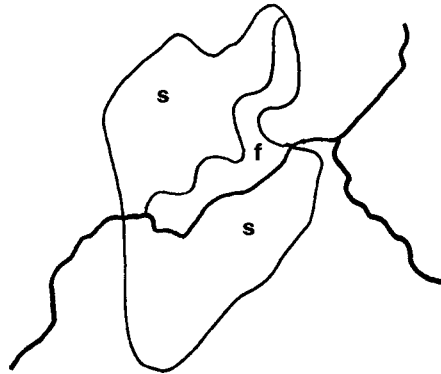


Figure 103. Tangikoko Stream, O04 123
 Each grid is 1000 m x 1000 m and equals 100 ha.
 f = forest; s = shrubland.



Fauna

Presence of NI brown kiwi (Category A threatened species) likely, as present in adjacent area; NZ pigeon (Category B threatened species).

Significance

Although small in extent, the kanuka forest contains one of the best remaining examples of low-altitude swamp maire in the Ecological District.

A representative example of raupo grading into forest and also a site where the vegetation provides a riparian buffer.