

HORAHORA ESTUARY

Survey no.	Q06/111
Survey date	30 April 1997
Grid reference	Q06 456 139
Area	206 ha (153 ha estuary, 53 ha wetland)
Altitude	sea level

Ecological unit

- (a) Mangrove forest on estuary
- (b) Oioi saltmarsh on estuary
- (c) Oioi-sea rush-saltmarsh ribbonwood saltmarsh on estuary
- (d) Manuka swamp shrubland on estuary edge

Landform/geology

Estuary.

Vegetation

- (a) The majority of the site consists of mangrove forest.
- (b) The small fingers of estuary on the western side of Pataua North Road are vegetated predominantly by oioi.
- (c) In the north-western corner of the estuary, immediately to the north of Pataua North Road, is an area of oioi-sea rush-saltmarsh ribbonwood saltmarsh
- (d) To the north-east of the above vegetation type is a small freshwater swamp, which is vegetated almost solely by manuka. The occasional ti kouka occurs within this area.

Fauna

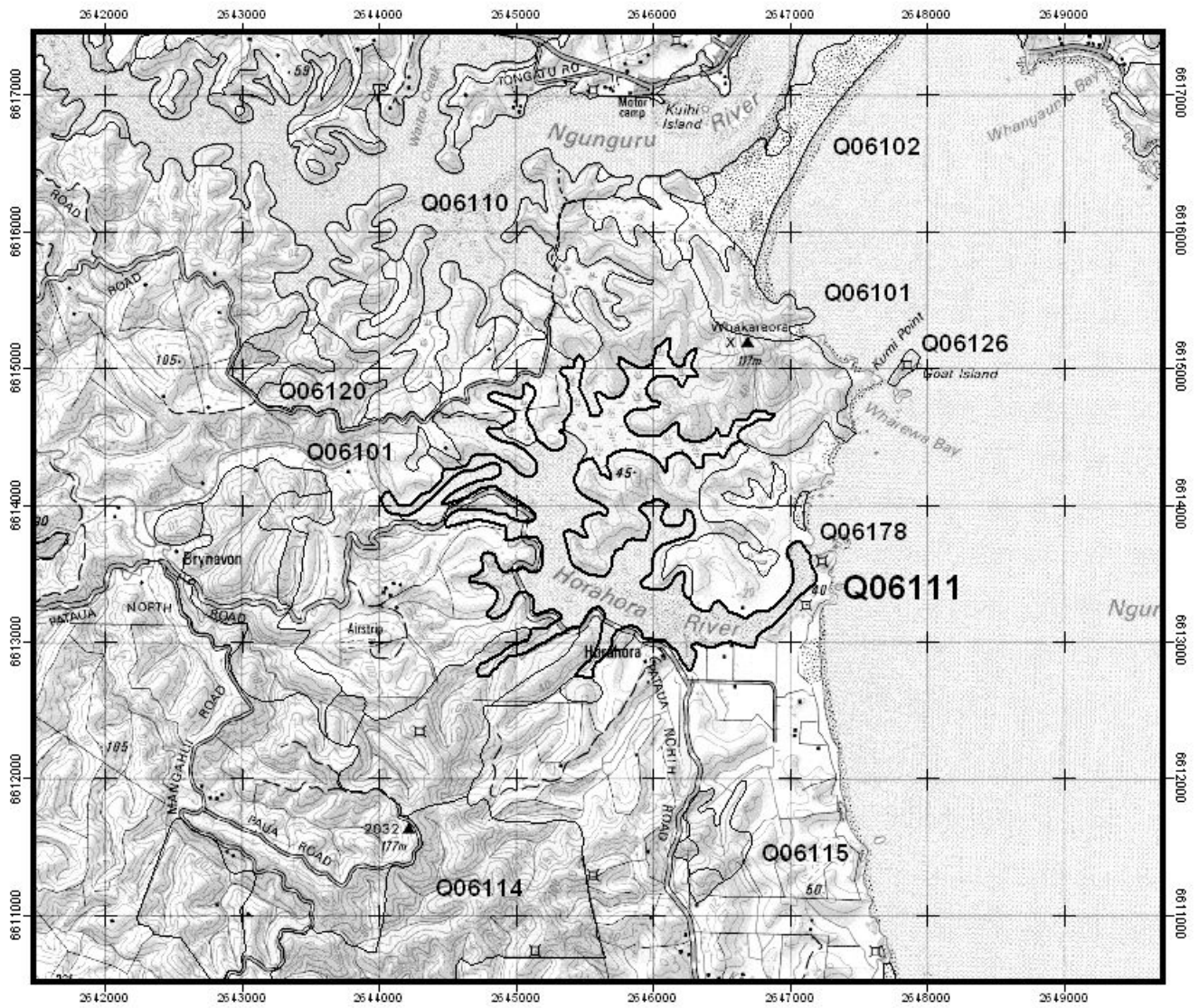
Grey duck (Nationally Endangered), matuku (Nationally Endangered), reef heron (Nationally Endangered), Caspian tern (Nationally Vulnerable), banded rail (Sparse), black shag (Sparse), NI fernbird (Sparse), pied shag (Sparse) nest site, variable oystercatcher (Regionally Significant), Australasian harrier, bar-tailed godwit, little shag, NZ kingfisher, pied stilt, pukeko, welcome swallow, white-faced heron. Black mudfish (Gradual Decline) have been recorded in one wetland site. Shortfin eel.

Significance

A large estuarine habitat, which is contiguous with the Whakareora Coastal Forest (site Q06/101). Provides habitat for threatened and regionally significant species.

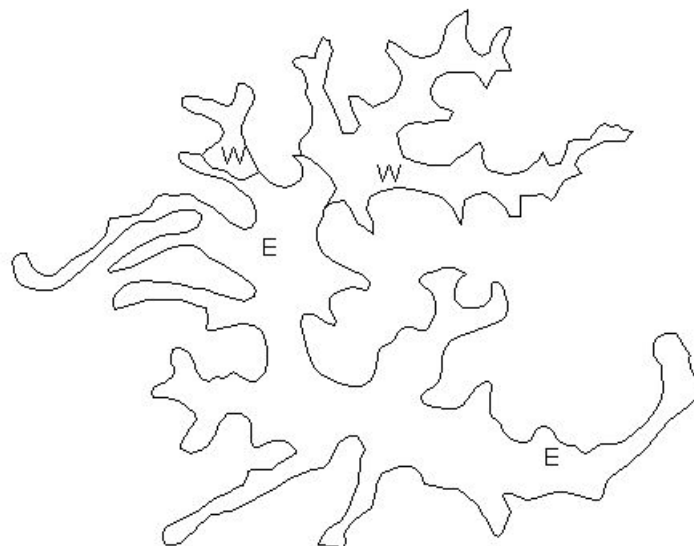
Representative site for all ecological units. Only record of types (c) and (d) in the Ecological District.

2.8 ha at this site are a reserve administered by the Department of Conservation.



Horahora Estuary Q06/111

Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland

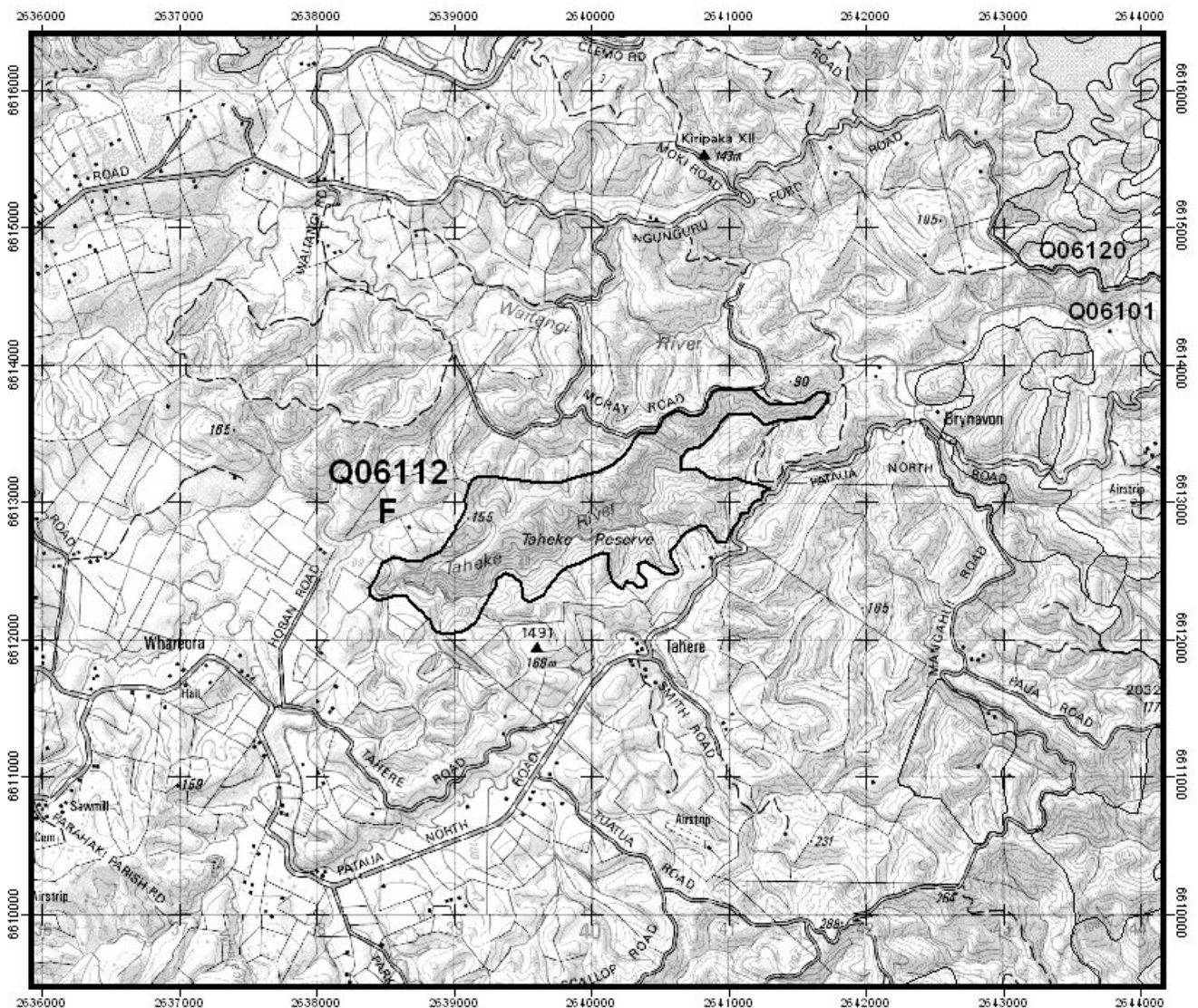


TAHEKE SCENIC RESERVE

Survey no. Q06/112
Survey date 30 April 1997
Grid reference Q06 400 129
Area 202 ha
Altitude 80-155 m asl

Ecological unit

- (a) Kanuka/manuka-totara forest on hillslope
- (b) Kanuka/manuka-tanekaha-totara forest on hillslope
- (c) Taraire-puriri forest on hillslope
- (d) Kauri-tanekaha-taraire forest on hillslope



Taheke Scenic Reserve Q06/112

Each grid is 1000m x 1000m
and = 100 ha
S = shrubland
F = forest
W = wetland
E = estuarine
D = duneland

Landform/geology

Deeply incised stream valley in Waipapa Terrane greywacke.

Vegetation

(a) The western edge of the site contains a small area of kanuka/manuka-totara forest, with frequent kauri, rimu, and tanekaha. Kahikatea, rewarewa, and matai are present in low numbers.

(b) Moving east from this area, the hillslope vegetation is dominated by kanuka/manuka with totara and tanekaha. Frequent species within this area include kauri, rimu, puriri, and tree fern. Matai are also present.

(c) To the east of the above site is a small area dominated by taraire, with puriri common. Totara and rewarewa are frequent.

(d) The majority of the site is vegetated by kauri-tanekaha-taraire secondary forest, with kauri concentrated on the ridges. Frequent species are rimu, puriri, totara, and rewarewa. Kawaka, karaka, and nikau are present in low numbers.

Significant flora

Kawaka (Sparse).

Fauna

NI brown kiwi (Serious Decline) present in the early 1990s. Kukupa (Gradual Decline), tui, and the threatened snail *Amborhytida dunni* (Gradual Decline). Fish found at this site include banded kokopu (Regionally Significant), common bully, common smelt, inanga, and redfin bully.

Significance

Presence of threatened and regionally significant species. A good example of relatively mature podocarp-broadleaf secondary forest.

Representative site for type (b) kanuka/manuka-tanekaha-totara forest, type (c) taraire-puriri forest, and type (d) kauri-tanekaha-taraire forest. Only record of type (d) in the Ecological District.

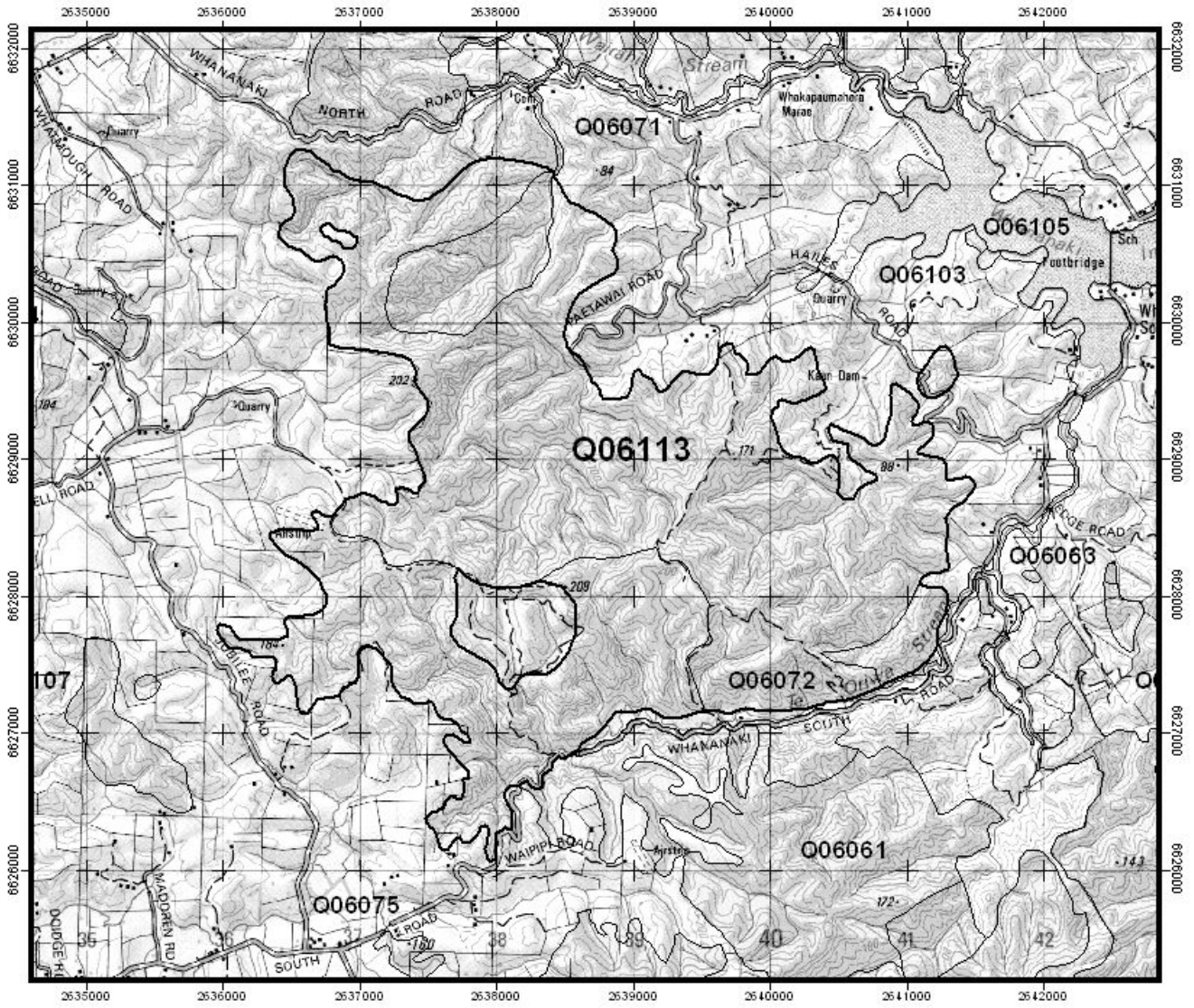
87.2 ha at this site are a Scenic Reserve administered by the Department of Conservation.

WHANANAKI BUSH

Survey no.	Q06/113
Survey date	3 April 1997
Grid reference	Q06 387 286, Q06 412 296
Area	1303 ha (442 ha forest, 861 ha shrubland)
Altitude	40-208 m asl

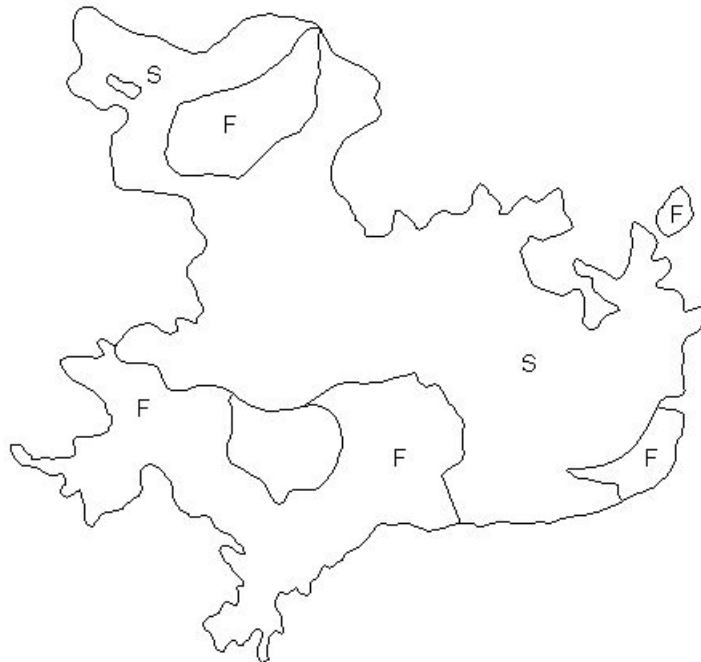
Ecological unit

- (a) Kanuka/manuka shrubland on hillslope
- (b) Kanuka/manuka-totara shrubland on hillslope
- (c) Kauri-rimu-towai forest on hillslope
- (d) Totara secondary forest on hillslope
- (e) Kanuka/manuka-rimu forest on hillslope
- (f) Kauri-tanekaha forest on hillslope
- (g) Towai secondary forest on hillslope
- (h) Kanuka/manuka-tanekaha-totara shrubland on hillslope



Whananaki Bush Q06/113

Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland



- (i) Kanuka/manuka-towai forest on hillslope
- (j) Tanekaha-totara forest on hillslope
- (k) Taraire-kahikatea forest in gully

Landform/geology

Steeply dissected hillcountry in Waipapa Terrane greywacke.

Vegetation

An extensive area of shrubland and forest, containing a mosaic of vegetation types.

(a)&(b) The majority of this site is composed of shrubland. There are two main types of shrubland present; the most common one is kanuka/manuka-dominant. The other shrubland type is composed of both kanuka/manuka and regenerating totara. These two ecological units make up approximately 65% of the site, and are concentrated on the northern and eastern sides of the site. The species associated with the two shrubland types include rimu, kauri, tanekaha, puriri, rewarewa, kahikatea, towai, taraire, mamaku, nikau, and ti kouka.

(c) Within this shrubland area, just south of Whananaki North Road, is a piece of kauri-rimu-towai secondary forest. Puriri, totara, and kahikatea are frequent within this forest area, with occasional rewarewa and ti kouka.

(d) On the western side of the site, as seen from Jubilee Road, the vegetation is composed of secondary forest. At the northern end, adjacent to the airstrip, is an area of totara forest, with frequent kauri, rimu, towai, and puriri.

(e) To the south of this forest type, and moving closer to the road, the forest is dominated by rimu and kanuka/manuka, with frequent totara. Occasionally occurring species include kahikatea, kauri, rewarewa, puriri, towai, and mamaku.

(f) The southern side of the site, adjacent to Whananaki South Road, is predominantly secondary forest. The south-western corner contains an area of kauri-tanekaha forest, with frequent totara, towai, rimu, and mamaku. Puriri and rewarewa are also present.

(g) Moving eastwards is a large area of towai forest, with frequent puriri and mamaku, as well as emergent rewarewa and tanekaha. Rata, and emergent kauri and rimu, occur occasionally.

Next to this site is a small area of type (f) vegetation, then a large area of type (a), which is joined to the main shrubland area.

Type (d) is repeated in the south-east corner of the site, adjacent to Whananaki South Road. Frequent species in this area are tanekaha, puriri, towai, mamaku, and kanuka/manuka. Rimu, rewarewa, kahikatea, kauri, and ti kouka occur occasionally.

(h) Within the shrubland area opposite the junction of Whananaki South Road and Hailes Road, is a large area of kanuka/manuka shrubland, with emergent totara and tanekaha common. Associated species include puriri, ti kouka, and emergent rimu, kauri, and rewarewa.

(i) Adjacent to this area is an area of kanuka/manuka-dominant forest, with towai common.

(j) On the eastern side of the site is a small forest area which is separated from the remainder of the site, and which is dissected by Hailes Road. The majority of

this remnant is dominated by tanekaha-totara secondary forest, with frequent rimu, rewarewa, puriri, and towai. Kauri are present in low numbers.

(k) Immediately to the south of Hailes Road is a gully dominated by taraire, with kahikatea common. Frequent species are puriri, nikau, and ti kouka, with occasional rewarewa, rimu, and pukatea.

Fauna

NI brown kiwi (Serious Decline), kukupa (Gradual Decline), Australasian harrier, grey warbler, NZ kingfisher, NI fantail, silvereye, tui. Auckland green gecko (Gradual Decline) recorded in 1998. Fish recorded at this site include inanga and redfin bully.

Significance

A large, contiguous area, which provides habitat for several threatened species. Representative site for type (a) kanuka/manuka shrubland, type (b) kanuka/manuka-totara shrubland, type (c) kauri-rimu-towai forest, type (e) kanuka/manuka-rimu forest, type (f) kauri-tanekaha forest, type (g) towai secondary forest, type (h) kanuka/manuka-tanekaha-totara shrubland, type (j) tanekaha-totara forest, and type (k) taraire-kahikatea forest. Only record of types (c), (j), and (k) in the Ecological District.

155.8 ha at this site are protected; 135.9 ha by a Queen Elizabeth II National Trust covenant and 19.9 ha are reserves administered by the Department of Conservation.

HORAHORA BUSH

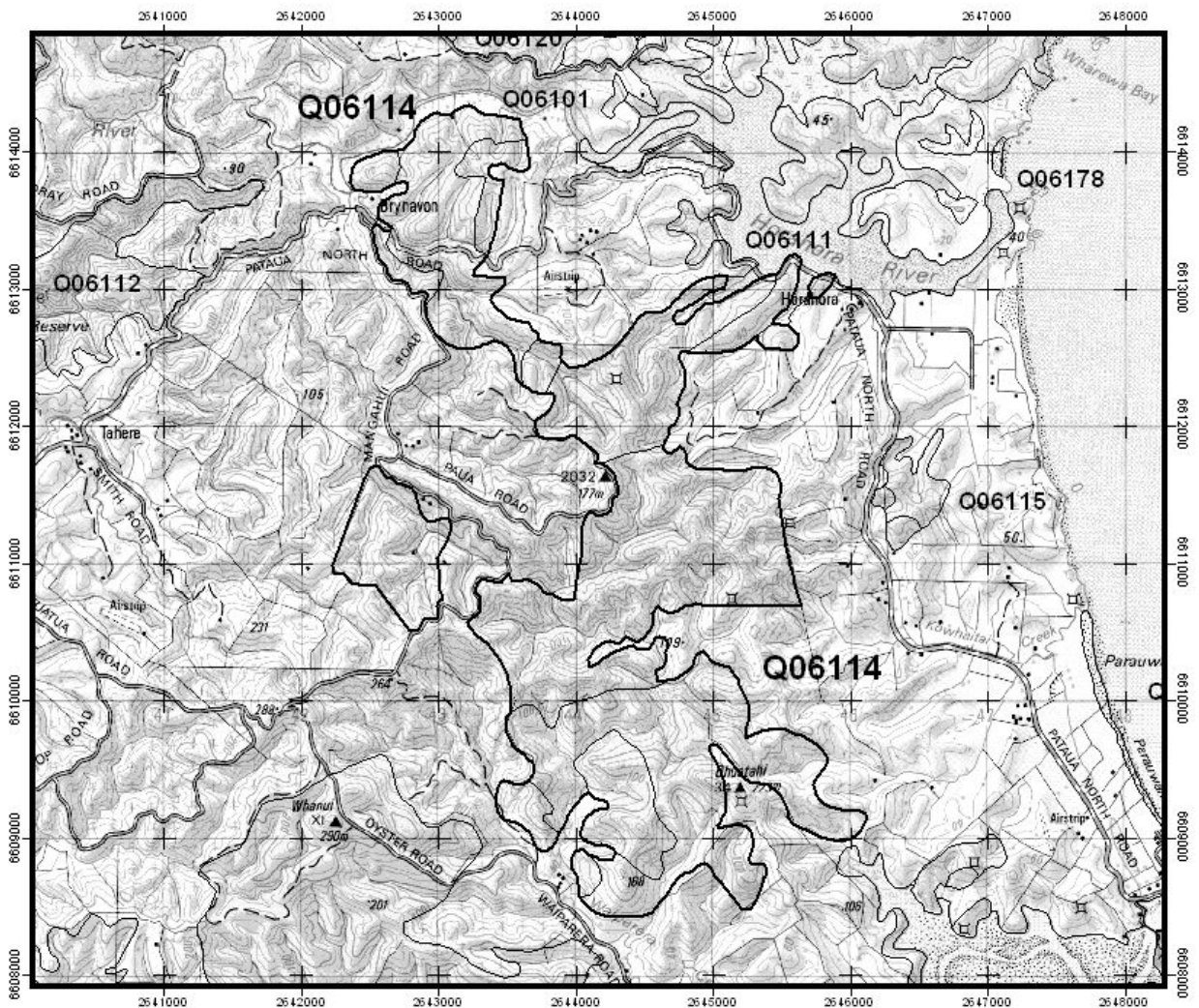
Survey no.	Q06/114
Survey date	30 April 1997
Grid reference	Q06 457 130, Q06 426 111, Q06 448 113
Area	822 ha (365 ha forest, 457 ha shrubland)
Altitude	0-223 m asl

Ecological unit

- (a) Kanuka/manuka-totara shrubland on hillslope
- (b) Kanuka/manuka shrubland on hillslope
- (c) Kauri-rimu-totara forest on hillslope
- (d) Rimu-tanekaha-taraire-totara forest on hillslope
- (e) Kauri-totara forest on hillslope
- (f) Kauri-tanekaha forest on hillslope
- (g) Totara forest on hillslope
- (h) Kanuka/manuka-taraire-totara forest on hillslope
- (i) Kanuka/manuka forest on hillslope
- (j) Kanuka/manuka-totara forest on hillslope
- (k) Kanuka/manuka-tanekaha-totara shrubland on hillslope
- (l) Taraire-totara-towai forest on hillslope
- (m) Towai forest on hillslope
- (n) Kanuka/manuka-tanekaha shrubland on hillslope

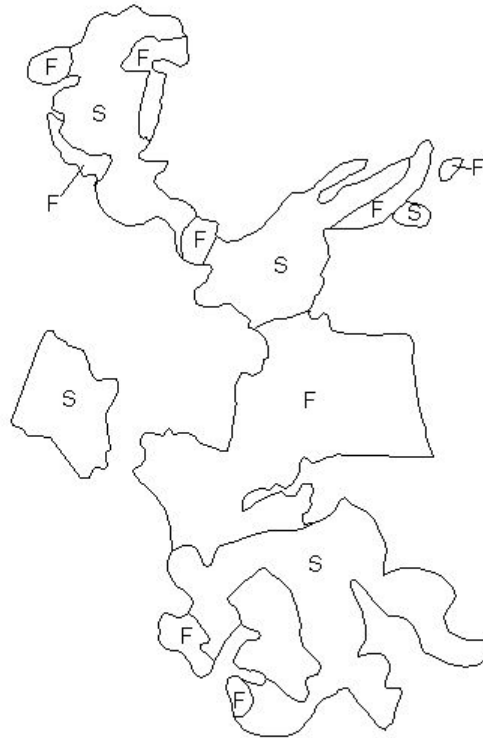
Landform/geology

Steep hillcountry in Waipapa Terrane greywacke.



Horahora Bush Q06/114

Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland



Vegetation

An extensive area of shrubland and forest, linking the Horahora and Pataua Estuaries.

(a) The area to the north of Pataua North Road consists predominantly of shrubland. The south-west section of this area is kanuka/manuka-totara shrubland, with frequent rimu, tanekaha, and puriri.

(b) The remainder of this shrubland is kanuka/manuka of 2-3 m in height, with emergent totara frequent.

(c) The forested area to the west of this shrubland has kauri, rimu, and totara as the dominant species, with frequent tanekaha, rewarewa, towai, puriri, and taraire.

(d) On the eastern side of the shrubland, the forested area consists of rimu-tanekaha-taraire-totara secondary forest, with frequent kahikatea, kauri, rewarewa, and puriri.

The shrubland area continues on the southern side of Pataua North Road, and can be viewed from Mangahui Road. Associated species in this part of the shrubland include emergent tanekaha and totara, as well as towai, rimu, and tree fern.

A small area of type (e) vegetation can be found adjacent to and south of Pataua North Road. Frequent species within this area are rimu, tanekaha, rewarewa, and taraire. Towai and puriri are present in low numbers, as well as one northern rata.

(f) South of this site is a small area dominated by kauri, with tanekaha common. Taraire, rimu, towai, rewarewa, puriri, and totara are all frequent.

Type (e) is repeated to the south-east of the above site.

To the north of the end of Paua Road is a large area of type (a) vegetation. Emergent rimu, kauri, and tanekaha are frequent throughout, with puriri and kahikatea also present.

Type (a) is repeated again where the site meets Pataua North Road near Horahora. Frequent species include puriri, taraire, and kohekohe. Emergent rimu and kauri are present in low numbers, as well as kahikatea, tanekaha, karaka, rewarewa, and nikau.

Within this area are two small pieces of forest which are bordering on the Horahora Estuary. The first is dominated by type (c) vegetation, with a diverse range of associated species including puriri, rewarewa, taraire, kowhai, pohutukawa, kahikatea, tanekaha, kanuka/manuka, and ti kouka.

(g) The second piece is to the east of this site, and is dominated by totara. Frequent species are puriri, kowhai, tanekaha, pohutukawa, and kanuka/manuka. Kauri, matai, taraire, and kohekohe are also present.

(h) Moving south-east from the trig at the end of Paua Road is a large area of secondary forest. The majority of this area, including the hillslope facing Ngunguru Bay, is dominated by kanuka/manuka-taraire-totara secondary forest. This area has a high diversity of associated canopy species, which are present in varying levels of abundance. These include tawa, puriri, karaka, kohekohe, tanekaha, rewarewa, lancewood, kauri, rimu, towai, nikau, miro, matai, northern rata, and kahikatea.

(i) Within this forest area are some small areas of kanuka/manuka secondary forest, which also contain frequent tanekaha, towai, and totara, and occasional taraire, rimu, kauri, rewarewa, puriri, and tawa.

On the western side of Mangahui Road is a shrubland area which is separated from the rest of the site by the road and some cleared areas. Type (a) vegetation is repeated in this area. Associated species include occasional rewarewa, tanekaha, rimu, puriri, and mamaku.

(j) The southern side of the main forested area is composed of kanuka/manuka-totara secondary forest. Kauri, puriri, tanekaha, rimu, rewarewa, towai, and taraire occur in low numbers.

(k) The shrubland adjacent to this area consists of kanuka/manuka-tanekaha-totara shrubland, with towai and kauri.

Within this shrubland are several areas of kauri rickers, with frequent rimu and tanekaha.

(l) Moving southwards is an area of taraire-totara-towai secondary forest in the gully adjacent to the forestry road. Puriri, rimu, tanekaha, karaka, and rewarewa are frequent, with occasional tawa.

(m) Towai forest occurs in the forested area to the east, and also contains totara, puriri, and rimu. Vegetation types (f) and (g) are repeated within this area.

Most of the area around the pa site and the Ohuatahi Trig consists of shrubland. Type (a) shrubland is the most abundant, with type (b) repeated in some areas.

(n) Kanuka/manuka-tanekaha shrubland can be found in small amounts. Species associated with these shrubland areas include puriri, and emergent rimu, rewarewa, and kauri.

Significant flora

Kawaka (Sparse).

Fauna

NI brown kiwi (Serious Decline) present in very low numbers in 2004 (R. Pierce, *pers. comm.*), kukupa (Gradual Decline), the snail *Amborhytida dunntiae* (Gradual Decline), longfin eel (Gradual Decline), grey warbler, NI fantail, tui.

Significance

A large, contiguous area with a high diversity of vegetation types, which supports threatened species. The pine plantation on the western side of the site provides a buffer from wind damage.

Representative site for type (a) kanuka/manuka-totara shrubland, type (b) kanuka/manuka shrubland, type (c) kauri-rimu-totara forest, type (d) rimu-tanekaha-taraire-totara forest, type (e) kauri-totara forest, type (f) kauri-tanekaha forest, type (h) kanuka/manuka-taraire-totara forest, and type (n) kanuka/manuka-tanekaha shrubland. Only record of type (d) in the Ecological District.

51.8 ha are protected at this site; 51 ha by a Queen Elizabeth II National Trust covenant and 0.8 ha are a reserve administered by the Department of Conservation.

KOWHAITAI CREEK REMNANT

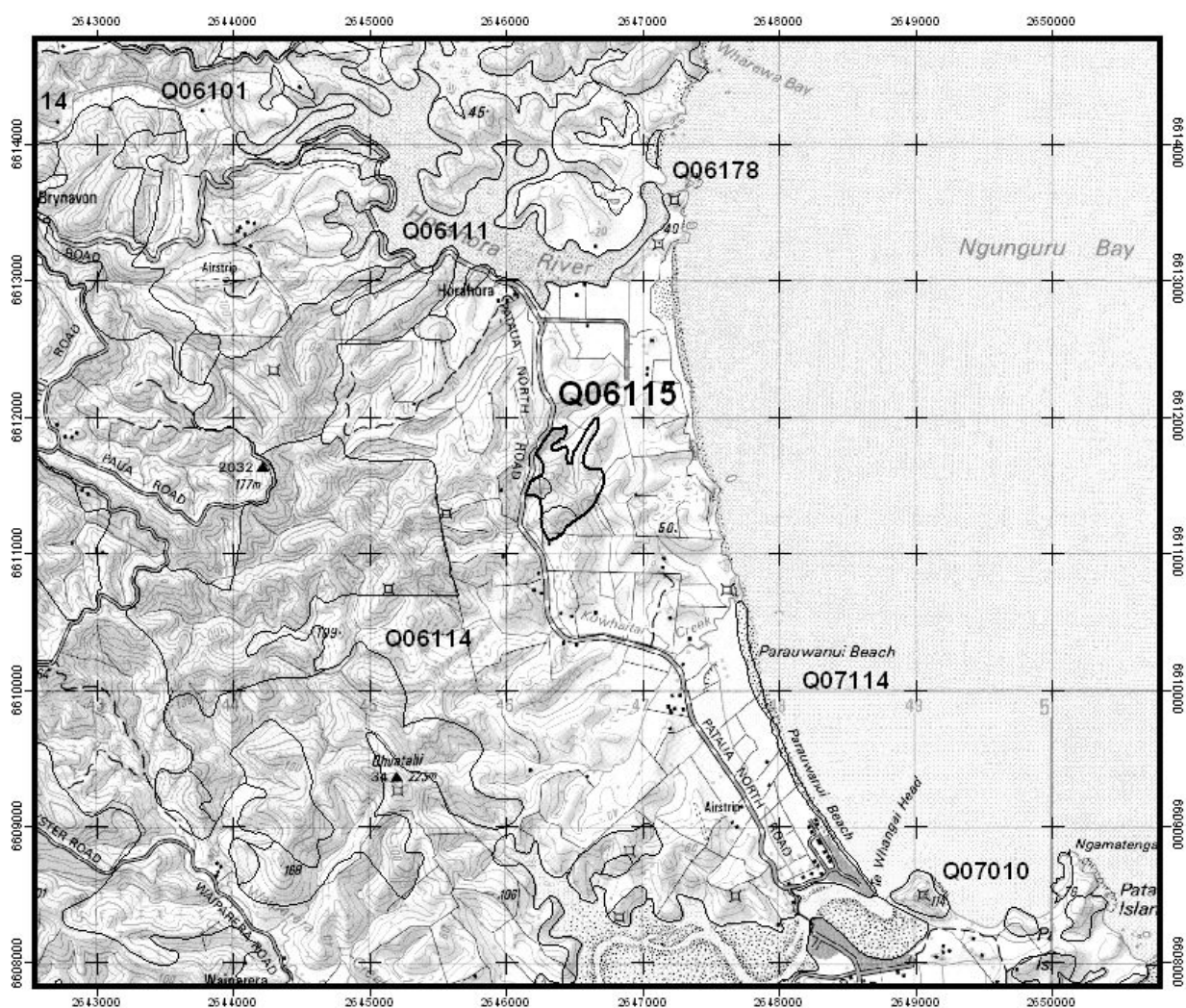
Survey no. Q06/115
 Survey date 30 April 1997
 Grid reference Q06 464 115
 Area 26 ha (20 ha forest, 6 ha shrubland)
 Altitude 20-80 m asl

Ecological unit

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

Landform/geology

Coastal hillcountry in Waipapa Terrane greywacke.



Kowhaitai Creek Remnant Q06/115

Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland



Vegetation

(a) The majority of the site is composed of kanuka/manuka-totara secondary forest, with frequent tanekaha, rimu, rewarewa, and taraire. Kohekohe, kauri, kahikatea, karaka, nikau, and ti kouka occur less frequently.

(b) There are two small shrubland areas adjacent to Pataua North Road, which are dominated by kanuka/manuka. Emergent totara are frequent, with the occasional ti kouka and emergent rimu.

Fauna

Kukupa (Gradual Decline), tui, Australasian harrier, grey warbler.

Significance

Presence of a threatened species.

MAINS ROAD REMNANT

Survey no.	Q06/116
Survey date	5 April 1997
Grid reference	Q06 313 180
Area	115 ha
Altitude	180-285 m asl

Ecological unit

(a) Towai-kauri-taraire forest on hillslope

(b) Kauri forest on ridge

(c) Towai forest on hillslope

Landform/geology

Steep hillcountry in Waipapa Terrane greywacke.

Vegetation

An area of secondary forest within the Glenbervie Forest, which is surrounded by plantation pines.

(a) The south-west corner of the site contains an area of secondary forest with towai abundant, and taraire and kauri common. Tanekaha, rimu, and rewarewa are frequent.

(b) Small stands of kauri occur on some of the ridges, with rimu and tanekaha present in small amounts.

(c) The remainder of the site is dominated by towai. Frequent species include tanekaha, kauri, rimu, rewarewa, and totara. Taraire, kahikatea, and puriri are less common.

Fauna

NI brown kiwi (Serious Decline) recorded in the past, NI tomtit (Regionally Significant) in adjacent pines, grey warbler, tui.

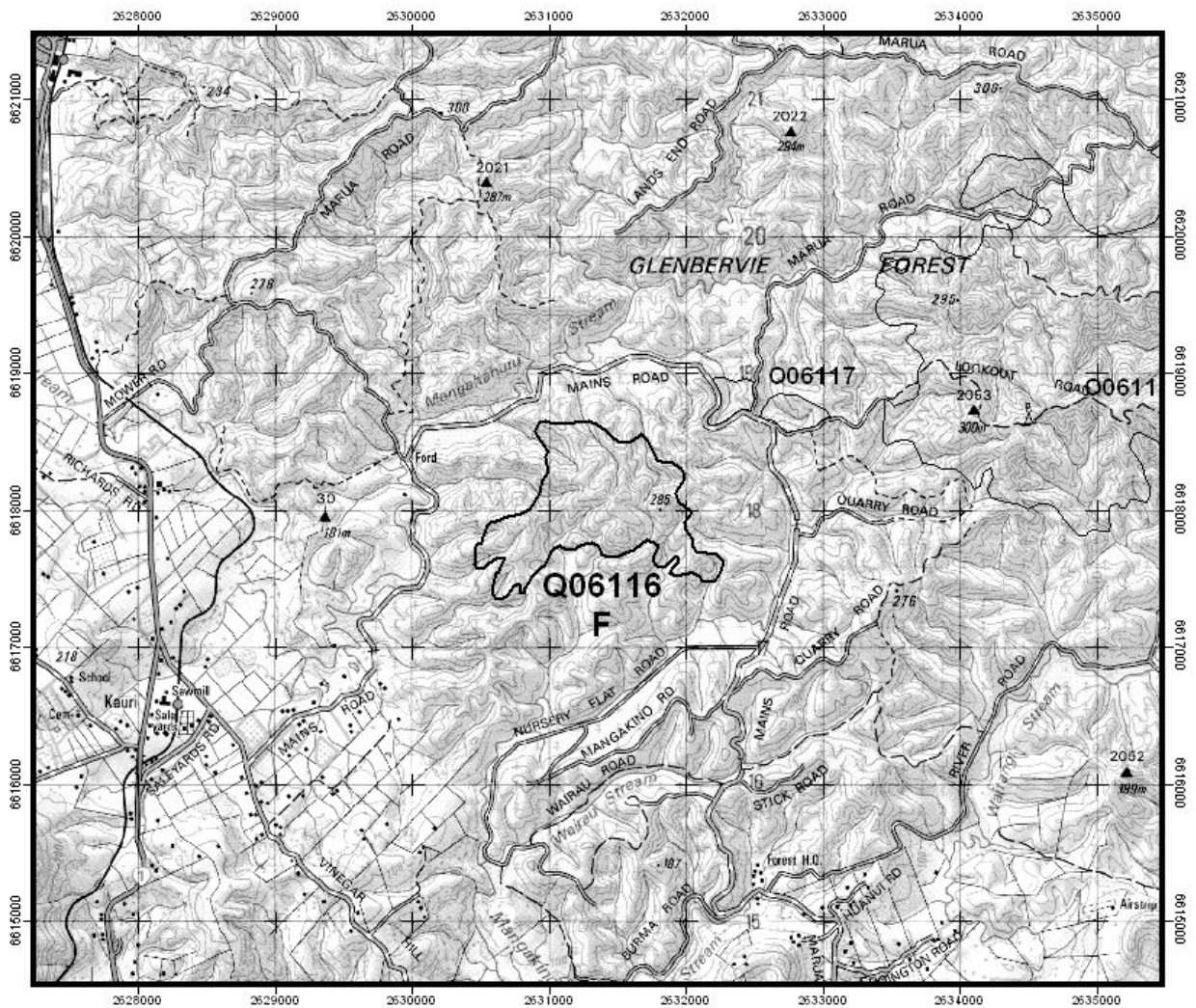
The threatened landsnail *Schizoglossa worthyae* (Sparse) has been recorded in the vicinity.

Significance

A large area, which is buffered by surrounding pines.

Representative site for type (a) towai-kauri-taraire forest, and the only record of this type in the Ecological District.

78.8 ha at this site are protected as a Conservation Covenant.



Mains Road Remnant Q06/116

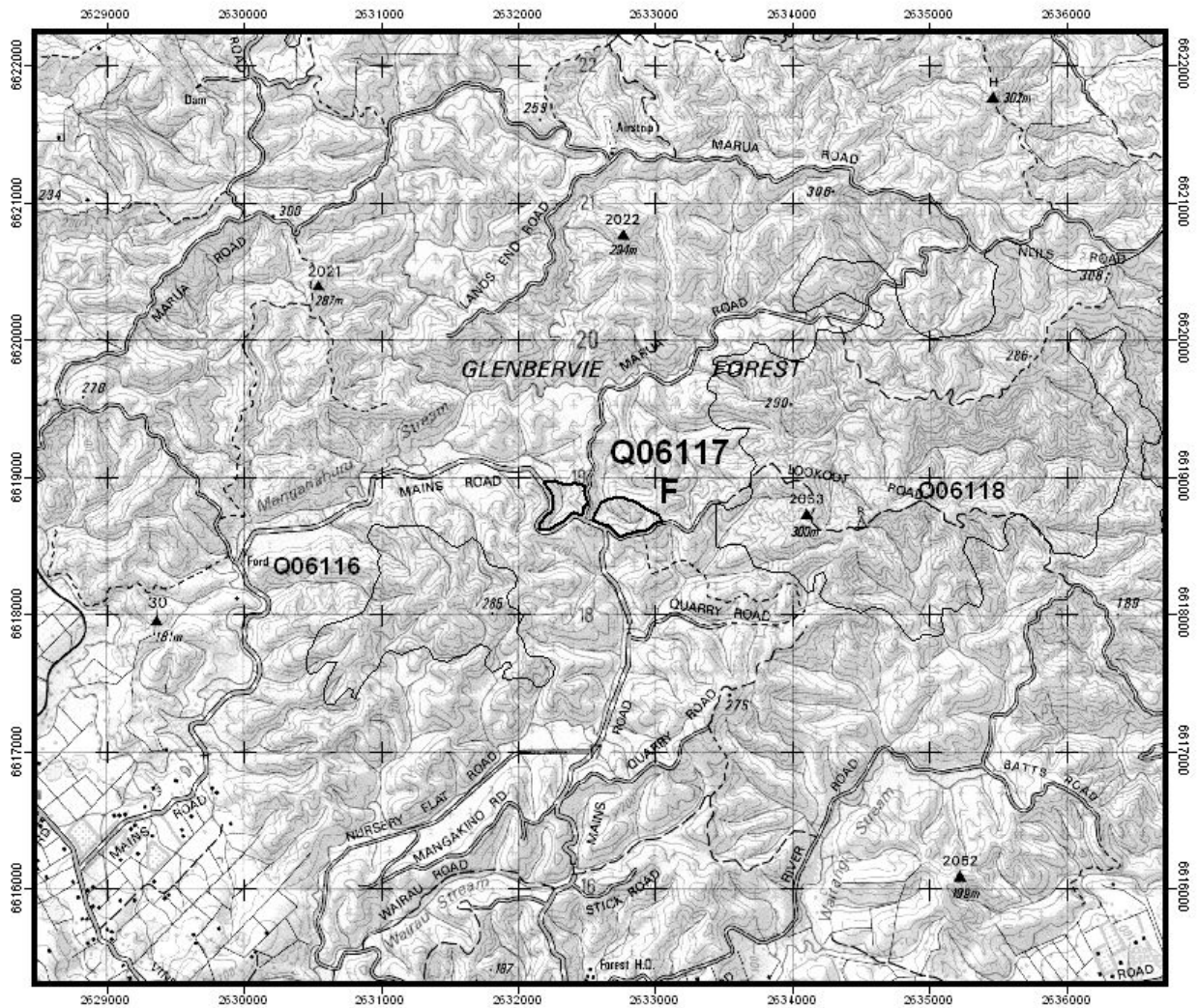
Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland

MARUA ROAD REMNANTS

Survey no. Q06/117
 Survey date 5 May 1997
 Grid reference Q06 323 187, Q06 327 187
 Area 16 ha
 Altitude 160-200 m asl

Ecological unit

- (a) Kauri-towai forest in gully
- (b) Towai forest in gully



Marua Road Remnants Q06/117

Each grid is 1000m x 1000m
 and = 100 ha
 S = shrubland
 F = forest
 W = wetland
 E = estuarine
 D = duneland

Landform/geology

Deeply incised valley heads in Waipapa Terrane greywacke.

Vegetation

Site is composed of two small bush remnants within the Glenbervie Forest. Both remnants are adjacent to Mains Road, and are adjacent to pines and/or cleared areas.

(a) The western remnant is bordered by roads on three sides. Kauri and towai are the dominant species, with frequent taraire, totara, tanekaha, and rimu. Rewarewa and puriri are also present.

(b) The eastern remnant is towai dominant, with totara, tanekaha, rimu, rewarewa, and taraire are frequent. Puriri is present in small amounts.

Fauna

Grey warbler, NI fantail.

The threatened landsnail *Schizoglossa worthyae* (Sparse) has been recorded in the vicinity.

Significance

Linkage function.

9.7 ha at this site are protected as a Conservation Covenant.

LOOKOUT ROAD BUSH

Survey no.	Q06/118
Survey date	20 March 1997
Grid reference	Q06 344 185
Area	1126 ha (952 ha forest, 174 ha shrubland)
Altitude	20-308 m asl

Ecological unit

- (a) Towai forest on hillslope
- (b) Kauri forest on ridge
- (c) Taraire-towai forest in gully
- (d) Taraire forest in gully
- (e) Kauri-rimu forest on ridge
- (f) Kauri-rimu forest on hillslope
- (g) Totara-towai forest on hillslope
- (h) Kanuka/manuka shrubland on hillslope
- (i) Totara-rewarewa-tanekaha forest in gully
- (j) Kanuka/manuka-towai shrubland on hillslope
- (k) Mamaku-kanuka/manuka shrubland on hillslope
- (l) Totara-kanuka/manuka-mamaku shrubland on hillslope

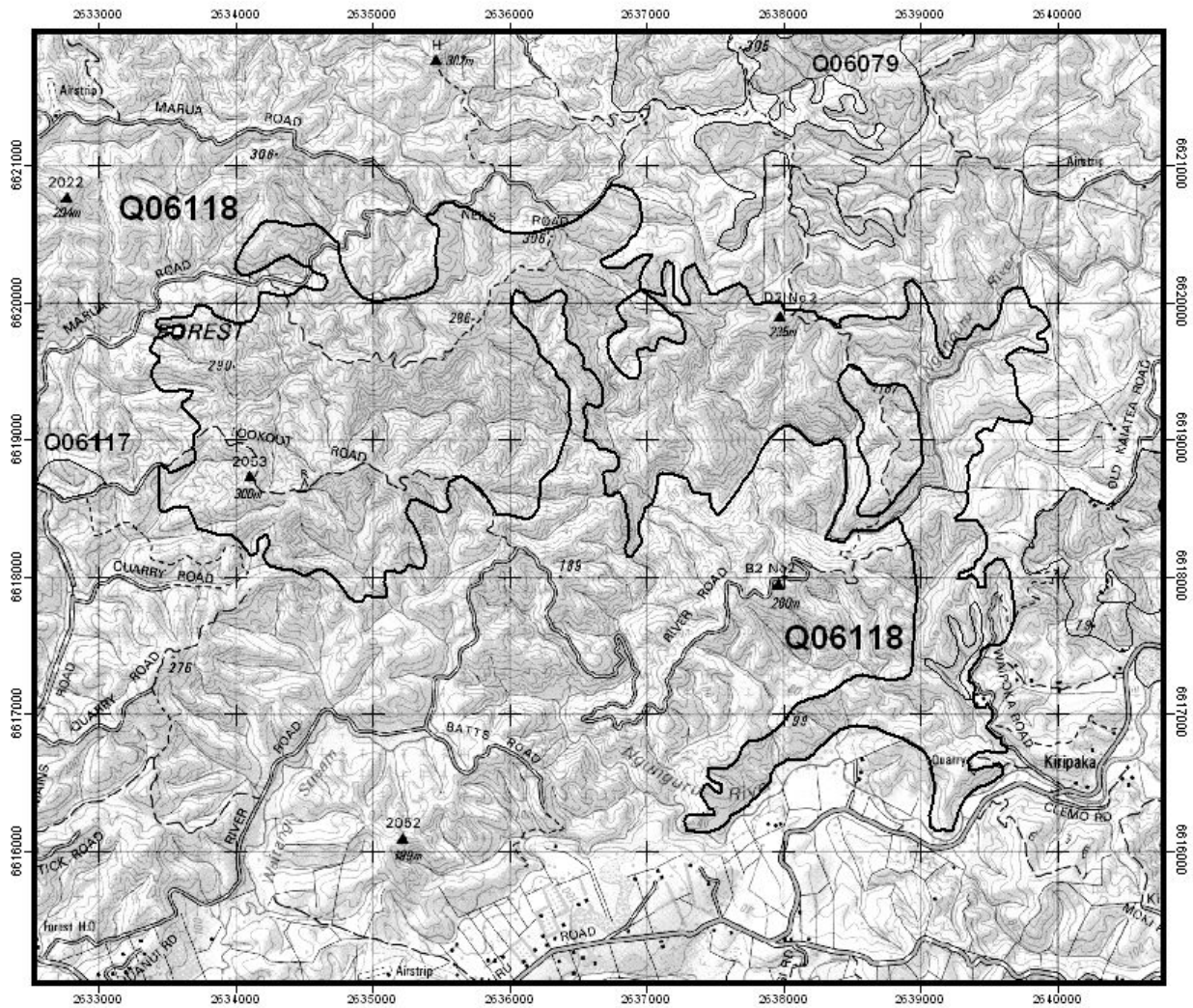
Landform/geology

Steeply dissected hillcountry of Waipapa Terrane greywacke with Kerikeri Volcanics basalt flow remnants on some hilltops in the east.

Vegetation

A large forest area in the Glenbervie Forest, surrounded on three sides by plantation pines. There are several areas of pines within the site, with narrow forest corridors through the pines linking the native forest areas.

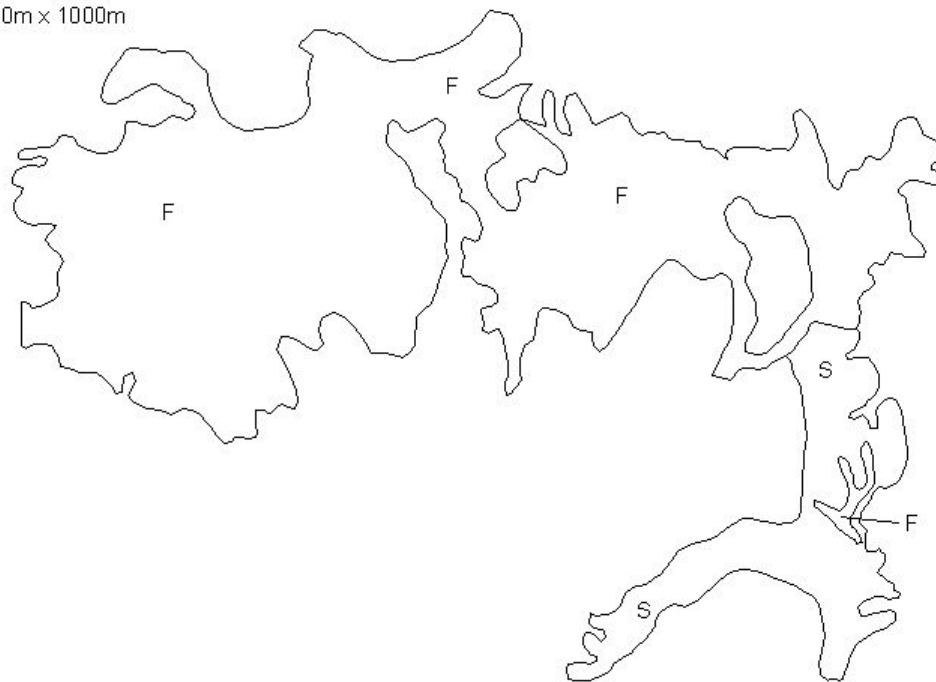
- (a) From Marua Road in the west, to Ngunguru River on the eastern side of the site, the majority of the forest is dominated by towai. Frequent species within this forest type include rewarewa, rimu, tanekaha, taraire, totara, and kauri. On the western side of the site, matai and northern rata are present in low numbers. One very large northern rata can be found on the south-west side of the site.
- (b) Small patches of kauri can be found on some ridges in the area, with rimu, rewarewa, and tanekaha occurring occasionally.
- (c) Gullies which can be seen from Lookout Road are dominated by taraire and towai. Frequent species include karaka, kohekohe, and totara. Kahikatea, rimu, tawa, and rewarewa occur less commonly.
- (d) Gullies within the central forest area are dominated by taraire secondary forest, with frequent rimu, rewarewa, towai, and tanekaha, and occasional kahikatea, totara, and northern rata.



Lookout Road Bush Q06/118

Each grid is 1000m x 1000m

- and = 100 ha
- S = shrubland
- F = forest
- W = wetland
- E = estuarine
- D = duneland



(e) & (f) At the northern end of the site to the east of the Ngunguru river, ridges are dominated by kauri and rimu. Adjacent hillslopes are also dominated by these two species, with frequent puriri and rewarewa.

(g) A second forest type also occurs on these hillslopes: totara-towai secondary forest with frequent tanekaha and occasional matai, northern rata, kawaka, and swamp maire.

Gullies in this area are dominated by type (d) vegetation, with frequent kauri, tanekaha, totara, and towai. Rimu, rewarewa, kawaka and puriri are present in low numbers.

(h) To the west off the end of Waipoka Road, hillslopes are covered in kanuka/manuka shrubland, with frequent totara, towai, tanekaha, and mamaku. There is also the occasional kauri, rewarewa, and mature *Pinus* sp.

(i) Gullies are dominated by totara, with tanekaha and rewarewa common. Kahikatea, taraire, and rimu are frequent.

(j) Moving south towards Ngunguru Road, kanuka/manuka is the dominant species, with towai common throughout. Emergent kauri, tanekaha, and totara are frequent, with occasional puriri, kahikatea, and ti kouka. A small group of mature wattle trees is also present. North-west of this site, type (h) is repeated.

(k) In the south-west corner of the site, as seen from Ngunguru Road, is a small area of mamaku-dominated shrubland, with kanuka/manuka common. Emergent totara is frequent. Type (h) is again repeated in this area, on both the ridges and part of the hillslope.

(l) Moving north-east from the above site is a shrubland area dominated by emergent totara, with kanuka/manuka and mamaku common. Taraire and towai also occur in smaller amounts.

Significant flora

Kawakawa (Sparse), black maire (Regionally Significant).

Fauna

NI brown kiwi (Serious Decline) have declined here since the 1990s (Pierce 2004). Kukupa (Gradual Decline), longfin eel (Gradual Decline), NI tomtit (Regionally Significant), NI fantail, grey warbler, tui. The snails *Amborhytida dunniiae* (Gradual Decline), *Schizoglossa worthyae* (Sparse), and Punctidae sp. 28 (Range Restricted).

Significance

Presence of threatened species. A large forest remnant, which is buffered on most sides by pine plantations. Riparian protection properties. Type (g) vegetation contains an unusual association of matai, northern rata, kawaka, and swamp maire.

Representative site for type (a) towai forest, type (c) taraire-towai forest, type (d) taraire forest, type (e & f) kauri-rimu forest, type (g) totara-towai forest, type (i) totara-rewarewa-tanekaha forest, type (k) mamaku-kanuka/manuka shrubland, and type (l) totara-kanuka/manuka-mamaku shrubland. Only record of types (i) and (l) in the Ecological District.

586.2 ha at this site are protected as a Conservation Covenant.