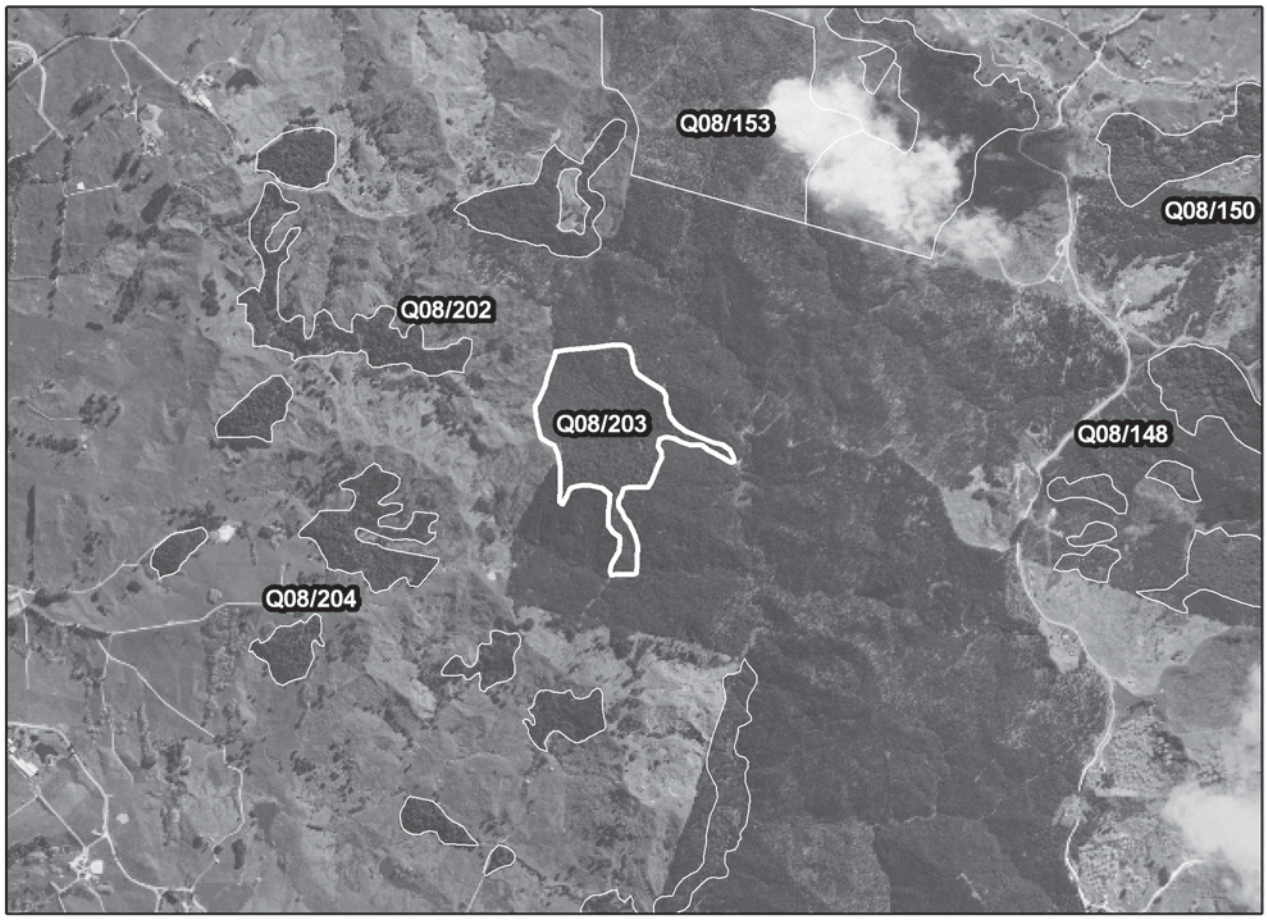
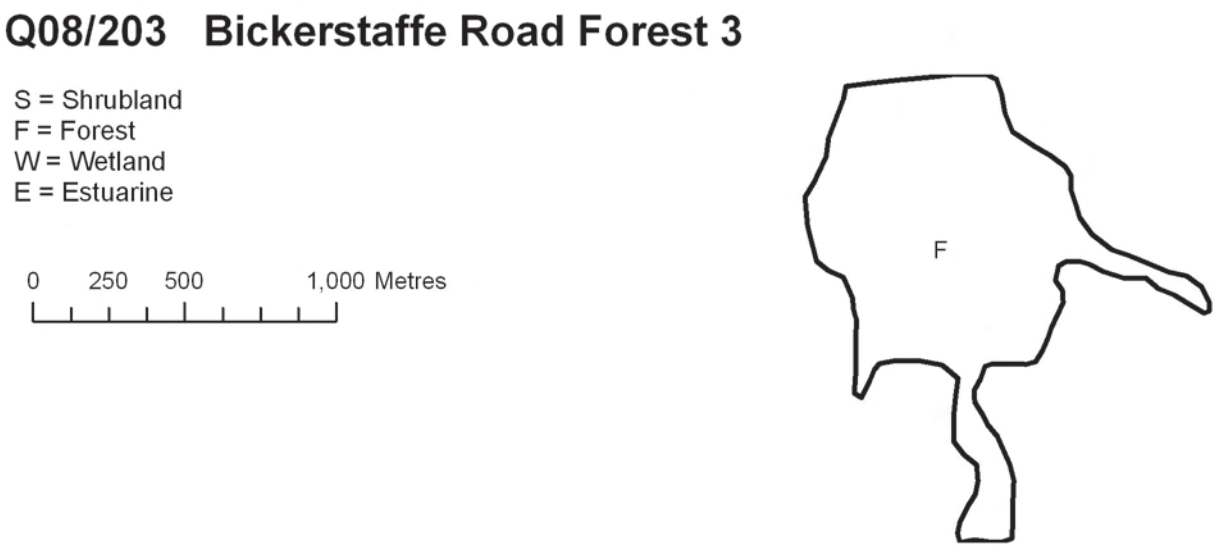
BICKERSTAFFE ROAD FOREST 3

Survey no.	Q08/203
Survey date	Not surveyed
Grid reference	Q08 309 602
Area	19.0 ha
Altitude	60–120 m asl

Ecological unit

(a) Kanuka–totara forest on moderate hillslope (100%)





Landform/geology

Hillslopes and gullies underlain by Cretaceous sandstone and mudstone (Mangakahia Complex).

Vegetation

This site was not able to be surveyed using the present methods, as it is at least 2 km from any public road, and is hidden from view by hilly topography and radiata pine forest. Recent aerial photography (flown in 2002) suggests that the main forest type in the area is relatively young, secondary kanuka–totara forest. Valleys within the site appear to contain a more diverse mixture of species, perhaps with kahikatea as a main component; but this could not be determined with confidence.

Fauna

Not surveyed.

Significance

Insufficient information exists to assign a higher significance; a field survey would be required to complete the assessment. However, this site is a relatively large area of indigenous forest, and is buffered on several sides by pine plantations, which provide temporary protection from wind exposure and an extension of habitat for some forest bird species and indigenous understorey plants.

HILLSTONE ROAD FOREST REMNANTS 1

Survey no.	Q08/204
Survey date	20 December 2005
Grid reference	Q08 302 596 (5 remnants)
Area	20.1 ha
Altitude	40–120 m asl

Ecological units

(a) Kanuka–totara forest on moderate to steep hillslope (75%)

(b) Taraire–puriri–totara forest on moderate to steep hillslope (25%)

Landform/geology

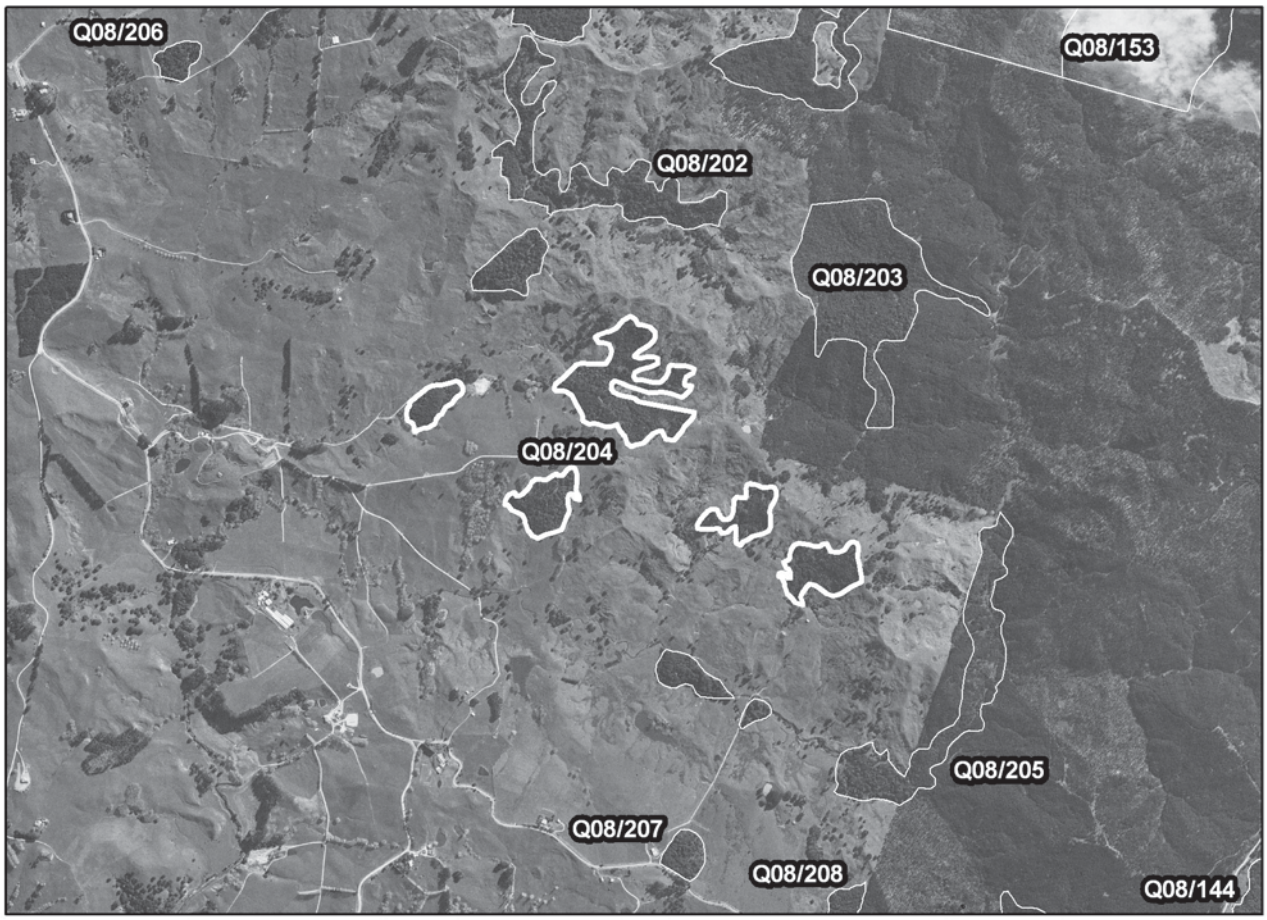
Hillslopes and gullies underlain by Cretaceous sandstone and mudstone (Mangakahia Complex), and melange (undifferentiated Mangakahia & Motatau Complex lithologies).

Vegetation

This site comprises five forest remnants scattered across a pastoral farming landscape to the north of Hillstone Road and to the east of Batley Road. These remnants bear a strong resemblance to Marohemo Road Forest Remnants 2 (Q08/202) in the next sub-catchment further north. They are also dispersed, grazed remnants with a predominance of totara.

(a) Kanuka–totara forest occupies a majority of the area. Species recorded occasionally include rimu, kahikatea, matai, ti kouka, pukatea and karaka.

(b) On the eastern side, two of the remnants contain a more lush forest of taraire, puriri and totara with frequent karaka and occasional matai, rewarewa, kahikatea and pukatea.



Q08/204 Hillstone Road Forest Remnants 1

S = Shrubland
F = Forest
W = Wetland
E = Estuarine

0 250 500 1,000 Metres

Fauna

Not surveyed.

Significance

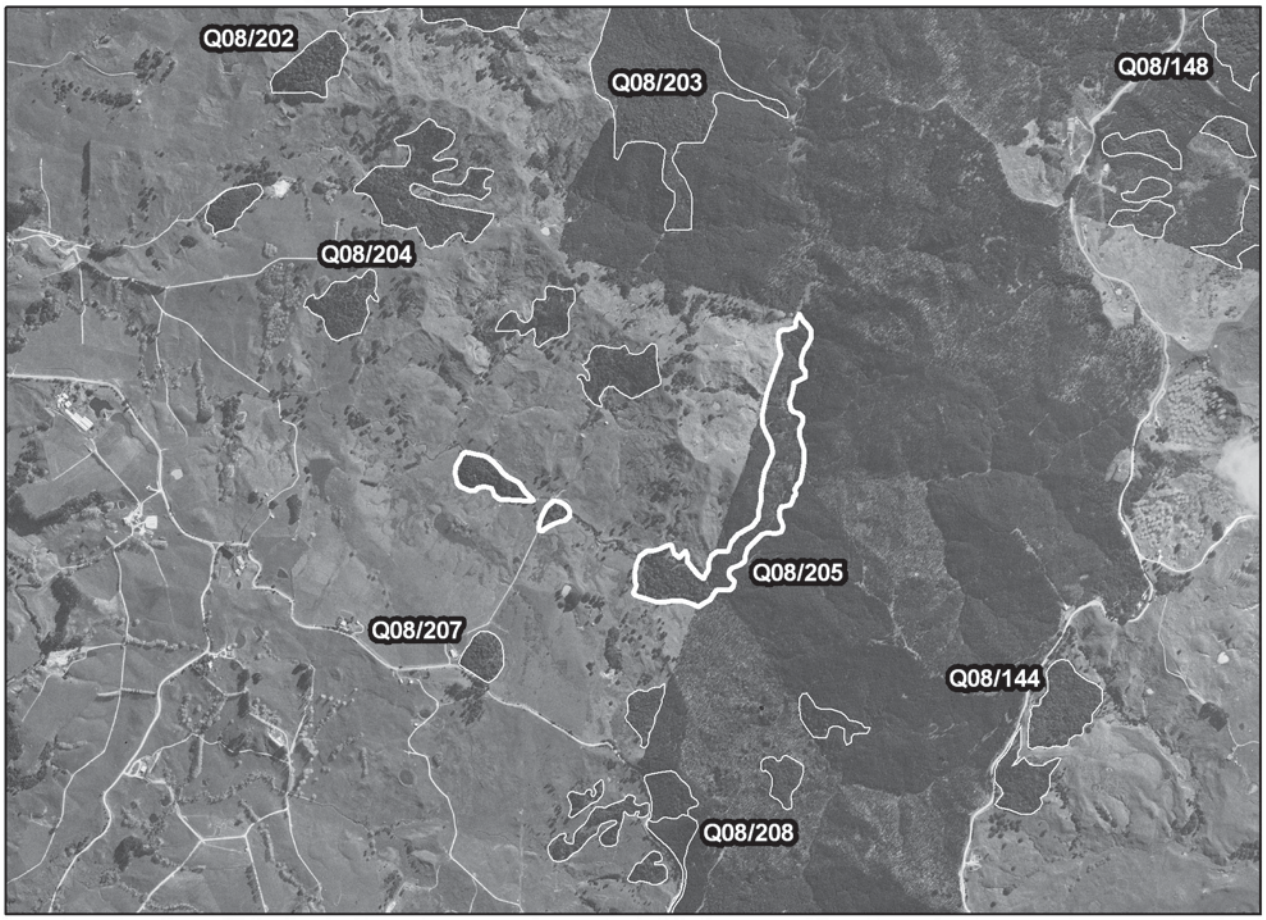
This site shows the effects of severe and prolonged grazing. The natural 'climax' forest type in the area would probably be type (b), which has more broadleaved species such as taraire and puriri as well as the ubiquitous totara, which is resistant to grazing. Neither of the ecological units is considered representative.

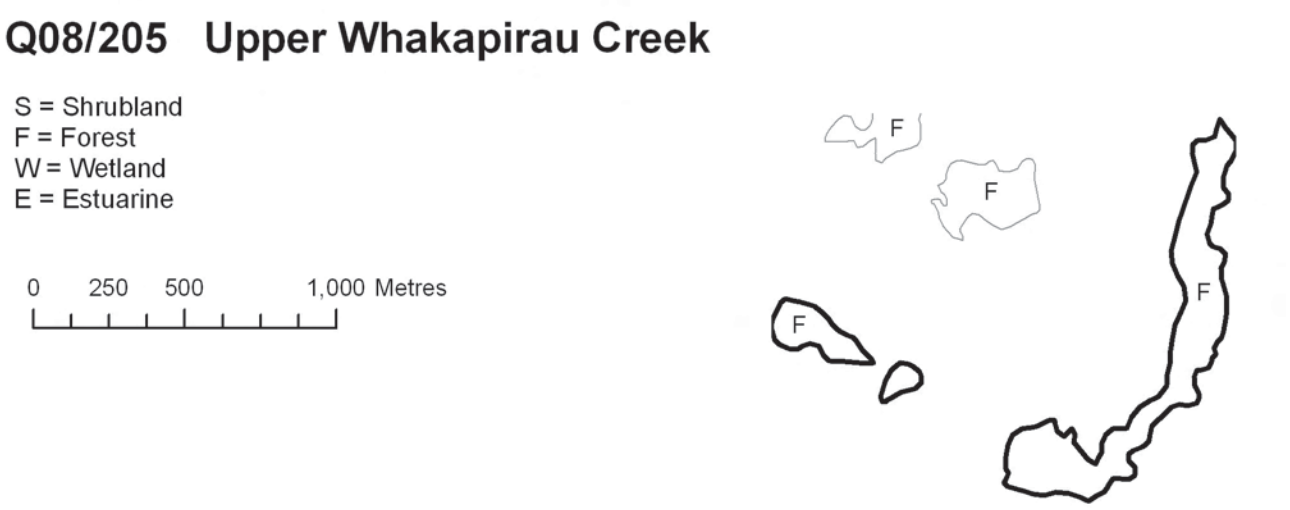
UPPER WHAKAPIRAU CREEK

Survey no.	Q08/205
Survey date	20 December 2005
Grid reference	Q08 310 589 (3 remnants)
Area	14.8 ha
Altitude	20–66 m asl

Ecological units

(a) Kanuka forest in gully (45%)





(b) Totara–kahikatea forest in gully (35%)

(c) Totara forest in gully (20%)

Landform/geology
Valley flats on Holocene alluvium.

Vegetation
A tributary of the Whakapirau Creek originates in Bickerstaffe Forest and Shrubland (Q08/153), flows south through extensive radiata pine plantations and then turns west down a valley parallel to Hillstone Road (after which it turns south under a bridge on Batley Road and spills into the sea). This site encompasses riparian vegetation at that western bend in the stream, which is mostly surrounded by pines, but also includes two small remnants exposed to view in an open paddock. The indigenous vegetation behind the pines was not easily seen from any publicly accessible vantage point, therefore the type had to be interpreted from recent aerial photography (flown in 2002), by comparing it with known sites with similar characteristics.

(a) Within the pine shelter, the main forest type appears to be kanuka forest, which probably has frequent totara.

(b) At the point where the indigenous forest extends out of the pine forest, the type comprises totara and kahikatea with frequent matai, and occasional titoki, rewarewa, pukatea and karaka.

(c) The westernmost remnant is heavily dominated by totara, but has frequent kahikatea and kanuka, and occasional ti kouka.

Fauna
Not surveyed.

Significance
Areas within the pine plantation are buffered from exposure, whereas those in the open paddock situation suffer greater edge effects and well as grazing and trampling by livestock. None of the ecological units are considered representative.

MAROHEMO ROAD FOREST REMNANTS 3

Survey no.	Q08/206
Survey date	20 December 2005
Grid reference	Q08 286 609
Area	1.4 ha
Altitude	58–74 m asl

Ecological unit
(a) Totara–kahikatea forest on moderate hillslope (100%)

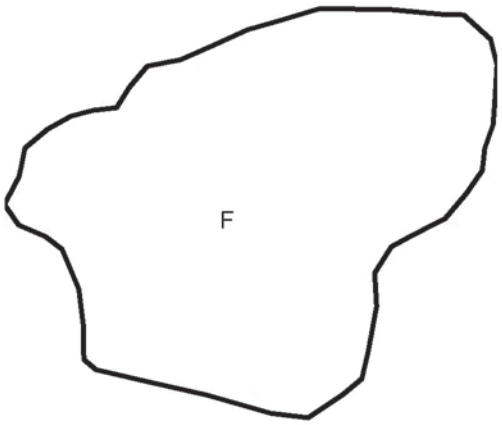
Landform/geology
Hillslope underlain by melange (undifferentiated Mangakahia & Motatau Complex lithologies).

Vegetation
This site comprises a small, isolated remnant of totara–kahikatea forest on a southeast-facing slope below Marohemo Road, surrounded by pasture. One

Q08/206 Marohemo Road Forest Remnant 3

S = Shrubland
F = Forest
W = Wetland
E = Estuarine

0 250 500 1,000 Metres



large emergent kahikatea tree stands out from the rest, and is probably a survivor from an earlier time. Nikau, kanuka and puriri are frequent with occasional pukatea.

Fauna

Not surveyed.

Significance

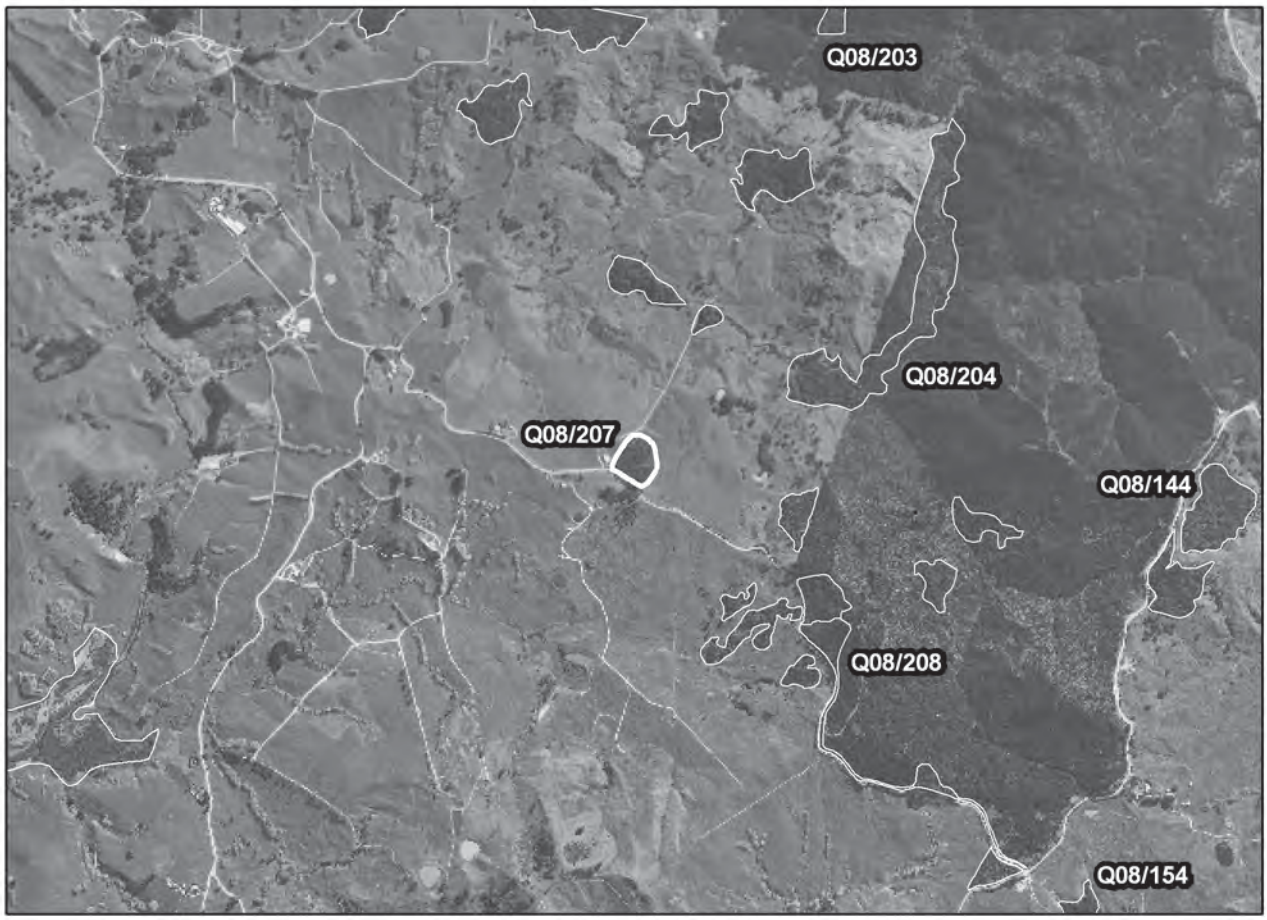
Small size, isolation and lack of fencing reduces the value of this natural area, but it is still notable for the single mature kahikatea and the regenerating forest which surrounds and buffers it.

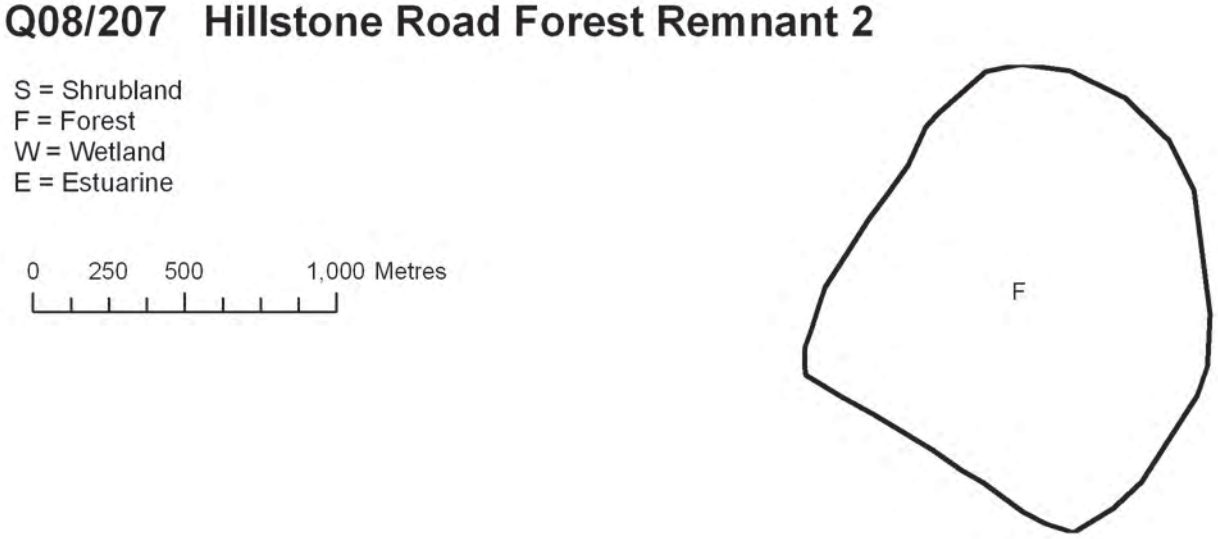
HILLSTONE ROAD FOREST REMNANT 2

Survey no.	Q08/207
Survey date	20 December 2005
Grid reference	Q08 303 583
Area	1.7 ha
Altitude	51–60 m asl

Ecological unit

(a) Puriri–kahikatea forest on moderate hillslope (100%)





Landform/geology
Hillslope underlain by melange (undifferentiated Mangakahia & Motatau Complex lithologies).

Vegetation
This site comprises a small, isolated remnant of indigenous forest on the northern edge of Hillstone Road. The main canopy is formed of rounded puriri crowns pierced by tall conical kahikatea spars. The darker gloss of karaka and the olive tones of totara are frequent canopy associates, while kauri rickers are frequent emergents. A few species were recorded as occasional: kanuka, matai, pukatea, nikau and titoki. The forest is currently grazed, despite there being at least some fencing, so the understorey is quite bare.

Fauna
Not surveyed.

Significance
Small size, isolation and grazing disturbance count against this otherwise species-rich and lush forest remnant.

ORUAWHARO ROAD WETLAND

Survey no.	Q08/210
Survey date	20 January 2003 (Wildland Consultants Ltd 2004)
Grid reference	Q08 401 511
Area	0.7 ha
Altitude	60–64 m asl

Ecological unit
(a) Raupo reedland in small depression (100%)

Landform/geology
Valley wetland on Holocene alluvium.

Vegetation
This site comprises a small, compact raupo reedland in a gully head adjacent to Oruawharo Road. The wetland is bounded to the south by the road and on all other sides by a radiata pine plantation. Ti kouka, manuka, wheki and karamu are scattered emergent species throughout the site. Kiokio and bracken are frequent, and harakeke, putaputaweta, *Baumea articulata*, gorse, blackberry and tutsan occur occasionally. The narrow margins of the wetland are vegetated in manuka, ti kouka and pampas.

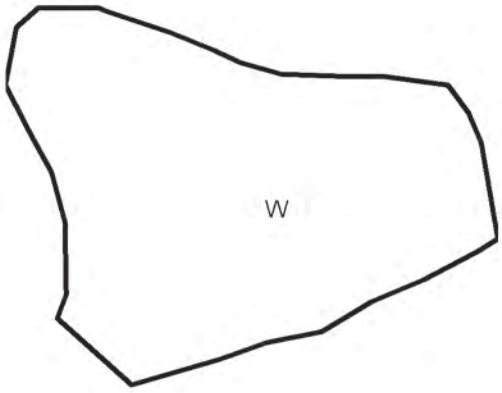
Fauna
Fantail, shining cuckoo, tui.

Significance
This site has potential habitat value for threatened avifauna associated with freshwater reedland, such as the NI fernbird and spotless crake, though none were detected here at the time of the survey. The wetland is quite exposed to edge effects, and may become more exposed when surrounding pine forest is felled. It lies directly below a road, which is also a constant source of disturbance.

Q08/210 Oruawharo Road Wetland

S = Shrubland
F = Forest
W = Wetland
E = Estuarine

0 250 500 1,000 Metres



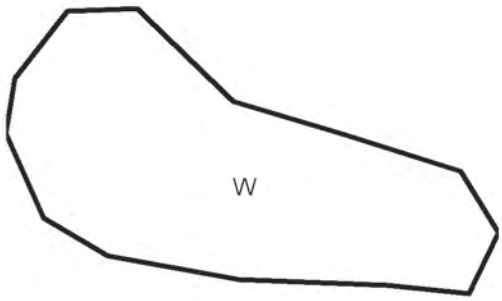
MUD ALLEY ROAD WETLAND

Survey no.	Q08/213
Survey date	30 October 2002 (Wildland Consultants Ltd 2004)
Grid reference	Q08 212 504
Area	0.2 ha
Altitude	35–40 m asl

Q08/213 Mud Alley Road Wetland

S = Shrubland
F = Forest
W = Wetland
E = Estuarine

0 250 500 1,000 Metres



Ecological unit

(a) Raupo reedland in small depression (100%)

Landform/geology

Valley wetland on Holocene alluvium.

Vegetation

This site comprises a tiny wetland set in a plantation of radiata pine, which is dominated by raupo, with frequent ti kouka, harakeke and mahoe, and occasional hangehange, kiokio, *Muehlenbeckia australis*, pampas and Mexican

devil. Above the wetland is a narrow shallow gully with a canopy of brush wattle and a predominantly indigenous understorey which is dominated by mahoe (this area was excluded from the site due to dominance by exotic species).

Fauna

Fantail, kingfisher, grey warbler.

Significance

This area is very small, but is potential habitat for threatened wetland birds, such as the NI fernbird and spotless crake, though none were detected here at the time of the survey. It is vulnerable to increased exposure following the felling of pines around it. It is also highly weed infested, with Mexican devil in particular affecting its natural character and function.

PAPAROA CREEK MARGINAL STRIP NO. 1 AND SURROUNDS

Survey no.	Q08/217
Survey date	12 January 2006
Grid reference	Q08 192 623 (2 remnants)
Area	8.7 ha
Altitude	0–40 m asl

Ecological unit

(a) Totara forest on gentle coastal margin (100%)

Landform/geology

Coastal hillsides of melange (undifferentiated Mangakahia & Motatau Complex lithologies).

Vegetation

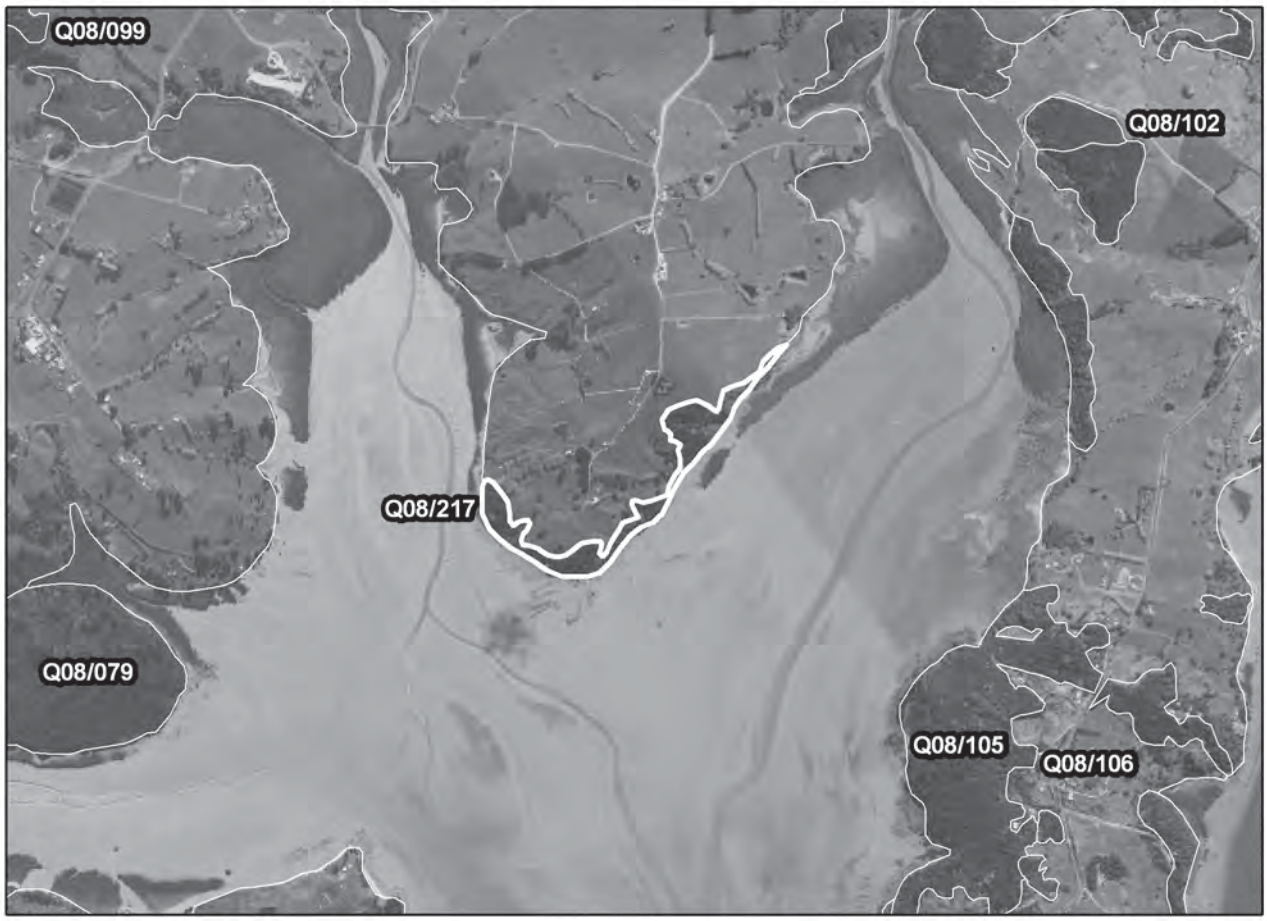
This site encompasses a narrow strip of indigenous forest on the end of a peninsula to the west of the Paparoa Creek on the upper Arapaoa River (Q08/084). Totara is overwhelmingly abundant, however puriri, karaka and kowhai also occur frequently. Occasional species recorded include manuka, kohekohe, ti kouka, nikau and pohutukawa. This is a rather unusual location for pohutukawa, which normally occurs on more exposed coasts. Pasture surrounds the remnants, and there appears to be little restriction to grazing animals entering the forest. On the seaward side there are extensive shallow mudflats.

Fauna

Not surveyed.

Significance

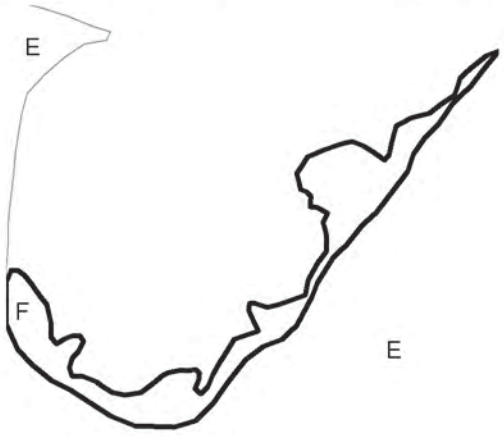
The site is relatively small, with a high degree of fragmentation and associated edge effects. It provides a protective vegetation buffer to the fringes of the Arapaoa River (Q08/084). The example of coastal totara forest present is not considered to be representative, though it is slightly unusual for the occurrence of scattered pohutukawa. Paparoa Creek Marginal Strip No. 1 (administered by DOC) covers 0.9 ha (approximately 10 %) of the forest at this site.



Q08/217 Paparoa Creek Marginal Strip No. 1 and Surrounds

S = Shrubland
F = Forest
W = Wetland
E = Estuarine

0 250 500 1,000 Metres



UPPER KAITARA CREEK POND

Survey no.	Q08/219
Survey date	Not surveyed
Grid reference	Q08
Area	5.8 ha
Altitude	55 m asl

Ecological unit

(a) Open water (constructed freshwater farm pond) (100%)