

TE OPE STREAM REMNANTS

Survey no.	Q08/116
Survey date	18 November 2005
Grid reference	Q08 253 588 (11 remnants)
Area	61.6 ha (59.5 ha forest, 2.1 ha wetland)
Altitude	13–100 m asl

Ecological units

- (a) Taraire–puriri forest on moderate to steep hillslope (60%)
- (b) Totara forest on moderate to steep hillslope (25%)
- (c) Kanuka forest on moderate to steep hillslope (9%)
- (d) Totara–kowhai forest on stream terrace (3%)
- (e) Raupo–ti kouka reedland in stream gully (3%)

Landform/geology

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

Vegetation

The Te Ope Stream Remnants are a collection of 11 indigenous forest and freshwater wetland remnants located in the lower catchment of the stream, bordering extensive saltmarshes and mangroves in the Whakapirau Creek. The areas cleared for pasture tend to be along the ridges, hence the remnants are mainly in the steeper, more humid areas of the gullies.

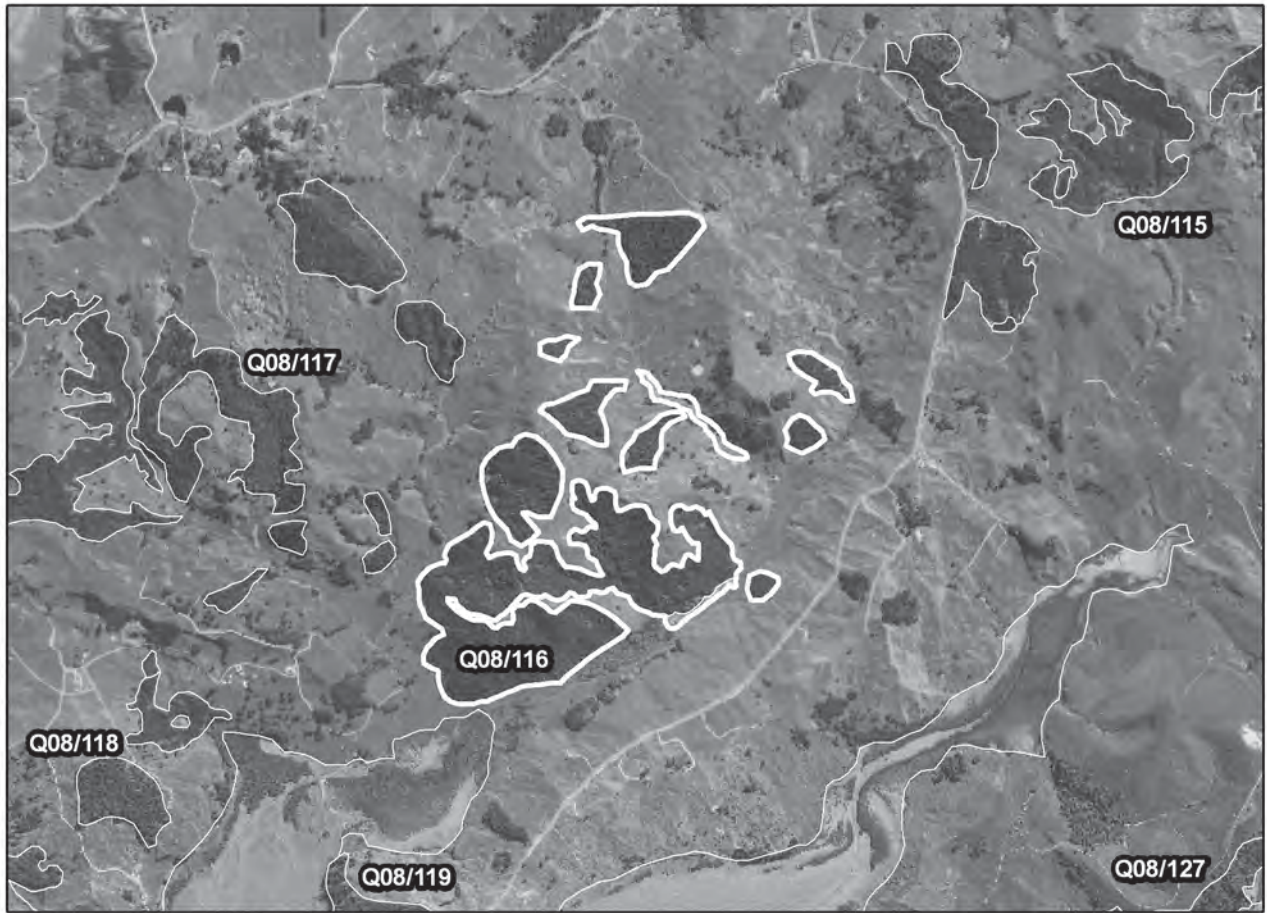
- (a) The predominant vegetation type is taraire–puriri forest. Karaka is frequent, with occasional totara, kahikatea, kauri, matai, pukatea, ti kouka and ponga.
- (b) A forest canopy composed almost purely of totara is present in some of the drier areas, and on pasture edges. Other species occasionally present include tanekaha, karaka, kohekohe, kanuka, mapou and mamaku.
- (c) One small, steep hillslope contains a disturbed forest of kanuka with frequent manuka. Also recorded here were ti kouka, mamaku and mamangi.
- (d) Contiguous with raupo–ti kouka reedland in the south, an area of totara–kowhai forest is present on the terrace formed by the stream. Kahikatea and ti kouka are frequent, especially in the ecotone with the reedland.
- (e) Raupo–ti kouka reedland is present along two parts of the stream channel. Frequent emergent kahikatea also occur. Directly downstream of the southernmost remnant there is a similar area of wetland dominated by crack willow with some kowhai, ti kouka and kahikatea, however it was excluded from the site due to the high level of willow infestation.

Fauna

Australasian harrier, kingfisher, spur-winged plover.

Significance

The total extent of land covered by forest (tenth largest) and freshwater wetland (sixth largest) is relatively large for Otamatea ED Northland, although fragmentation and grazing of the area reduces its value. This site contains the only example of raupo–ti kouka reedland grading into totara–kowhai forest on a stream margin in Otamatea ED Northland. It is also one of the best examples of



Q08/116 Te Ope Stream Remnants

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

0 250 500 1,000 Metres



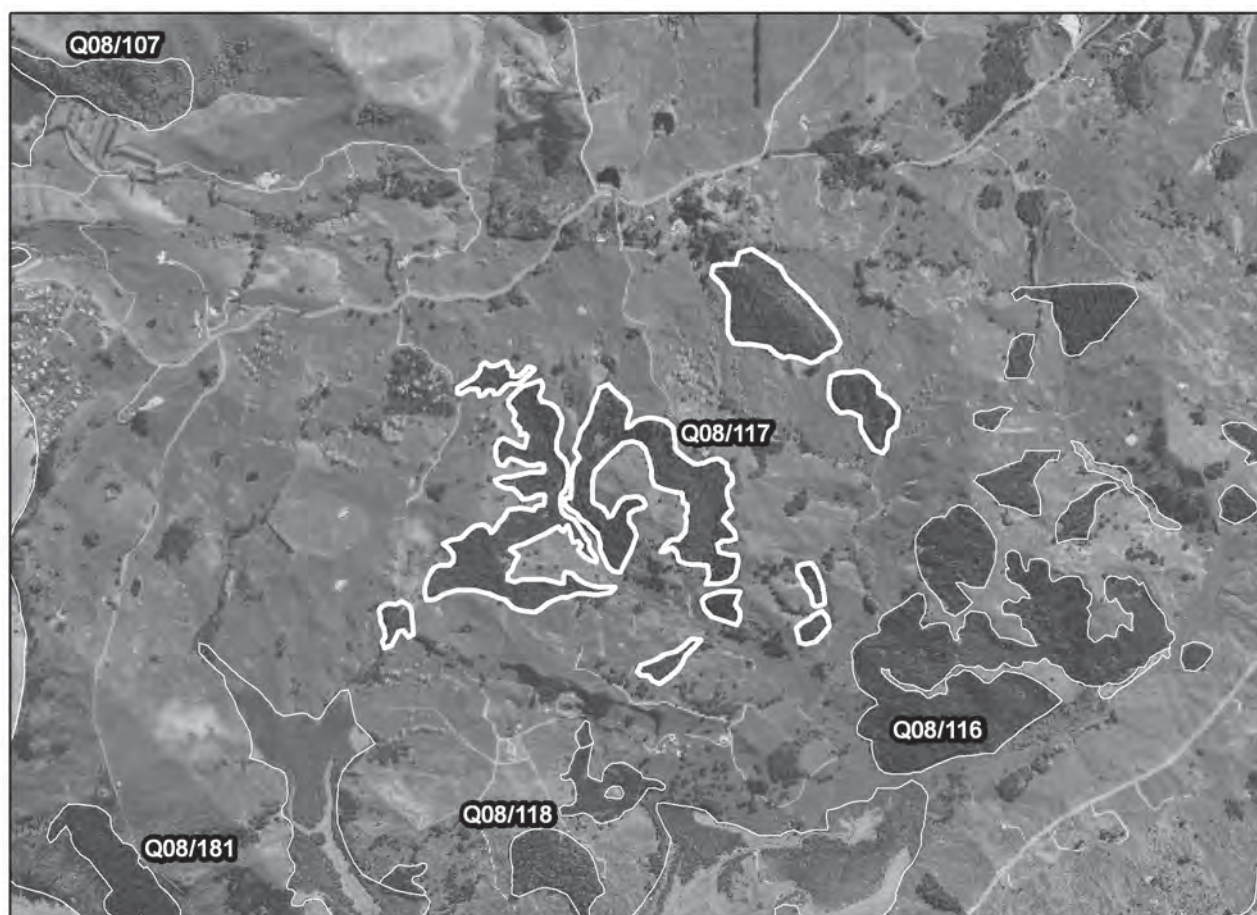
taraire puriri forest extending inland from the coast. Hence this is a representative site for (a) taraire-puriri forest on moderate to steep hillslope, (d) totara-kowhai forest on stream terrace, and (e) raupo-ti kouka reedland in stream gully. Crack willow invasion threatens the natural character of the wetlands in this site.

WHAKAPIRAU AIRSTRIP FOREST

Survey no. Q08/117
Survey date 18 November 2005
Grid reference Q08 239 594 (10 remnants)
Area 49.3 ha
Altitude 20-132 m asl

Ecological units

- (a) Totara-kanuka-kahikatea forest on ridge top (50%)
- (b) Taraire-puriri-totara forest on moderate to steep hillslope (50%)



Q08/117 Whakapirau Airstrip Forest

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

0 250 500 1,000 Metres



Landform/geology

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

Vegetation

Whakapirau Airstrip Forest occupies a small catchment with two streams flowing into the same saltmarsh and mangrove area as the Te Ope Stream Remnants (Q08/116). This is a relatively large indigenous forest site in 10 separate remnants which have long and convoluted edges. The intervening landscape is pasture. Both forest and pasture appear to be used for farming; consequently the forest has a depleted understorey and shows visible degradation from grazing, stock trampling and associated edge effects. Many parts of this site are not visible from public roads, therefore information from the field survey was combined with study of recent aerial photography (flown in 2002) to interpret the likely forest type for more than half of the forest remnants.

(a) Approximately half the area, in particular on drier ground, is occupied by totara forest with lesser and equal proportions of kanuka and kahikatea. Puriri is frequent, with occasional mamangi and tarata. A single emergent northern rata was observed.

(b) The other half comprises taraire forest with canopy associates of puriri and totara. Occasional emergent macrocarpa and a single Norfolk pine are also present.

Fauna

Not surveyed.

Significance

Northern rata (*Metrosideros robusta*) is extremely uncommon in Otamatea ED Northland, and is known from only this site and three others. The small, mature, emergent tree was observed in forest adjacent to Te Opi Road. This site has the thirteenth largest extent of indigenous forest in Otamatea ED Northland, however it is fragmented and has been severely modified.

TE OPE HEADLAND FOREST

Survey no.	Q08/119
Survey date	28 November 2005
Grid reference	Q08 246 576
Area	9.8 ha
Altitude	0–20 m asl

Ecological unit

(a) Puriri-taraire-kahikatea-kauri forest on steep coastal margin (100%)

Landform/geology

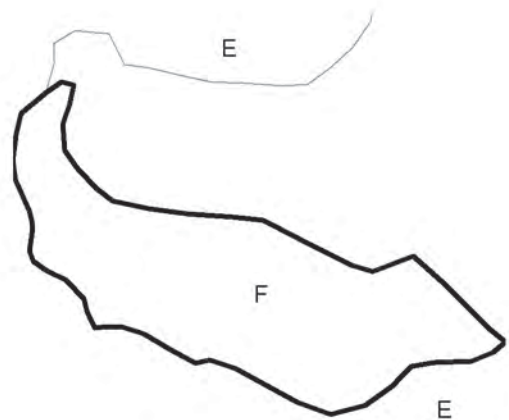
Coastal headland underlain by Cretaceous sandstone and mudstone (Mangakahia Complex).



Q08/119 Te Ope Headland Forest

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

0 250 500 1,000 Metres



Vegetation

Te Ope Headland extends out into Whakapirau Creek just south of Te Ope Stream. The end of the headland is almost entirely clothed in coastal forest with a diverse canopy. Four species occupy roughly 20% of the canopy cover each: puriri, kahikatea, taraire and kauri. Kauri rickers and kahikatea poles are emergent above a canopy of taraire and puriri which have frequent associates of karaka, totara and kanuka. Emergent rimu and rewarewa are scattered

throughout. Ti kouka is occasional. An unusual feature of this vegetation is the presence of kauri growing within metres of the high tide mark, which a rare occurrence in this Ecological District and throughout the range of kauri in New Zealand.

Fauna

Not surveyed.

Significance

This diverse coastal broadleaved-podocarp-kauri forest is the only example of its type in Otamatea ED Northland hence it is representative, and it appears to be in relatively good condition as a result of adequate fencing.

TE PAHI RIVER ROAD FOREST REMNANTS

Survey no.	Q08/120
Survey date	18 November 2005
Grid reference	Q08 238 650 (10 remnants)
Area	24.9 ha
Altitude	20-120 m asl

Ecological unit

(a) Taraire-puriri-kahikatea-totara forest on moderate to steep hillslope (100%)

Landform/geology

Hillslopes and gullies underlain by undifferentiated Eocene-Oligocene mudstone and sandstone (Motatau Complex).

Vegetation

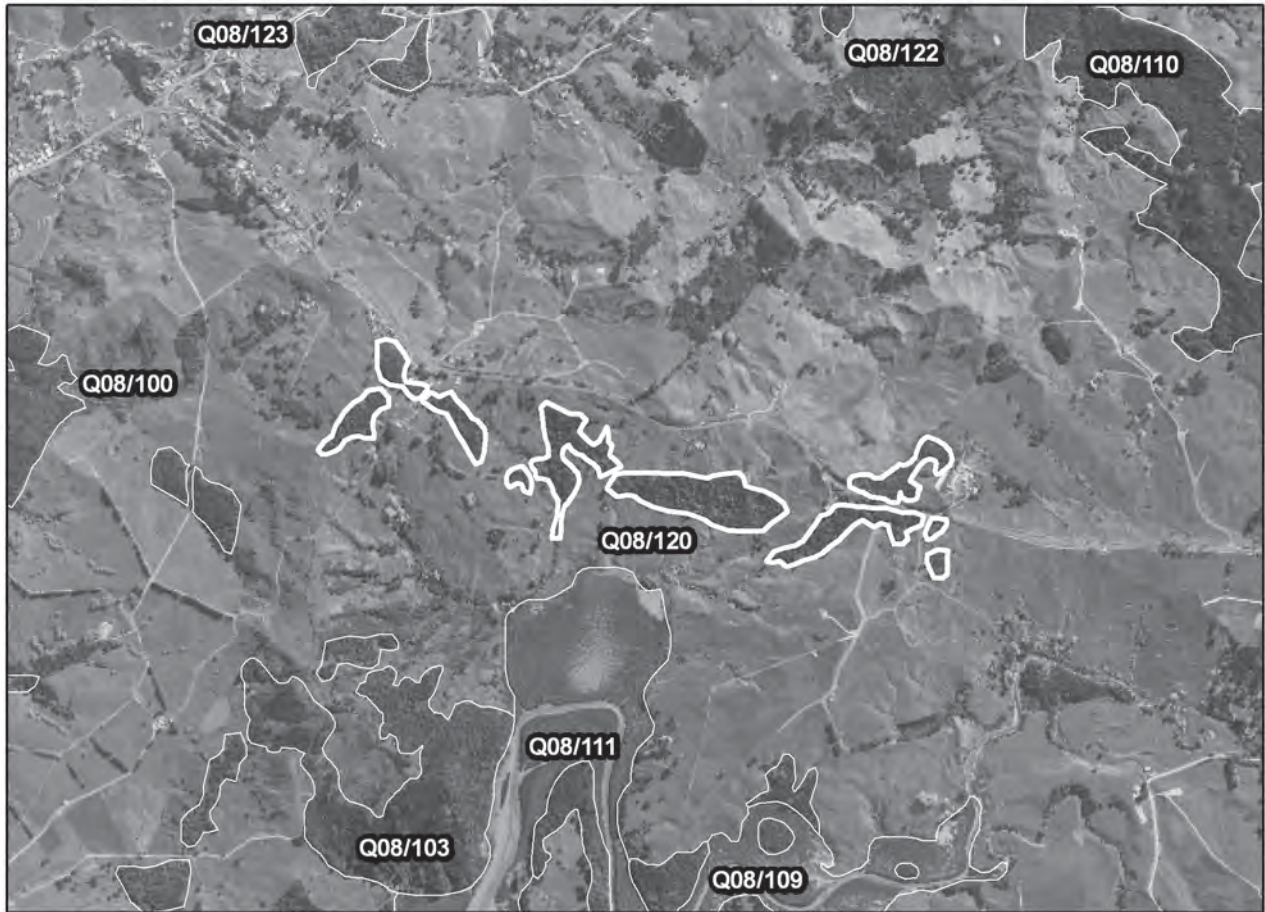
This site comprises ten forest remnants on a south-facing hillslope stretching approximately 1.5 km in a line westwards from Te Pahi River Road along the southern side of State Highway 12. Pasture surrounds the forest remnants and extends down to the estuarine mudflats and mangrove forests of the Pahi River. The dominant canopy species is taraire, while equal amounts of puriri, kahikatea and totara also occur in the canopy. Kauri and kanuka are frequent with occasional rewarewa, tarata, ti kouka, kohekohe, karaka, matai and northern rata.

Fauna

Kukupa (Gradual Decline).

Significance

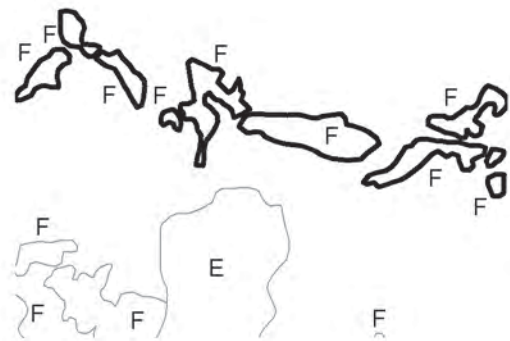
These forest remnants have relatively diverse canopies. This is one of only four sites where northern rata was recorded in Otamatea ED Northland. The site is also significant for the presence of a threatened bird species (kukupa). However, the indigenous vegetation in this area has been greatly reduced in extent through clearance, and only very small remnants now remain. The site is also suffering degradation through grazing and trampling.



Q08/120 Te Pahi River Road Forest Remnants

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

0 250 500 1,000 Metres



PAPAROA STREAM RIPARIAN FOREST

Survey no.	Q08/121
Survey date	24 November 2005
Grid reference	Q08 267 671 (5 remnants)
Area	42.0 ha
Altitude	29-60 m asl



Q08/121 Paparoa Stream Riparian Forest

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

0 250 500 1,000 Metres



Ecological units

- (a) Totara-titoki forest on alluvium (95%)
- (b) Totara forest on ridge top (5%)

Landform/geology

Hillslopes underlain by Cretaceous sandstone and mudstone (Mangakahia Complex), and valley flats on Holocene alluvium.

Vegetation

Scattered riparian forest remnants follow a 4 km reach of the Paparoa Stream from the settlement of Wairere to just above the Wairere Valley Road bridge. All

of the remnants are extremely devoid of undergrowth as a result of cattle grazing and trampling. Stock were observed in the stream, and sheltering *en masse* under the riparian forest. Dogs were also observed running around unrestrained in the natural area. Between the indigenous forest remnants the riparian vegetation includes English oak, crack willow, radiata pine and other conifers as the main canopy cover; this vegetation was excluded from the present site. Along with crack willow, other problem weeds in an around the remnants include Chinese privet, tutsan, selaginella and tradescantia.

(a) The indigenous riparian forest is dominated by totara and titoki, with frequent crack willow and kahikatea. Associated occasional species include putaputaweta, ti kouka, kanuka, tarata, kohekohe, matai, mahoe, rimu, kowhai, pigeonwood, karaka, ponga, mamaku, *Muehlenbeckia australis*, tree privet, Chinese privet, false acacia and eucalyptus.

(b) A small knoll near the Wairere end of the site is covered by totara forest accompanied by frequent kanuka, rewarewa, taraire and mamaku. Occasional kahikatea are also present.

Fauna

Kingfisher, kukupa (Gradual Decline).

Significance

Totara-titoki forest on alluvium (a) is unique in Otamatea ED Northland for having a high percentage of titoki in the canopy. In addition, indigenous forest on alluvial soil is so rare now that although small, this example qualifies as a representative ecological unit. The site is also significant for the presence of a threatened species (kukupa). 3.2 ha of the totara-titoki forest lies within a QEII Open Space Covenant.

PAPAROA MATURE KAURI STAND

Survey no.	Q08/122
Survey date	24 November 2005
Grid reference	Q08 244 666
Area	1.1 ha
Altitude	54-76 m asl

Ecological unit

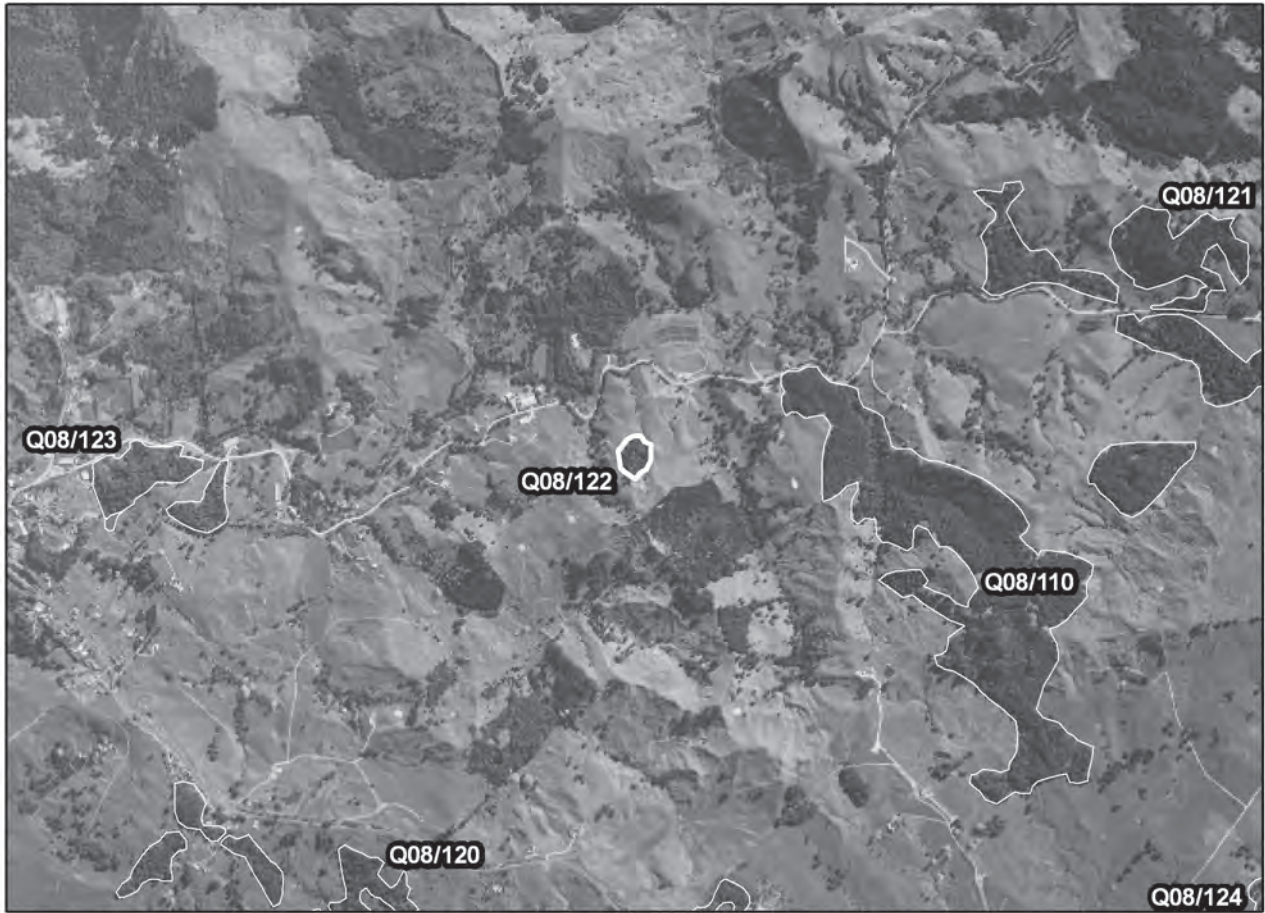
(a) Totara-kauri forest on ridge top (100%)

Landform/geology

Hillslope on Cretaceous sandstone and mudstone (Mangakahia Complex).

Vegetation

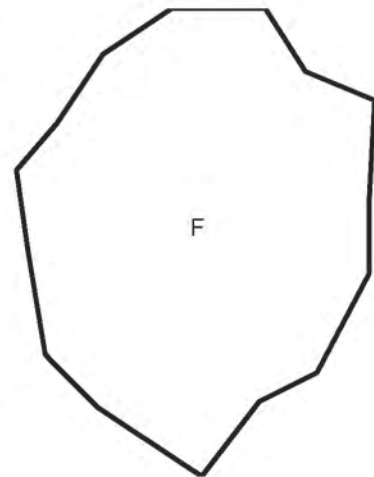
This site comprises a tiny stand of trees in the middle of a paddock, but it is remarkable due to the large size of the kauri present. Over a canopy of mainly totara, several (at least six) semi-mature kauri with spreading crowns and long, branchless trunks are present. Judging by their size these trees were estimated to be approximately 200 years old or more, which is significantly older than the majority of kauri remaining in Otamatea ED Northland. Proper age determination is not possible without counting tree rings. Other species in the remnant include frequent tanekaha and occasional nikau and kahikatea.



Q08/122 Paparoa Mature Kauri Stand

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

0 250 500 1,000 Metres



Fauna

Not surveyed.

Significance

Despite being relatively small, this site is representative, as mature kauri trees are now very uncommon in Otamatea ED Northland.

HAMES ROAD FOREST REMNANTS

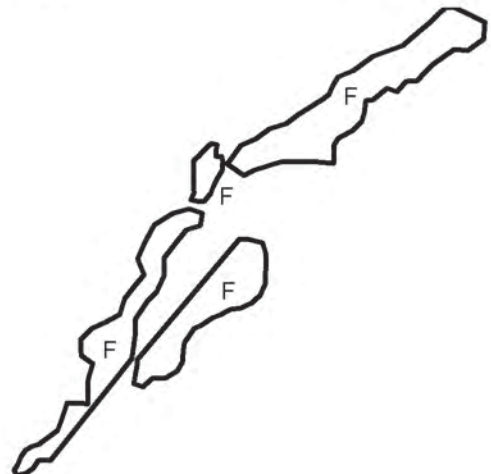
Survey no. Q08/124
Survey date 24 November 2005
Grid reference Q08 268 654 (4 remnants)
Area 11.8 ha
Altitude 20-40 m asl



Q08/124 Hames Road Forest Remnants

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

0 250 500 1,000 Metres



Ecological units

- (a) Totara-kahikatea-kowhai forest in gully (70%)
- (b) Totara-kanuka forest on gentle hillslope (30%)

Landform/geology

Low ridge underlain by melange (undifferentiated Mangakahia & Motatau Complex lithologies), and valley floor of Holocene alluvium.

Vegetation

This site comprises remnants of relatively mature, but stock-damaged riparian forest on a small tributary of the Pahi River. Adjacent forest on a gentle hillslope next to Hames Road is also included.

(a) The riparian forest is dominated by totara (abundant), kahikatea (common) and kowhai (common). There are frequent kanuka, ti kouka and vines of *Muehlenbeckia australis*, as well as occasional tall emergent trees of rimu, tanekaha, tawa and kauri. The following weeds are present in low numbers: Japanese honeysuckle, woolly nightshade and tree privet.

(b) The eastern forest remnant is also dominated by totara, but has kanuka as an associate in the canopy. Frequent species include tanekaha, rimu and kahikatea, with occasional species include manuka, mapou, ti kouka and hawthorn.

Significant flora

Tawa (locally uncommon).

Fauna

Shining cuckoo.

Significance

This site is relatively small and fragmented, with several weed problems, however it is notable for the relative maturity of some trees (especially tawa and podocarps), compared with similar forest elsewhere in Otamatea ED Northland. Totara-kahikatea-kowhai forest in gully (a) is representative of a formerly more extensive semi-mature riparian forest. Tawa is a locally uncommon in the Northland Conservancy part of the ED.

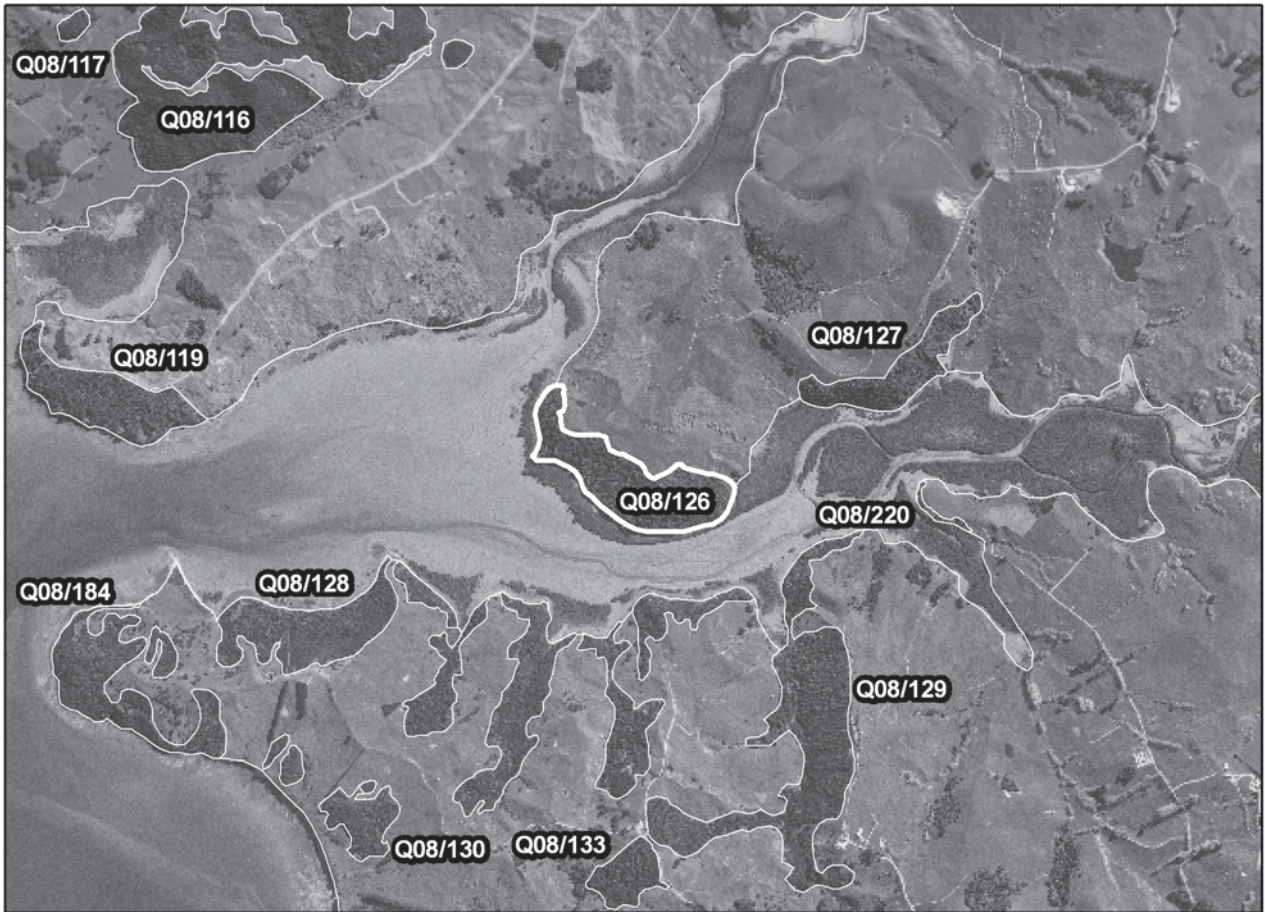
TE OPU SCENIC RESERVE

Survey no.	Q08/126
Survey date	28 November 2005
Grid reference	Q08 263 573
Area	12.4 ha
Altitude	3–60 m asl

Ecological units

- (a) Taraire-puriri¹³ forest on steep coastal margin (85%)
- (b) Puriri-kowhai forest on steep coastal margin (5%)
- (c) Totara-puriri forest on steep coastal margin (5%)
- (d) Kauri-kanuka forest on ridge top (5%)

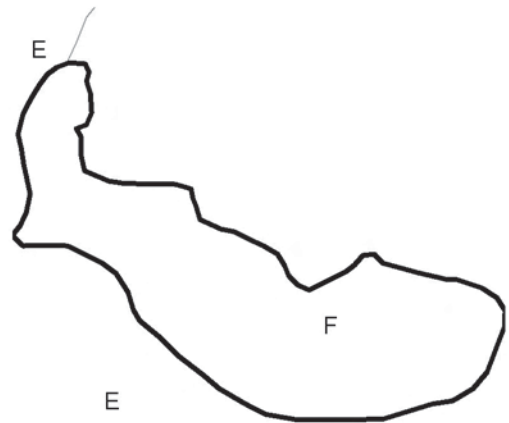
¹³ The methods followed for this survey stipulate that vegetation types should be named after species at >20% canopy cover; however, in this area, no species occurred at >20% cover, and taraire and puriri were the most frequent.



Q08/126 Te Opu Scenic Reserve

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

0 250 500 1,000 Metres



Landform/geology

Coastal headland underlain by Cretaceous sandstone and mudstone (Mangakahia Complex).

Vegetation

This site comprises an excellent example of coastal broadleaved-podocarp forest on a prominent, inner Kaipara Harbour headland. The forest is particularly diverse, and four types were recognised, however they grade into each other seamlessly.

(a) The main forest type has taraire and puriri as the predominant species but both comprise <20% of the canopy. The other main canopy species are kanuka, kauri, kahikatea, totara and kowhai, with scattered nikau, rewarewa and ti kouka.

(b) At the northern end of the remnant totara-puriri forest occurs with frequent kowhai.

(c) At the southern end, forest dominated by kowhai and puriri occurs.

(d) The extreme eastern side of the site contains stands of maturing kauri rickers (i.e. losing lower branches) mixed with kanuka, and associated with frequent totara and tanekaha, and occasional rewarewa. Some of the kauri is adjacent to mangroves, which is an unusual juxtaposition of forest types.

The quality of the understorey appears to have improved between 1977, when there was a 'grass sward underneath', and 1991, when the understorey was referred to as 'regenerating' (SSBI Q08/H037). The 1991 survey also recorded very high canopy diversity at the site.

Significant flora

Miro (locally uncommon) was recorded in 1991 (SSBI Q08/H037).

Fauna

Kukupu (Gradual Decline) were recorded at the site during the present survey. In 1991 Australasian harrier, fantail and tui were also noted (SSBI Q08/H037).

Significance

This site has a high diversity of forest types for its size, and provides habitat for kukupa, a threatened bird species. It is a representative site for ecological unit (a). A former pa site is present at the high point of the headland, according to DOC records (SSBI Q08/H037). Little is known about the current condition of the understorey or the impacts of animal pests. The forested area is almost entirely encompassed by Te Opu Scenic Reserve, which is administered by the Department of Conservation.

WHAKAPIRAU CREEK COASTAL FOREST

Survey no.	Q08/127
Survey date	28 November 2005
Grid reference	Q08 271 577
Area	7.1 ha
Altitude	0-80 m asl

Ecological unit

(a) Totara-kowhai-karaka forest on steep coastal margin (100%)

Landform/geology

Steep coastal hillside underlain by Oligocene micritic limestone (Mahurangi Limestone, Motatau Complex).

Vegetation

This site comprises a 700 m-long coastal forest remnant on a steep south-facing slope bordering tall mangrove forest in the upper Whakapirau Creek. Surrounding the site is farmland with grazed pasture. The site does not appear to be fenced to exclude livestock.