

### ***Vegetation***

This site encompasses indigenous vegetation on the northern and eastern sides of Puriri Point, which extends out into the Arapaoa River (Q08/084). Pastoral land abuts the site to the west, and mudflats and sandflats abut the site to the east.

- (a) Most of the inland forest is dominated by kanuka with frequent totara and ti kouka.
- (b) In the south, there is a ridge extending along the coast which has a low forest of abundant young totara with frequent ti kouka and kahikatea.
- (c) A southern finger of forest extending around a small bay comprises kowhai, puriri and kahikatea with frequent kanuka.
- (d) On the northern coast, totara-kanuka forest is the main vegetation type. Puriri is frequent, with occasional mamaku, nikau and radiata pine.
- (e) The northern tip of Puriri Point is a triangular shellbank. A stand of puriri and karaka trees is present, all of which are in poor condition and have been banded with metal, presumably to protect them from possum browse.
- (f) A tiny patch of ti kouka-dominant shrubland occurs on the east coast.

### ***Fauna***

Not surveyed.

### ***Significance***

Three of the ecological units present are unique and representative in Otamatea ED Northland (despite poor condition or small extent): (b) totara-kahikatea-ti kouka forest on ridge top, (e) puriri-karaka treeland on estuarine shell bank, and (f) ti kouka shrubland on gentle hillslope.

## **PAKAURANGI FOREST AND SHRUBLAND**

Survey no.	Q08/185
Survey date	9 December 2005
Grid reference	Q08 260 520
Area	427.3 ha (162.1 ha forest, 265.2 ha shrubland)
Altitude	0-125 m asl

### ***Ecological units***

- (a) Kanuka-radiata pine shrubland on moderate to steep hillslope (61%)
- (b) Kanuka forest on moderate to steep hillslope (24%)
- (c) Puriri-kanuka forest on steep coastal margin (3%)
- (d) Totara-kowhai-puriri forest on steep coastal margin (3%)
- (e) Pohutukawa-radiata pine-kanuka forest on steep coastal margin (3%)
- (f) Pohutukawa-akepiro-kowharawhara forest on steep coastal margin (2%)
- (g) Pohutukawa treeland on coastal cliff (2%)
- (h) Kauri-kanuka forest on ridge top (2%)

### ***Landform/geology***

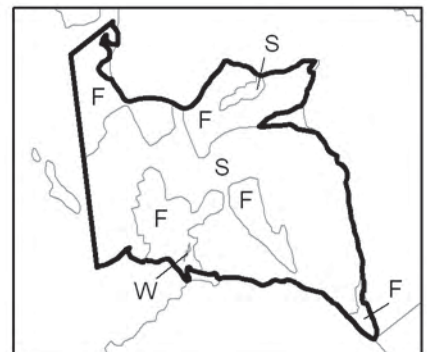
Coastal and inland hillslopes and gullies underlain by Cretaceous siliceous mudstone (Whangai Fmn, Mangakahia Complex); Oligocene calcareous



## Q08/185 Pakaurangi Forest and Shrubland

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

0 250 500 1,000 Metres



siltstone (Puriri Formation, Motatau Complex); melange (undifferentiated Mangakahia & Motatau Complex lithologies); volcanoclastic muddy and gravelly sandstone (Waitakere Group).

The southwest coast of Pakaurangi Point is a classic locality (type locality for many fossil taxa) containing a very diverse molluscan and foraminiferal fauna. This same section of coast, extending out to Puketi Point has the most complete exposure of shelf sequence of volcanoclastic fossiliferous sandstone and siltstone of the Pakaurangi Formation and marginal marine to non-marine Puketi Formation. At Te Kopua Point there is a synclinally folded sequence of tuffaceous foraminiferal micrite and intercalated volcanoclastic mass flow deposits, unconformably overlying Northland Allochthon (Kenny & Hayward 1996).

### **Vegetation**

Pakaurangi Forest and Shrubland is the largest, continuous, predominantly indigenous forest and shrubland block in Otamatea ED Northland. It covers 427 ha at the southeastern end of Hukatere peninsula, and includes Pakaurangi peak (125 m asl), Pakaurangi Point (in the southeast) and Te Kopua Point (in the northeast). On the northern coast there is an open, shallow, sandy bay with mangrove forest on its western side. To the east there are sandy beaches dropping off more steeply into the main channel of the Arapaoa River (Q08/084). To the south lies another shallow, open bay (Coates Bay) which falls within the Otamatea River Confluence site (Q09/021). The southern coast is more exposed than the other two, as it is open to winds from a southwesterly direction, funnelling through the Kaipara Harbour mouth. Extensive radiata pine plantations border the western side of this site. Small settlements or individual houses are present at various points around the coast. Where visible, these have been excluded from the site. Most of the site cannot be seen from the harbour or from public roads, therefore the vegetation description here relies on interpretation of recent aerial photography (flown in 2002).

(a) Kanuka-radiata pine shrubland covers almost two thirds of the area. This is a relatively mature shrubland, with kanuka over 3 m tall in most places. Within a decade or two, if left undisturbed, the vegetation will probably develop into kanuka forest with local radiata pine groves. The radiata pine trees, which are common, appear to be wilding pines established from nearby plantations, and most of these are emergent and concentrated along ridges (they are the most prominent feature on the skyline). Mamaku occurs occasionally in this shrubland.

(b) The next most common vegetation type is kanuka forest, which also has frequent emergent radiata pine, but contains several other associates including frequent tanekaha, kauri, kahikatea and totara. This type is present along the northern side of Pakaurangi Forest and Shrubland, and in valleys in the south.

(c) On the north coast, at grid reference Q08 254 532, the coastal forest comprises puriri and kanuka with frequent tanekaha, pohutukawa and radiata pine, and occasional kowhai.

(d) On Te Kopua Point, the forest comprises equal proportions of totara, kowhai and puriri with frequent taraire, kanuka and karaka, and occasional kauri and kahikatea.

(e) All the way along the steep eastern coastal fringe, large, overhanging pohutukawa are abundant, and kanuka and radiata pine are both common. Occasional puriri also occur.

(f) The vegetation on the southwestern side of Pakaurangi Point has a relatively open pohutukawa canopy with abundant akepiro and kowharawhara in light wells and under the pohutukawa. During the survey a landing was made here and the following additional species were recorded in the understorey or on the coastal fringes: rengarenga, harakeke, kowharawhara, *Coprosma macrocarpa*, *C. rhamnoides*, bracken, knobby clubrush, *Gabnia lacera*, kiokio, mapou, mingimingi and turutu.

### **Fauna**

Not surveyed.

### ***Significance***

The significance of this site lies in its large size (it is the largest area of indigenous terrestrial vegetation in Otamatea ED Northland), as well as in containing four representative ecological units: (b) kanuka forest on moderate to steep hillslope, (d) totara-kowhai-puriri forest on steep coastal margin, (f) pohutukawa-akepiro-kowharawhara forest on steep coastal margin, and (g) pohutukawa treeland on coastal cliff. In particular, ecological unit (g) is significant as it is the only example of its type in the Northland Conservancy part of Otamatea ED. The length of Arapaoa River and Otamatea River coastline bordered by the vegetation in this site is considerable; hence it provides a valuable protective buffer to the estuarine habitats of the inner Kaipara Harbour. The presence of numerous emergent wilding pines, especially on ridge tops, diminishes the natural character of the site. There are three nationally important geological sites within Pakaurangi Forest and Shrubland: the Pakaurangi Point Miocene fauna, the Pakaurangi-Puketi shelf sediments and Te Kopua Point Hukatere Miocene volcanoclastics and sedimentary structures (Kenny & Hayward 1996).

### **HAMLIN ROAD SHRUBLAND**

Survey no.	Q08/188
Survey date	9 December 2005
Grid reference	Q08 200 565 (3 remnants)
Area	12.5 ha (2.9 ha forest, 9.6 ha shrubland)
Altitude	0–40 m asl

### ***Ecological units***

- (a) Manuka shrubland on moderate hillslope (77%)
- (b) Totara-ti kouka forest on gentle coastal margin (18%)
- (c) Totara forest on gentle coastal margin (5%)

### ***Landform/geology***

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

### ***Vegetation***

This site comprises indigenous shrubland and forest to the northeast of Hamlin Road, on the southern coastal margin of the Kirikiri Inlet.

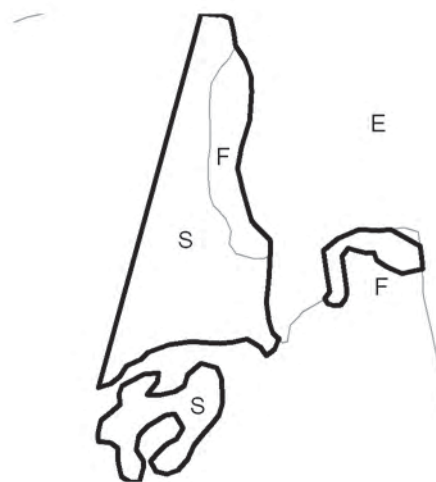
- (a) The shrubland, which occupies most of the site, appears to be relatively recent regeneration after exclusion of livestock from the area. Manuka is abundant and ti kouka and gorse are frequent, with occasional small emergent totara. At least two tall radiata pine trees are present.
- (b) The coastal margin of the main remnant comprises totara-ti kouka forest with frequent manuka and occasional kahikatea, puriri, karaka, mamaku and mapou.
- (c) A small isolated stand of totara lies to the east. There are occasional titoki, kahikatea, ti kouka and macrocarpa in the canopy.



## Q08/188 Hamlin Road Shrubland

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

0 250 500 1,000 Metres



### ***Fauna***

Not surveyed.

### ***Significance***

This site contains the eighth largest area of indigenous shrubland in Otamatea ED Northland, and manuka shrubland (a) is a representative example of its type. The shrubland appears to be mostly fenced, which is allowing coastal forest to regenerate. The tall pines are a threat to the natural character of the vegetation, as they may give rise to wilding pines amongst the shrubland.

### **MOHINUI FOREST REMNANT 3**

Survey no.	Q08/190
Survey date	13 December 2005
Grid reference	Q08 350 505 (2 remnants)
Area	15.1 ha
Altitude	40-80 m asl

#### ***Ecological units***

- (a) Totara forest on moderate to steep hillslope (35%)
- (b) Taraire-kahikatea forest in gully (30%)
- (c) Kanuka forest on gentle hillslope (20%)
- (d) Kahikatea-pukatea forest in gully (15%)

#### ***Landform/geology***

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

#### ***Vegetation***

This site encompasses one of the best examples of indigenous forest remaining on the slopes of Mohinui Peak (119 m asl), Oneriri Peninsula. The remnants follow the headwater gully of a tributary of the Kaira Creek for approximately 1 km.

- (a) The edges of the main remnant and the outlying remnant comprise totara forest with frequent mamangi, rewarewa, kahikatea and puriri, and occasional emergent pines (radiata pine and maritime pine).
- (b) The main forest type in the lower gully is taraire-kahikatea forest with frequent rewarewa, puriri, totara, karaka and tree ferns (mamaku and ponga). Nikau, ti kouka and pukatea occur occasionally.
- (c) Kanuka forest with frequent totara (as opposed to the other margins which have type (a) totara forest) occurs at the uppermost margins of the remnant. These may be recently disturbed forest patches, or possibly pasture that has regenerated in the last several decades. Kauri, karaka, ti kouka and lancewood occur occasionally.
- (d) The main forest type in the upper gully is dense kahikatea with subdominant pukatea. Rewarewa, mamaku, puriri and karaka are common, while titoki occurs occasionally.

#### ***Fauna***

Australasian harrier, kingfisher.

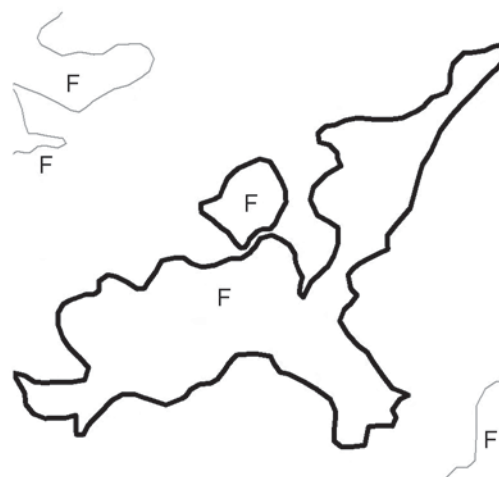
#### ***Significance***

This site is representative for (d) kahikatea-pukatea forest in gully, as well as having high species and habitat diversity for its size. The forest provides riparian protection to the upper section of a small stream. The site lies between other forest remnants on the slopes of the Mohinui Peak (sites Q08/189 and Q09/044), and may be part of a larger habitat network for mobile wildlife (e.g. forest birds).



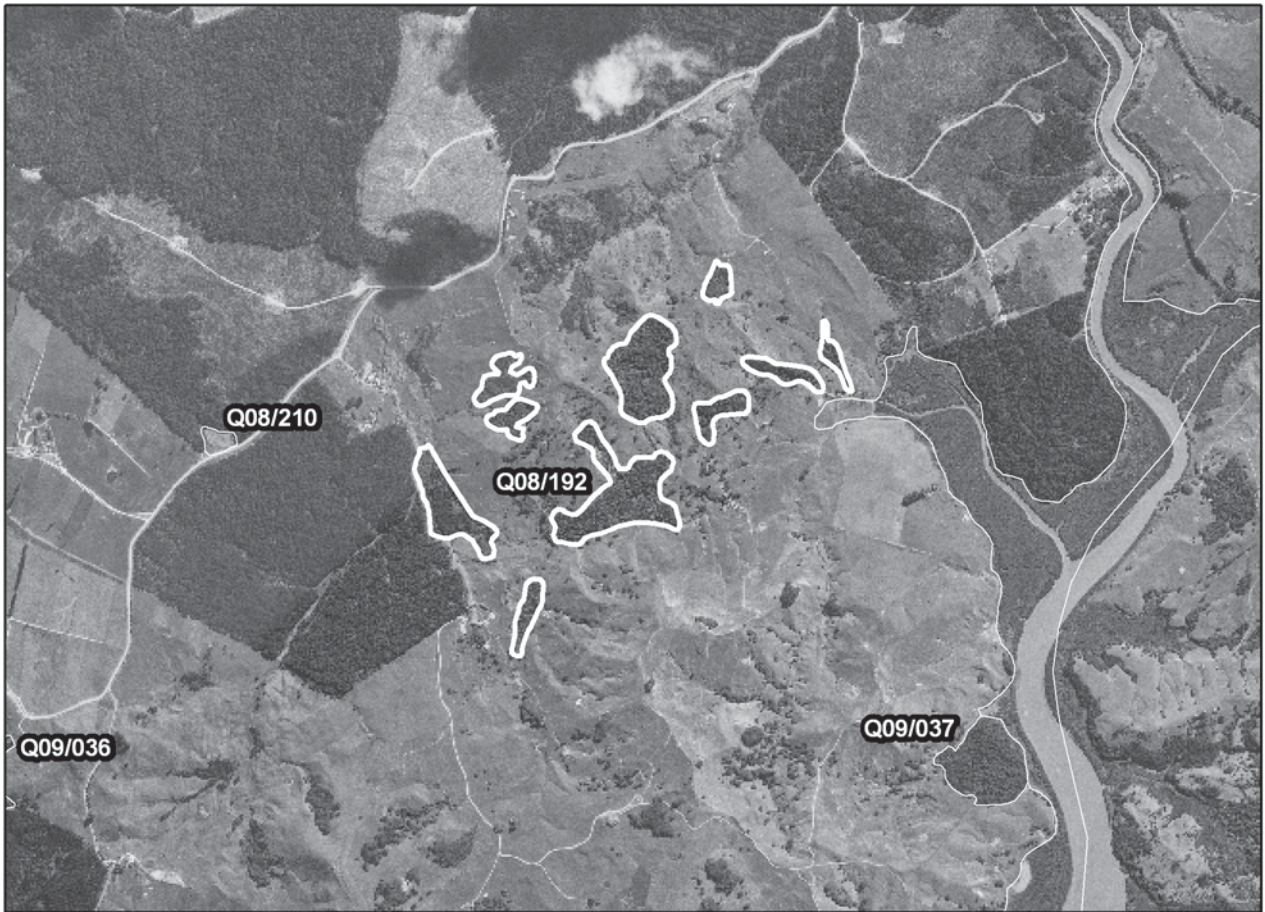
### Q08/190 Mohinui Forest Remnant 3

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



#### PAYNE ROAD FOREST REMNANTS

Survey no.	Q08/192
Survey date	15 December 2005
Grid reference	Q08 414 511 (10 remnants)
Area	25.9 ha
Altitude	5-95 m asl



## Q08/192 Payne Road Forest Remnants

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

0 250 500 1,000 Metres



### ***Ecological units***

- (a) Totara-puriri-kahikatea forest on moderate to steep hillslope (65%)
- (b) Kanuka-totara-tanekaha forest in gully (15%)
- (c) Totara-kahikatea forest on moderate hillslope (15%)
- (d) Tanekaha forest in gully (5%)

### ***Landform/geology***

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



### ***Vegetation***

The Payne Road Forest Remnants lie within the immediate catchment of the upper tidal part of the Topuni River. Ten remnants are spread out across a pastoral farming landscape, mostly in gullies. Many individual indigenous trees are dotted around the paddocks between the remnants. The entire landscape appears to be grazed, though some of the remnants may be fenced without this being obvious. A lot of the site was difficult to see from Payne Road, therefore some of the vegetation description has been extrapolated to include areas which were invisible, based on study of recent aerial photography (flown in 2002).

(a) The main forest type on general hillslope topography appears to be a mixture of totara with lesser quantities of puriri and kahikatea. Taraire and pukatea are frequent associates, while tarata, kauri, rewarewa, matai and kanuka are occasional.

(b) Next to Payne Road, a gully forest type comprises kanuka, totara and tanekaha with frequent five finger, tarata, kahikatea and pate, and occasional ti kouka and crack willow.

(c) Some of the forest remnants have totara and kahikatea dominant in the canopy with frequent tanekaha, and occasional kowhai, kauri, puriri, matai and kanuka.

(d) The upper part of the gully directly adjacent to Payne Road supports an unusual forest type for Otamatea ED Northland: tanekaha-dominant forest with a high diversity of secondary successional species in the 'frequent' category, including kanuka, tarata, ti kouka, mapou, mamaku, karamu, five finger, pate, lancewood and mahoe.

### ***Fauna***

Tui, kingfisher, fantail.

### ***Significance***

This site contains three representative ecological units: (a) totara-puriri-kahikatea forest on moderate to steep hillslope, (b) kanuka-totara-tanekaha forest in gully and (d) tanekaha forest in gully. Gully forests of type (b) and (d), which both have a lot of tanekaha associated with them, are particularly unusual in Otamatea ED Northland. This site is grazed and trampled by livestock, which reduces its value as a natural area.

## **OTUHIANGA COASTAL FOREST REMNANTS**

Survey no.	Q08/194
Survey date	14 December 2005
Grid reference	Q08 099 626 (2 remnants)
Area	20.9 ha
Altitude	20-102 m asl

### ***Ecological units***

(a) Totara-puriri forest on moderate to steep hillslope (80%)

(b) Totara-kahikatea forest on moderate hillslope (20%)