

Significance

This site derives its significance from its size, located within a very modified Ecological District. Native shrublands provide potential habitat for threatened species including orchids, NI brown kiwi and lizards.

A Queen Elizabeth II National Trust Open Space covenant protects 4.9 ha of this site.

Additional survey is required to determine the full ecological significance of this site. Approximately 125.5 ha of this site occurs within an 'At Risk' land environment (A6.1b) and 6.4 ha within a 'Critically Underprotected' land environment (A6.1c) (Walker et al. 2007).

PUKEKOHE HILL SCENIC RESERVE AND SURROUNDS

Survey no.	Q08/022
Survey date	3 July 1998
Grid reference	1709171E 6012590N (AY30)
Area	209.1 ha, 3 remnants (122.3 ha forest, 81.8 ha shrubland, 5 ha wetland)
Altitude	40-201 m a.s.l.

Ecological unit

- (a) Kānuka/mānuka shrubland on moderate hillslope
- (b) Tōtara-kānuka/mānuka shrubland on moderate hillslope
- (c) Kānuka/mānuka-tōtara shrubland on moderate hillslope
- (d) Kauri forest on ridge and hillslope
- (e) Rimu forest on moderate hillslope
- (f) Kahikatea forest on gentle hillslope
- (g) Taraire forest on moderate and steep hillslope
- (h) Tānekaha forest on moderate hillslope
- (i) Tānekaha-tōtara forest on moderate hillslope
- (j) Kahikatea-tōtara forest on hillslope
- (k) Tōtara forest on moderate hillslope
- (l) Open water in artificial lake

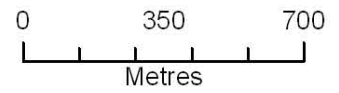
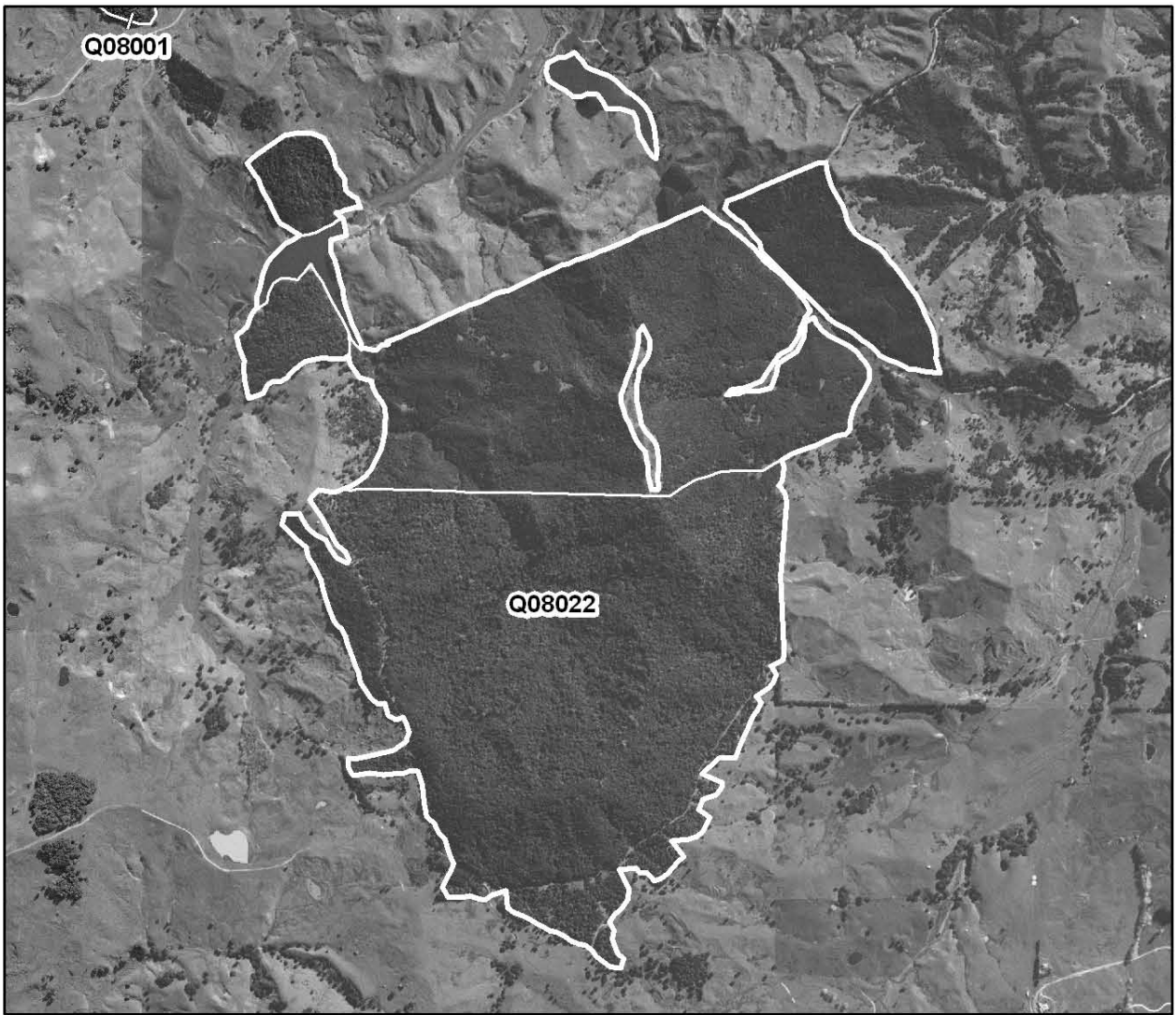
Landform/geology

Mangakahia Complex mudstone/sandstone.

Vegetation

The large shrubland area north of the reserve contains:

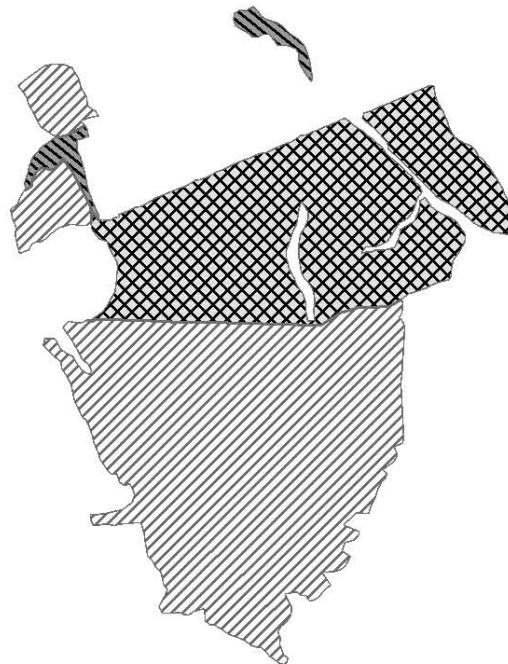
- (a) Kānuka/mānuka with
 - (i) occasional tānekaha and tōtara.
 - (ii) occasional emerging tōtara and emergent kahikatea and mamaku.
 - (iii) occasional tōtara and mamaku.



Q08/022 Pukekohe Scenic Reserve and Surrounds

Habitat type

-  Forest
-  Shrubland
-  Wetland



(b) Abundant tōtara with common kāmuka/mānuka and occasional tānekaha, tōwai, pūriri, rimu and rewarewa.

(i) Also occurs with isolated mamaku and tī kōuka.

(c) Kāmuka/mānuka and tōtara which occur with occasional tī kōuka, mamaku and the odd tānekaha.

(i) Also occurs in patches with mamaku in low abundance.

(ii) Is common in the shrubland area directly north of the reserve, with occasional mamaku, tānekaha, rewarewa and rimu.

The forested areas of the site are dominated by taraire.

The following vegetation types were identified:

(d) In the northern end of the reserve, abundant kauri occurs on some ridges, along with pūriri and rimu.

(e) Areas of rimu forest also occur here, along with rare emergent kauri, pūriri, rewarewa and tōtara. There is a notable patch of old-growth rimu in this area.

(f) Kahikatea, which is common in a small area here along with frequent nīkau and occasional tōtara, karaka, pūriri, tītoki and tī kōuka.

(g) Taraire forest occurs in the north with frequent emergent rewarewa. Emergent rimu and kauri (including very large kauri), kahikatea and nīkau are also present.

(h) In the northwestern corner of the reserve, a small area of abundant tānekaha occurs with the odd rewarewa, emergent kahikatea, tōtara and kāmuka/mānuka.

(i) Adjacent to the shrubland area, tānekaha and tōtara are common. Pūriri, rimu, tōwai, pukatea, mamaku, nīkau, tī kōuka and kāmuka/mānuka are present.

Taraire forest, type (g), is abundant on the southeastern hill face of the reserve along with frequent rewarewa and occasional emergent rimu, and kauri (ridges), tānekaha, puka, pūriri, kahikatea and mamaku.

In areas on the toeslopes of this face, abundant kahikatea, type (f), occurs with small amounts of pukatea, rimu, nīkau, tī kōuka and mamaku.

(j) Emergent kahikatea with tōtara also occurs on the toeslopes of this face with occasional rewarewa, nīkau, rimu and mamaku.

Taraire forest, type (g), is dominant on the southern face and western side of the reserve along with frequent rewarewa (20%) and occasional pūriri, mamaku, nīkau, epiphytic puka, emergent rimu, pukatea and kahikatea.

Emergent kahikatea associated with tōtara, type (j), occurs on the toeslopes of the southern face. Other species present include kauri, pukatea, tī kōuka and nīkau.

(k) Abundant tōtara occurs in the north of the western side of the reserve along with occasional emergent rewarewa, kahikatea, nīkau, pūriri and kāmuka/mānuka (edges).

A pocket of emergent kauri forest, type (d), is located on the northwestern corner of the reserve along with frequent emergent rimu and occasional tānekaha.

The two small forested remnants northwest of the reserve are associated with an artificial lake (type n).

The northern remnant of the two comprises type (g) abundant taraire, with occasional rimu, kahikatea, rewarewa, kohekohe, mamaku, pukatea and nīkau.

Abundant tōtara, type (l), also occurs here with frequent kahikatea and occasional rewarewa.

Kahikatea and tōtara forest, type (j), occurs in the remaining remnant with frequent emergent kauri and emergent rimu, tānekaha and kānuka/mānuka in low abundance.

(l) Open water in two artificial lakes occur in the north.

Significant flora

2006 records of kaikōmako, kohia and kotukutuku (all regionally significant species) (SSBI Q08/H004).

Fauna

Records from SSBI Q08/H004: 1992 record of NI brown kiwi (Nationally Vulnerable). 2006 record of kūkupa (regionally significant species) and kauri snail (Gradual Decline), NZ kingfisher, grey warbler, tūī, NI fantail, and silvereye. 1995 record of Australasian harrier and shining cuckoo.

Auckland green gecko (Declining) reported in shrubland by landowner adjacent to the Scenic Reserve.

Historical records (1977) in SSBI Q08/H005 and SSBI Q08/H006 of wetland birds associated with the two artificial lakes in the north: grey duck (breeding) (Nationally Critical), NZ dabchick (Nationally Vulnerable), black shag (Naturally Uncommon), little shag (Naturally Uncommon) (breeding—12 nests recorded), paradise shelduck (200 recorded), pūkeko, black swan (breeding), NZ kingfisher and welcome swallow.

Significance

The Pukekohe Hill Scenic Reserve contains some areas of unmodified kauri-podocarp/broadleaf forest on the upper slopes with large old growth specimens of kauri, kahikatea, mataī, tōtara, rewarewa and pūriri. The reserve supports Threatened, At Risk and Regionally significant species and is complemented by a sizeable area of shrubland in the north. Shrubland areas can provide important habitat for threatened species including orchids, NI brown kiwi and lizards.

The two artificial lakes in the north provide habitat for waterfowl and there are historical records of threatened species.

Representative site for several shrubland types, type (a), (b), (c) and (d). Representative site for type (d) kauri forest, type (e) rimu forest, type (g) taraire forest and type (k) tōtara forest.

The scenic reserve area is listed as a soil site of regional importance for:

- Containing soil-forest associations that are largely undisturbed
- Containing good examples of an uncommon soil type—White-Cone soils. (Arand et al. 1993)

Approximately 99.9 ha of the Pukekohe Hill Scenic Reserve, administered by DOC, is contained within this site. In addition, 11.2 ha is protected by Queen Elizabeth II National Trust Open Space covenant.

This is one of only two relatively large protected areas in the Tokatoka Ecological District. The other area is the Manganui River Wildlife Management Reserve (194.5 ha), which is contained in PNA site P07/086. The rest of the reserves within the District are under 50 ha in area.

Approximately 1 ha of this site occurs within a 'Chronically Threatened' land environment (A6.1d and G3.1b), 62.3 ha within an 'At Risk' land environment (A6.1b), 48.5 ha within a 'Critically Underprotected' land environment (A6.1a and A6.1c) and 92.7 ha within a 'Less reduced and better protected' land environment (D1.1a, D1.1b and D1.1e) (Walker et al. 2007).

UPPER ARCADIA ROAD BUSH

Survey no.	Q08/023
Survey date	3 July 1998
Grid reference	1713072E 6009834N (AY30)
Area	85 ha (60.4 ha forest, 24.6 ha shrubland)
Altitude	70-120 m a.s.l.

Ecological unit

- (a) Kahikatea-tōtara forest on hillslope
- (b) Kānuka/mānuka-tōtara forest on hillslope (75%)
- (c) Kānuka/mānuka shrubland on hillslope
- (d) Taraire forest on hillslope

Landform/geology

Mangakahia Complex mudstone/sandstone.

Vegetation

- (a) Kahikatea and tōtara forest occurs in the northeastern corner with occasional emergent kauri and occasional nīkau.
- (b) The majority of the site is kānuka/mānuka and tōtara forest with occasional tī kōuka, mamaku and kahikatea.
- (c) Kānuka/mānuka occurs in the shrubland area with occasional emergent kahikatea and tōtara.

In the southeast, type (a) kahikatea and tōtara is found south of this along with frequent rimu and occasional rewarewa, pūriri, nīkau and taraire.

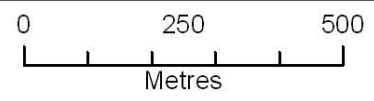
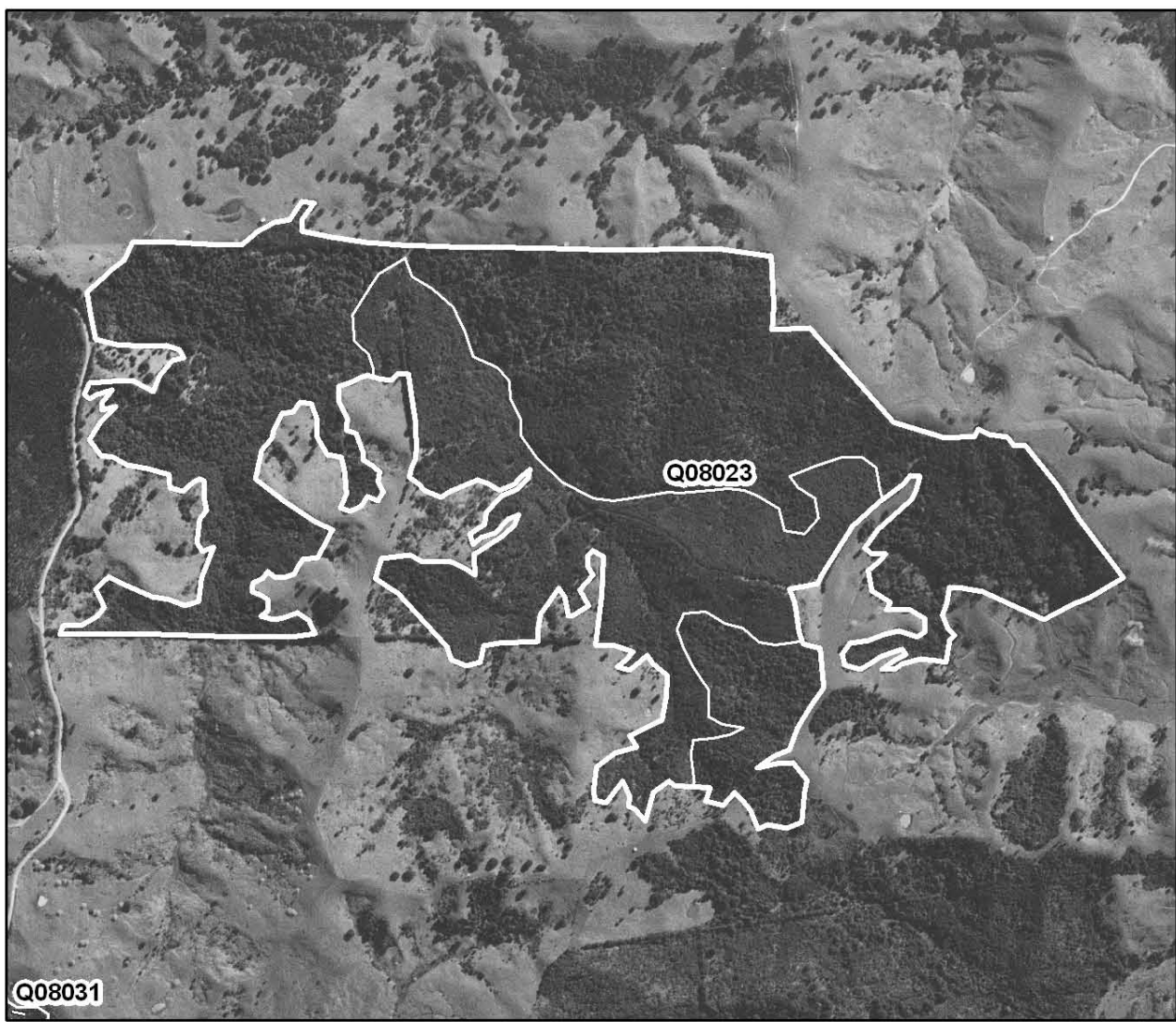
- (d) Abundant taraire occurs in the forested area in the east, along with isolated kahikatea, tōtara (edges) and mamaku.

Fauna

None noted.

Significance

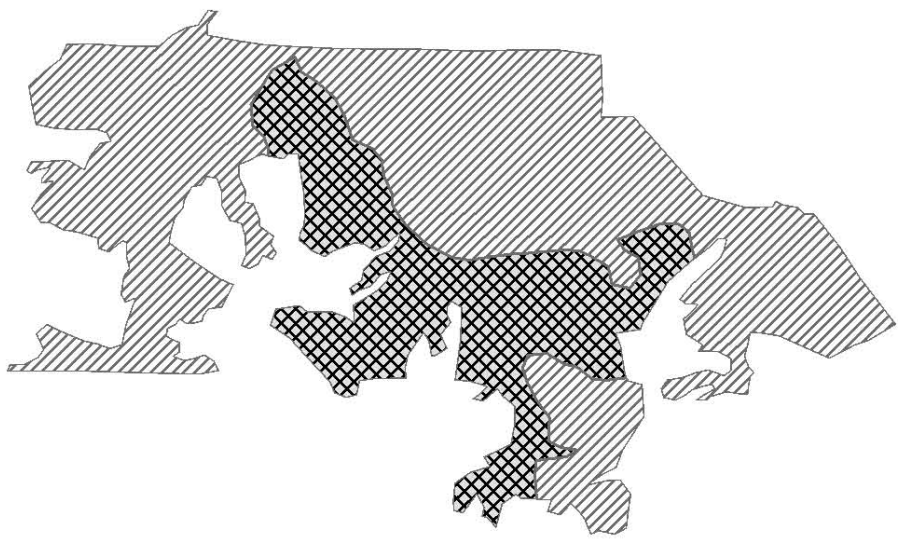
A relatively large forest and shrubland habitat located within a very modified Ecological District.



Q08/023 Upper Arcadia Road Bush

Habitat type

-  Forest
-  Shrubland
-  Wetland



Representative site for kānuka/mānuka-tōtara forest, type (b). Approximately 11.4 ha of this site occurs within an 'At Risk' land environment and 73.6 ha within a 'Critically Underprotected' land environment (A6.1c) (Walker et al. 2007).

TAIPUHA BUSH

Survey no. Q08/024
Survey date 15 July 1998
Grid reference 1716140E 6017284N (AY30)
Area 13 ha
Altitude 30–40 m a.s.l.

Ecological unit

- (a) Kānuka/mānuka-rimu-tōtara forest on hillslope
- (b) Kānuka/mānuka-tānekaha-tōtara forest on hillslope

Landform/geology

Terrace remnant, underlain by Mangakahia Complex mudstone and sandstone and Pleistocene alluvial sediments.

Vegetation

Only part of this remnant was surveyed.

- (a) Kānuka/mānuka, pole rimu and tōtara form a common association with frequent tānekaha. Kahikatea and emergent kauri are present.
- (b) Kānuka/mānuka, tānekaha and tōtara are common within the canopy with frequent (20%), emergent kauri and emergent rimu. Some emergent *Eucalyptus* sp. occurs, especially on the edges.

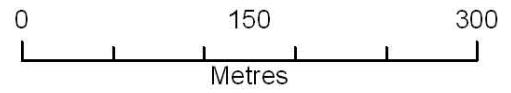
Fauna

None noted.

Significance

Lowland secondary forest with an emergent element. Lowland forest is an under-represented forest type in the Tokatoka Ecological District and throughout Northland generally.

Representative site for type (a) kānuka/mānuka-rimu-tōtara forest. Approximately 3.2 ha of this site occurs within a 'Chronically Threatened' land environment and 9.8 ha within an 'At Risk' land environment (Walker et al. 2007).



Q08/024 Taipuha Bush

Habitat type

-  Forest
-  Shrubland
-  Wetland



CROSS FAMILY TRUST COVENANT AND SURROUNDS

Survey no.	Q08/025
Survey date	1 May 1998, 18 January 2002
Grid reference	1717257E 6013376N (AY30)
Area	12.6 ha, 3 remnants
Altitude	60-112 m a.s.l.

Ecological unit

- (a) Rimu forest on gentle hillslope
- (b) Tānekaha forest on gentle hillslope
- (c) Kauri forest on gentle hillslope

Landform/geology

Mangakahia Complex mudstone/sandstone.

Vegetation

Predominantly lowland podocarp remnant with rimu a feature of the Cross family Covenant along Golden Stairs Road.

- (a) Rimu forest with frequent rewarewa. Emergent kauri, with tānekaha, kahikatea, tawa and kānuka occasional.
- (b) Tānekaha stands occur along with occasional kānuka, kauri and rimu.
- (c) On the ridge in the west, pole kauri occurs with emergent kauri, and in the small remnant on the eastern side of the road, emergent kauri occurs with occasional rimu, kahikatea and kānuka (edges),

Fauna

Kūkupa (regionally significant species) and kauri snail (Gradual Decline) recorded during a 2002 ecological survey (DOC internal report).

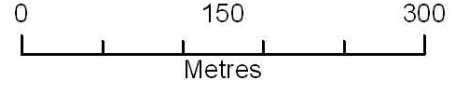
Significance

A representative example of predominantly secondary lowland podocarp forest, a habitat type which is rare in the Tokatoka Ecological District and in Northland generally. The site also supports one Threatened and one Regionally significant species.




The remnant alongside Golden Stairs Road (Cross Family Trust Covenant) is protected from stock by a 7-wire post and batten fence. The Cross Family Trust Covenant is a Conservation Covenant of 3.2 ha which is administered by DOC. Approximately 0.3 ha of this site occurs within a 'Chronically Threatened' land environment (A6.1d), 6.7 ha within an 'At Risk' land environment (A6.1b), 5.4 ha within a 'Critically Underprotected' land environment (A6.1c) and 0.2 ha within a 'Underprotected' land environment (D1.2b) (Walker et al. 2007).

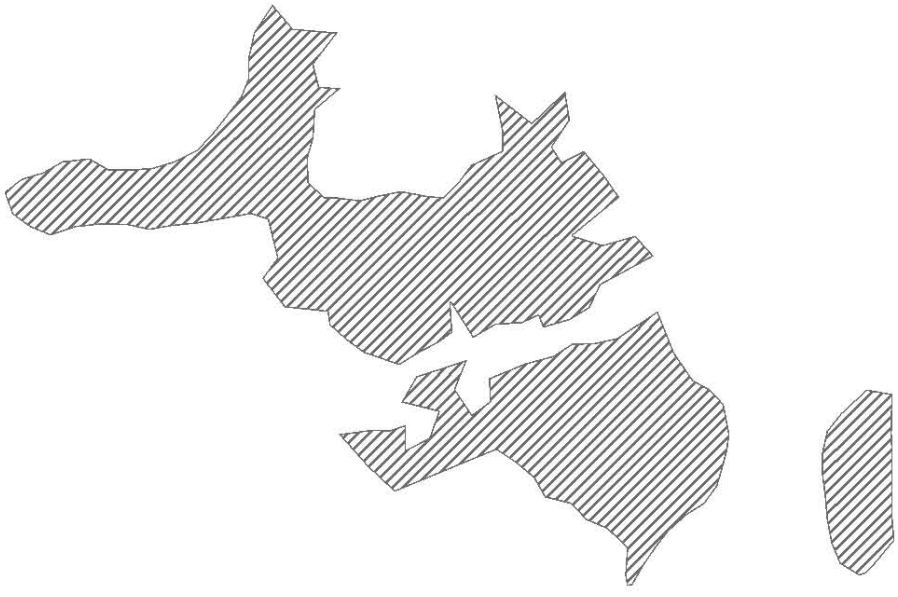


Q08/025 Cross Family Trust Covenant and Surrounds



Habitat type

-  Forest
-  Shrubland
-  Wetland



MCCARROLL GAP BUSH REMNANTS

Survey no.	Q08/026
Survey date	15 July 1998
Grid reference	1714805E 6011987E (AY30)
Area	88.7 ha, 7 remnants (68.2 ha forest, 20.5 ha shrubland)
Altitude	20-141 m a.s.l.

Ecological unit

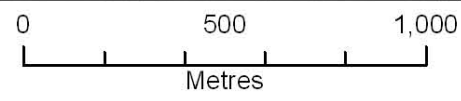
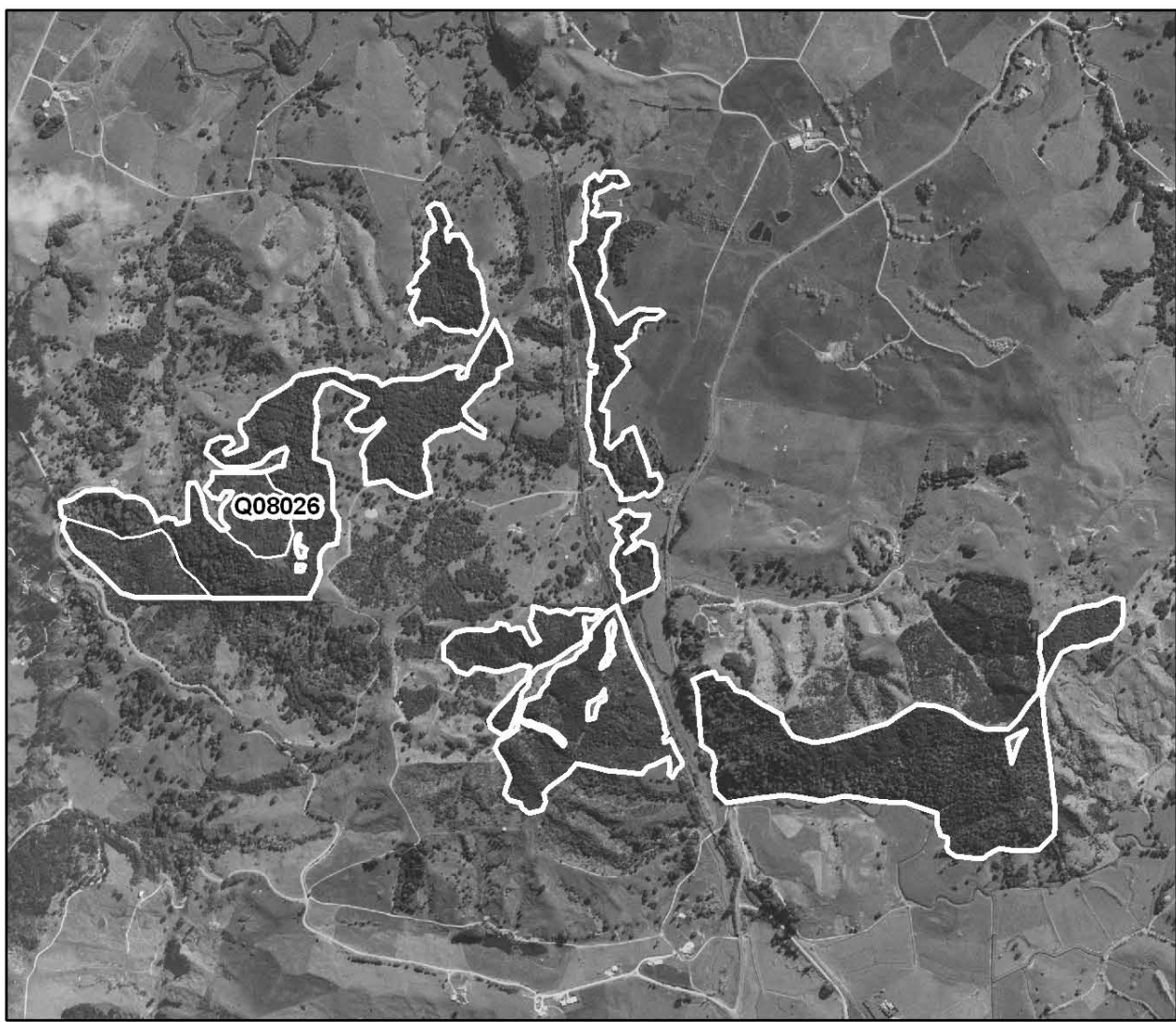
- (a) Tōtara forest on alluvium
- (b) Tōtara forest on hillslope
- (c) Kahikatea-tōtara forest on toeslope
- (d) Tōtara-kānuka/mānuka forest on hillslope
- (e) Gorse-kānuka/mānuka shrubland on hillslope
- (f) Kānuka/mānuka-tōtara forest on hillslope
- (g) Taraire forest on hillslope
- (h) Tītoki-tōtara forest on hillslope

Landform/geology

Mangakahia Complex sandstone and mudstone.

Vegetation

- (a) The riparian remnant along Kaikowhiti Stream (the northern middle remnant) comprises abundant tōtara with frequent, often emergent, kahikatea. Tītoki, mataī, pukatea, rimu, tōwai and tī kōuka are present.
- (b) Tōtara forest occurs in the forested remnant west of the stream with frequent kahikatea and occasional rewarewa, rimu, pukatea and kānuka/mānuka.
- (c) Kahikatea and tōtara are co-dominant in small pockets on the toeslopes of this with occasional mataī and kānuka/mānuka.
Type (b) tōtara forest also occurs in the remnant west of this along with frequent kahikatea and occasional rimu and kauri (ridge).
- (d) Abundant tōtara with common kānuka/mānuka occurs in this area with occasional kahikatea and isolated emergent pine trees.
- (e) Moving south, to the remnant just west of the Paparoa/Oakleigh Road, gorse and kānuka/mānuka shrubland occurs. Mamaku, patē, hangehange, emergent pine and pampas are occasional.
Type (d) tōtara and kānuka/mānuka occurs here along with occasional gorse, mamaku and emergent pine trees.
- (f) Kānuka/mānuka is abundant with tōtara common south of this. Tī kōuka, mamaku, *Coprosma* sp., gorse, emergent pine trees, *Acacia* sp. and pampas (edges) are occasional.
- (g) Taraire forest occurs as a patch in this area with frequent rewarewa, tōtara, pukatea, kahikatea and rimu.



Q08/026 McCarroll Gap Bush Remnants

Habitat type

-  Forest
-  Shrubland
-  Wetland



The southern hillface of the remaining remnant, east of Paparoa/Oakleigh Road (southeastern remnant), is dominated by type (g) taraire along with frequent rewarewa. Species occurring occasionally include tōwai, rimu, tānekaha, pukatea, tōtara, kahikatea and mamaku and nīkau (gullies).

(h) A small area of tītoki and tōtara forest occurs by the roadside (< 1%) with occasional rewarewa and mamaku.

Type (d) tōtara occurs on the eastern side of this face along with frequent kahikatea. Rimu, tānekaha, mamaku and the odd pine tree are present.

Type (c) kahikatea and tōtara occur in patches, mainly on the toeslopes, along with frequent rimu and occasional mataī, rewarewa and kānuka/mānuka.

Fauna

None noted.

Significance

A collection of remnants over a relatively large area providing important habitat within a very modified Ecological District. Representative site for type (g) taraire forest. Sole record of type (h) tītoki-tōtara forest in the Tokatoka Ecological District; however, this ecological unit is not representative because of its small size.

A Queen Elizabeth II National Trust Open Space covenant protects 12.5 ha of the remnant on the eastern side of the Paparoa/Oakleigh Road. Approximately 10.8 ha of this site occurs within a 'Chronically Threatened' land environment (G3.1b), 0.7 ha within an 'At Risk' land environment (A6.1b) and 77.2 ha within a 'Critically Underprotected' land environment (A6.1c) (Walker et al. 2007).

M A R E R E T U B U S H R E M N A N T S

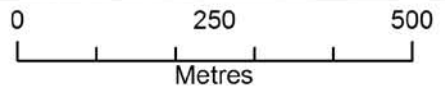
Survey no.	Q08/027
Survey date	16 July 1998
Grid reference	1717494E 6009839N (AY30)
Area	40.1 ha, 7 remnants
Altitude	40-140 m a.s.l.

Ecological unit

- (a) Rimu forest on gentle hillslope
- (b) Tōtara forest on gentle hillslope
- (c) Taraire forest on hillslope
- (d) Tōtara-kānuka/mānuka forest on hillslope
- (e) Kahikatea forest on gentle hillslope
- (f) Rimu-tānekaha forest on moderate hillslope
- (g) Kahikatea-tōtara forest on hillslope

Landform/geology

Motatau Complex mudstone.



Q08/027 Mareretu Bush Remnants

Habitat type

-  Forest
-  Shrubland
-  Wetland



Vegetation

Some of the following ecological unit descriptions have been labelled (1), (2), (3) etc. with the site map labelled accordingly to show where the described areas occur.

(1)

(a) Rimu forest is common in the northern remnant on the western side of Golden Stairs Road. Tōtara is frequent and miro, kahikatea, tānekaha, rewarewa, tōwai and taraire are occasional.

(b) Abundant tōtara also occurs here along with frequent kahikatea and occasional rimu, tānekaha, rewarewa and patches of kānuka/mānuka.

(c) Taraire also occurs in a small area here along with frequent rewarewa. Nīkau, rimu, tōwai and emergent kauri (ridge) are occasional.

(2)

(d) Towards the south on the western side of the road the vegetation is tōtara and kānuka/mānuka with occasional tī kōuka, mamaku, kahikatea and rewarewa.

Type (c) taraire occurs on the southeastern arm of this area along with frequent rewarewa. Tōtara, kahikatea, tōwai and puka are occasional.

(3)

Type (b) tōtara forest dominates the southwestern remnant. Rimu, kahikatea and taraire are frequent. Pūriri, rimu, nīkau and kauri are occasional.

(4)

(e) On the eastern side of the road, the small northern remnant is dominated by kahikatea forest containing frequent tōtara. Tī kōuka and emergent rimu are occasional.

(5)

(f) Abundant rimu with common tānekaha occurs in the remnant just south of this, along with frequent rewarewa. Tōwai, kānuka/mānuka and tōtara (edges) are occasional.

The small remnant next to this was not surveyed.

(6)

Type (a) abundant rimu occurs in the remaining remnant. Tōtara occurs frequently, along with occasional tānekaha, pukatea, kauri, kahikatea, kānuka/mānuka, nīkau and tōwai.

Taraire forest, type (c), also occurs here, along with frequent rewarewa and some kahikatea, tōwai and puka.

(g) Kahikatea is abundant with tōtara common on the toeslopes of this remnant; mataī is occasional.

Fauna

None noted.

Significance

A collection of linking forested remnants that provides important stepping stone habitat within a very modified Ecological District; including a seasonal food source for the regionally significant kūkupa.

A Queen Elizabeth II National Trust Open Space covenant protects 5.5 ha of the north western remnant (1).

A representative site for and sole record of rimu-tānekaha forest, type (f) in the Tokatoka Ecological District. Approximately 29.4 ha of the site occurs within an 'At Risk' land environment (A6.1b) and 10.7 ha within a 'Critically Underprotected' land environment (A6.1c) (Walker et al. 2007).

GOLF COURSE ROAD REMNANTS

Survey no.	Q08/029
Survey date	16 July 1998
Grid reference	1719961E 6008252N (AY30)
Area	25.2 ha, 3 remnants (19.3 ha forest, 5.9 ha shrubland)
Altitude	60-120 m a.s.l.

Ecological unit

- (a) Kānuka/mānuka shrubland on hillslope
- (b) Kānuka/mānuka-tānekaha forest on moderate hillslope
- (c) Tānekaha-kānuka/mānuka forest on hillslope
- (d) Rimu forest on hillslope
- (e) Kauri forest on hillslope
- (f) Tānekaha forest on moderate hillslope

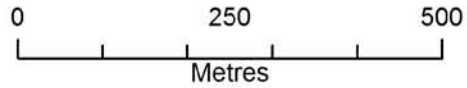
Landform/geology

Mangakahia Complex mudstone/sandstone.

Vegetation

In 1998, the area of this site was mapped as being 44.6 ha, with the eastern remnant considerably larger in comparison with the site depicted in later aerial photography.

- (a) Abundant kānuka/mānuka shrubland occurs in the eastern remnant. Tōtara and tānekaha are occasional.
- (b) Kānuka/mānuka associated with tānekaha also occurs here along with frequent tōtara. Rewarewa, rimu, tōtara, kahikatea and pine trees are present in small amounts.
- (c) On the west-facing hillslope of this remnant, tānekaha is emergent and dominant over tall kānuka/mānuka. Tōtara and kauri occur frequently. Emergent rimu, emergent kahikatea, tī kōuka and mamaku are occasional. Type (b) kānuka/mānuka-tānekaha is found in the middle remnant, along with the odd rewarewa, rimu, tōtara, kahikatea and pine tree.
- (d) A small pocket of abundant rimu occurs in the remaining remnant adjacent to Golden Stairs Road. Kauri and kānuka/mānuka occur frequently. Tānekaha and rewarewa are occasional.
- (e) Near this, a small area of emergent kauri is present with occasional tānekaha and rewarewa.



Q08/029 Golf Course Road Remnants

Habitat type

-  Forest
-  Shrubland
-  Wetland



(f) Common tānekaha also occurs here along with frequent tōtara and kānuka/mānuka. Kahikatea and rimu are occasional.

Type (a) kānuka/mānuka occurs in a small area by Golden Stairs Road along with occasional emergent tānekaha and kauri rickers, mamaku and gorse.

Type (b) kānuka/mānuka and tānekaha is also found by the roadside with frequent emergent kauri. Mamaku, tōtara and emergent pine are occasional.

Fauna

None noted.

Significance

A collection of regenerating remnants providing important stepping stone habitat within a very modified Ecological District.

Representative site for type (c) tānekaha-kānuka/mānuka forest. Approximately 9.5 ha of this site occurs within an 'At Risk' land environment (A6.1b) and 15.7 ha within a 'Critically Underprotected' land environment (A6.1c) (Walker et al. 2007).

SMOKY HILL SCENIC RESERVE AND SURROUNDS

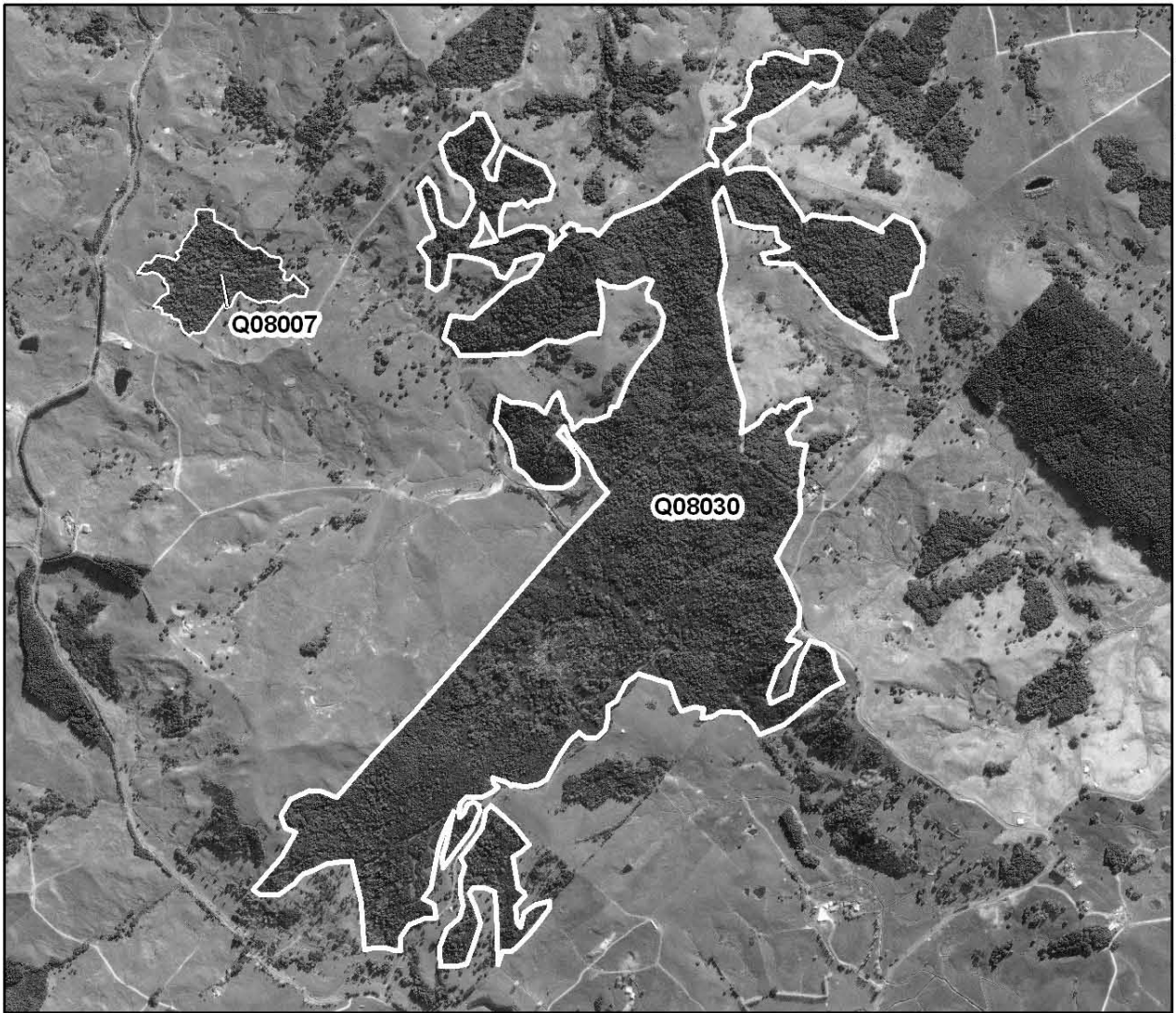
Survey no.	Q08/030
Survey date	17 April 1998
Grid reference	1701123E 6006480N (AY29)
Area	153.8 ha, 2 remnants
Altitude	40-141 m a.s.l.

Ecological unit

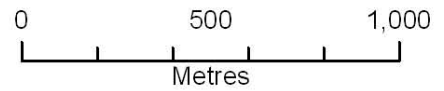
- (a) Kahikatea-pūriri forest on hillslope
- (b) Tōtara forest on ridge
- (c) Taraire forest on gentle hillslope
- (d) Kānuka/mānuka-rimu forest on gentle hillslope
- (e) Rimu-tōtara forest on gentle hillslope
- (f) Undescribed forest on alluvium
- (g) Kānuka/mānuka forest on gentle hillslope
- (h) Kānuka/mānuka-kauri forest on gentle hillslope
- (i) Kauri forest on gentle hillslope
- (j) Kānuka/mānuka-rimu-tānekaha forest on gentle hillslope
- (k) Tānekaha forest on gentle hillslope
- (l) Pūriri-tōtara forest on hillslope
- (m) Kānuka/mānuka shrubland on hillslope

Landform/geology

Mangakahia Complex mudstone forming hill country. Quaternary alluvium on valley floor.



Q08/030 Smoky Hill Scenic Reserve and Surrounds



Habitat type

-  Forest
-  Shrubland
-  Wetland



Vegetation

Vegetation has been cleared at this site in the very southwestern end of the large remnant (clearance of 7.9 ha), as shown in a comparison of 2002 and 2008 aerial photography.

(a) Kahikatea-pūriri occurs in the east (edge view), adjacent to the roadside, with frequent kānuka/mānuka and tōtara. Tī kōuka, pukatea, rimu, rewarewa, nīkau and lancewood are occasional.

(b) South of this along this eastern boundary, abundant tōtara occurs with frequent rimu and kahikatea. Other species present include lancewood, tī kōuka, emergent rewarewa and kānuka/mānuka (edges).

(c) Beside this, taraire is dominant with frequent pūriri. Tōtara, kauri, tī kōuka, rewarewa, mataī and tānekaha are occasional.

Type (b) tōtara also occurs southwards along the eastern side. Tānekaha and pūriri are uncommon and kauri, mamaku, rimu, kahikatea, rewarewa and tī kōuka are occasional.

(d) Abundant kānuka/mānuka with emergent rimu also occurs here. Mataī, tōtara, kahikatea, kauri, rewarewa, tānekaha and tī kōuka are all occasional.

(e) In the central area of the remnant on the western side, rimu and tōtara are common with frequent kahikatea and kānuka/mānuka. Kauri, mataī, tītoki and mamaku are occasional.

(f) An area of riverine forest adjoining the upper Te Awaoteahouhi Stream with tongues of locally abundant raupō, some purei, and harakeke was recorded in the northern area of the scenic reserve in a 1993 survey of the site. This survey contributed to a successful application to the then Forest Heritage Fund (now called Nature Heritage Fund) to purchase and protect from development what is now known as Smoky Hill Scenic Reserve.

(g) Kānuka/mānuka forest also occurs here with occasional emergent kauri, emergent tānekaha and kahikatea.

(h) Kānuka/mānuka and emergent kauri forest are co-dominant near this. Emergent tānekaha occurs frequently. Several other emergent species occur occasionally, including rimu, mataī, tōtara, rewarewa and kahikatea. Tī kōuka is also present.

(i) To the east of this, emergent kauri is abundant with frequent rimu. Other species present include kahikatea, tōtara, pūriri, tānekaha and kānuka/mānuka.

(j) South of this central area, emergent rimu, tānekaha and kānuka/mānuka are associated. Occasional species include kauri, tōtara and kahikatea, all of which are emergent.

(k) Southwards along the western edge, tānekaha is abundant with frequent rimu and kānuka/mānuka. Emergent kauri, tōtara and kahikatea are occasional.

(l) Pūriri and tōtara are co-dominant in the southern area with frequent kahikatea and taraire. Occasional species include rimu, pukatea, rewarewa, tī kōuka and lancewood.

(m) By the roadside in the southern end, a band of kānuka/mānuka shrubland occurs with occasional tī kōuka, lancewood, tōtara, mamaku and nīkau.

Significant flora

1993 record of the arboreal orchid *Adelopetalum tuberculatum* (Naturally Uncommon) (DOC Bioweb).

Regionally significant species: 1993 SSBI Q08/H009 records of pōkākā, kaikōmako and weeping māpou and 1995 record of *Raukaua anomalus* (AK 228982).

Fauna

Records from SSBI Q08/H009: 1994 record of NI brown kiwi (egg found in burrow) (Nationally Vulnerable). 1992 record of kūkupa (regionally significant species), morepork, NZ kingfisher, grey warbler, NI fantail, tūī, and silvereye.

1992 record of kauri snail (Gradual Decline) and copper skink.

Significance

Within the Tokatoka Ecological District, Smoky Hill Scenic Reserve and Surrounds represents a significant forested habitat in size and ecological attributes, including many representative forest types and Threatened, At Risk and Regionally significant species. NI brown kiwi were last recorded in 1994 and it is possible they may still occur there. Follow-up survey is recommended.

Representative site for vegetation types (b), (c), (d), (e), (g), (h), (i), (j) and (k).

Approximately 41.3 ha of this site is protected by Smoky Hill Scenic Reserve which is administered by DOC. This site occurs within an 'At Risk' land environment (A6.1b) (Walker et al. 2007).

LOWER ARCADIA ROAD REMNANTS

Survey no.	Q08/031
Survey date	29 June 1998
Grid reference	1712150E 6007838N (AY30)
Area	87.3 ha, 11 remnants
Altitude	80-160 m a.s.l.

Ecological unit

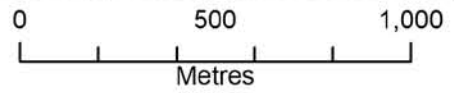
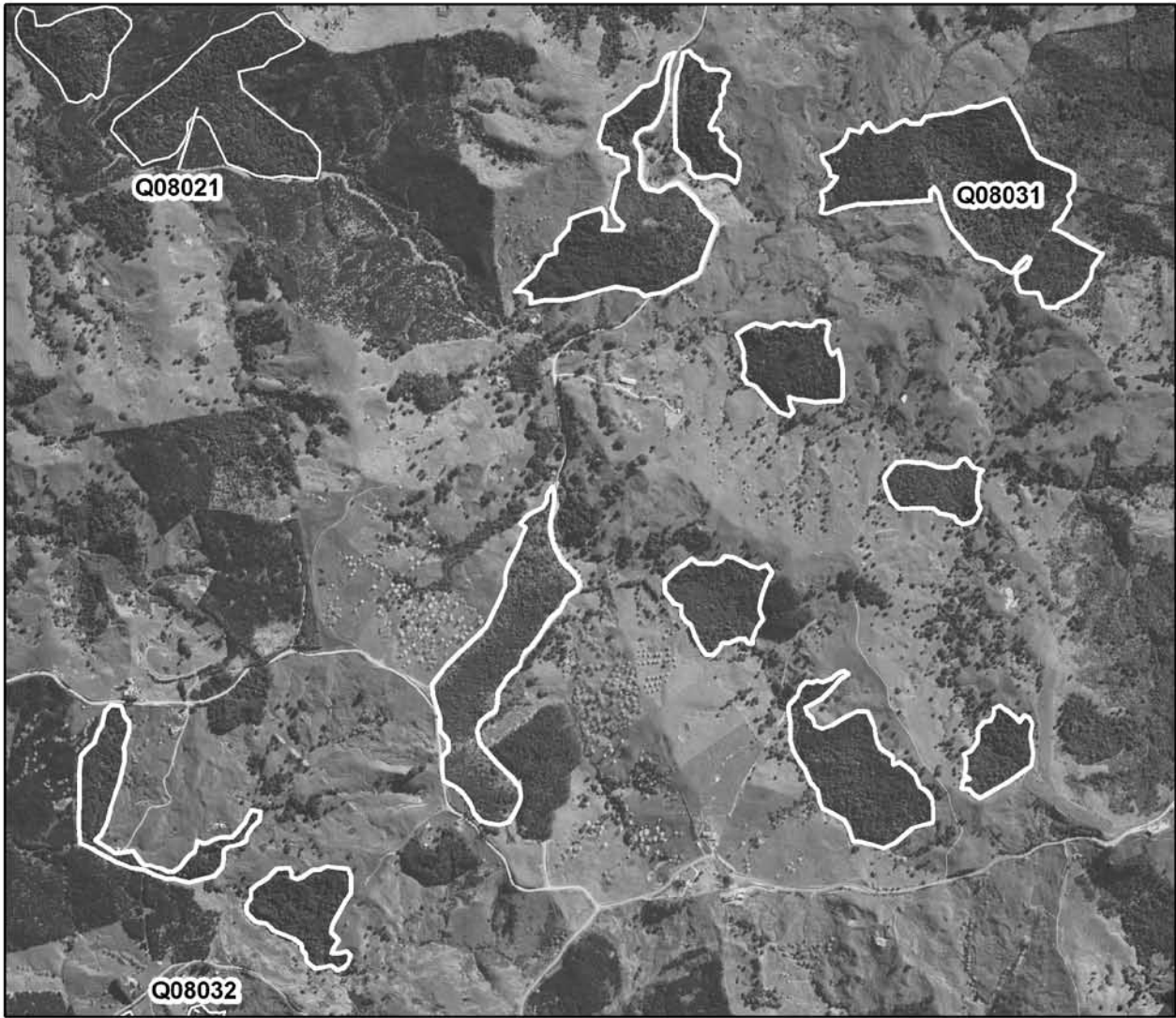
- (a) Taraire forest on moderate hillslope
- (b) Tōtara forest on ridge
- (c) Kānuka/mānuka-tōtara forest on moderate hillslope
- (d) Kahikatea forest on moderate hillslope

Landform/geology

Mangakahia Complex sandstone and mudstone.




Vegetation

A collection of 11 remnants dominated by taraire.



Q08/031 Lower Arcadia Road Remnants

Habitat type

-  Forest
-  Shrubland
-  Wetland



The following ecological unit descriptions have been labelled (1), (2), (3) etc. with the site map labelled accordingly to show where the described areas occur.

(1)

(a) Remnant (1) is 70% taraire dominant. Rewarewa is frequent. A range of species occur occasionally including, pūriri, rimu, pukatea, tōtara, puka, northern rātā and tōwai.

(b) On the upper slopes of this remnant, tōtara forest occurs along with occasional kahikatea.

(c) In the northern end, by the roadside, kānuka/mānuka and tōtara are common. Rewarewa, kahikatea, tī kōuka and mamaku are occasional.

(2)

Across the road, type (a) taraire forest also occurs in this remnant. Rimu, tōtara, puka, kahikatea and tōwai are occasional.

Type (c) kānuka/mānuka and tōtara is present with occasional kahikatea and tī kōuka.

(3)

Remnant (3) is also type (a), abundant taraire. Rimu, kahikatea, mataī, pukatea, tōwai, nīkau, tōtara (edges) and kānuka/mānuka (edges) are occasional.

(4)

Southwards, this remnant is 95% type (a) taraire, with frequent rewarewa. A large mature kauri defines this remnant. Other species present include occasional rimu, kahikatea, tītoki, pūriri, puka, nīkau and tōtara (edges).

Remnant (5) was not described during this survey.

(6)

Type (a) taraire is dominant in remnant (6).

(7)

Type (a) also occurs in the remnant cornering Arcadia Road and Porter Road, (vii). Rewarewa is frequent and pukatea, kahikatea, pūriri and nīkau are present in small amounts.

(d) Kahikatea is common (5%) in a small area in the northern end of remnant (7), along with frequent rewarewa. Rimu, pūriri, tī kōuka and tōtara occur occasionally.

(8)

Taraire dominant, vegetation type (a). Rewarewa is frequent and pukatea, nīkau, kahikatea, pūriri, rimu and tōtara (edges) are occasional.

(9)

Not described during this survey.

(10) and (11)

The vegetation in the remaining remnants in the southwest—(10) and (11)—is type (a) taraire dominant, with a range of occasional species including kahikatea, rewarewa, pukatea, pūriri, rimu, tōtara, and nīkau.

A ribbon of tōtara is present in the western remnant.

Significant flora

Northern rātā (regionally significant species) recorded during this survey.

Fauna

Kūkupa (regionally significant species) were recorded on the day of survey and a local resident at the time commented on the abundance of kūkupa in the area.

Significance

A collection of taraire-dominant remnants within a very modified Ecological District providing important stepping stone habitat, including a seasonal food source for the regionally significant kūkupa.

Representative site for type (a) taraire forest.

FRANKLIN ROAD BUSH

Survey no.	Q08/032
Survey date	12 August 1998
Grid reference	1710454E 6005802N (AY30)
Area	41.2 ha, 2 remnants (29.2 ha forest, 12.1 ha shrubland)
Altitude	50-100 m a.s.l.

Ecological unit

- (a) Taraire forest on moderate hillslope (70%)
- (b) Rimu forest on moderate hillslope (5%)
- (c) Kahikatea forest on hillslope (5%)
- (d) Kauri forest on hillslope (< 1%)
- (e) Kānuka/mānuka-rimu-tōtara forest on gentle hillslope (< 1%)
- (f) Kānuka/mānuka shrubland on gentle hillslope (20%)

Landform/geology

Mangakahia Complex sandstone and mudstone.

Vegetation

(a) The forested remnant is dominated by taraire, with frequent rewarewa. Species occurring occasionally include emergent rimu with kahikatea, tōwai, pūriri, nīkau, puka and tōtara.

(b) There is a small pocket of common pole rimu with frequent tōtara and kānuka/mānuka. Emergent kauri with kahikatea, tānekaha, rewarewa and nīkau are occasional.

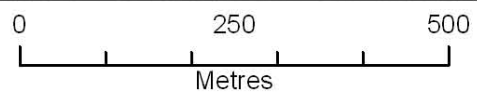
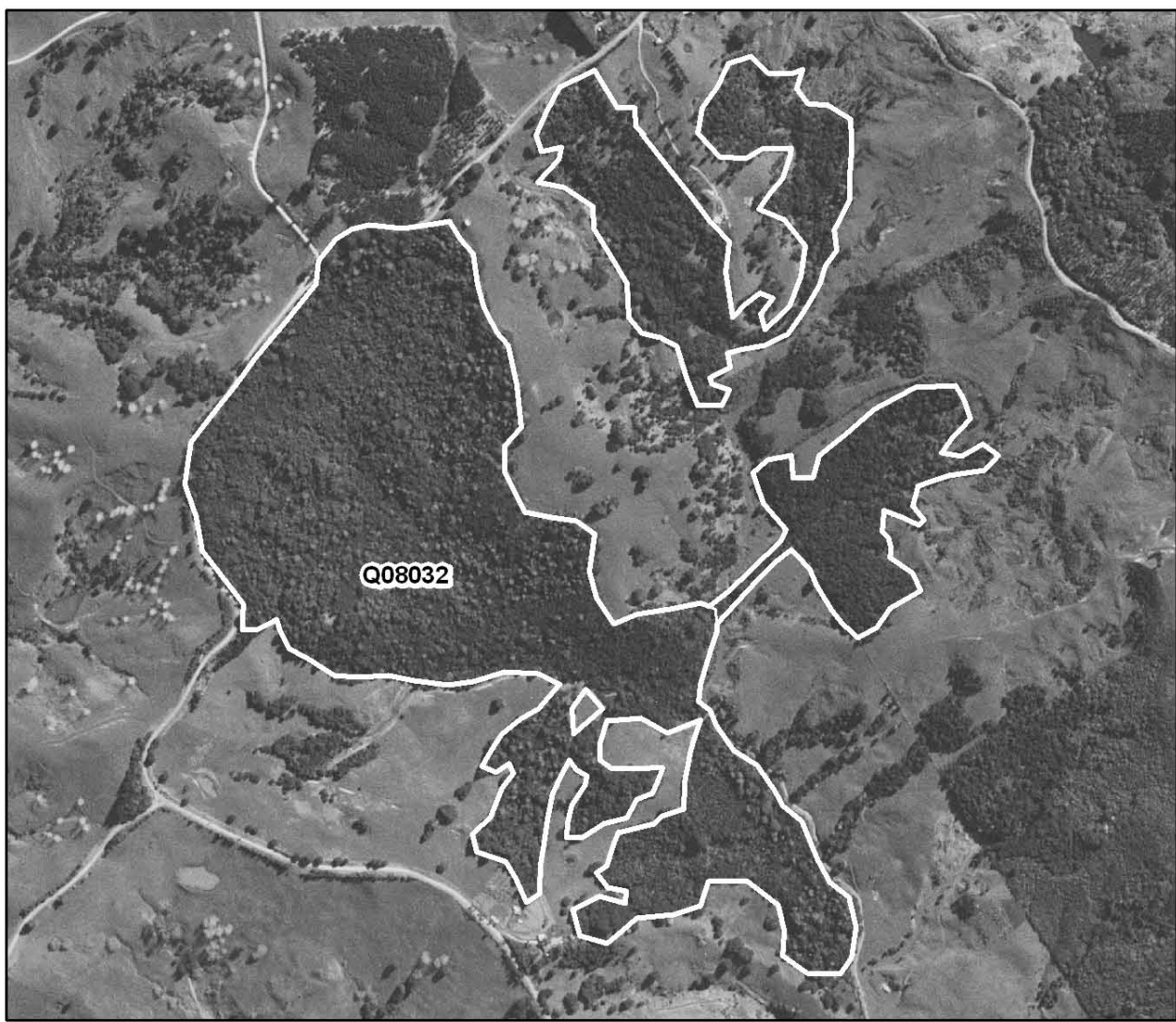
In the southeastern part of this remnant:

(c) Kahikatea is common in a small area with occasional rimu, rewarewa, pukatea, pūriri, nīkau and tī kōuka.

(d) A small area of dominant emergent kauri occurs with frequent rimu. Tōtara and kānuka/mānuka occur on the edges.

(e) Kānuka/mānuka-rimu and tōtara are co-dominant with occasional emergent kauri rickers.

(f) The shrubland areas are dominated by kānuka/mānuka, often with frequent tōtara. Mamaku, tī kōuka, patē and the odd pine tree are also present.



Q08/032 Franklin Road Bush

Habitat type

-  Forest
-  Shrubland
-  Wetland



Fauna

The forested area of this site was surveyed by the NZ Wildlife Service, Fauna Survey Unit in 1977 (SSBI Q08/H012); however, no fauna observations were made.

Significance

This site is dominated by a relatively large representative taraire forest remnant providing important stepping stone habitat, including a seasonal food source for the regionally significant kūkupa within a very modified Ecological District.

In 1977 it was noted that the taraire remnant was being grazed by stock and, as a result, groundcover species were absent (SSBI Q08/H012). This site occurs within a 'Critically Underprotected' land environment (A6.1a and A6.1c) (Walker et al. 2007).

WAIKOPIKOPIKO STREAM REMNANTS

Survey no.	Q08/033
Survey date	20 July 1998
Grid reference	1718813E 6007241N (AY30)
Area	46.6 ha (20.1 ha forest, 26.5 ha shrubland)
Altitude	< 60–140 m a.s.l.

Ecological unit

- (a) Kānuka/mānuka-tōtara shrubland on moderate hillslope (50%)
- (b) Kānuka/mānuka-tōtara forest on moderate hillslope
- (c) Kauri forest on moderate hillslope
- (d) Tōtara forest on moderate hillslope (25%)

Landform/geology

Mangakahia Complex mudstone/sandstone.

Vegetation

(a) Abundant kānuka/mānuka with associated tōtara occurs in the shrubland area in the east. Occasional species include mamaku and some emergent pine.

The forest on the hillslope adjacent to the south of this comprises several frequently occurring species including tōwai, mamaku, rewarewa, kahikatea and tōtara. Other species present include taraire, kohekohe, puka, nīkau, and kānuka/mānuka.

(b) Tōtara and kānuka/mānuka is common in approximately 10% of the forested area in the western side of the remnant, with

- (i) Frequent emergent tānekaha and occasional emergent kauri, rimu, rewarewa and kahikatea.
- (ii) Occasional rewarewa, tānekaha, rimu, mamaku and tī kōuka.