

**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS**  
**SURVEY**

**LEAMINGTON**  
**(RUPERT PROPERTY)**



**Report prepared for the Timaru District Council by Mike Harding**  
**June 2007**

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

### PROPERTY DETAILS:

**Owners:** .....Martin and Hendrika Rupert (Marik Family Trust)

**Valuation Reference:** .....24640/093.00

**Address:** .....42 Thew Inglis Road, Geraldine 7991

**Location:**.....On the northeast side of the Orari River, at the upper edge of the plains and near the foothills, north of Geraldine

**Ecological District:** .....Geraldine, though close to the Orari ED

**TDC Land Type:**.....Plains

**Land Environments:**.....L1 (southern lowlands) and N2 (well-drained plains)

### ECOLOGICAL CONTEXT:

The property lies within the Geraldine Ecological District, though is close to the foothills which lie within the Orari Ecological District. The main landforms on the property are small river terraces and terrace scarps. The original vegetation of this area would probably have been predominantly podocarp-hardwood (matai-totara-kahikatea-lowland ribbonwood) forest on older terraces and flats, beech forest or tall kanuka-kowhai forest on terrace scarps, and kanuka-kowhai forest/treeland or matagouri shrubland on recent alluvial surfaces. The indigenous fauna would have been significantly more numerous and diverse, with a greater range of birds, lizards and invertebrates than is presently found in the area. Long-tailed bats would also have been present.

Indigenous vegetation on the property comprises a small remnant of mountain beech forest and associated areas of regenerating hardwood forest (with kahikatea) on the main terrace scarp and adjacent terrace, and tall kanuka forest/treeland on the most recent alluvial surface near the Orari River. Indigenous vegetation on the property is quite close to other remnants of indigenous forest along the Orari River and on the nearby foothills. A notable feature of the property is the remnant of mountain beech forest. The property lies within the known range of the South Canterbury population of long-tailed bat, a nationally endangered species.

### SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during April and May 2007. All parts of the property with indigenous vegetation were visited and assessed. Three areas, totalling approximately 8.3 hectares, are regarded as significant when assessed against the District Plan criteria. These three areas are listed in the table below.

Area No.	Area Name	Central grid reference	Aprox. size(ha)	Vegetation/habitat type
630a	Leamington beech forest	J37: 663-935	3.5	beech forest
630b	Leamington terrace scarp	J37: 659-938	2.8	hardwood forest
632a	Leamington kanuka forest	J37: 658-935	2.0	kanuka forest

Areas of indigenous vegetation and/or habitat on the property that are identified as Significant Natural Areas (SNAs) are illustrated on the attached aerial photograph and described in greater detail on the Area Inspection Forms that are part of this report. Note that the boundaries of the SNAs are indicative, rather than precise. These SNAs meet the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19). All three SNAs are

considered to be sustainable in the long term (criterion vii, page B19), though may require some conservation management (such as weed control) to maintain their ecological values. SNAs are subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20).

The implication of an area being listed as an SNA is that consent is required from Council for clearance by any means (including burning and spraying with herbicides) or over-planting. To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. Any questions regarding the protection, management and use of SNAs should be directed to the District Planner.

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**OTHER AREAS INSPECTED ON THE PROPERTY:**

Other areas of vegetation and habitat on the property were inspected but do not meet the definition of indigenous vegetation and are unlikely to provide significant habitat for indigenous fauna when assessed against the criteria on pages B18-B20 of the Timaru District Plan. Failure of an area to meet the significance criteria does not necessarily mean that it is not important for nature conservation or the protection of indigenous biodiversity; it simply means that the area (as assessed at this time) does not meet the criteria in the Timaru District Plan.

One area on the property that has considerable potential ecological value is the area adjacent to the beech forest remnant that until recently supported a pine plantation. If the regeneration of indigenous species (especially beech) can be encouraged in this area, it will eventually become an important part of the adjoining SNA. Areas of exotic riverbed vegetation on and adjoining the property also have some value as habitat for indigenous birds.

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#### **SIGNIFICANT TREES ON THE PROPERTY:**

In addition to the Significant Natural Areas identified on the property, two individual trees warrant recognition as Significant Trees: a large kowhai and a large old broadleaf tree, both adjacent to Area 630b.

##### **Kowhai (*Sophora microphylla*)**

This tree has the largest trunk diameter of any kowhai tree observed so far during this survey of forest remnants in the Timaru District. The tree trunk and upper branches have a number of cavities that provide suitable roost sites for bats. The trunk diameter (98 cm) is substantially larger than normal for this species (typically 60 cm). This tree is on the river terrace at map reference 2365789E-5693953N adjacent to SNA 630b. The tree trunk is protected from stock by a barbed-wire fence.



*Kowhai tree adjacent to Area 630b*

##### **Broadleaf (*Griselinia littoralis*)**

This tree, although not large for a broadleaf, has cavities in its trunk and upper branches that provide suitable roost sites for bats. The trunk diameter (104 cm) is less than the maximum trunk diameter of 150 cm described in Volume I of the Flora of New Zealand. However, it is a relatively large tree for a terrace site in the District. This tree is on the river terrace adjacent to SNA 630b and just northwest of the kowhai tree described above. The tree trunk is protected from stock by a barbed-wire fence.

Rupert Property  
24640/093.00

BOUNDARY ROAD

ORARI RIVER ROAD

630b

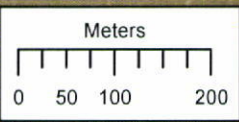
632a

630a

BURMA ROAD

INGLIS ROAD

SLIP PANEL ROAD



1:7,500

# TIMARU DISTRICT SNA SURVEY

AREA 630a

**Area Name:** Leamington beech remnant  
**Location (central map reference):** J37: 663-935  
**Ecological District:** Geraldine  
**Surveyors:** Mike Harding

**Property:** Leamington (Rupert)  
**Nearest Locality:** Peel Forest  
**Area Size (ha):** 3.5      **Altitude (m):** 260  
**Survey Time:** 2 hours      **Survey Date:** 04-04-07

## General Description:

The Area covers a terrace scarp on the northern side of the Orari River just downstream from the Orari River gorge. The beech forest remnant that is the main feature of the Area is centred on the confluence of two deeply dissected gullies, one of which carries a sizeable stream.

## Plant Communities:

The most prominent indigenous plant community present is a small remnant of mountain beech forest. Adjoining this remnant to the east is an area of strongly regenerating hardwood forest. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

### Beech forest remnant:

The beech forest remnant is dominated by relatively large mountain beech trees. Trunk diameters (at breast height) of the beech trees are mostly between 50 and 85 cm. Other species present in the canopy or subcanopy are kanuka, broadleaf, five-finger, cabbage tree, narrow-leaved mahoe and pohuehue. Understorey species are *Coprosma rhamnoides*, *C. crassifolia*, *C. rotundifolia*, fuchsia, bush lawyer, *Helichrysum lanceolatum*, yellowwood, mahoe, wineberry, cabbage tree, marbleleaf, pate, narrow-leaved mahoe, lancewood, matipo, koromiko, *Clematis* sp., native jasmine, *Calystegia tuguriorum*, black nightshade\* and Himalayan honeysuckle\*.

Important ground cover species are hound's tongue fern, *Asplenium appendiculatum*, necklace fern, hen and chickens fern, male fern\*, water fern, *Hypolepis ambigua*, *Blechnum fluviatile*, *B. penna-marina*, *B. minus*, *B. chambersii*, *B. vulcanicum*, kiokio, *Lagenifera* sp. (*petiolata*?) and wall lettuce\*.

Other species present on the forest margin are gorse\*, blackberry\* and pasture grasses.

### Regenerating hardwood forest:

The regenerating forest east of the beech forest remnant covers a steep terrace scarp and gentler slopes below the scarp. Canopy species on the scarp are kanuka, narrow-leaved mahoe, broadleaf, lancewood, wineberry, matipo, mahoe, five-finger, cabbage tree, bush lawyer, native jasmine and *Calystegia tuguriorum*. Other species present are *Coprosma crassifolia*, *C. rotundifolia*, *C. propinqua*, fuchsia, pate, black nightshade\*, hound's tongue fern, necklace fern and *Asplenium appendiculatum*.

Vegetation on eastern slopes below the scarp is dominated by pohuehue and wineberry. Also present are elderberry\*, emergent cabbage trees, lancewood, narrow-leaved mahoe, Himalayan honeysuckle\*, gorse\*, broom\* and blackberry\*.

A clump of kahikatea, comprising three small closely-spaced trees, is present at the lower boundary of the area. Two large narrow-leaved lacebark trees and a number of cabbage trees are present at the eastern margin of the forest.

The upstream gully of the main stream in the area (west of the beech forest remnant) is within a paddock. The gully sides are dominated by gorse\*, blackberry\*, *Hypolepis ambigua* and pohuehue. Emergent from this low scrubby vegetation are wineberry, fuchsia, five-finger, koromiko and Himalayan honeysuckle\*. This plant community grades upstream to scattered gorse\* and then pasture.

### Old pine plantation on the adjoining terrace:

Bordering the main beech forest remnant to the northeast on the terrace surface is an area that has been cleared of exotic pines. This area is presently dominated by blackberry\*, gorse\*, Himalayan honeysuckle\*, broom\* and bracken. Other species present are elderberry\*, pate, narrow-leaved mahoe, wineberry, poroporo, fuchsia, matipo, *Hypolepis ambigua*, water fern, male fern\*, hound's tongue fern, necklace fern, pohuehue, *Calystegia tuguriorum*, black nightshade\* and occasional plants of mahoe, kanuka, mapou and *Coprosma rotundifolia*. This area is dominated by exotic species and does not presently meet the District Plan criteria for a Significant Natural Area. However, seedlings, shrubs and scattered larger plants of native

species are scattered throughout this area, giving the area some existing ecological value and significant potential value.

#### **Birds/Fauna Observed:**

Indigenous birds observed were silvereye, fantail, grey warbler and bellbird.

#### **Notable Flora, Fauna and Habitats:**

The most notable feature of this Area is the stand of remnant mountain beech trees. Other notable features are the presence of a diverse range of fern species (especially in the vicinity of the stream), the presence of kahikatea trees, and the proximity of the Area to other areas of indigenous vegetation. The Area lies within the known range of the South Canterbury population of long-tailed bat, a nationally endangered species. Some of the larger trees within this Area have cavities that provide suitable roost sites for bats. The Area also contains a Maori burial site (Martin Rupert, *pers. comm.*) which is tapu to the local iwi.

#### **Notable Plant and Animal Pests:**

No significant plant pests (weeds) were observed within the beech forest remnant. Naturalised species are common on the forest margins, but do not pose a major threat to the indigenous vegetation. The indigenous climber, pohuehue, is dominant in places, notably amongst the regenerating vegetation in the eastern part of the Area. Possum sign was observed.

#### **Boundaries (buffering, fencing, adjoining plant communities and habitats):**

The Area, including the area of recently-felled pine trees, is fenced from stock and formally protected by a QEII Open Space covenant. It is buffered to some extent by its location on a terrace scarp and within the deeply incised stream gullies. The survival of the beech trees may also be at least partly due to local recognition of the tapu (Martin Rupert, *pers. comm.*). The Area is linked to other areas of indigenous vegetation along the Orari River by a narrow corridor of indigenous forest along the terrace scarp to the northwest (Area 630b).

#### **Condition and Management Issues:**

The beech forest remnant is in relatively good condition, though there is no apparent natural regeneration of beech (a characteristic typical of beech forest remnants in this part of the District). The owners are actively managing the Area for conservation. They have planted indigenous species at one location (including beech seedlings sourced from the Area) and are considering options for re-establishing indigenous vegetation in the area of recently-felled pines.

#### **Property Owner Comment:**

The area east of the beech trees within this SNA is the domestic water supply catchment for the property. Trees (totara and kahikatea) have been planted in this area. Pukeko are present here.

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#### **ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

<b>Primary Criteria</b>	<b>Rank</b>	<b>Notes</b>
Representativeness	H	The beech forest is a representative example of the vegetation originally present in the area.
Rarity	M	The Area provides habitat for kereru (gradual decline).
Diversity and pattern	M	Species diversity is probably less than that originally present. Two main indigenous plant communities are present: beech forest and regenerating podocarp-hardwood forest.
Distinctiveness/special features	M/H	Larger trees in the Area provide suitable roost sites for long-tailed bait (nationally endangered). A special feature is the stand of beech trees.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area that is well buffered.
Connectivity	M	Is linked to other areas of indigenous vegetation and is part of a network of fauna habitat in the area.
Long-term Sustainability	M	The ecological values of the Area are likely to persist in the long-term, with some management (notably establishment of new beech trees).

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

The Area has been formally protected by the landowners by way of a QEII Open Space covenant. The landowners have commenced a re-planting programme and are considering options for the establishment of indigenous vegetation in the area of recently-felled pines. Plant and animal pests are present but do not presently pose a significant threat to the Area. The presence of a Maori burial site adds considerable interest and value to the area.

**Discussion:**

The area of beech forest and regenerating podocarp-hardwood forest easily meets the District Plan criteria for a Significant Natural Area. Important attributes are the presence of beech trees, the presence of kahikatea, the habitat the area provides for indigenous birds and possibly/potentially bats, and the contribution the area makes to the network of fauna habitat in the vicinity.



# TIMARU DISTRICT SNA SURVEY

AREA 630b

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<b>Area Name:</b> Leamington terrace scarp	<b>Property:</b> Leamington (Rupert)
<b>Location (central map reference):</b> J37: 659-938	<b>Nearest Locality:</b> Peel Forest
<b>Ecological District:</b> Geraldine	<b>Area Size (ha):</b> 2.8 <b>Altitude (m):</b> 260
<b>Surveyors:</b> Mike Harding	<b>Survey Time:</b> 1½ hours <b>Survey Date:</b> 04-04-07

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## General Description:

The Area comprises a relatively narrow strip of indigenous vegetation on a terrace scarp on the north side of the Orari River, just below the Orari River gorge. It forms a narrow corridor, linking a remnant of beech forest (Area 630a) with forest along the Orari River.

## Plant Communities:

The terrace scarp supports regenerating hardwood forest. Areas at the base of the scarp support stands of larger trees including kowhai and a single kahikatea tree. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

### Eastern terrace scarp:

The eastern end of the Area, adjacent to the beech forest remnant (Area 630a), comprises scattered trees of kanuka, narrow-leaved mahoe, cabbage tree, five-finger, wineberry and matipo emergent over lower vegetation dominated by bindweed\*, fuchsia, elderberry\* and pohuehue. A single moderate-sized kahikatea tree (with a trunk diameter of 65 cm) is present at the lower boundary of the Area.

### Central terrace scarp and base:

A wider band of vegetation is present in this part of the Area, just west of the farm track that climbs the scarp and alongside the water-race from the Orari River. The forest canopy here is dominated by kowhai (including groves of trees), kanuka and five-finger. Other canopy or sub-canopy species are marbleleaf, narrow-leaved lacebark, matipo, fuchsia, narrow-leaved mahoe, wineberry, mahoe, broadleaf, cabbage tree, bush lawyer, pohuehue, native jasmine, *Calystegia tuguriorum* and bindweed\*.

Important understorey or forest margin species are *Coprosma rotundifolia*, pate, mountain akeake, mapou, elderberry\*, koromiko, *Hypolepis ambigua*, kiokio, hen and chickens fern, necklace fern, *Blechnum chambersii*, bush lily, Himalayan honeysuckle\*, black nightshade\*, blackberry\* and gorse\*.

Self-sown alder\* trees are present along the water race, especially at the western end.

### Western terrace scarp:

The western end of the Area (west of the water-race intake) supports tall kanuka trees on a steep terrace scarp adjacent to the river. Other species present are fuchsia, wineberry, five-finger, lemonwood, mahoe, *Coprosma rotundifolia*, bush lawyer, pohuehue, bindweed\*, Himalayan honeysuckle\*, sycamore\*, elderberry\*, blackberry\*, black nightshade\*, gorse\*, necklace fern, hound's tongue fern and *Hypolepis ambigua*. The riverbed adjacent to this area is dominated by exotic trees, mostly alder\*, crack willow\*, poplar\* and sycamore\*.

Large old kowhai and broadleaf trees are present in the paddock adjacent to the central part of the Area. The kowhai has a trunk diameter (at breast height) of 98 cm. The broadleaf has a trunk diameter of 104 cm. The trunks of both trees are protected from stock by barbed-wire fences. The kowhai is large compared with other trees in the District. Both trees have trunk cavities that provide suitable roost sites for bats. These trees are described elsewhere in this report as Significant Trees.

## Birds/Fauna Observed:

Indigenous birds observed during this brief inspection were bellbird and fantail.

## Notable Flora, Fauna and Habitats:

Notable features of the Area are the kahikatea tree, the groves of kowhai trees and the function of the vegetation as a corridor of fauna habitat.

**Notable Plant and Animal Pests:**

Sycamore and bindweed are the most important plant pests present. Sycamore, with its wind-dispersed seeds and shade-tolerance, can easily colonise closed-canopy indigenous forest. The fast-growing bindweed (*Calystegia* sp.) can easily smother low-growing vegetation. Both species would be difficult to control, especially as sycamore is widespread on the adjacent bed of the Orari River.

**Boundaries (buffering, fencing, adjoining plant communities and habitats):**

The Area is fenced from stock and formally protected by a QEII Open Space covenant. It is buffered to some extent by its location on a terrace scarp and alongside the fast-flowing water-race. The Area adjoins other areas of indigenous vegetation along the Orari River to the west and the beech forest remnant (Area 630a) to the east.

**Condition and Management Issues:**

Most parts of the Area are in relatively good condition, though some sections are dominated by the smothering bindweed. The owners are actively managing the Area for conservation.

**Property Owner Comment:**

Poplar trees are also present along the water race. The poplar trees have been sprayed and are dead.

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of indigenous vegetation typical of the ecological district, with species (e.g. kahikatea and kowhai) that are representative of the original vegetation.
Rarity	M	Provides habitat for kereru.
Diversity and pattern	M	Species diversity is probably less than that originally present.
Distinctiveness/special features	M	The presence of good numbers of kowhai on the flat is a special feature. These trees are likely to be an important seasonal food source for kereru.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area with a poor shape, but relatively well buffered.
Connectivity	M/H	An ecologically-viable link between other areas of indigenous vegetation and habitat.
Long-term Sustainability	M	Some management (weed control) will be necessary to maintain the ecological values of the Area in the long-term.

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

Most of the Area has been formally protected by the landowners by way of a QEII Open Space covenant. Some plant pest control is likely to be necessary to protect the ecological values of the Area.

**Discussion:**

This area easily meets the District Plan criteria for a Significant Natural Area. Important attributes are the presence of stands of kowhai trees, the presence of kahikatea, the habitat the area provides for indigenous birds and possibly/potentially bats, and the role of the Area as an ecologically-viable corridor of vegetation and fauna habitat.

# TIMARU DISTRICT SNA SURVEY

AREA 632a

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<b>Area Name:</b> Leamington kanuka	<b>Property:</b> Leamington (Rupert)
<b>Location (central map reference):</b> J37: 658-935	<b>Nearest Locality:</b> Peel Forest
<b>Ecological District:</b> Geraldine	<b>Area Size (ha):</b> 2.0 <b>Altitude (m):</b> 250
<b>Surveyors:</b> Mike Harding, Jo Thompson, Jeanna McDonald	<b>Survey Time:</b> 1½ hours <b>Survey Date:</b> 11-05-07

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## General Description:

The Area covers part of a recent low terrace on the floodplain of the Orari River just downstream from the Orari River gorge.

## Plant Communities:

The dominant indigenous plant community present is kanuka forest. This plant community is described below. Naturalized (exotic) species are indicated with an asterisk\*.

### Main upstream part of the Area:

The forest canopy here is dominated by kanuka trees 8 to 10 m tall. Other species present in the forest canopy are pohuehue (especially on the forest margins), five-finger and cabbage tree.

The forest understorey is dominated, in most places, by blackberry\*, black nightshade\*, male fern\*, *Coprosma rotundifolia* and swards of pasture grasses (mostly cocksfoot\*).

Other understorey and ground-cover species present are mahoe, matipo, five-finger, *Coprosma propinqua*, *C. rigida*, *C. crassifolia*, *C. rhamnoides*, fuchsia, koromiko, narrow-leaved mahoe, lancewood, lawyer, native jasmine, *Clematis marata*, tutu, prickly shield fern, hound's tongue fern, *Asplenium appendiculatum*, sweet brier\* and gorse\*.

Additional species present on the forest margins are *Calystegia tuguriorum*, Himalayan honeysuckle\*, broom\*, gorse\* and pasture grasses, especially cocksfoot\*, and, on the river margin, crack willow\*, alder\* and occasional pine\* trees.

### Downstream part of the Area:

The forest canopy here is also dominated by kanuka, with occasional matipo, but the forest understorey is more densely vegetated and more intact.

Dominant understorey species are *Coprosma rotundifolia*, hound's tongue fern, hookgrass and male fern\*.

Other understorey species present are kowhai, mahoe, matipo, mapou, narrow-leaved mahoe, five-finger, *Coprosma propinqua*, *C. rigida*, *C. rhamnoides*, black nightshade\*, Himalayan honeysuckle\*, blackberry\*, prickly shield fern, necklace fern, native jasmine, *Clematis marata*, *Calystegia tuguriorum* and pennywort.

## Birds/Fauna Observed:

Indigenous birds observed during this brief inspection were fantail, bellbird, rifleman and kereru.

## Notable Flora, Fauna and Habitats:

The presence of tall kanuka on a lowland alluvial site is the most notable feature of this area. This formerly widespread indigenous plant community is now only present at a few locations in the District. The Area lies within the known range of the South Canterbury population of long-tailed bat, a nationally endangered species, although the kanuka trees do not have many trunk cavities that would provide suitable roost sites for bats.

## Notable Plant and Animal Pests:

Blackberry, male fern and cocksfoot are the most prominent plant pests within the forest. Of these, male fern probably poses the most serious threat beneath the forest canopy, as it out-competes and smothers other ground-cover species. Control of male fern is difficult. Other plant pests present (Himalayan honeysuckle, gorse, broom, black nightshade and sweet brier) are present within or on the margins of the forest, and self-sown trees arising from flood-protection plantings (notably crack willow and alder) are present on the river margin of the Area.

**Boundaries (buffering, fencing, adjoining plant communities and habitats):**

The northeast boundary of this relatively long and narrow area is a low stop-bank with a stock-proof fence. The unfenced southwest boundary is the open floodplain of the Orari River. This riverbed has stands of flood-protection plantings and open areas of recently-sprayed gorse and broom. The Area is close to another stand of kanuka forest to the southeast (Area 632b) and lies within 250 m of indigenous forest remnants on a terrace scarp (Area 630).

**Condition and Management Issues:**

The kanuka canopy of this area is in good condition. The condition of the understorey varies, apparently as a result of differing grazing histories. Small parts of the forest have a dense understorey dominated by indigenous plants; whereas the understorey in other parts is dominated by blackberry, male fern and cocksfoot. The density and diversity of indigenous understorey species would probably improve if the Area remains ungrazed, though selective weed control could hasten this process. The kanuka forest, if protected, will eventually become mixed hardwood forest (with kowhai) and, after many years, indigenous podocarp-hardwood forest.

**Property Owner Comment:**

Cocksfoot can be controlled by spraying twice with Roundup, then planting shrubs.

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	H	A good example of the forest that was originally present on recent alluvial (floodplain) surfaces in this part of the District.
Rarity	M	The forest provides habitat for kereru (gradual decline).
Diversity and pattern	M	Species diversity is probably less than that originally present.
Distinctiveness/special features	M	Tall kanuka is a distinctive and substantially depleted plant community. This stand is part of a network of fauna habitat in the area.
Other Criteria		
Size/shape	M/H	A moderate-sized area with a poor shape but well buffered.
Connectivity	M/H	Provides an ecologically-viable link between other areas of indigenous vegetation and habitat.
Long-term Sustainability	M	The ecological values of the Area are likely to persist in the long-term with some conservation management.

**Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):**

The Area has been informally protected by the landowners and maintained free of deliberate grazing in recent years. Plant and animal pests are present but do not pose a significant threat to the area. If protected, the kanuka forest will eventually become indigenous podocarp-hardwood forest, as part of a natural process of forest succession.

**Discussion:**

This area of kanuka forest easily meets the District Plan criteria for a Significant Natural Area. Important attributes are the presence of tall kanuka trees, the habitat it provides for forest birds, the buffer it provides to the Orari River and the role it plays as a corridor of riparian habitat.

### Scientific names of species cited by common name

Common Name .....	Scientific name
(* = naturalised species)	
alder*	<i>Alnus glutinosa</i>
bindweed*	<i>Calystegia</i> sp
blackberry*	<i>Rubus fruticosus</i>
black nightshade*	<i>Solanum nigrum</i>
bracken.....	<i>Pteridium esculentum</i>
broadleaf .....	<i>Griselinia littoralis</i>
broom*	<i>Cytisus scoparius</i>
bush lawyer.....	<i>Rubus cissoides</i>
bush lily.....	<i>Astelia</i> sp.
cabbage tree/ti rakau .....	<i>Cordyline australis</i>
cocksfoot*	<i>Dactylis glomerata</i>
crack willow*	<i>Salix fragilis</i>
elderberry*	<i>Sambucus nigra</i>
five-finger .....	<i>Pseudopanax arboreus</i>
fuchsia .....	<i>Fuchsia excorticata</i>
gorse*	<i>Ulex europaeus</i>
hen and chickens fern.....	<i>Asplenium bulbiferum</i>
Himalayan honeysuckle* .....	<i>Leycesteria formosa</i>
hookgrass .....	<i>Uncinia</i> sp.
hound's tongue fern .....	<i>Microsorium pustulatum</i>
kahikatea/white pine .....	<i>Dacrycarpus dacrydioides</i>
kanuka.....	<i>Kunzea ericoides</i>
kiokio.....	<i>Blechnum novae-zelandiae</i>
koromiko.....	<i>Hebe salicifolia</i>
kowhai.....	<i>Sophora microphylla</i>
lancewood .....	<i>Pseudopanax crassifolius</i>
lawyer.....	<i>Rubus schmidelioides</i>
lemonwood.....	<i>Pittosporum eugenioides</i>
lowland ribbonwood .....	<i>Plagianthus regius</i>
mahoe/whiteywood .....	<i>Melicytus ramiflorus</i>
male fern* .....	<i>Dryopteris filix-mas</i>
mapou.....	<i>Myrsine australis</i>
marbleleaf/putaputaweta .....	<i>Carpodetus serratus</i>
matagouri .....	<i>Discaria toumatou</i>
matai/black pine .....	<i>Prumnopitys taxifolia</i>
matipo/kohuhu .....	<i>Pittosporum tenuifolium</i>
mountain akeake .....	<i>Olearia avicenniifolia</i>
mountain beech .....	<i>Nothofagus solandri</i> var. <i>cliffortioides</i>
narrow-leaved lacebark.....	<i>Hoheria angustifolia</i>
narrow-leaved mahoe.....	<i>Melicytus lanceolatus</i>
native jasmine .....	<i>Parsonsia</i> sp.
necklace fern .....	<i>Asplenium flabellifolium</i>
pate.....	<i>Schefflera digitata</i>
pennywort .....	<i>Hydrocotyle</i> sp.
pohuehue.....	<i>Muehlenbeckia australis</i>
poplar*.....	<i>Populus</i> sp.
poroporo.....	<i>Solanum laciniatum</i>
prickly shield fern .....	<i>Polystichum vestitum</i>
sweet brier*.....	<i>Rosa rubiginosa</i>
sycamore*.....	<i>Acer pseudoplatanus</i>
totara .....	<i>Podocarpus totara</i>
tutu .....	<i>Coriaria sarmentosa</i>
wall lettuce*.....	<i>Mycelis muralis</i>
water fern .....	<i>Hystiopteris incisa</i>
wineberry .....	<i>Aristotelia serrata</i>
yellowwood.....	<i>Coprosma linariifolia</i>