TIMARU DISTRICT

SIGNIFICANT NATURAL AREAS SURVEY

FRANCE PROPERTY
TE MOANA VALLEY

Report prepared for Timaru District Council by Mike Harding
July 2015

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: ..... Richard France
Valuation Reference: ...24660/003.00
Address: ..... 1419 Moa Flat Road, Moa Flat, Tapanui 9587
Location: ..... Hae Hae Te Moana River South Branch (upper valley)
Ecological District: ..... Orari
TDC Land Type:..... 'Hard Rock Hills and Downs'
Land Environments: Q2.1a

ECOLOGICAL CONTEXT:

The property lies in the upper valley of the Hae Hae Te Moana River South Branch, between the south branch and its major tributary Leishman Stream. It comprises steep slopes from an altitude of approximately 350m at the valley floor to over 600m on the dividing ridge. The property lies within Orari Ecological District (McEwen, 1987) and within the Q2.1a Level IV Land Environment as defined by Leathwick *et al* (2003). Indigenous vegetation within this land environment is regarded as 'critically under-protected' (Walker *et al*, 2005).

The original vegetation of this area would have been predominantly hardwood forest with emergent podocarps (totara and matai). 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. Indigenous vegetation on the property is one of a number of small forest remnants and regenerating forest in this part of the ecological district.

SIGNIFICANT AREAS ON THE PROPERTY:

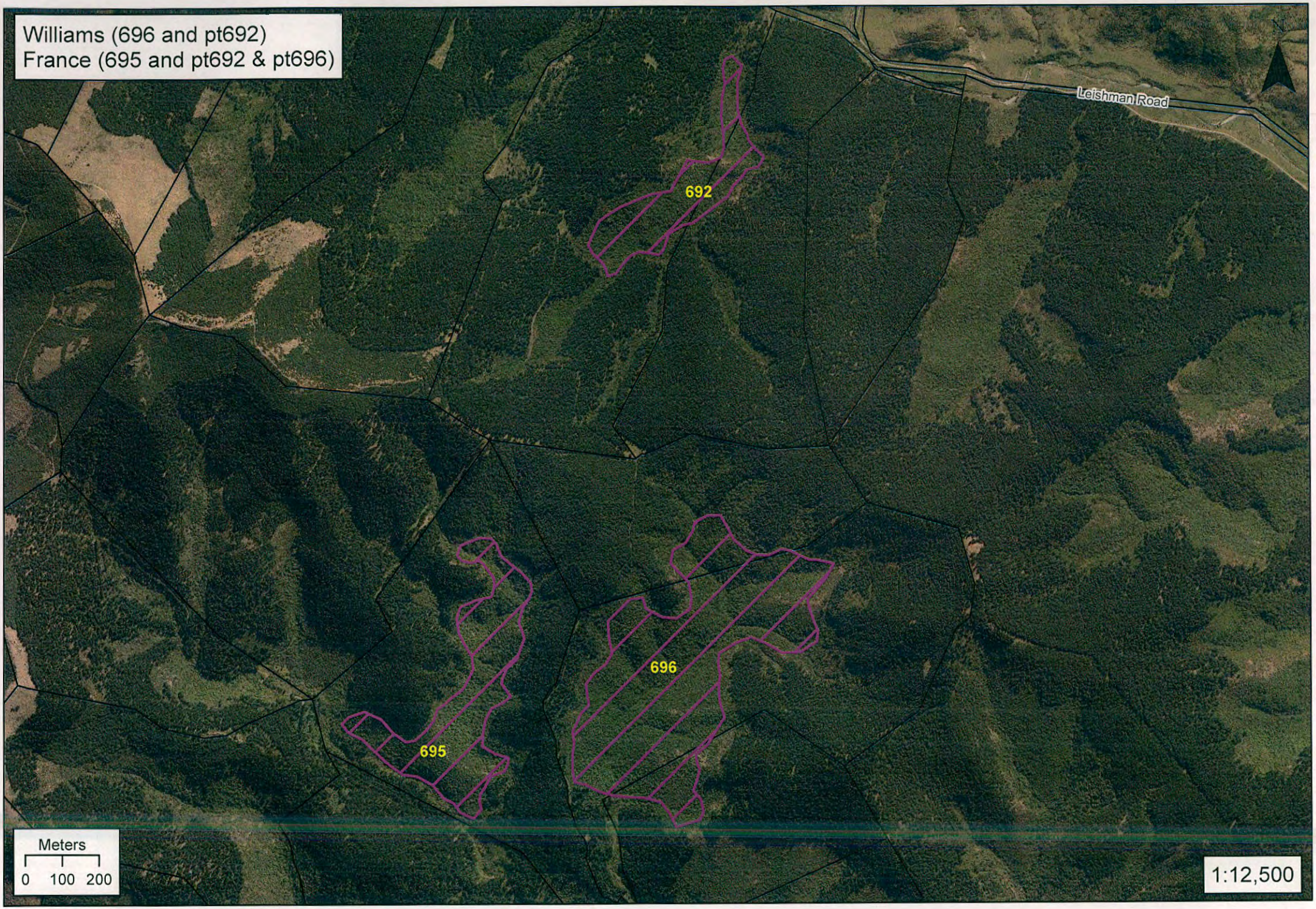
Indigenous vegetation on the property comprises regenerating indigenous forest and associated scrub, surrounded by exotic plantation forest. The forest at the lower part of one site (SNA 695) supports a population of a threatened (nationally vulnerable) species (de Lange *et al*, 2012), scrambling broom (*Carmichaelia kirkii*). Eastern falcon/karearea, an 'at risk' species (Roberston *et al*, 2012), is present in the area. The property lies near to areas of indigenous vegetation on other properties, contributing to the network of fauna habitat in the wider area.

The property was surveyed as part of the District-wide survey of Significant Natural Areas during June and July 2015. One area, comprising approximately seven hectares, and small parts of two other areas (mostly on the adjacent Williams property) are regarded as a Significant Natural Areas (SNAs) when assessed against the District Plan criteria. The boundaries of these SNAs are illustrated on the aerial photograph below and the values described on the SNA Forms in this report. Note that the boundaries of the SNAs are indicative, rather than precise.

These areas meet the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and are considered to be sustainable in the long term, or sustainable with appropriate management (criterion vii, page B19). SNAs are subject to confirmation by Council after regarding the matters listed in the District Plan (pages B19-B20). It is expected that SNAs will eventually be listed in the District Plan by way of a notified plan change.

At present, consent is required from Council for clearance of areas of indigenous vegetation or habitat which meet the Interim Definitions in the District Plan. Clearance includes burning, track construction, spraying with herbicides and 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.

Carmichaelia kirkii sprawling over Coprosma dumosa


Williams (696 and pt692)
France (695 and pt692 & pt696)
Leishman Road
692
696
695
Meters
0 100 200
1:12,500

TIMARU DISTRICT SNA SURVEY

SNA 692

Area Name:
Ecological District: Orari
Central map ref. (NZTM): 1444190E-5123553N
Surveyors: Mike Harding

Properties: Williams (and France)
Nearest Locality: Te Moana
Area Size (ha): 7.3 **Altitude (m):** 350-500
Survey Time: 2½ hours **Survey Date:** 11-07-15

General Description:

This site covers moderately-steep southeast-facing slopes of a small valley at the Leishman Stream (north) side of the property. It comprises regenerating indigenous forest and is surrounded by plantation pine forest. It lies close to other similar areas of regenerating forest. The east part of the site extends onto the adjacent (France) property.

Plant Communities:

Most parts of the site support regenerating hardwood forest with taller forest at the valley floor. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*. Scientific names of species cited by common name are listed at the end of this report.

The forest canopy at lower parts of the site is dominated by broadleaf, kowhai, mountain ribbonwood, weeping mapou and fuchsia. Broadleaf, matipo and lancewood are dominant on higher slopes. Other canopy species are marbleleaf, cabbage tree, three-finger, wineberry, mountain akeake, pohuehue, native jasmine, native bindweed and bush lawyer.

Understorey species are weeping mapou, broadleaf, wineberry, marbleleaf, lancewood, mingimingi, *Coprosma dumosa*, *Coprosma crassifolia*, *Melicytus* aff. *alpinus*, poataniwha, lawyer, bittersweet* and, on tree trunks, hanging spleenwort and hound's tongue fern.

Prickly shield fern is the dominant forest floor species at most parts of the site, with hound's tongue fern dominant at rocky sites. Other species are *Blechnum penna-marina*, necklace fern, *Asplenium hookerianum*, *Asplenium richardii*, hen and chickens fern, hairy pennywort, bidibid, buttercup, *Carex forsteri*, hookgrass and seedlings of native jasmine, broadleaf, lancewood, matipo and *Coprosma* species. Additional species close to the stream are pate, bush lily, *Blechnum chambersii*, *Blechnum minus* and *Blechnum fluviatile*. Additional species at dry rocky sites are *Coprosma rhamnoides*, porcupine shrub, toatoa, *Libertia ixioides*, blue tussock, mouse-ear hawkweed*, button fern and mountain kiokio.

Species present at the forest margin and in forest openings are mingimingi, *Coprosma dumosa*, *Coprosma rugosa*, *Coprosma rigida*, matagouri, scrambling fuchsia, hybrid wineberry, Himalayan honeysuckle*, koromiko, lawyer, bracken, prickly shield fern, *Blechnum penna-marina*, *Hypolepis ambigua*, tutu, foxglove*, burdock* and male fern*.

Forest at the lower part of SNA 692

Birds/Fauna Observed:
Native birds observed during this brief survey were bellbird, rifleman, fantail, silvereye and tomtit. Other bird species likely to be present are kereru, brown creeper and eastern falcon (observed nearby). Eastern falcon is an 'at risk' (recovering) species (Robertson *et al*, 2012).

Notable Flora, Fauna and Habitats:
Notable features of this site are the habitat the area provides for forest birds and probably eastern falcon (an 'at risk' species), and the diversity of plant species present (57 vascular species).

Notable Plant and Animal Pests:
The site is largely free of plant pests. Naturalized species present, such as Himalayan honeysuckle, male fern and burdock, do not pose a significant threat to the regenerating forest. Animal pests were not surveyed, though possum sign was observed.

Boundaries (buffering, fencing, adjoining plant communities and habitats):
The boundaries of this site have been drawn to encompass the core area of regenerating forest. Plantation pine forest is present at all boundaries. The site lies close to other similar areas of regenerating forest which, collectively, provide an extensive area of forest bird habitat.

Condition and Management
Forest at the site is in good condition along the valley floor and notably at a small gorge mid-way up the valley. The most important management actions are continued control of feral animals, notably possums and feral pigs.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	**M**	A good example of young indigenous forest typical of that remaining in the area and moderately representative of the original vegetation in this part of the ecological district.
Rarity	**M**	Probably provides habitat for an 'at risk' bird species: eastern falcon.
Diversity and pattern	**M**	Plant species diversity is moderate and typical.
Distinctiveness/special features	**L/M**	The small gorge mid-way up the valley is an interesting feature.
Other Criteria		
Size/shape	**M**	A relatively small area that is well buffered.
Connectivity	**M**	Lies close to other areas of indigenous forest and is part of a network of forest bird habitat in the wider area.
Long-term Sustainability	**M/H**	Some animal pest control may be required to maintain ecological values in the long term.

H=high; M=moderate; L=low

Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):
This site has been informally protected by the landowners by setting it aside from plantation forestry. The steep rocky slopes of most parts of the site limit its potential for farm or forestry development.

Discussion:
This area meets the District Plan criteria for a significant natural area (SNA). Important values are the habitat the area provides for forest birds and probably eastern falcon (an 'at risk' species), and the diversity of plant species present.

TIMARU DISTRICT SNA SURVEY

SNA 695

Area Name:
Ecological District: Orari
Central map ref. (NZTM): 1443537E-5122136N
Surveyors: Mike Harding

Property: France
Nearest Locality: Te Moana
Area Size (ha): 12.2 **Altitude (m):** 350-450
Survey Time: 2 hours **Survey Date:** 18-06-15

General Description:

This site covers moderately-steep lower slopes of a south-facing valley at the Te Moana valley side of the property. It comprises regenerating indigenous forest and is surrounded by plantation pine forest on upper slopes. It lies close to other similar areas of regenerating forest.

Plant Communities:

Most parts of the site support regenerating hardwood forest; other parts support younger open forest with areas of scrub. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

Important forest canopy species at the site are broadleaf, lancewood and matipo. Other canopy species present are mountain ribbonwood, fuchsia, mountain akeake, three finger/five-finger, marbleleaf, kowhai, cabbage tree, wineberry, koromiko, pohuehue, lawyer, bush lawyer and native jasmine.

The forest understorey is in most places relatively open. Plant species present are *Coprosma dumosa*, *Coprosma rigida*, weeping mapou, yellowwood, three-finger, broadleaf and lancewood.

Prickly shield fern is the dominant forest-floor species. Other species present are *Blechnum penna-marina*, necklace fern, hen and chickens fern, *Asplenium hookerianum*, *Asplenium richardii*, *Asplenium appendiculatum*, hound's tongue fern, common shield fern, hookgrass, *Carex forsteri*, bidibid, *Lagenifera* sp., buttercup, wall lettuce* and seedlings of mountain ribbonwood, broadleaf, lancewood, marbleleaf, mountain akeake, matipo and *Coprosma* species. Additional species at damper sites are pate, bush lily, *Blechnum fluviatile*, *Blechnum chambersii* and pennywort.

Dominant scrub species are mingimingi and *Coprosma dumosa*. Other plant species present in scrub and at forest openings are mountain wineberry, hybrid wineberry, weeping mapou, lancewood, porcupine shrub, matagouri, korokio, poataniwha, *Coprosma crassifolia*, scrub pohuehue, Himalayan honeysuckle*, prickly shield fern, bracken, *Dichondra repens*, golden speargrass, mountain flax, foxglove* and burdock*.

The upper part of SNA 695

One patch of scrambling broom (*Carmichaelia kirkii*) was observed in low forest/scrub at the southern part of the site (NZTM: 1443626E-5121792N). Scrambling broom is a threatened (nationally vulnerable) species (de Lange *et al*, 2012).

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, rifleman, fantail and eastern falcon (flying overhead). Eastern falcon is an 'at risk' (recovering) species (Robertson *et al*, 2012). Other bird species likely to be present are kereru, tomtit, brown creeper and silvereye.

Notable Flora, Fauna and Habitats:

Notable features of this site are the presence of a threatened (nationally vulnerable) plant species (*Carmichaelia kirkii*), the habitat the area provides for forest birds and eastern falcon (an 'at risk' species), and the diversity of plant species present (54 vascular species).

Notable Plant and Animal Pests:

The site is largely free of plant pests. Naturalized species present such as Himalayan honeysuckle do not pose a significant threat to the regenerating forest. Animal pests were not surveyed, though sign of possum and feral pig was observed.

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

The boundaries of this site have been drawn to encompass the core area of regenerating forest and denser scrub. Plantation pine forest is present at all boundaries. The site lies close to other similar areas of regenerating forest which, collectively, provide an extensive area of forest bird habitat.

Condition and Management

Forest at the site is in good condition. The forest understorey is affected in places by feral pigs, though regeneration of canopy species is occurring. The most important management actions are continued control of feral animals, notably possums and feral pigs. Mr France advises that there has been periodic possum control.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	**M**	A good example of young indigenous forest typical of that remaining in the area and moderately representative of the original vegetation in this part of the ecological district.
Rarity	**H**	Provides habitat for a threatened (nationally vulnerable) plant species: scrambling broom (*Carmichaelia kirkii*); provides habitat for an 'at risk' bird species: eastern falcon.
Diversity and pattern	**M**	Plant species diversity is moderate and typical.
Distinctiveness/special features	**L**	
Other Criteria		
Size/shape	**M/H**	A moderate-sized area that is well buffered.
Connectivity	**M**	Lies close to other areas of indigenous forest and is part of a network of forest bird habitat in the wider area.
Long-term Sustainability	**M/H**	Some animal pest control may be required to maintain ecological values in the long term.

H=high; M=moderate; L=low

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

This site has been informally protected by the landowners by setting it aside from plantation forestry. The steep rocky slopes of the site limit its potential for farm or forestry development.

Discussion:

This area meets the District Plan criteria for a significant natural area (SNA). Important values are the presence of a threatened (nationally vulnerable) plant species (*Carmichaelia kirkii*), the habitat the area provides for forest birds and eastern falcon (an 'at risk' species), and the diversity of plant species present.

TIMARU DISTRICT SNA SURVEY

SNA 696

Area Name:
Ecological District: Orari
Central map ref. (NZTM): 1444248E-5122165N
Surveyors: Mike Harding

Properties: Williams (and France)
Nearest Locality: Te Moana
Area Size (ha): 27.4 **Altitude (m):** 350-500
Survey Time: 2 hours **Survey Date:** 18-06-15

General Description:

This site lies on the lower slopes of a large side-valley of the Hae Hae Te Moana South Branch River. It extends in places onto upper slopes and is surrounded by plantation pine or Douglas fir forest. It lies close to other areas of similar forest in nearby valleys. A small upper part of the site extends onto the adjacent (France) property.

Plant Communities:

The site supports regenerating indigenous forest with areas of open forest and shrubland on some lower ridges. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated at most parts by lancewood, broadleaf, matipo and five finger/three finger. Other canopy species are cabbage tree, marbleleaf, weeping mapou, mountain akeake, wineberry, mountain ribbonwood, koromiko, fuchsia, pohuehue and bush lawyer.

Understorey plant species are five finger, broadleaf, matipo, *Coprosma dumosa*, bush snowberry, lancewood, weeping mapou, wineberry and bush lawyer.

The dominant forest floor species is prickly shield fern. Other plant species present are *Blechnum penna-marina*, mountain kiokio, *Asplenium richardii*, *Asplenium appendiculatum*, *Asplenium hookerianum*, hen and chickens fern, necklace fern, hound's tongue fern, button fern, bush lily, hookgrass, pennywort, hairy pennywort, *Schizeilema trifoliolatum*, buttercup and seedlings of broadleaf, three finger/five-finger, wineberry, lancewood, mountain akeake, native jasmine and *Coprosma*. Additional species at damper sites are pate, *Hypolepis ambigua*, *Blechnum fluviatile* and *Blechnum minus*.

Plant species present at forest openings are Himalayan honeysuckle*, koromiko, *Coprosma dumosa*, *Coprosma rugosa*, mountain flax, tutu, bush lawyer, lawyer, scrambling fuchsia, hybrid wineberry and bracken.

Areas of shrubland are dominated by mingimingi. Additional plant species present are matagouri, blue tussock and narrow-leaved snow-tussock. Introduced broom* is present on the valley floor at the bottom end of the site.

The lower part of SNA 696

Birds/Fauna Observed:
Native birds observed during this brief survey were bellbird, tomtit, fantail, rifleman, silvereye and eastern falcon. Eastern falcon is an 'at risk' (recovering) species (Robertson *et al*, 2012). Other bird species likely to be present are brown creeper and kereru.

Notable Flora, Fauna and Habitats:
Notable features of this site are the habitat it provides for forest birds and for eastern falcon (an 'at risk' species), the diversity of plant species present (50 vascular species) and the size of the area.

Notable Plant and Animal Pests:
Himalayan honeysuckle is the only notable plant pest within the forest, though it does not pose a significant threat. Broom is present at the bottom (south) edge of the site, though does not threaten the forest community. Animal pests were not surveyed, though possum and feral pig sign was observed.

Boundaries (buffering, fencing, adjoining plant communities and habitats):
This site covers the extensive area of young (regenerating) indigenous forest in the valley. It is bounded by areas of plantation forest. It lies close to other similar areas of regenerating indigenous forest in nearby valleys.

Condition and Management
The forest canopy is in good condition. The forest understorey is open in places but regeneration of canopy species is occurring. The main management issue is continued control of wild animals, notably possums and feral pigs.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	**M**	A good example of regenerating indigenous forest moderately representative of the original forest and typical of that remaining in the ecological district.
Rarity	**M**	Provides habitat for an 'at risk' bird species: eastern falcon.
Diversity and pattern	**M**	Plant species diversity is moderate.
Distinctiveness/special features	**L**	
Other Criteria		
Size/shape	**M/H**	A moderate-sized site that is well buffered.
Connectivity	**M**	Lies close to other areas of indigenous forest and is part of a network of forest bird habitat in the wider area.
Long-term Sustainability	**M/H**	Ongoing control of wild animals (possums and feral pigs) is probably necessary to maintain ecological values in the long term.

H=high; M=moderate; L=low

Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):
This area has been set aside from plantation forestry and therefore informally protected by the landowners. It covers mostly steep country which has only limited potential for farm or forestry development.

Discussion:
This area meets the District Plan criteria for a significant natural area (SNA). Important features are the habitat it provides for forest birds and for eastern falcon (an 'at risk' species) and the size of the area.

Scientific names of species cited by common name in this report

(Note: this is not a complete species list; it is a list only of species cited by common name in this report)

Common Name (* = naturalised species)	Scientific name
bidibid	*Acaena* sp.
bittersweet*	*Solanum dulcamara*
blue tussock	*Poa colensoi*
bracken	*Pteridium esculentum*
broadleaf	*Griselinia littoralis*
broom*	*Cytisus scoparius*
burdock*	*Arctium minus*
bush lawyer	*Rubus cissoides*
bush lily	*Astelia fragrans*
bush snowberry	*Gaultheria antipoda*
buttercup	*Ranunculus* sp.
button fern	*Pellaea rotundifolia*
cabbage tree/ti rakau	*Cordyline australis*
common shield fern	*Polystichum richardii*
Douglas fir/oregon*	*Pseudotsuga menziesii*
five-finger	*Pseudopanax arboreus*
foxglove*	*Digitalis purpurea*
fuchsia	*Fuchsia excorticata*
golden speargrass	*Aciphylla aurea*
hairy pennywort	*Hydrocotyle moschata*
hanging spleenwort	*Asplenium flaccidum*
hen and chickens fern	*Asplenium gracillimum*
Himalayan honeysuckle*	*Leycesteria formosa*
hookgrass	*Uncinia* sp.
hound's tongue fern	*Microsorum pustulatum*
hybrid wineberry	*Aristotelia serrata* X *fruticosa*
korokio	*Corokia cotoneaster*
koromiko	*Hebe salicifolia*
kowhai	*Sophora microphylla*
lancewood	*Pseudopanax crassifolius*
lawyer	*Rubus schmidelioides*
male fern*	*Dryopteris filix-mas*
mapou	*Myrsine australis*
marbleleaf/putaputaweta	*Carpodetus serratus*
matagouri	*Discaria toumatou*
matai/black pine	*Prumnopitys taxifolia*
matipo/kohuhu	*Pittosporum tenuifolium*
mingimingi	*Coprosma propinqua*
mountain akeake	*Olearia avicenniifolia*
mountain flax	*Phormium cookianum*
mountain kiokio	*Blechnum montanum*
mountain ribbonwood	*Hoheria lyallii*
mouse-ear hawkweed*	*Pilosella officinarum*
narrow-leaved snow-tussock	*Chionochloa rigida*
native bindweed	*Calystegia tuguriorum*
native broom	*Carmichaelia* aff. *australis*
native jasmine	*Parsonsia heterophylla*
necklace fern	*Asplenium flabellifolium*
old man's beard*	*Clematis vitalba*
pate	*Schefflera digitata*
pennywort	*Hydrocotyle novae-zelandiae*
poataniwha	*Melicope simplex*
pohuehue	*Muehlenbeckia australis*
porcupine shrub	*Melicytus alpinus*
poroporo	*Solanum laciniatum*

prickly shield fern	*Polystichum vestitum*
scrambling broom	*Carmichaelia kirkii*
scrambling fuchsia	*Fuchsia perscandens*
scrub pohuehue	*Muehlenbeckia complexa*
three-finger	*Pseudopanax colensoi*
toatoa	*Haloragis erecta*
tutu	*Coriaria sarmentosa*
wall lettuce*	*Mycelis muralis*
weeping mapou	*Myrsine divaricata*
wineberry	*Aristotelia serrata*
yellowwood	*Coprosma linariifolia*

References Cited

de Lange, PJ; Rolfe, JR; Champion, PD; Courtney, SP; Heenan, PB; Barkla, JW; Cameron, EK; Norton, DA; Hitchmough, RA. 2012. *Conservation status of New Zealand indigenous vascular plants, 2012.* Department of Conservation, Wellington, New Zealand. 70p.

Leathwick, J; Wilson, G; Rutledge, D; Wardle, P; Morgan, F; Johnston, K; McLeod, M; Kirkpatrick, R. 2003. *Land Environments of New Zealand.* David Bateman Ltd.

McEwen, WM (editor). 1987. Ecological regions and districts of New Zealand, third revised edition (Sheet 4). *New Zealand Biological Resources Centre Publication No. 5.* Department of Conservation, Wellington, 1987.

Robertson, HA; Dowding, JE; Elliot, GP; Hitchmough, RA; Miskelly, CM; O'Donnell, CFJ; Powlesland, RG; Sagar, PM; Scofield, RP; Taylor, GA. 2012. Conservation status of New Zealand birds, 2012. *New Zealand Threat Classification Series 4.* Department of Conservation, Wellington.

Walker, S.; Price, R.; Rutledge, D. 2005. New Zealand's remaining indigenous vegetation cover: recent changes and biodiversity protection needs. *Landcare Research Contract Report LC0405/038.*