

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS SURVEY
ROBERTS/PEARCE PROPERTY



Report prepared for the Timaru District Council by Mike Harding
February 2014

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Hayden Roberts and Geoff Pearce
Valuation Reference: ...24660/009.01
Address:c/-156 Patrick Road, RD 21 Geraldine.
Location:Four Peaks Range, South Canterbury.
Ecological Districts: Orari Ecological District.
TDC Land Types:..... Hard Rock Hills and Downs.
Land Environments:..... Q2 (south-eastern hill country).

ECOLOGICAL CONTEXT:

This property lies in the foothills of the Four Peaks Range in South Canterbury. The Significant Natural Areas (SNAs) described in this report are areas of indigenous forest in south-facing gullies and alongside the Hare (Hae Hae Te Moana North Branch) River. The property lies within the Orari Ecological District and comprises moderately-steep slopes from an altitude of approximately 300m to 645m on the ridge crest.

The original vegetation of this area would have been predominantly hardwood forest with emergent podocarps (matai, totara and kahikatea). 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 in the Hare River is part of one of the largest areas of indigenous forest remaining in this part of the ecological district. Rifleman, an at-risk (declining) species, was observed on the property. Eastern falcon/karearea, a threatened (nationally vulnerable) species, is present in the area, though was not observed during the survey. Rivers and streams of the Four Peaks Range provide good habitat for blue duck (a nationally vulnerable species), though it has been several years since this species has been observed in this area.

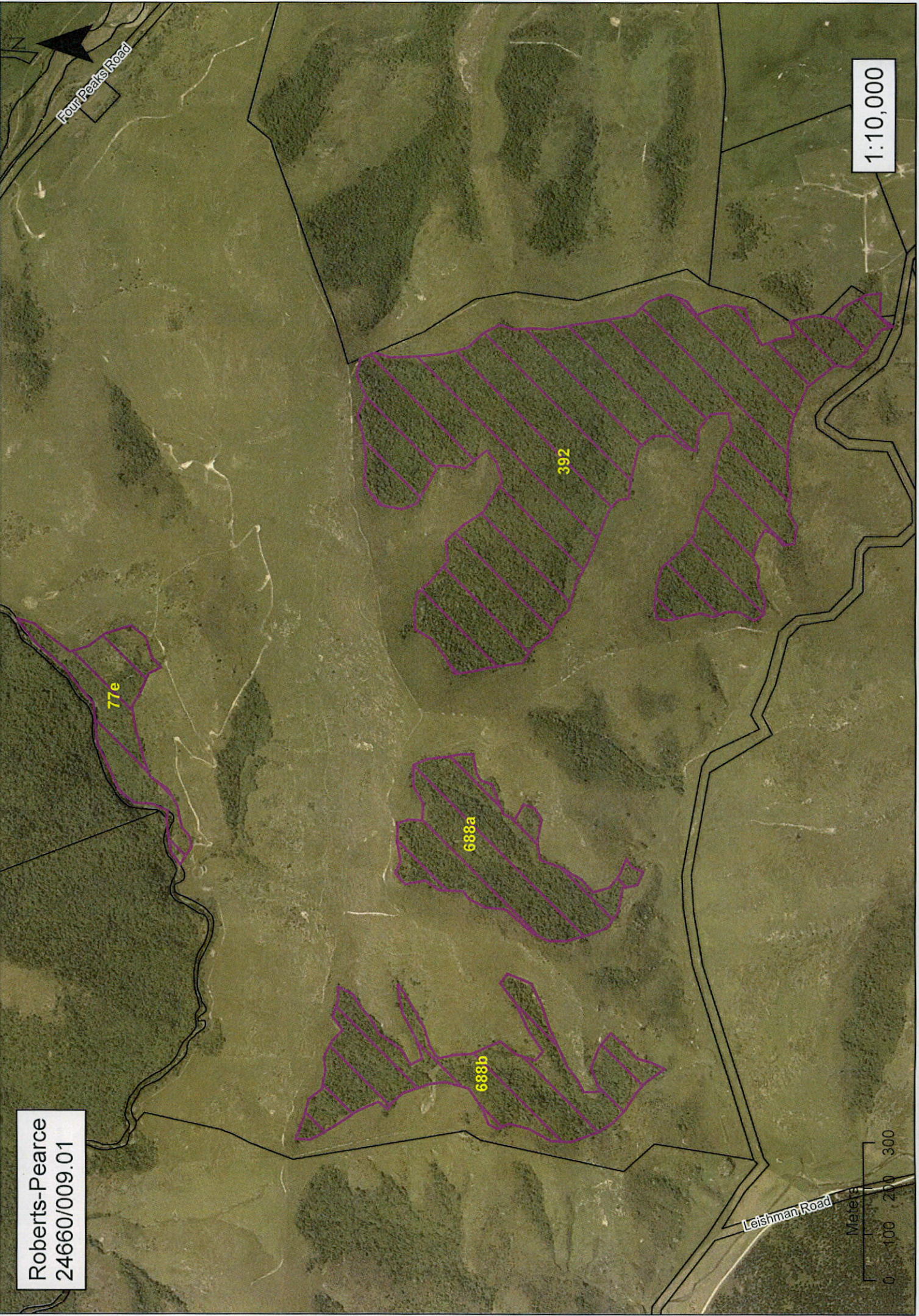
SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during January 2014. Four separate areas are regarded as significant when assessed against the District Plan criteria.

Area No.	Area Name	Map ref. (NZTM)	Aprox. size(ha)	Vegetation/habitat type
77e	Lower Hare River	1447100-5124850	5.1	Hardwood (podocarp) forest
392		1447700-5123600	49.7	Hardwood forest, with kahikatea
688a		1446600-5124000	10.2	Hardwood forest
688b		1446300-5124000	11.8	Hardwood forest

Roberts-Pearce
24660/009.01

1:10,000



These SNAs are illustrated on the aerial photograph below and described in greater detail on the SNA Survey 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 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 that meet the Interim Definitions in the District Plan. Clearance includes burning, spraying with herbicides and over-planting. SNAs encompass most, but not necessarily all, areas of vegetation and habitat which meet the Interim Definitions.

To assist with the protection and management of any SNA, such as fencing or pest control, 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.

OTHER AREAS INSPECTED ON THE PROPERTY:

Other areas of indigenous vegetation and habitat on the property were inspected but are not regarded as significant when assessed against the criteria on pages B18-B20 of the Timaru District Plan. These are generally smaller or more modified areas of indigenous vegetation.

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. Some of these areas have considerable potential value and, if left alone, may eventually become significant.

TIMARU DISTRICT SNA SURVEY

SNA 77e

Area Name: Lower Hare River	Property: Roberts/Pearce
Map Ref. (NZTM): E1447100-N5124850	Nearest Locality: Four Peaks
Ecological District: Orari	Area Size (ha): 5.1 Altitude (m): 380-500
Surveyors: Mike Harding	Survey Time: 2 hours Survey Date: 13-01-14

General Description:

This SNA lies on steep slopes in the gorge of the Hare (Hae Hae Te Moana North Branch) River, in the foothills of the Four Peaks Range.

Plant Communities:

Two main plant communities are present: hardwood forest and shrubland/scrub. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by kowhai, broadleaf and lemonwood. Other canopy species are cabbage tree, lancewood, wineberry, fuchsia, yellowwood, three-finger, marbleleaf, mapou, matipo, mountain ribbonwood, mountain totara, bush lawyer, *Clematis foetida*, native jasmine and pohuehue. One large ash* tree is emergent from the forest canopy at the up-valley end of the area.

The forest understorey is dominated in most places by mahoe or poataniwha. Other understorey species are weeping mapou, mapou, *Coprosma dumosa*, *Coprosma rhamnoides*, lancewood, lemonwood, kowhai, matipo, pate, horopito, mountain totara, Himalayan honeysuckle*, native jasmine, bush lawyer and, on tree trunks, hanging spleenwort and hound's tongue fern.

The forest floor is dominated at rocky sites by hound's tongue fern, button fern and common shield fern. At other locations prickly shield fern is dominant. Other ground-cover species are bush lily, hookgrass, *Carex solandri*, bidibid, *Asplenium hookerianum*, *Asplenium richardii*, necklace fern, hen and chickens fern, thousand-leaved fern, *Blechnum penna-marina*, *Blechnum chambersii*, mountain kiokio, male fern*, green-hooded orchid, nettle, wall lettuce*, bittersweet*, burdock* (uncommon) and seedlings of matipo, kowhai, mahoe, wineberry, lancewood, mapou, narrow-leaved mahoe and *Coprosma* species.

Shrubland/scrub at the forest margin is dominated by *Coprosma propinqua* and *Coprosma dumosa*. Other species present on the forest margin are matipo, *Coprosma crassifolia*, *Coprosma rugosa*, *Coprosma rigida*, native broom, matagouri, korokio, mountain akeake, tutu, Himalayan honeysuckle*, scrambling fuchsia, bush lawyer, lawyer, scrub pohuehue, bracken, prickly shield fern, mountain flax, wild marjoram*, native bindweed, and one small patch of gorse*. Trees of radiata pine* are present at the down-valley edge of the area.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, welcome swallow, tomtit, rifleman, silvereye, fantail, kereru and grey warbler.

Notable Flora, Fauna and Habitats:

Important features of this area are the diversity of plant species present, the quality of the forest bird habitat, the presence of rifleman (an 'at risk' species), the presence of mountain totara, and that the site is part of a much larger area of indigenous forest extending onto adjacent properties.

Notable Plant and Animal Pests:

Ash, Himalayan honeysuckle, burdock and gorse are the most important plant pests observed. However, no young ash trees or seedlings were recorded, and the other weeds do not pose a significant threat to areas of intact native forest or scrub. Animal pests were not surveyed. The area appears relatively unaffected by wild animals, though old pig rooting was present at the edge of the area and possums are present.

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

This area occupies steep rocky slopes that are well protected from disturbance. It is fenced from grazing. The area is part of a much larger area of indigenous forest that extends up the Hare River (SNA 77). This wider SNA is one of the largest areas of indigenous forest remaining in this part of the ecological district.

Condition and Management Issues:

The forest canopy, understorey and ground-cover are in very good condition. It is fenced from grazing and appears to have very low wild animal pressure, presumably due to the steep rocky terrain. The main management issue is continued control of possums and monitoring of plant pests, notably ash.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of indigenous forest typical of the ecological district and containing a representative range of plant species.
Rarity	M	Provides good habitat for an 'at risk' (declining) bird species (rifleman).
Diversity and pattern	M/H	Plant species diversity is moderate to high and probably representative of the original plant community.
Distinctiveness/special features	M	The relatively intact forest understorey and ground cover are notable.
Other Criteria		
Size/shape	M	A small to moderate-sized area that is very well buffered.
Connectivity	M/H	Part of a much larger area of indigenous forest.
Long-term Sustainability	M/H	Some animal pest control may be required to maintain ecological values in the long term.

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

This area has been fenced from grazing by the landowners and is well protected. It occupies steep rocky slopes that have very little potential for development.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the diversity of plant species present, the quality of the forest bird habitat, the presence of rifleman (an 'at risk' species), the presence of mountain totara, and that the site is part of a much larger area of indigenous forest extending onto adjacent properties.

TIMARU DISTRICT SNA SURVEY

SNA 392

Area Name:	Property: Roberts/Pearce
Map Ref. (NZTM): E1447700-N5123600	Nearest Locality: Four Peaks
Ecological District: Orari	Area Size (ha): 49.7 Altitude (m): 300-550
Surveyors: Mike Harding	Survey Time: 3 hours Survey Date: 13-01-14

General Description:

This SNA lies on moderately steep slopes in a south-facing gully on the foothills of the Four Peaks Range. The gully drains to the Hac Hac Te Moana River South Branch.

Plant Communities:

Two main plant communities are present: hardwood forest with remnant podocarps and shrubland/scrub. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by broadleaf, fuchsia, lemonwood, marbleleaf, mapou and mahoe. Other canopy species are kowhai, lancewood, wineberry, narrow-leaved mahoe, mountain ribbonwood, cabbage tree, pohuehue, native jasmine, clematis, native bindweed and bush lawyer. Tall trees of kahikatea are emergent from the forest canopy in the lower valley. Trunk diameters (at breast height) of these trees are between 35 and 45cm.

The forest understorey is sparse and open. Species present are *Coprosma rotundifolia*, *Coprosma propinqua*, fuchsia, horopito, lancewood, tutsan*, pohuehue, bush lawyer, native bindweed and, on tree trunks, hound's tongue fern.

Ground-cover over much of the site is sparse, except at higher altitudes where prickly shield fern is dominant. Other species are hen and chickens fern, *Blechnum fluviatile*, *Blechnum chambersii*, *Asplenium richardii* and *Asplenium bookerianum*. Species present but uncommon are *Leptopteris hymenophylloides*, *Lastreopsis glabella*, male fern*, cardamine and occasionally seedlings of mahoe, mapou, wineberry, cabbage tree, kowhai and *Coprosma* species.

Species present at damper sites are bush lily, pate, giant buttercup*, *Blechnum procerum*, *Blechnum penna-marina*, *Blechnum minus*, hairy pennywort, wall lettuce*, selfheal* and green-hooded orchid. Species present on dry rocky slopes are common shield fern, button fern, hound's tongue fern and necklace fern.

Areas of scrub and shrubland are present at the forest margins and are dominated by *Coprosma propinqua*, *Coprosma dumosa* and, on upper slopes, prickly shield fern. Other species present on the forest margin and in forest openings are Himalayan honeysuckle*, koromiko, *Coprosma rugosa*, *Coprosma rigida*, matagouri, poroporo, tutu, scrub pohuehue, lawyer, mountain flax, bittersweet*, toatoa, thousand-leaved fern, *Hypolepis ambigua*, hard fern, bracken, bidibid, foxglove*, pennywort and, at the lower boundary, kanuka and wild marjoram*.

Birds/Fauna Observed:

Native birds observed during this survey were bellbird, kereru (NZ pigeon), rifleman, grey warbler, fantail, brown creeper and shining cuckoo.

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of podocarp (kahikatea) trees, the habitat the area provides for forest birds, including at 'at risk' (declining) species (rifleman) and the size of the area.

Notable Plant and Animal Pests:

Himalayan honeysuckle is the most common plant pest present. This ubiquitous species is common at forest margins and within the site where the forest canopy is low. Other naturalized plant species, such as male fern and bittersweet, are uncommon. Animal pests were not surveyed. However, the area is grazed as part of a larger paddock. Deer, deer tracks and browse are common throughout the site.

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

This forested site lies within a larger deer-fenced paddock. It is buffered to some extent by its location on steeper slopes in a south-facing valley. The site lies close to other areas of indigenous forest in adjacent valleys.



The lower part of SNA 392

Condition and Management Issues:

The forest canopy appears in good condition. The forest understorey and floor are substantially depleted by deer browse and tracking. There is little regeneration of canopy trees. The main management issue is protection of the forest understorey from animal browse.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	An example of indigenous forest typical of this part of the ecological district, with a good range of canopy species including emergent podocarps (kahikatea).
Rarity	M	Provides habitat for an 'at risk' (declining) bird species (rifleman).
Diversity and pattern	L/M	Plant species diversity is moderate, though less than that originally present.
Distinctiveness/special features	L/M	The presence of large kowhai trees which provide important feeding habitat for kereru.
Other Criteria		
Size/shape	H	A large site with a good shape and reasonably well buffered.
Connectivity	M	Lies close to other areas of indigenous forest.
Long-term Sustainability	M	Protection of the forest understorey, to encourage regeneration of canopy species, will be necessary to maintain ecological value in the long term.

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

This relatively large area of forest has been protected from clearance by the landowners. It is partly protected by its location in a moderately steep south-facing valley. The steepness of the slopes limits its potential for farm development.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of podocarp (kahikatea) trees, the habitat the area provides for forest birds, including at 'at risk' (declining) species (rifleman) and the size of the area.

TIMARU DISTRICT SNA SURVEY

SNA 688a and b

Area Name: Southwest Valleys

Ecological District: Orari

SNA 688a: (NZTM): E1446600-N5124000

SNA 688b: (NZTM): E1446300-N5124000

Surveyors: Mike Harding

Property: Roberts/Pearce

Nearest Locality: Four Peaks

Area Size (ha): 10.2 **Altitude (m):** 460-550

Area Size (ha): 11.8 **Altitude (m):** 450-500

Survey Time: 1 hour **Survey Date:** 13-01-14

General Description:

These two SNAs lie in small south-facing valleys at the southwest part of the property. The valleys drain to Leishmans Stream, a tributary of the Hae Hae Te Moana South Branch River. The forest at these two sites was not surveyed thoroughly. Instead, the vegetation was viewed from the adjacent ridges.

Plant Communities:

Two main plant communities are present: hardwood forest and shrubland/scrub.

The forest community is dominated by broadleaf, lemonwood, fuchsia and, in SNA 688a, kowhai. Other canopy species are mountain ribbonwood, marbleleaf, pohuehue, wineberry, narrow-leaved mahoe, mapou, lancewood, matipo, yellowwood, bush lawyer and native bindweed.

The forest understorey and ground-cover were not inspected. However, it can be assumed that a similar range of species to that described for the nearby SNA 392 are present.



SNA 688a

Notable Flora, Fauna and Habitats:

Important features of these areas are the extent of the forest patches and the habitat they provide for forest birds, including an 'at risk' (declining) species (rifleman). The presence and dominance at SNA 688a, of kowhai is also an important feature. Kowhai provides important seasonal food for kereru and bellbird.

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

Both of these areas lie within larger paddocks that are grazed. They lie close to other areas of indigenous forest, including SNA 392 and an extensive area of forest in the Hare (Hae Hae Te Moana North Branch) River (SNA 77).

Condition and Management Issues:

While these areas were not inspected closely, deer were present and it is assumed that the forest understorey and ground-cover are similar to that in SNA 392, i.e. depleted by deer browsing.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	Typical examples of regenerating or modified forest in this part of the ecological district; supporting a representative range of canopy species.
Rarity	M	Provide habitat for an 'at risk' (declining) bird species (rifleman).
Diversity and pattern	L/M	Plant species diversity appears to be reduced from that originally present.
Distinctiveness/special features	L/M	The presence, and in places dominance, of kowhai is a notable feature.
Other Criteria		
Size/shape	M/H	Moderate sized areas that are relatively well buffered.
Connectivity	M	The areas lie close to other areas of indigenous forest and contribute to the network of forest bird habitat in this part of the ecological district.
Long-term Sustainability	M	Management of grazing/browsing animals will probably be necessary to maintain ecological values in the long term.

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

These areas have been protected from clearance by the landowner. The steep slopes these areas occupy limit the potential for farm development. The long-term integrity of forest may require careful management of grazing/browsing animals.

Discussion:

These areas just meet the District Plan criteria for Significant Natural Areas. Important features of the areas are the extent of the forest patches and the habitat they provide for forest birds, including an 'at risk' (declining) species (rifleman). The presence and, dominance at SNA 688a, of kowhai is also an important feature.

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	Scientific name
(* = naturalised species)	
ash*	<i>Fraxinus excelsior</i>
bidibid	<i>Acaena</i> sp.
bittersweet*	<i>Solanum dulcamara</i>
bracken	<i>Pteridium esculentum</i>
broadleaf	<i>Griselinia littoralis</i>
burdock*	<i>Arctium minus</i>
bush lawyer	<i>Rubus cissoides</i>
bush lily	<i>Astelia fragrans</i>
button fern	<i>Pellaea rotundifolia</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
cardamine	<i>Cardamine debilis</i>
clematis	<i>Clematis paniculata</i>
common shield fern	<i>Polystichum richardii</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia	<i>Fuchsia excorticata</i>
giant buttercup*	<i>Ranunculus acris</i>
gorse*	<i>Ulex europaeus</i>
green-hooded orchid	<i>Pterostylis</i> sp.
hairy pennywort	<i>Hydrocotyle moschata</i>
hanging spleenwort	<i>Asplenium flaccidum</i>
hard fern	<i>Paesia scaberula</i>
hen and chickens fern	<i>Asplenium gracillimum</i>
Himalayan honeysuckle*	<i>Leycesteria formosa</i>
hookgrass	<i>Uncinia uncinata</i>
horopito/pepperwood	<i>Pseudowintera colorata</i>
hound's tongue fern	<i>Microsorium pustulatum</i>
kahikatea/white pine	<i>Dacrycarpus dacrydioides</i>
kanuka	<i>Kunzea ericoides</i>
korokio	<i>Corokia cotoneaster</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>
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 flax	<i>Phormium cookianum</i>
mountain kiokio	<i>Blechnum montanum</i>
mountain ribbonwood	<i>Hoheria lyallii</i>
mountain totara/Hall's totara	<i>Podocarpus hallii</i>
narrow-leaved mahoe	<i>Melicytus lanceolatus</i>
native bindweed	<i>Calystegia tuguriorum</i>
native broom	<i>Carmichaelia</i> aff. <i>australis</i>
native jasmine	<i>Parsonsia</i> sp.
necklace fern	<i>Asplenium flabellifolium</i>
nettle	<i>Urtica incisa</i>
pate	<i>Schefflera digitata</i>

pennywort	<i>Hydrocotyle</i> sp.
poataniwha	<i>Melicope simplex</i>
pohuehue	<i>Muehlenbeckia australis</i>
poroporo	<i>Solanum laciniatum</i>
prickly shield fern	<i>Polystichum vestitum</i>
radiata pine*	<i>Pinus radiata</i>
scrambling fuchsia	<i>Fuchsia perscandens</i>
scrub pohuehue	<i>Muehlenbeckia complexa</i>
selfheal*	<i>Prunella vulgaris</i>
thousand-leaved fern	<i>Hypolepis millefolium</i>
three-finger	<i>Pseudopanax colensoi</i>
toatoa	<i>Haloragis erecta</i>
totara	<i>Podocarpus totara</i>
tutsan*	<i>Hypericum androsaemum</i>
tutu	<i>Coriaria sarmentosa</i>
wall lettuce*	<i>Mycelis muralis</i>
weeping mapou	<i>Myrsine divaricata</i>
wild majoram*	<i>Origanum vulgare</i>
wineberry	<i>Aristotelia serrata</i>
yellowwood	<i>Coprosma linariifolia</i>