

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS SURVEY
McKAY PROPERTY



DRAFT

Report prepared for the Timaru District Council by Mike Harding
December 2013

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Andrew and Tracy McKay
Valuation Reference: ...24660/009.00
Address:522 Four Peaks Road, Geraldine 7991.
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 is located on the lower foothills of the Four Peaks Range in South Canterbury, just south of the Hare (North Branch Hae Hae Te Moana) River. The Significant Natural Areas (SNAs) described in this report are areas of indigenous forest in small valleys on higher slopes at the northwest corner of the property. The property lies within Orari Ecological District and comprises gentle to moderately-steep slopes from an altitude of approximately 300m at the Hare River to more than 600m at the northwest corner.

The original vegetation of this area would have been predominantly hardwood forest with emergent podocarps (matai, totara and kahikatea). Rushland or sedgeland vegetation would have been present at wetlands and kanuka forest at disturbed sites. 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.

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.

SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas in December 2013. Three separate areas are regarded as significant when assessed against the District Plan criteria. One of these (Teapot Bush) easily meets the criteria. The other two areas are less significant but, nevertheless, do meet the criteria.

Area No.	Area Name	Central map ref.	Aprox. size(ha)	Vegetation/habitat type
393a	Teapot Bush	J37: 582-858		Hardwood (podocarp) forest
393b		J37: 583-861		Hardwood (podocarp) forest
393c		J37: 584-856		Hardwood (podocarp) forest

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 plant or animal 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.



McKay Property SNAs: 393b; 393a; 393c (top to bottom)

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.

Small hill-slope forest patches:

A smaller patch of hardwood forest, east of the three SNAs, was inspected. This forest is dominated by mahoe and fuchsia. It has a species composition similar to that of SNA 393b nearby. However, its small size and low species diversity mean that it does not meet the District Plan criteria.

Another small patch of hardwood forest is present just south of the three SNAs. This area was not inspected. Its small size suggests that it is unlikely to meet the District Plan criteria.

River terrace forest (Hare River):

Tall forest on the alluvial flats (low terrace) of the Hare River was inspected. It supports tall trees of kowhai but is otherwise dominated by exotic species, notably ash. This forest is not regarded as indigenous vegetation and therefore does not meet the District Plan criteria.

Failure of these areas to meet the significance criteria does not necessarily mean that they are not important for nature conservation or the protection of indigenous biodiversity; it simply means that the areas (as assessed at this time) do not meet the criteria in the Timaru District Plan. These areas have considerable potential value and, if managed appropriately, may eventually become significant.

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TIMARU DISTRICT SNA SURVEY

SNA 393a

Area Name: Teapot Bush

Location (central map ref.): J37: 582-858

Ecological District: Orari

Surveyors: Mike Harding

Property: McKay

Nearest Locality: Four Peaks

Area Size (ha): ?

Altitude (m): 330-500

Survey Time: 2½ hrs

Survey Date: 03-12-13

General Description:

This SNA lies on moderately-steep slopes in a small valley at the northwest corner of the property. It is close to other areas of indigenous forest and is connected by scattered shrubland to two other areas on the property (SNA 393b and SNA 393c).

Plant Communities:

The main plant community present is hardwood forest, with occasional emergent podocarps. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by mahoe, broadleaf, mapou, pohuehue and, on drier spurs, kowhai. Other canopy species are marbleleaf, lancewood, fuchsia, yellowwood, mountain ribbonwood, cabbage tree, bush lawyer, native bindweed, *Clematis foetida*, native jasmine and, near the stream, wineberry, narrow-leaved mahoe, horopito and emergent trees of kahikatea. Totara trees, including young trees, are present and in places emergent from the forest at the lower part of the site. A single tree of lowland ribbonwood is present beside the stream and a single kanuka tree at the lower forest margin.



Tall kahikatea trees emergent from the forest canopy at SNA 393a

The forest understorey is very open. Species present are *Coprosma crassifolia*, bush lawyer, lawyer and occasionally kowhai.

The forest floor is also open, especially on drier slopes. Species commonly present are prickly shield fern, *Blechnum fluviatile* and nettle. Other ground-cover species are thousand-leaved fern, hen and chickens fern, *Asplenium hookerianum*, *Asplenium richardii*, necklace fern, common shield fern, button fern, hound's tongue fern, male fern*, pennywort, hairy pennywort, *Hydrocotyle heteromeria*, *Galium propinquum*, bidibid, hookgrass, *Carex forsteri*, *Carex solandri* and seedlings of pohuehue, mahoe, pate, kowhai, native jasmine and *Coprosma* species.

Species present at damper sites are *Blechnum chambersii*, *Blechnum membranaceum*, *Blechnum pennamaryana*, *Leptopteris hymenophylloides*, *Hypolepis ambigua*, buttercup, *Euchiton sphaericus* and *Juncus edgariae*.

Species commonly present at the forest margin are mingimingi, *Coprosma dumosa*, *Coprosma rugosa*, *Coprosma rigida*, *Olearia bullata*, gorse* (mostly sprayed/dead), silver tussock, hard fern, prickly shield fern, thousand-leaved fern and foxglove*.

Birds/Fauna Observed:

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

Notable Flora, Fauna and Habitats:

Important features of this area are: the presence of podocarp trees (kahikatea and totara); a locally uncommon fern species (*Blechnum membranaceum*); the habitat the area provides for forest birds, including an 'at risk' (declining) species (rifleman); and its role buffering the upper stream catchment.

Notable Plant and Animal Pests:

Gorse is the most prevalent plant pest present, though infestations at the forest margin have been controlled and it does not pose a significant threat to the indigenous forest. Animal pests were not surveyed.

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

The boundaries of this area follow the forest margin, though there is some forest regeneration outside that area. The area is buffered by its location on steeper slopes with a predominantly southern (shaded) aspect. The forest is not fenced and is grazed as part of a larger block.

Condition and Management Issues:

The forest canopy appears in relatively good condition. The forest understorey and floor are substantially depleted, with few understorey plants present and extensive bare ground. The main management issue is control of animal browse (sheep, cattle, deer and presumably possums), to allow regeneration of canopy species and to protect the forest floor.

Property Owner Comment:

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	An example of indigenous forest typical of the ecological district and supporting canopy species (notably kahikatea and totara) that are representative of the original vegetation.
Rarity	M	Provides habitat for an 'at risk' (declining) bird species (rifleman) and a locally uncommon fern species.
Diversity and pattern	M	Plant species diversity is moderate, though probably reduced from that originally present.
Distinctiveness/special features	M	The presence of podocarps, including young trees, is notable.
Other Criteria		
Size/shape	M/H	A moderate-sized area with a good shape and relatively well buffered.
Connectivity	M	Lies close to other areas of indigenous forest, including extensive stands in the Hare (North Branch Te Moana) River.
Long-term Sustainability	M	Protection of understorey regeneration and continued wild animal control 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):

Landowners have protected this area from clearance and it is further protected by its location on steep and, in places, rocky slopes. It has limited potential for farm development.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. It supports a good sized area of indigenous forest with podocarp trees and provides useful habitat for forest birds. It plays a useful role in protecting the upper catchment of a small stream and is an attractive area of forest that is visible from locations beyond the property.



Open understorey and forest floor at SNA 393a

TIMARU DISTRICT SNA SURVEY

SNA 393b

Area Name:	Property: McKay
Location (central map ref): J37: 583-861	Nearest Locality: Four Peaks
Ecological District: Orari	Area Size (ha): ? Altitude (m): 370-430
Surveyors: Mike Harding	Survey Time: 1 hr Survey Date: 03-12-13

General Description:

This small SNA lies on the steep upper slopes of a small side valley near, and almost connected to, a larger area of indigenous forest in the main valley (SNA 393a).

Plant Communities:

The main plant community present is hardwood forest, described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by mahoe, fuchsia and pohuehue. Other canopy species are mapou, broadleaf, lemonwood, marbleleaf, wineberry, native bindweed, native jasmine, bush lawyer and, less commonly, lancewood, cabbage tree, narrow-leaved mahoe and kowhai. One small hawthorn* tree was present at the upper forest edge: this tree was removed (cut and the trunk treated with herbicide gel).



SNA 393b

The forest understorey and floor are very open. Species commonly present are prickly shield fern, *Blechnum fluviatile*, *Asplenium hookerianum* and nettle. Species occasionally present are horopito, mahoe, mingimingi, *Coprosma rotundifolia*, bush lawyer, *Blechnum chambersii*, *Blechnum membranaceum*, hen and chickens fern, *Asplenium richardii*, *Hypolepis ambigua*, bush lily, hookgrass,

Carex solandri, cardamine, bidibid, hairy pennywort, *Hydrocotyle heteromeria*, *Pratia angulata*, buttercup, poroporo, foxglove*, bittersweet* and seedlings of fuchsia, mapou, mahoe, pate, horopito, wineberry, broadleaf, pohuehue and *Coprosma* species.

Species present at the forest margin are gorse* (mostly dead/sprayed), mingimingi, *Coprosma rugosa*, *Coprosma dumosa*, *Coprosma rigida*, horopito, prickly shield fern, thousand-leaved fern, silver tussock, *Carex forsteri*, bog rush, foxglove* and burdock*.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, grey warbler, brown creeper and rifleman. Fantail, tomtit and kereru (NZ pigeon) were observed nearby.

Notable Flora, Fauna and Habitats:

Important features of this area are: the habitat the area provides for forest birds, including an 'at risk' (declining) species (rifleman); the presence of a locally uncommon fern species (*Blechnum membranaceum*); and its role buffering a small upper stream tributary.

Notable Plant and Animal Pests:

Gorse is present at the forest margin, though has been controlled and does not pose a threat to the forest. A single hawthorn tree was observed (and removed) at the upper forest boundary. Animal pests were not surveyed.

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

The boundaries of this area follow the forest margin. The area is buffered by its location on a steep south-facing slope. The forest is not fenced and is grazed as part of a larger block. It lies close to other areas of indigenous forest in adjacent gullies.

Condition and Management Issues:

The forest canopy appears in relatively good condition. The forest understorey and floor are substantially depleted, with few understorey plants present and extensive bare ground. The main management issue is control of animal browse (sheep, cattle, deer and presumably possums), to allow regeneration of canopy species and to protect the forest floor.

Property Owner Comment:

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	An example of regenerating indigenous forest typical of that remaining in the ecological district.
Rarity	M	Provides habitat for an 'at risk' (declining) bird species (rifleman) and a locally uncommon fern species.
Diversity and pattern	L/M	Plant species diversity is relatively low and probably substantially reduced from that originally present.
Distinctiveness/special features	L	
<hr/> Other Criteria <hr/>		
Size/shape	M	A small area that has a good shape and is reasonably well buffered.
Connectivity	M	Lies close to other areas of indigenous forest and is almost connected to a larger remnant (SNA 393a).
Long-term Sustainability	M	Protection of understorey regeneration and continued wild animal control 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):

Landowners have protected this area from clearance and it is further protected by its location on a steep rocky slope. It has limited potential for farm development.

Discussion:

This area only just meets the District Plan criteria for a Significant Natural Area. It is a small area of indigenous forest but is reasonably well buffered by its location. It provides useful habitat for forest birds and plays a role in protecting a small upper stream tributary. It is visible from locations beyond the property.

TIMARU DISTRICT SNA SURVEY

SNA 393c

Area Name:	Property: McKay	
Location (central map ref.): J37: 584-856	Nearest Locality: Four Peaks	
Ecological District: Orari	Area Size (ha): ?	Altitude (m): 320-360
Surveyors: Mike Harding	Survey Time: 1 hour	Survey Date: 03-12-13

General Description:

This small SNA lies on a moderately-steep south-facing slope, just south of and almost connected to a larger area of indigenous on the property (SNA 393a).

Plant Communities:

The main plant community present is hardwood forest, described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by mahoe, broadleaf and fuchsia. Other canopy species are mapou, narrow-leaved mahoe, lancewood, matipo, marbleleaf, lemonwood, cabbage tree, *Clematis paniculata*, bush lawyer, pohuehue and, at the centre of the forest, small young totara trees.

The forest understorey and floor are relatively open. Plant species present are *Coprosma rigida*, *Coprosma rotundifolia*, elderberry*, bush lawyer, prickly shield fern, *Blechnum fluviatile*, *Blechnum chambersii*, hen and chickens fern, *Asplenium hookerianum*, thousand-leaved fern, hound's tongue fern, nettle, hookgrass, *Carex forsteri*, buttercup, *Hydrocotyle heteromeria*, cardamine and seedlings of mahoe, fuchsia, pate, pohuehue, *Clematis paniculata* and *Coprosma* species.

Species present on the forest margin or at open sites within the forest are gorse* (mostly dead/sprayed), manuka, mingimingi, *Coprosma dumosa*, *Coprosma rigida*, *Coprosma rhamnoides*, horopito, Himalayan honeysuckle*, native bindweed, *Blechnum penna-marina*, *Blechnum procerum*, prickly shield fern, thousand-leaved fern, hard fern, male fern*, nettle, bidibid, *Juncus edgariae*, oval sedge* and foxglove*.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, grey warbler, rifleman, fantail, harrier and, nearby, paradise shelduck.

Notable Flora, Fauna and Habitats:

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

Notable Plant and Animal Pests:

Gorse, elderberry, male fern and Himalayan honeysuckle are the most important naturalized species recorded, though none pose a significant threat to the forest. Gorse has been controlled at some sites. Animal pests were not surveyed.

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

The boundaries of this area follow the forest margin, though the forest grades to shrubland at some boundaries. The area is buffered by its location on a steep south-facing slope. The forest is not fenced and is grazed as part of a larger block. It lies close to other areas of indigenous forest in adjacent gullies.

Condition and Management Issues:

The forest canopy appears in relatively good condition. The forest understorey and floor are depleted, though not as open and bare as in adjacent remnants. The main management issue is control of animal browse (sheep, cattle, deer and presumably possums), to allow regeneration of canopy species and to protect the forest floor.

Property Owner Comment:

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	An example of indigenous forest typical of the ecological district and supporting species (notably young totara) that is representative of the original vegetation.
Rarity	M	Provides habitat for an 'at risk' (declining) bird species (rifleman).
Diversity and pattern	L/M	Plant species diversity is relatively low and probably substantially reduced from that originally present.
Distinctiveness/special features	L	
Other Criteria		
Size/shape	M	A small area that has a good shape and is reasonably well buffered.
Connectivity	M	Lies close to other areas of indigenous forest and is connected by shrubland to a larger remnant (SNA 393a).
Long-term Sustainability	M	Protection of understorey regeneration and continued wild animal control 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):

Landowners have protected this area from clearance and it is further protected by its location on a south-facing slope. It has limited potential for farm development.

Discussion:

This area just meets the District Plan criteria for a Significant Natural Area. It is a small area of indigenous forest but is reasonably well buffered by its location. It provides useful habitat for forest birds and supports young (regenerating) podocarp (totara) trees.

Scientific names of species cited by common name in this report

This is not a complete species list; it is a list only of species cited by common name in this report. Species names are as listed in the Flora of NZ (volumes I to V) and as listed in NZ Indigenous Vascular Plant Checklist (P.J. de Lange and J.R. Rolfe, NZ Plant Conservation Network, 2010).

Common Name Scientific name

(* = naturalised species)

ash*	<i>Fraxinus excelsior</i>
bidibid	<i>Acaena anserinifolia</i>
bittersweet*	<i>Solanum dulcamara</i>
bog rush	<i>Schoenus pauciflorus</i> agg.
broadleaf	<i>Griselinia littoralis</i>
burdock*	<i>Arctium minus</i>
bush lawyer	<i>Rubus cissoides</i> agg.
bush lily	<i>Astelia fragrans</i>
buttercup	<i>Ranunculus</i> sp.
button fern	<i>Pellaea rotundifolia</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
cardamine	<i>Cardamine debilis</i> agg.
common shield fern	<i>Polystichum neozelandicum</i>
elderberry*	<i>Sambucus nigra</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia	<i>Fuchsia excorticata</i>
gorse*	<i>Ulex europaeus</i>
hairy pennywort	<i>Hydrocotyle moschata</i>
hard fern	<i>Paesia scaberula</i>
hawthorn*	<i>Crataegus monogyna</i>
hen and chickens fern	<i>Asplenium gracillimum</i> agg.
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> agg.
kowhai	<i>Sophora microphylla</i>
lancewood	<i>Pseudopanax crassifolius</i>
lawyer	<i>Rubus schmidelioides</i> agg.
lemonwood/tarata	<i>Pittosporum eugenioides</i>
lowland ribbonwood	<i>Plagianthus regius</i> subsp. <i>regius</i>
mahoe/whiteywood	<i>Melicytus ramiflorus</i> agg.
male fern*	<i>Dryopteris filix-mas</i>
manuka	<i>Leptospermum scoparium</i> agg.
mapou	<i>Myrsine australis</i>
marbleleaf/putaputaweta	<i>Carpodetus serratus</i>
matipo/kohuhu	<i>Pittosporum tenuifolium</i>
mingimingi	<i>Coprosma propinqua</i>
mountain ribbonwood	<i>Hoheria lyallii</i>
narrow-leaved mahoe	<i>Melicytus lanceolatus</i>
native bindweed	<i>Calystegia tuguriorum</i>
native jasmine	<i>Parsonsia heterophylla</i>
necklace fern	<i>Asplenium flabellifolium</i>
nettle	<i>Urtica incisa</i>
oval sedge*	<i>Carex ovalis</i>
pate	<i>Schefflera digitata</i>
pennywort	<i>Hydrocotyle novae-zelandiae</i>
pohuehue	<i>Muehlenbeckia australis</i> agg.
poroporo	<i>Solanum laciniatum</i>
prickly shield fern	<i>Polystichum vestitum</i> agg.

silver tussock.....	<i>Poa cita</i> agg.
thousand-leaved fern	<i>Hypolepis millefolium</i>
totara	<i>Podocarpus totara</i> var. <i>totara</i>
wineberry	<i>Aristotelia serrata</i>
yellowwood.....	<i>Coprosma linariifolia</i>



The locally uncommon fern, Blechnum membranaceum, present at SNA 393a and SNA 393b