

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

STROMNESS
ISBISTER/COKER PROPERTY



Report prepared for Timaru District Council by Mike Harding
August 2012

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Brent Isbister/Susan Coker
Valuation References: 24810/001.02
Address: 464 Rockwood Road, Pleasant Point 7982
Location: On northern and western slopes of the Brothers Range.
Ecological District: Geraldine and Fairlie ecological districts.
TDC Land Type: Hard Rock Hills and Downs.
Land Environment: mostly E3.1a (Central Dry Foothills).

ECOLOGICAL CONTEXT:

The property lies on the northern and western slopes of the Brothers Range and straddles the boundary of Geraldine and Fairlie ecological districts. The original vegetation of this area would have been predominantly podocarp-hardwood forest, with localized areas of kowhai-kanuka forest on rocky slopes and at disturbed sites. The indigenous fauna would probably 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 mostly confined to incised steep-sided valleys. Vegetation at eastern parts of the property comprises core areas of indigenous hardwood forest with podocarps (totara and matai) and surrounding areas of regenerating hardwood and kanuka forest. Vegetation at western parts of the property comprises hardwood (broadleaf) forest with surrounding areas of shrubland and scrub. These areas of forest lie near to indigenous vegetation in the Opihi River gorge and to other native forest on adjacent properties and make a valuable contribution to forest bird habitat in the wider area.

SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during July 2012. Five areas of native forest, totalling approximately 16 hectares, are regarded as Significant Natural Areas (SNAs) when assessed against the District Plan criteria. These SNAs are listed in the table below.

Area No.	Area Name	Central grid reference	Aprox. size (ha)	Vegetation/habitat type
353	Stromness homestead gully	J38: 442-692	5.08	Podocarp-hardwood forest
354	Stromness northern gully	J38: 438-695	3.31	Podocarp-hardwood forest
573a	Stromness northwest forest	J38: 403-706	4.15	Hardwood forest; scrub
573b	Stromness southwest gully	J38: 403-701	2.18	Hardwood forest; scrub
575	Stromness central gully	J38: 423-695	1.64	Hardwood (podocarp) forest

These SNAs are illustrated on the attached aerial photograph 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 which 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, 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.



A large tree of Olearia odorata (a tree daisy) at the edge of SNA 573a

N

Hitches Road

Spur Road

1:17,500

Stromness Group
24810/001.02

573a

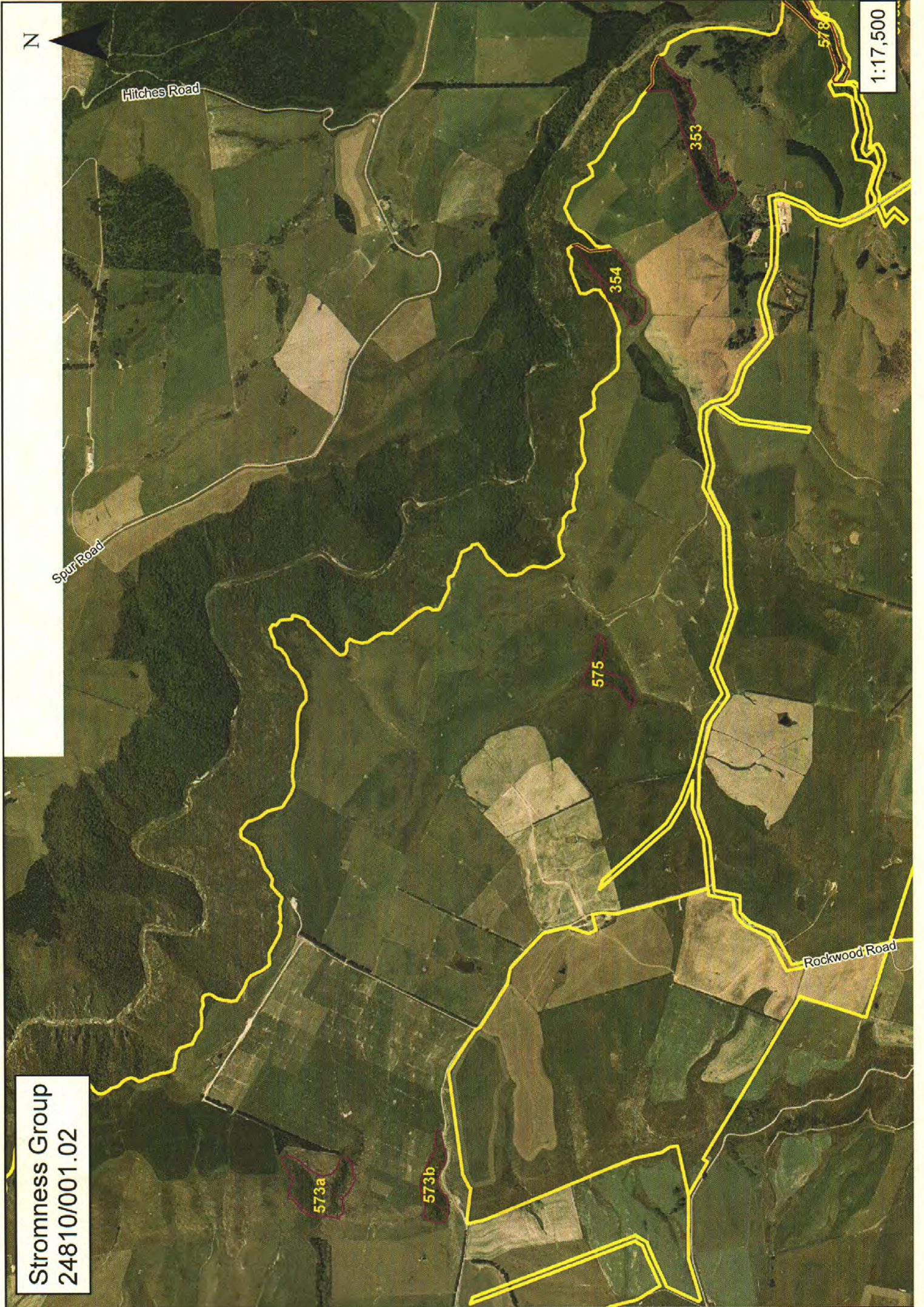
573b

575

354

353

Rockwood Road



Area Name: Stromness homestead gully
Location (central map reference): J38: 442-692
Ecological District: Geraldine
Surveyors: Mike Harding

Property: Isbister/Coker
Nearest Locality: Raincliff
Area Size (ha): 5.08 **Altitude (m):** 250-300
Survey Time: 2½ hours **Survey Date:** 20-07-12

General Description:

This SNA occupies a deeply incised valley near the homestead at the northeast boundary of the property. The valley drains steeply to the lower part of the Opihi River gorge.

Plant Communities:

Two main plant communities are present: podocarp-hardwood forest and a smaller area of kanuka forest. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk*.

Podocarp-hardwood forest:

The canopy of this forest comprises kowhai, five-finger, cabbage tree, mapou, matipo, lemonwood, lancewood, broadleaf, mahoe, narrow-leaved lacebark, kanuka, wineberry, bush lawyer, native jasmine, native convolvulus, *Clematis foetida* and pohuehue, with scattered trees of totara and occasional large emergent radiata pine* trees. Also present near the stream are fuchsia, elderberry* and emergent ash* trees.

Understorey species are matipo, mapou, yellowwood, Darwin's barberry, mahoe, lancewood, five-finger, *Coprosma propinqua*, *Coprosma crassifolia*, *Coprosma rhamnoides*, bush lawyer and cotoneaster* (uncommon).

Ground-cover species are hound's tongue fern, prickly shield fern, common shield fern, necklace fern, hen and chickens fern, *Asplenium appendiculatum*, *Blechnum fluviatile*, male fern*, cardamine, bush lily and seedlings of cabbage tree, mapou, matipo, mahoe and broadleaf.



Hardwood forest, with totara, at the upper end of SNA 353.

Species present on the forest margin or in forest openings are *Coprosma crassifolia*, *Coprosma propinqua*, *Coprosma virescens*, matipo, mapou, weeping mapou, koromiko, mistletoe (on *Coprosma crassifolia*), broom*, gorse*, Darwin's barberry*, Himalayan honeysuckle*, pohuehue, poroporo, blackberry*, black nightshade*, bracken and hemlock*.

Kanuka forest:

This forest occupies drier north-facing slopes at the edge of the area. Kanuka is the dominant canopy species. Other canopy species are matipo, *Clematis foetida*, pohuehue, native jasmine, lawyer, bush lawyer and occasional trees of the at-risk (naturally uncommon) fierce lancewood (*Pseudopanax ferox*).

The forest understorey is dominated by *Coprosma crassifolia*, *Coprosma virescens* and *Coprosma rhamnoides*. Ground-cover species are common shield fern, button fern, necklace fern, *Dichondra repens*, hairy pennywort, cardamine, *Einadia allanii*, white fuzzweed and seedlings of kowhai, Darwin's barberry* and *Coprosma* species.

Darwin's barberry* is the dominant forest margin species. Other species present are kowhai, *Coprosma propinqua*, yellowwood, weeping mapou, korokio, *Helichrysum lanceolatum*, *Melicytus 'blondin'*, *Clematis marata*, scrub pohuehue, mistletoe (on yellowwood and *Coprosma crassifolia*), elderberry*, poroporo, blackberry*, black nightshade*, horehound* and a clump of holly*.



Kanuka forest on drier slopes of SNA 353.

Birds/Fauna Observed:

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

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of diverse indigenous forest with podocarp trees (totara), populations of two at-risk (naturally uncommon) plant species (fierce lancewood and *Einadia allanii*), locally uncommon plant species (white fuzzweed and *Clematis marata*), at-risk (declining) bird species (rifleman), and the size and location of the area adjacent to larger areas of scrub and forest in the Opihi River gorge.

Notable Plant and Animal Pests:

Ash and Darwin's barberry are the most important plant pests present. Ash is well established and emergent from the forest canopy in at least two areas. Darwin's barberry is common at the forest margin. Other naturalized plant species, such as gorse, broom and elderberry, do not pose a significant threat to the intact forest. Large pine trees are present but do not appear to be spreading. Holly is present at the forest margin and may pose a threat. Animal pests were not surveyed.

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

This area is well buffered by its location in a steep-sided valley. It is securely fenced along its northern boundary and adjoins other areas of forest and scrub in the Opihi River gorge. It lies close to other areas of native forest on this and other nearby properties.

Condition and Management Issues:

Most parts of this SNA are in relatively good condition. The upper part of the forest, near the homestead, is more modified (by naturalized species) and the southern margin of the forest (on the drier slope) is affected by browsing animals. The most important management issues are the removal of ash and holly trees, containment of Darwin's barberry (if possible) and protection of the southern forest boundary from stock.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of indigenous forest typical of the ecological district and supporting species representative of the original forest, including totara.
Rarity	M/H	Supports populations of two at-risk (naturally uncommon) plant species (fierce lancewood and <i>Einadia allanii</i>), two locally uncommon plant species and an at-risk (declining) bird species (rifleman).
Diversity and pattern	M	Plant species diversity is relatively high (51 native vascular species).
Distinctiveness/special features	M	The presence of totara trees is notable.
Other Criteria		
Size/shape	M/H	A moderate-sized area that is well buffered.
Connectivity	M	Adjoins other scrub and forest in the Opihi River gorge and lies close to other native forest remnants.
Long-term Sustainability	M/H	Some plant and animal pest control will 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 protected from clearance by the landowner. It has little potential for further farm development.

Discussion:

This area easily meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of diverse indigenous forest with podocarp trees (totara), populations of two at-risk plant species, two locally uncommon plant species, habitat for forest birds including an at-risk (declining) bird species (rifleman), and the size and location of the area adjacent to larger areas of scrub and forest in the Opihi River gorge.

Area Name: Stromness northern gully
Location (central map reference): J38: 438-695
Ecological District: Geraldine
Surveyors: Mike Harding

Property: Isbister/Coker
Nearest Locality: Raincliff
Area Size (ha): 3.31 **Altitude (m):** 260-300
Survey Time: 2 hours **Survey Date:** 24-07-12

General Description:

This SNA lies in a small valley at the northern edge of the property, adjacent to the Opihi River gorge. The valley drops steeply into the gorge, though the upper part of the valley within the property boundary is relatively gentle compared with other incised valleys in this area.

Plant Communities:

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

Podocarp-hardwood forest:

This forest occupies the upper (southwest) part of the valley. The forest canopy is dominated by lemonwood, kowhai and five-finger. Other canopy species are mahoe, cabbage tree, broadleaf, matipo, mapou, lancewood, kanuka, wineberry, bush lawyer and pohuehue, with emergent trees of totara, matai and narrow-leaved lacebark. A single sycamore* tree was observed on shaded (southeast-facing) slopes at the upper end of the area.

The forest understorey is dominated by Darwin's barberry*, *Coprosma crassifolia*, mahoe and/or mapou, with Darwin's barberry* most dominant at the forest margin. Other understorey species are *Coprosma virescens*, lemonwood, koromiko, native jasmine and gorse*.



The hardwood forest canopy at the up-valley part of SNA 354.

Ground-cover species are necklace fern, button fern, common shield fern, hound's tongue fern, hen and chickens fern, *Asplenium hookerianum*, *Asplenium richardii*, *Dichondra repens* and seedlings of five-finger, Darwin's barberry*, broadleaf, mahoe, cabbage tree, kowhai, *Coprosma crassifolia*, native jasmine and pohuehue.

Broom* and Darwin's barberry* are dominant at the northwest edge of the forest. Scattered shrubs are present on the drier slope at the southeast edge of the forest, including gorse*, broom*, *Coprosma propinqua*, matagouri and scrub pohuehue, with scattered young trees of kowhai and matipo. Rocky sites support *Einadia allanii*, rock fern, button fern, *Dichondra repens*, *Crassula sinclairii* and woolly mullein*.

Kanuka forest:

The forest canopy is dominated by kanuka, mostly with trunk diameters (at breast height) between 15 and 25cm. Other canopy species are native jasmine and, in the gully bottom, totara, kowhai, lancewood, broadleaf, matipo and Himalayan honeysuckle*.

The forest understorey is dominated in most places by Darwin's barberry*. Other understorey species are *Helichrysum lanceolatum*, *Coprosma crassifolia*, *Coprosma virescens*, *Coprosma rhamnoides*, weeping mapou, mapou, mahoe, tutsan* (uncommon), bush lawyer and native jasmine. Saplings of totara and the at-risk (declining) fierce lancewood are present in the understorey on drier slopes at the eastern edge of the area.

Ground-cover species are button fern, common shield fern, hound's tongue fern, necklace fern, *Asplenium appendiculatum*, *Asplenium hookerianum*, *Asplenium richardii*, hen and chickens fern, male fern*, pennywort, hairy pennywort, *Dichondra repens*, cardamine, foxglove* and seedlings of broadleaf, five-finger, matipo, lancewood and, at the eastern edge, fierce lancewood.

Species present at the forest margin are Darwin's barberry*, *Coprosma crassifolia*, *Coprosma propinqua*, yellowwood, korokio, matipo, weeping mapou, *Melicytus 'blondin'*, gorse*, broom*, *Clematis marata*, *Clematis foetida*, lawyer, burdock*, hemlock* and velvety nightshade*. An adult fierce lancewood tree is present at the edge of the steep slopes to the Opihi River beyond the SNA (and the property boundary).



Kanuka forest at the lower end of SNA 354, with the Opihi River gorge forest in background.

Birds/Fauna Observed:

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

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of relatively diverse indigenous forest with podocarps (totara and matai), two at-risk (naturally uncommon) plant species (fierce lancewood and *Einadia allanii*), two locally-uncommon plant species (rock fern and *Clematis marata*), habitat for an at-risk (declining) bird species (rifleman) and its proximity to other native forest remnants on the property and in the Opihi River gorge.

Notable Plant and Animal Pests:

Darwin's barberry and sycamore are the most important plant pests present. Darwin's barberry is already dominant in the forest understorey and, in places, at the forest margin. Sycamore is uncommon but has the potential to dominate the forest. Other naturalized plant species, such as broom and gorse, do not pose a significant threat to the intact forest. Animal pests were not surveyed.

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

This SNA is buffered by its location in a small valley. The boundaries of the valley, including areas of rough pasture, are fenced from adjacent paddocks. The SNA adjoins a large area of forest and scrub in the Opihi River gorge and lies close to other areas of native forest on this and nearby properties.

Condition and Management Issues:

The forest canopy of this SNA is in good condition. The understorey is dominated in places by Darwin's barberry. The most important management issue is weed control, though it would difficult to effectively remove Darwin's barberry from the area. Sycamore could be easily controlled though there is an ongoing risk of re-infestation from sycamore trees present in the Opihi River gorge.

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 species representative of the original vegetation including podocarps (totara and matai).
Rarity	M/H	Provides habitat for an at-risk (declining) bird species (rifleman), two at-risk (naturally uncommon) plants species (fierce lancewood and <i>Einadia allanii</i>) and two locally uncommon plant species.
Diversity and pattern	M	Plant species diversity is typical for forest remnants in this area, though probably reduced from that originally present.
Distinctiveness/special features	M	The emergent podocarp trees are a notable feature.
Other Criteria		
Size/shape	M/H	A moderate-sized area that is relatively well buffered.
Connectivity	M	Adjoins a large area of scrub and forest in the Opihi River gorge.
Long-term Sustainability	M	Plant pest control will be necessary to maintain ecological values of the area in the long term.

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

This area has been protected from clearance by the landowner. It has limited potential for farm development.

Discussion:

This area easily meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of relatively diverse indigenous forest with podocarps (totara and matai), two at-risk (naturally uncommon) plant species, two locally-uncommon plant species, the habitat it provides for forest birds including an at-risk (declining) bird species (rifleman) and its proximity to other native forest remnants on the property and in the Opihi River gorge.

TIMARU DISTRICT SNA SURVEY

SNA 573a

Area Name: Stromness northwest forest
Location (central map reference): J38: 403-706
Ecological District: Fairlie
Surveyors: Mike Harding

Property: Isbister/Coker
Nearest Locality: Fairlie
Area Size (ha): 4.15 **Altitude (m):** 330-400
Survey Time: 2 hours **Survey Date:** 20-07-12

General Description:

This SNA is on the west-facing slopes at the northern end of the Brothers Range, at the western part of the property. It occupies two small gullies and the intervening spur.

Plant Communities:

The main plant community present is hardwood forest with shrubland at its margins. This plant community is described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by broadleaf. Other canopy species are kowhai, matipo, cabbage tree, pohuehue, *Clematis foetida* and less-commonly five-finger, yellowwood and bush lawyer.

The forest understorey is dominated by *Coprosma crassifolia*. Other understorey species are *Coprosma rhamnoides*, *Coprosma propinqua*, korokio, poataniwha, matipo, *Melicytus* 'blondin', spindle tree* (uncommon), native jasmine, *Parsonsia capsularis*, native convolvulus, bush lawyer and bittersweet* (uncommon).

Ground-cover species are button fern, common shield fern, hound's tongue fern, necklace fern, *Asplenium appendiculatum*, *Asplenium richardii*, *Asplenium hookerianum*, *Libertia ixioides*, *Dichondra repens* and seedlings of matipo, native jasmine and *Coprosma* species.

Species commonly present near the stream are fuchsia, hybrid fuchsia, elderberry*, prickly shield fern and *Blechnum fluviatile*.



SNA 573a

Shrubland/scrub at the forest margin is dominated by *Coprosma propinqua* and matagouri. Other species present on the forest margin or at forest openings are *Coprosma virescens*, *Coprosma rhamnoides*, *Coprosma tayloriae*, yellowwood, koromiko, korokio, matipo, weeping mapou, *Melicytus* 'blondin', native broom, broom*, golden speargrass, bracken, woolly mullein*, hemlock*, scrub pohuehue, lawyer, bush pohuehue, narrow-leaved snow-tussock, blue tussock, *Brachyglottis bellidioides*, *Pimelea oreophila*, rock fern, toatoa and harebell.

The at-risk (declining) sub-shrub (*Coprosma acerosa*) was recorded at one location. One large old tree daisy (*Olearia odorata*) is present on the spur at the northern edge of the site.



The rocky central spur of SNA 573a.

Birds/Fauna Observed:

Native birds observed during this brief survey were fantail and grey warbler.

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of woody indigenous vegetation in an area where forest cover is substantially depleted, the diversity of plant species present (53 vascular species), an at-risk (declining) plant species (*Coprosma acerosa*), locally uncommon plant species (rock fern and *Olearia odorata*) and the habitat the area provides for forest birds.

Notable Plant and Animal Pests:

No important plant pests were observed. Naturalized species such as broom and elderberry do not pose a significant threat to the area. Animal pests were not surveyed, but the effects of wallabies were obvious and several wallabies were seen or heard.

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

This SNA is partly buffered by its location in two valleys. It is not fenced, though domestic animals do not appear to be having a significant impact. It is separate from other areas of indigenous vegetation, though is linked by scattered shrubland to another similar area (SNA 573b).

Condition and Management Issues:

The most important management issue is wallaby control. These animals are having a significant effect on the forest understorey and hindering regeneration of native species at the site. If wallabies are controlled and the area is not grazed too hard, forest regeneration should continue at the site.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	A good example of regenerating forest typical of this part of the ecological district.
Rarity	M	Supports an at-risk (declining) plant species (<i>Coprosma acerosa</i>) and two locally uncommon plant species.
Diversity and pattern	M	A relatively diverse range of plant species is present.
Distinctiveness/special features	L	
Other Criteria		
Size/shape	M/H	A moderate-sized area for this ecological district, with a good shape and well buffered.
Connectivity	M	Is linked by scattered shrubland to another area of indigenous vegetation and is part of a network of forest bird habitat.
Long-term Sustainability	M/H	Some plant and animal pest control (notably wallabies) will 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 protected from clearance by the landowner. The steep rocky slopes make the area unsuitable 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 woody indigenous vegetation in an area where forest cover is substantially depleted, the diversity of plant species present (53 vascular species), an at-risk (declining) plant species (*Coprosma acerosa*), locally uncommon plant species (rock fern and *Olearia odorata*) and the habitat the area provides for forest birds.

TIMARU DISTRICT SNA SURVEY

SNA 573b

Area Name: Stromness southwest gully
Location (central map reference): J38: 403-701
Ecological District: Fairlie
Surveyors: Mike Harding

Property: Isbister/Coker
Nearest Locality: Fairlie
Area Size (ha): 2.18 **Altitude (m):** 340-400
Survey Time: 1½ hours **Survey Date:** 24-07-12

General Description:

This SNA lies on the steep slopes of a gully on the west-facing slopes of the Brothers Range, at the western part of the property. It is linked by scattered shrubland to another area of native forest (SNA 573a) to the north.

Plant Communities:

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

The hardwood forest canopy is dominated by broadleaf. Other canopy species are cabbage tree, kowhai and, at the forest margin, lancewood, fuchsia and koromiko. The most common forest understorey species is *Melicytus* 'blondin'. Other understorey species are cabbage tree, koromiko, mountain akeake, *Coprosma propinqua*, matipo and native jasmine.

The dominant ground-cover species is common shield fern. Other species present are prickly shield fern, hound's tongue fern, necklace fern, *Asplenium appendiculatum*, *Asplenium hookerianum*, *Blechnum penna-marina*, *Libertia ixioides*, hemlock*, foxglove* and seedlings of broadleaf and *Coprosma crassifolia*.



Hardwood (broadleaf) forest and scrub communities at SNA 573b.

Shrubland and scrub are present at the forest margins. On gentler slopes at the upper boundary of the forest, dense matagouri-*Coprosma propinqua* scrub is present.

On steeper slopes in the gully the shrubland-scrub community is also dominated by matagouri and *Coprosma propinqua*. Other important species are *Meliclytus* 'blondin', native broom, korokio, *Coprosma crassifolia*, hybrid fuchsia, scrub pohuehue, lawyer, native convolvulus, necklace fern, *Asplenium appendiculatum*, prickly shield fern, hound's tongue fern, bracken, narrow-leaved snow-tussock, blue tussock, golden speargrass, foxglove*, *Brachyglottis bellidioides*, *Dichondra repens*, hairy pennywort and cardamine.

Occasionally present are *Coprosma tayloriae*, *Coprosma rhamnoides*, mountain akeake, weeping mapou, broom*, pohuehue, mountain flax, silver tussock, male fern*, *Einadia allanii*, *Senecio quadridentatus*, Maori onion and emergent young broadleaf trees.

Birds/Fauna Observed:

Native birds observed during this brief survey were grey warbler and silvereye.

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of native forest in an area where indigenous vegetation is substantially depleted, the presence of an at-risk (naturally uncommon) plant species (*Einadia allanii*), locally uncommon plant species (Maori onion) and the habitat the area provides for forest birds.



Necklace fern and Asplenium appendiculatum on rock bluff at SNA 573b.

Notable Plant and Animal Pests:

Broom is the only notable plant pest present, though it is not common. Wallabies are present and appear to be affecting the forest understorey.

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

The main part of this area is well buffered by its location on steep rocky slopes. Secure fences are present along or near to two of the three main boundaries of the area. This SNA is linked by scattered shrubland to SNA 573a further north.

Condition and Management Issues:

The most important management issue is control of animal pests, notably wallabies. If plant and animal pests are controlled, the ecological values of the area should improve.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	Indigenous vegetation that is typical of young forest stands in the ecological district.
Rarity	M	Supports one at-risk (naturally uncommon) plant species.
Diversity and pattern	L/M	Plant species diversity is low to moderate.
Distinctiveness/special features	L/M	Areas of rockland habitat (bluff) are present.
Other Criteria		
Size/shape	M	A small to moderate-sized area that is well buffered.
Connectivity	M	Linked by scattered shrubland to SNA 573a.
Long-term Sustainability	M/H	Ecological values are likely to improve provided animal pests are controlled.

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

This area has been protected from clearance by the landowner. It has very limited potential for farm development.

Discussion:

This area only just meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of native forest in an area where indigenous vegetation is substantially depleted, the presence of an at-risk (naturally uncommon) plant species (*Einadia allanii*), locally uncommon plant species (Maori onion) and the habitat the area provides for forest birds.

Area Name: Stromness central gully
Location (central map reference): J38: 423-695
Ecological District: Geraldine
Surveyors: Mike Harding

Property: Isbister/Coker
Nearest Locality: Raincliff
Area Size (ha): 1.64 **Altitude (m):** 360-400
Survey Time: 1 hour **Survey Date:** 24-07-12

General Description:

This SNA lies in a small valley west of the homestead. It occupies moderately steep lower slopes adjacent to the stream. It is linked down-valley by scattered trees to more extensive areas of scrub and forest in the Opihi River gorge.

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 broadleaf, mapou, lancewood and matipo. Other canopy species are mahoe, marbleleaf, cabbage tree, five-finger, fuchsia, bush lawyer and pohuehue. Two totara trees are present, with trunk diameters (at breast height) between 40 and 50cm.

The forest understorey was not inspected closely. Species observed were mapou, lancewood, mahoe, Darwin's barberry* (uncommon), bush lawyer and native jasmine.

Ground-cover species are necklace fern, *Asplenium appendiculatum*, *Asplenium hookerianum*, hound's tongue fern, button fern, *Blechnum fluviatile*, *Blechnum vulcanicum*, common shield fern, prickly shield fern, bush lily, pennywort, hairy pennywort, cardamine and seedlings of cabbage tree, broadleaf and mahoe.

Species present on the forest margin are matipo, weeping mapou, *Coprosma crassifolia*, *Coprosma propinqua*, *Coprosma rigida*, *Coprosma tayloriae*, mountain akeake, elderberry*, gorse*, bush lawyer, *Rubus australis*, prickly shield fern, hard fern, *Hypolepis ambigua*, water fern, bracken, foxglove*, blackberry* and toatoa.



The upper part of SNA 575, with one totara tree at top left.

Additional species present on the stream side are wineberry, koromiko, bittersweet*, thousand-leaved fern, kiokio, *Blechnum chambersii*, hen and chickens fern, male fern* and *Carex solandri*.

Birds/Fauna Observed:

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

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of indigenous forest in an area where forest cover is substantially depleted, podocarp (totara) trees, locally uncommon plant species (toatoa, hard fern and *Rubus australis*), and the habitat the area provides for forest birds.

Notable Plant and Animal Pests:

This area of young forest is largely free of invasive plant pests. A few Darwin's barberry bushes were observed in the forest understorey and elderberry trees are present along the stream. Animal pests were not surveyed.

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

This SNA is buffered by its location in a small valley. Some boundaries are fenced and the upper part of the area does not appear to be grazed hard. It is isolated from other areas of native forest, though is linked down-valley by scattered trees to the Opihi River gorge and is part of a network of forest bird habitat in the area.

Condition and Management Issues:

The most important management issue is removal of the small numbers of Darwin's barberry before this species further invades the site. Protection of the forest from grazing would also be beneficial.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of regenerating native forest containing representative species, notably young totara trees.
Rarity	L/M	No rare species were observed, though the area is likely to provide habitat for rifleman (at risk and present in the wider area).
Diversity and pattern	M	Moderate species diversity; typical of regenerating forest.
Distinctiveness/special features	L/M	
Other Criteria		
Size/shape	M	A small but well buffered area.
Connectivity	M	Separate from other native forest remnants, though close to the Opihi River gorge and part of a network of forest bird habitat.
Long-term Sustainability	M/H	Some plant and 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 protected from clearance by the landowner. It has limited potential for farm development.

Discussion:

This area just meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of indigenous forest in an area where forest cover is substantially depleted, podocarp (totara) trees, locally uncommon plant species (toatoa, hard fern and *Rubus australis*), and the habitat the area provides for forest birds.

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>
bittersweet*	<i>Solanum dulcamara</i>
blackberry*	<i>Rubus fruticosus</i>
black nightshade*	<i>Solanum nigrum</i>
blue tussock	<i>Poa colensoi</i>
bracken	<i>Pteridium esculentum</i>
broadleaf	<i>Griselinia littoralis</i>
broom*	<i>Cytisus scoparius</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>
common shield fern	<i>Polystichum richardii</i>
cotoneaster*	<i>Cotoneaster glaucophyllus</i>
Darwin's barberry*	<i>Berberis darwinii</i>
elderberry*	<i>Sambucus nigra</i>
fierce lancewood	<i>Pseudopanax ferox</i>
five-finger	<i>Pseudopanax arboreus</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia	<i>Fuchsia excorticata</i>
golden speargrass	<i>Aciphylla aurea</i>
gorse*	<i>Ulex europaeus</i>
hairy pennywort	<i>Hydrocotyle moschata</i>
hard fern	<i>Paesia scaberula</i>
harebell	<i>Wahlenbergia albomarginata</i>
hemlock*	<i>Conium maculatum</i>
hen and chickens fern	<i>Asplenium gracillimum</i>
Himalayan honeysuckle*	<i>Leycesteria formosa</i>
holly*	<i>Ilex aquifolium</i>
horehound*	<i>Marrubium vulgare</i>
hound's tongue fern	<i>Microsorium pustulatum</i>
hybrid fuchsia	<i>Fuchsia perscandens x excorticata</i>
kanuka	<i>Kunzea ericoides</i>
kiokio	<i>Blechnum novae-zelandiae</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>Meliccytus ramiflorus</i>
male fern*	<i>Dryopteris filix-mas</i>
Maori onion	<i>Bulbinella angustifolia</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>
mistletoe	<i>Ileostylis micranthus</i>
mountain akeake	<i>Olearia avicenniifolia</i>
mountain flax	<i>Phormium cookianum</i>

narrow-leaved lacebark	<i>Hoheria angustifolia</i>
narrow-leaved snow-tussock.....	<i>Chionochloa rigida</i>
native broom	<i>Carmichaelia</i> aff. <i>australis</i>
native convolvulus	<i>Calystegia tuguriorum</i>
native jasmine	<i>Parsonsia</i> sp.
necklace fern	<i>Asplenium flabellifolium</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>
rock fern.....	<i>Cheilanthes humilis</i>
scrub pohuehue	<i>Muehlenbeckia complexa</i>
silver tussock.....	<i>Poa cita</i>
spindle tree*	<i>Euonymus europaeus</i>
sycamore*	<i>Acer pseudoplatanus</i>
thousand-leaved fern	<i>Hypolepis millefolium</i>
toatoa.....	<i>Haloragis erecta</i>
totara	<i>Podocarpus totara</i>
tutsan*	<i>Hypericum androsaemum</i>
velvety nightshade*	<i>Solanum chenopodioides</i>
water fern	<i>Histiopteris incisa</i>
weeping mapou	<i>Myrsine divaricata</i>
white fuzzweed	<i>Vittadina australis</i>
wineberry	<i>Aristotelia serrata</i>
woolly mullein*	<i>Verbascum thapsus</i>
yellowwood.....	<i>Coprosma linariifolia</i>