

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

**STAGER/KELLER PROPERTY**



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

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** .....Ines Stager and Peter Keller  
**Valuation Reference:** .....24660/228.00  
**Address:** .....Tripp Street, Geraldine  
**Location:**.....On a small ridge northwest of Talbot Forest Scenic Reserve on the Geraldine Downs.  
**Ecological District:** .....Geraldine Ecological District  
**TDC Land Type:**.....Soft Rock Hills and Downs  
**Land Environment:** .....N3 (downlands of South Canterbury and coastal Otago)

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### ECOLOGICAL CONTEXT:

The property lies on the eastern edge of the Geraldine Ecological District, on the low rolling hills of the Geraldine Downs. The original vegetation of this area would have been predominantly podocarp-hardwood forest, dominated by totara, matai and kahikatea emergent over a hardwood canopy. Important canopy hardwood species would probably have been narrow-leaved lacebark, pokaka, lemonwood, five-finger, kowhai, broadleaf and mahoe. 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.

Two indigenous plant communities are present on the property: podocarp-hardwood forest and treeland. The two forest remnants support remnant and regenerating indigenous vegetation, including moderate-sized totara, kahikatea and matai trees. The areas of treeland are highly modified remnants of the original forest and comprise scattered trees of narrow-leaved lacebark, pokaka, totara and *Lophomyrtus obcordata*. Forest on the property is part of a more extensive area of scattered patches of forest and treeland on the Geraldine Downs. The most important of these is Talbot Forest Scenic Reserve, which is adjacent to the property across Tripp Street.

These areas of forest provide habitat for long-tailed bat (nationally endangered) and the scattered trees on the property are likely to provide important (though maybe only occasionally used) roost sites for bats. Indigenous vegetation on the property also provides habitat for kereru (gradual decline). Notable plant species present on the property are a very healthy population of *Brachyglottis sciadophila* (gradual decline), the remnant podocarp trees (totara, matai and kahikatea) and the relatively large specimens of pokaka and *Lophomyrtus obcordata*.

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### SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during February 2007. All parts of the property were visited, though only part of the indigenous forest remnant was surveyed in detail. Two areas of forest and four small areas of scattered trees (treeland) are regarded as significant when assessed against the District Plan criteria. These six areas are listed in the table below.

Area No.	Area Name	Central grid reference	Aprox. size(ha)	Vegetation/habitat type
720a	Stager/Keller Forest	J38: 688-791	1.09	Podocarp-hardwood forest
720b	"	J38: 685-791	0.71	Podocarp-hardwood forest
720c	Stager/Keller Treeland	J38: 688-792	0.43	Podocarp-hardwood treeland
720d	"	J38: 687-792	0.15	Podocarp-hardwood treeland
720e	"	J38: 686-790	0.06	Podocarp-hardwood treeland
720f	"	J38: 689-790	0.12	Podocarp treeland

Areas of indigenous vegetation and/or habitat on the property that are identified as Significant Natural Areas (SNAs) are illustrated on the attached aerial photograph and described in greater detail on the Area Inspection Forms in this report. Note that the boundaries of the SNAs are indicative, rather than precise. These SNAs meet the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19). The forest remnants (Areas 720a and 720b) are considered to be sustainable in the long term (criterion vii, page B19). The areas of treeland (Areas 720c, 720d, 720e and 720f) will require active management to maintain their ecological values in the long-term. SNAs are subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20).

The implication of an area being listed as an SNA is that consent is required from Council for clearance by any means (including burning and spraying with herbicides) or over-planting. This does not normally prevent clearance to prevent shading of buildings, the maintenance of tracks and fences, or grazing. To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. SNAs will eventually be listed in the District Plan. 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 vegetation and habitat on the property were inspected but do not meet the definition of indigenous vegetation and are unlikely to presently provide significant habitat for indigenous fauna when assessed against the criteria on pages B18-B20 of the Timaru District Plan. Failure of an area to meet the significance criteria does not necessarily mean that it is not important for nature conservation or the protection of indigenous biodiversity; it simply means that the area (as assessed at this time) does not meet the criteria in the Timaru District Plan.

One area on the property that has considerable potential ecological value and, if left alone, may eventually become significant is the area of gorse-dominated scrub linking Area 720a and Area 720b (and protected within the QEII Open Space Covenant).

Stager/Keller  
Property  
24660/228.00

720d

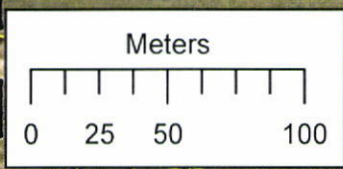
720c

720b

720a

720e

720f



1:2,750

## ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

### Area 720a

Primary Criteria	Rank	Notes
Representativeness	H	A good example of the indigenous vegetation and habitat that was originally present in the ecological district.
Rarity	M/H	The Area lies within the known range of long-tailed bat (a nationally endangered species) and provides suitable feeding and roosting habitat for bats. The Area also supports a strong population of <i>Brachyglottis sciadophila</i> (gradual decline) and provides habitat for kereru (gradual decline).
Diversity and pattern	M/H	Plant species diversity is probably similar to, or slightly reduced from, that originally present.
Distinctiveness/special features	M	The presence of habitat for bats, complementing the bat and bird habitat present in the adjacent Talbot Forest, the presence of a small stream and the dense forest understorey are special features.
<b>Other Criteria</b>		
Size/shape	M	A small area but with a reasonably good shape and well buffered.
Connectivity	M/H	Adjoins protected habitat on one boundary, is very close to an important scenic reserve, and is an important part of a network of fauna habitat on the Geraldine Downs.
Long-term Sustainability	M	Will require regular plant pest control (and possibly animal pest control) for the long-term protection of its ecological values.

### Area 720b

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of the indigenous vegetation and habitat that is typical of the ecological district (a modified example of the original vegetation).
Rarity	M/H	The Area lies within the known range of long-tailed bat (a nationally endangered species) and provides suitable feeding and roosting habitat for bats. The Area also supports <i>Brachyglottis sciadophila</i> (gradual decline) and provides habitat for kereru (gradual decline).
Diversity and pattern	M	Plant species diversity is reduced from that originally present.
Distinctiveness/special features	M	The presence of habitat for bats, complementing the bat and bird habitat present in the adjacent Talbot Forest, and the presence of a small stream are special features.
<b>Other Criteria</b>		
Size/shape	M	A small area but with a reasonably good shape and well buffered.
Connectivity	M/H	Adjoins protected habitat on one boundary, is very close to an important scenic reserve, and is an important part of a network of fauna habitat on the Geraldine Downs.
Long-term Sustainability	M	Will require regular plant pest control (and possibly animal pest control) for the long-term protection of its ecological values.

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

Both forest remnants and an area of gorse-dominated scrub linking the remnants have been formally protected by the landowners by way of an Open Space Covenant. The landowners have planted a considerable number of indigenous shrubs on the margins of and between the forest remnants, with a long-term objective of increasing the size and ecological value of the indigenous forest remnants. Plant pests are present though do not presently pose a serious threat to the ecological integrity of the indigenous forest.

### Discussion:

Both forest remnants, separately or together, easily meet the District Plan criteria for a Significant Natural Area. Important attributes are the presence of remnant and regenerating podocarp trees (totara, matai and kahikatea), the habitat the area provides for long-tailed bat and kereru and the abundance of the threatened plant *Brachyglottis sciadophila*.

# TIMARU DISTRICT SNA SURVEY AREAS 720c, 720d, 720e and 720f

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<b>Area Name:</b> Stager/Keller Treeland	<b>Property:</b> Stager/Keller property	
<b>Ecological District:</b> Geraldine	<b>Nearest Locality:</b> Geraldine	
<b>AREA 720c: Location</b> (central map ref.): J38: 688-792	<b>Area Size (ha):</b> 0.43	<b>Altitude (m):</b> 170
<b>AREA 720d: Location</b> (central map ref.): J38: 687-792	<b>Area Size (ha):</b> 0.15	<b>Altitude (m):</b> 170
<b>AREA 720e: Location</b> (central map ref.): J38: 686-790	<b>Area Size (ha):</b> 0.06	<b>Altitude (m):</b> 160
<b>AREA 720f: Location</b> (central map ref.): J38: 689-790	<b>Area Size (ha):</b> 0.12	<b>Altitude (m):</b> 160
<b>Surveyors:</b> Mike Harding and Ines Stager	<b>Survey Time:</b> ½ hours	<b>Survey Date:</b> 28-02-07

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## General Description:

Two of these Areas (Areas 720c and 720d) are located on a small ridge, and two (Areas 720e and 720f) are located in a small valley, just northwest of Talbot Forest Scenic Reserve on the Geraldine Downs.

## Plant Communities:

All four areas are patches of scattered remnant trees (treeland) in pasture. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

### Area 720c:

This treeland consists of scattered mature trees of narrow-leaved lacebark, pokaka and *Lophomyrtus obcordata*, and younger totara trees, in rough pasture. Mistletoe is present on the narrow-leaved lacebark trees. The trunk diameters (at breast-height) of the larger trees are: pokaka (42, 47 and 74 cm), narrow-leaved lacebark (54 and 57 cm); *Lophomyrtus obcordata* (24 and 29.5 cm) and totara (38.5 and 46 cm).

### Area 720d:

This treeland consists of approximately 12 medium-sized narrow-leaved lacebark trees in rough pasture. The trees are mature and some have cavities and hollows in their trunks. The trunk diameters (at breast-height) of the larger trees range from 36 to 47 cm. Mistletoe is present in some trees.

### Area 720e:

This Area comprises four trees: three totara and one narrow-leaved lacebark, in pasture on the valley floor between Area 720a and Area 720b (and adjacent to the scrub linking those two areas). It has too few trees to strictly meet the definition of treeland (five or more trees), though assessment of the trees as treeland is more practical than assessing the trees individually as significant trees.

### Area 720f:

This Area comprises three totara trees in pasture on a gentle slope at the southeast corner of the property. It has too few trees to strictly meet the definition of treeland (five or more trees), though it is effectively part of a more extensive area of treeland on the adjacent property.

## Birds/Fauna Observed:

Indigenous birds observed were paradise shelduck, kereru and harrier.

## Notable Flora, Fauna and Habitats:

Important features of this area are the presence of larger indigenous trees with cavities that provide favourable roost sites for long-tailed bat (nationally endangered), the presence of relatively large pokaka and *Lophomyrtus obcordata* trees, and the location of the treeland close to indigenous forest remnants (Area 720a and Area 720b) and an important protected area of indigenous forest (Talbot Forest Scenic Reserve).

## Notable Plant and Animal Pests:

No significant plant or animal pests were observed in these areas of treeland.

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

The boundaries of these Areas have been selected to include the main remnant indigenous trees. The trees are not buffered from grazing, though grazing use (at the time of survey) does not appear to be intensive. The

property is spray-free, so risk of herbicide damage is reduced. These areas of treeland are close to areas of indigenous forest and are part of a network of fauna habitat on the Geraldine Downs.

**Condition and Management Issues:**

Most trees within these areas are healthy. Some older trees are mature and nearing senescence. In the long-term the treeland will disappear as the trees progressively senesce and die, unless replacement trees become established.

**Property Owner Comment:**

Support the assessment of the smaller areas of treeland as Significant Natural Areas.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

**Area 720c, Area 720d, Area 720e and Area 720f**

Primary Criteria	Rank	Notes
Representativeness	M	These areas of treeland are depleted/modified examples of the indigenous vegetation originally present in the ecological district.
Rarity	M	These areas contain trees with cavities that may provide suitable roosting sites for long-tailed bat (a nationally endangered species).
Diversity and pattern	L/M	Substantially depleted indigenous plant communities with much-reduced species diversity.
Distinctiveness/special features	M/H	The trees in these areas are part of a regionally-important habitat for long-tailed bat and part of a network of fauna habitat on the Geraldine Downs.
Other Criteria		
Size/shape	M	Each of these areas is small and not well buffered but collectively they form a moderate-sized area of fauna habitat.
Connectivity	M/H	These areas are close to other areas of indigenous vegetation and provide ecologically-viable stepping stones of habitat for long-tailed bat and kereru.
Long-term Sustainability	L/M	Active management will be required to maintain the ecological values of these areas in the long-term.

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

Trees in these four areas of treeland have been retained and informally protected by the landowners. The presence of the trees enhances the existing land use (grazing) by providing shelter and shade, though may limit the potential for farm development. Active management will be required to maintain these areas as treeland in the long-term.

**Discussion:**

These four areas of treeland meet the District Plan criteria for Significant Natural Areas, primarily because of the presence of potential roost sites (trunk cavities) for long-tailed bat. Long-tailed bat utilise the nearby Talbot Forest Scenic Reserve and adjoining areas of habitat on the Geraldine Downs. Long-tailed bat is a nationally endangered species and the South Canterbury population is nationally significant. Note that two areas (Areas 720e and 720f) do not strictly meet the definition of treeland (they have less than five trees). However, they are effectively part of a larger area of forest and treeland and are assessed here as treeland for practical purposes.

**Notable Flora, Fauna and Habitats:**

Important features of this area are the presence of larger indigenous trees with cavities that provide favourable roost sites for long-tailed bat (nationally endangered), the presence of a very healthy population of the scrambling daisy *Brachyglottis sciadophila* (gradual decline), the habitat the area provides for kereru (gradual decline), the presence of remnant and regenerating podocarps, and the location of the forest remnant close to an important protected area (Talbot Forest Scenic Reserve).

**Notable Plant and Animal Pests:**

Chilean flame creeper is common and in places co-dominant (such as on the southeast edge of the eastern remnant, Area 720a), though its impact is likely to be largely confined to the forest margin. Ash and hawthorn trees and a single holly tree are present in Area 720a. Spindle tree is scattered within the forest remnant and young elderberry trees are present on the forest margin. The indigenous climber, pohuehue, is common and in places dominant on the forest margin and canopy. Other plant pests, such as gorse, broom, blackberry, bittersweet and black nightshade are largely confined to the forest margin and do not pose a significant threat to the areas of indigenous forest. Animal pests were not surveyed, though possums are likely to be present.

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

The two areas of forest and the intervening area of scrub are buffered to some extent by their location on a south-facing slope. The complete area is securely fenced. The forest remnants are further buffered by dense gorse and blackberry on their margins. Indigenous shrubs have been planted within the gorse to hasten the restoration of indigenous forest. Most parts of the area adjoin pasture, though there are areas of indigenous treeland (Areas 720c, 720d, 720e and 720f), scattered individual indigenous trees and areas of planted indigenous trees and shrubs in the pasture. A small stream is present along the southern boundary. The eastern forest remnant is only approximately 150 m from a relatively large area of remnant indigenous forest in Talbot Forest Scenic Reserve.

**Condition and Management Issues:**

The forest remnants are in good condition, especially the larger eastern remnant (Area 720a). They are both well buffered by fences and scrub. The condition of the remnants has been enhanced considerably by the planting of indigenous species on the forest margins and the control of plant pests. Ideally woody weeds with bird-dispersed fruits (e.g. elderberry, hawthorn, spindle tree and holly) should be removed, as the presence of these species poses an ongoing threat to this and other remnants of indigenous forest in the area. Any shade-tolerant naturalised trees (e.g. ash and sycamore) should also be removed, as these species also pose a threat to remnants of indigenous forest in the area. Control and management of invasive climbers on the forest margin (Chilean flame creeper and the indigenous pohuehue) may also be beneficial, though effective control may be difficult to achieve.

**Property Owner Comment:**

Dwarf mistletoe (*Korthalsella lindsayii*) is also present on the property.



**Scientific names of species cited by common name**

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>
broom* .....	<i>Cytisus scoparius</i>
bush lawyer .....	<i>Rubus cissoides</i>
Chilean flame creeper* .....	<i>Tropaeolum speciosum</i>
common pennywort .....	<i>Hydrocotyle novae-zeelandiae</i>
elderberry* .....	<i>Sambucus nigra</i>
five-finger .....	<i>Pseudopanax arboreus</i>
fuchsia .....	<i>Fuchsia excorticata</i>
gorse* .....	<i>Ulex europaeus</i>
hawthorn* .....	<i>Crataegus monogyna</i>
hen and chickens fern .....	<i>Asplenium bulbiferum</i>
holly* .....	<i>Ilex aquifolium</i>
horopito/pepperwood .....	<i>Pseudowintera colorata</i>
kahikatea/white pine .....	<i>Dacrycarpus dacrydioides</i>
kaikomako .....	<i>Pennantia corymbosa</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>
matai/black pine .....	<i>Prumnopitys taxifolia</i>
matipo/kohuhu .....	<i>Pittosporum tenuifolium</i>
mistletoe .....	<i>Iteostylis micranthus</i>
narrow-leaved lacebark .....	<i>Hoheria angustifolia</i>
native jasmine .....	<i>Parsonsia</i> sp.
necklace fern .....	<i>Asplenium flabellifolium</i>
pate .....	<i>Schefflera digitata</i>
pohuehue .....	<i>Muehlenbeckia australis</i>
pokaka .....	<i>Elaeocarpus hookerianus</i>
poroporo .....	<i>Solanum laciniatum</i>
shrubby mahoe .....	<i>Melicytus micranthus</i>
spindle tree* .....	<i>Euonymus europaeus</i>
sweet brier* .....	<i>Rosa rubiginosa</i>
totara .....	<i>Podocarpus totara</i>
weeping mapou .....	<i>Myrsine divaricata</i>
white climbing rata .....	<i>Metrosideros diffusa</i>
wineberry .....	<i>Aristotelia serrata</i>