

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

BUSH PROPERTY



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

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner:RJ & AC Bush
Valuation Reference:24660/222
Address:Waitui Drive, Geraldine
Location:.....On the east side of 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)

ECOLOGICAL CONTEXT:

The property lies 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, kowhai, lemonwood, five-finger, 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.

One area of remnant podocarp-hardwood forest and three areas of scattered indigenous trees (treeland) are present on the property. These are 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 lies only approximately 400 m to the south. Other indigenous forest remnants are present nearby.

These areas of forest and treeland may provide roost sites (though maybe only occasionally used) for long-tailed bat (a 'nationally endangered' species). Long-tailed bat have been recorded nearby in Talbot Forest. The indigenous trees on the property are also likely to provide habitat for kereru/NZ pigeon (threat status: gradual decline). Notable plant species on the property are the remnant podocarp (kahikatea, matai and totara) trees, the abundance of relatively large narrow-leaved lacebark and *Lophomyrtus obcordata* trees and the locally-uncommon dwarf mistletoe (*Korthalsella lindsayi*) and *Coprosma areolata*.

SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas in June 2007. The forest and treeland remnants on the property are regarded as Significant Natural Areas (SNAs) when assessed against the District Plan criteria.

Area No.	Area Name	Central grid reference	Aprox. size(ha)	Vegetation/habitat type
722a	Bush Forest Remnant	J38: 691-793	0.67	Podocarp-hardwood forest
722b	Bush Treeland Remnant	J38: 688-794	0.66	Podocarp-hardwood treeland
722c	Bush Treeland Remnant	J38: 689-794	0.13	Hardwood treeland
722d	Bush Treeland Remnant	J38: 692-794	0.23	Podocarp-hardwood treeland

These 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 remnant is considered to be sustainable in the long term (criterion vii, page B19); the treeland remnants will require active management to ensure their survival. SNAs are subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20).

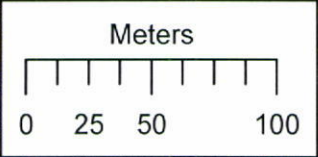
The implication of an area being listed as an SNA is that consent is required from Council for clearance of indigenous vegetation by any means (including burning and spraying with herbicides) or over-planting. This does not normally prevent clearance to prevent shading of buildings, the maintenance of tracks and fences, restoration plantings 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 do not meet the definition of indigenous vegetation and are unlikely to 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.

Other areas of indigenous vegetation on the property that may have considerable ecological value, notably as fauna habitat, are the scattered remnant indigenous trees such as the two large narrow-leaved lacebark trees in an open paddock east of the house, and the extensive native plantings established by the landowners. The latter provide useful fauna habitat, help buffer the existing forest and treeland remnants and will eventually become more significant.

Bush Property
24660/222



1:3,000

TIMARU DISTRICT SNA SURVEY

AREA 722a

Area Name: Bush Forest Remnant	Property: Bush
Location (central map reference): J38: 691-793	Nearest Locality: Geraldine
Ecological District: Geraldine	Area Size (ha): 0.67 Altitude (m): 160
Surveyors: Mike Harding and Ron Bush	Survey Time: 1½ hours Survey Date: 27-06-07

General Description:

The Area is on a south-facing slope in a small gully on the east side of the Geraldine Downs.

Plant Communities:

The Area comprises a remnant of podocarp-hardwood forest. There is an associated patch of scattered indigenous trees (Area 722d) just east of the forest remnant. Other areas of scattered trees (treeland) are present nearby on the property and are described separately (Areas 722b and Area 722c). Naturalized (self-introduced) species are indicated with an asterisk*. A large number of native species have been planted in the forest remnant, not all of which are listed below. Those listed below are indicated with a hatch#.

The forest canopy is dominated by narrow-leaved lacebark. The narrow-leaved lacebark trees are tall and apparently even-aged, with trunk diameters (at breast height) between 38 and 53 cm.

Other canopy species are matai, mountain beech#, lancewood, one totara tree and one large plum* tree.

Dominant understorey species are matipo, *Lophomyrtus obcordata* and *Coprosma rotundifolia*.

Other understorey species present are mahoe, lemonwood, five-finger#, wineberry#, lacebark#, mapou, shrubby mahoe, *Coprosma crassifolia* and mistletoe.

Present but less common are pokaka, cabbage tree, akeake#, *Coprosma areolata*, kowhai, totara#, *Calystegia tuguriorum* and lawyer.

Ground cover species present are male fern*, prickly shield fern, *Polystichum richardii*, bush lily, *Pellaea rotundifolia*, hen and chickens fern, necklace fern, black nightshade*, bidibid, wild strawberry*, ivy* and stinking iris*.

Additional species present mainly on the forest margin are lowland ribbonwood#, kahikatea#, rimu#, kauri#, fuchsia, kaikomako, *Coprosma* sp. 't', *C. propinqua*, poroporo, Himalayan lily#, foxglove*, native jasmine, bindweed*, bittersweet*, hawthorn#, pohuehue and one ash* tree.

Birds Observed:

Native birds observed during this brief visit were bellbird, fantail, silvereye and kereru/pigeon.

Notable Flora, Fauna and Habitats:

Notable features of this forest remnant are the presence of podocarps (totara and matai), the size and abundance of the narrow-leaved lacebark and *Lophomyrtus obcordata* trees, the presence of the locally uncommon *Coprosma areolata*, the habitat the area provides for birds and possibly bats (long-tailed bats are present nearby in Talbot Forest) and its proximity to other indigenous forest and treeland remnants in the area which collectively provide important forest bird habitat.

Notable Plant and Animal Pests:

Significant plant pests observed during this inspection were wild strawberry, ivy and bindweed. Other weed species present that may pose a future threat are Himalayan lily, stinking iris, plum and ash. The native climber pohuehue is surprisingly uncommon, though its habitat is well occupied by the introduced and smothering bindweed (*Calystegia* sp.). No animal pests were observed, though possums are likely to be present.

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

This forest remnant is fenced from grazing and buffered by its location on a south-facing slope. A road forms the southern and western boundaries. The eastern boundary is an area of grazed pasture with indigenous treeland (Area 722d). The remnant has a good shape and has been buffered on its margins by native plantings over a long period. The forest remnant is only approximately 400 m from a relatively large area of remnant indigenous forest in Talbot Forest Scenic Reserve and close to other significant areas of indigenous forest on the Geraldine Downs.

Condition and Management Issues:

The canopy of this forest remnant is in relatively good condition. The landowners have put considerable effort towards the protection and restoration of the remnant, including the establishment of hundreds of native plants. Not all species planted are indigenous to the area, but the ecological integrity of the remnant remains largely intact. Ivy and wild strawberry are quite well established on the forest floor, but do not appear to be having a significant smothering effect. Removal of the isolated trees of plum and ash would be desirable.

Property Owner Comment:

Other species planted in the Area are manuka, kanuka and *Clematis paniculata*. Old man's beard has been controlled and hopefully eradicated from the Area.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of indigenous forest that is typical of the ecological district.
Rarity	M	The forest provides habitat for kereru (gradual decline).
Diversity and pattern	M	Species diversity is reduced from that originally present at the site.
Distinctiveness/special features	M	Some larger trees have cavities that provide suitable roost sites for long-tailed bat (present nearby in Talbot Forest).
Other Criteria		
Size/shape	M	A relatively small area, but with a good shape and well buffered and protected.
Connectivity	M	This area is isolated from other indigenous forest remnants but is an important part of a network of fauna habitat on the Geraldine Downs.
Long-term Sustainability	M	Some management (notably weed control) will be required for the maintenance of ecological values in the long term.

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

This area of forest has been retained and informally protected by the landowners. The landowners have put considerable effort towards the protection and improvement of the forest remnant. Protection of the area adds character and amenity value to the property, though may limit the potential for farm development. Some management will be required to maintain the ecological values of this area in the long-term.

Discussion:

This forest remnant easily meets the District Plan criteria for a Significant Natural Area. Important attributes are the presence of podocarps (totara and matai), the size and abundance of the narrow-leaved lacebark and *Lophomyrtus obcordata* trees, the presence of the locally uncommon *Coprosma areolata*, the habitat the area provides for birds and possibly bats (long-tailed bats are present nearby in Talbot Forest) and its proximity to other indigenous forest remnants in the area which collectively provide important forest bird habitat.

TIMARU DISTRICT SNA SURVEY AREAS 722b, 722c and 722d

Area Name: Bush Property Treeland Remnants	Property: Bush
Ecological District: Geraldine	Nearest Locality: Geraldine
AREA 722b: Location (central map ref.): J38: 688-794	Area Size (ha): 0.66 Altitude (m): 170
AREA 722c: Location (central map ref.): J38: 689-794	Area Size (ha): 0.13 Altitude (m): 170
AREA 722d: Location (central map ref.): J38: 692-794	Area Size (ha): 0.23 Altitude (m): 160
Surveyors: Mike Harding and Ron Bush	Survey Time: 1 hour Survey Date: 27-06-07

General Description:

One of these areas of treeland (Area 722b) is located in a small gully at the western edge of the property, the second (Area 722c) is located on a small ridge on the southern boundary of the property near the house, and the third (Area 722d) is located on a south-facing slope in a small gully at the eastern edge of the property adjacent to Area 722a. All Areas are located on the eastern side of the Geraldine Downs.

Plant Communities:

All three 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 722b:

This treeland consists of scattered mature trees of narrow-leaved lacebark, a large old broadleaf tree, a medium-sized kahikatea tree and several large hawthorn* trees. Mistletoe is present on the hawthorn and narrow-leaved lacebark trees. The trunk diameters (at breast-height) of the larger trees are: narrow-leaved lacebark (45 cm); broadleaf (95 cm, though the trunk is hollow) and kahikatea (58 cm). The trees are mature and have well-developed cavities and hollows in their trunks.

Area 722c:

This treeland consists of several medium-sized narrow-leaved lacebark trees, two *Lophomyrtus obcordata* trees and one *Streblus heterophyllus* tree. The trunk diameter (at breast-height) of the *Streblus heterophyllus* tree is 23 cm.

Area 722d:

This Area comprises a relatively dense treeland dominated by large narrow-leaved lacebark and *Lophomyrtus obcordata* trees on a gentle slope adjacent to Area 722a. The trunk diameters of the narrow-leaved lacebark trees range from 45 to 52 cm. Trunk diameters of the larger *Lophomyrtus obcordata* trees are 23, 26 and 30 cm. Also present are trees of totara, *Streblus heterophyllus* (trunk diameter, 24 cm), hawthorn* and single plum* and sycamore* trees. Other species present are mahoe, shrubby mahoe, *Coprosma crassifolia*, *C. propinqua*, marbleleaf and pohuehue. Mistletoe is present on shrubby mahoe and *Coprosma crassifolia*. The less-common dwarf mistletoe is present on *Coprosma crassifolia*.

Notable Flora, Fauna and Habitats:

Important features of these areas of treeland 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 narrow-leaved lacebark, *Streblus heterophyllus* and *Lophomyrtus obcordata* trees, and the location of the treeland close to indigenous forest remnants (Area 722a and Talbot Forest Scenic Reserve).

Notable Plant and Animal Pests:

Hawthorn is the most important plant pest present. While this tree does not pose a significant threat to the areas of treeland (while they are grazed), the presence of this species with its bird-dispersed fruits poses a threat to indigenous forest remnants in the area. Plum and sycamore trees in Area 722d pose a similar threat. Possums are likely to be present.

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. 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. The exotic trees (hawthorn, plum and sycamore) do not pose a threat to the areas of treeland. However, their removal would reduce the risk of these species becoming established in nearby areas of indigenous forest. The landowner has fenced and planted the gully below (south of) the eastern treeland (Area 722d).

Property Owner Comment:

Mr Bush intends to continue removing the large hawthorn trees from the gully treeland (Area 722b), establish new narrow-leaved lacebark trees and begin planting totara trees.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Area 722b, Area 722c and Area 722d

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 provide habitat for kereru (gradual decline). Dwarf mistletoe is present.
Diversity and pattern	L/M	Substantially depleted indigenous plant communities with much-reduced species diversity.
Distinctiveness/special features	M	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	These areas are relatively small though collectively form a moderate-sized area.
Connectivity	M	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 three 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 would be required to maintain these areas as treeland in the long-term.

Discussion:

These three areas of treeland meet the District Plan criteria for Significant Natural Areas, though are marginal due to their small size and the lack of understorey species and regeneration of canopy species. Their attributes are the presence of old remnant trees, the presence of suitable roost sites (trunk cavities) for long-tailed bat and their value as part of network of fauna habitat on the Geraldine Downs. 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.

Scientific names of species cited by common name

Common Name Scientific name

(* = naturalised species)

akeake	<i>Dodonaea viscosa</i>
ash*	<i>Fraxinus excelsior</i>
bidibid	<i>Acaena</i> sp.
bindweed*	<i>Calystegia</i> sp
bittersweet*	<i>Solanum dulcamara</i>
black nightshade*	<i>Solanum nigrum</i>
broadleaf	<i>Griselinia littoralis</i>
bush lily	<i>Astelia</i> sp.
cabbage tree/ti rakau	<i>Cordyline australis</i>
dwarf mistletoe	<i>Korthalsella lindsayi</i>
five-finger	<i>Pseudopanax arboreus</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia	<i>Fuchsia excorticata</i>
hawthorn*	<i>Crataegus monogyna</i>
hen and chickens fern	<i>Asplenium bulbiferum</i>
Himalayan lily*	
ivy*	<i>Hedera helix</i>
kahikatea/white pine	<i>Dacrycarpus dacrydioides</i>
kaikomako	<i>Pennantia corymbosa</i>
kauri	<i>Agathis australis</i>
kowhai	<i>Sophora microphylla</i>
lacebark	<i>Hoheria sexstylosa</i>
lancewood	<i>Pseudopanax crassifolius</i>
lawyer	<i>Rubus schmidelioides</i>
lemonwood	<i>Pittosporum eugenioides</i>
lowland ribbonwood	<i>Plagianthus regius</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>Ileostylis micranthus</i>
mountain beech	<i>Nothofagus solandri</i> var. <i>cliffortioides</i>
narrow-leaved lacebark	<i>Hoheria angustifolia</i>
native jasmine	<i>Parsonsia</i> sp.
necklace fern	<i>Asplenium flabellifolium</i>
plum*	<i>Prunus</i> sp.
pohuehue	<i>Muehlenbeckia australis</i>
pokaka	<i>Elaeocarpus hookerianus</i>
poroporo	<i>Solanum laciniatum</i>
prickly shield fern	<i>Polystichum vestitum</i>
rimu/red pine	<i>Dacrydium cupressinum</i>
shrubby mahoe	<i>Melicytus micranthus</i>
stinking iris*	<i>Iris foetidissima</i>
sycamore*	<i>Acer pseudoplatanus</i>
totara	<i>Podocarpus totara</i>
wild strawberry*	<i>Fragaria vesca</i>
wineberry	<i>Aristotelia serrata</i>