

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

ECAN
(ORARI RIVER)



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

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner:Environment Canterbury
Valuation Reference:24640/095.00
Address:PO Box 550, Timaru
Location:.....On the northeast side of the Orari River, at the upper edge of the plains and near the foothills, north of Geraldine
Ecological District:Geraldine, though close to the Orari ED
TDC Land Type:.....Plains
Land Environment:L1 (southern lowlands)

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ECOLOGICAL CONTEXT:

The property lies within the Geraldine Ecological District, though is close to the foothills which lie within the Orari Ecological District. The landform is a recent alluvial surface (low terrace) of the Orari River. The original vegetation of this area would probably have been kanuka-kowhai forest/treeland or matagouri shrubland on recent alluvial surfaces and podocarp-hardwood (matai-totara-kahikatea-lowland ribbonwood) forest on older terraces and flats. The indigenous fauna would have been significantly more numerous and diverse, with a greater range of birds, lizards and invertebrates than are presently found in the area. Long-tailed bats would also have been present.

Indigenous vegetation on this property comprises a small remnant of tall kanuka-kowhai forest/treeland on a recent alluvial surface near the Orari River. Indigenous vegetation here is quite close to other remnants of indigenous forest along the Orari River, on the adjoining property and on the nearby foothills. The property lies within the known range of the South Canterbury population of long-tailed bat, a nationally endangered species.

SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during June 2007. One area, totalling approximately [area sizes yet to be calculated] hectares, is regarded as significant when assessed against the District Plan criteria. This Significant Natural Area (SNA) is listed in the table below.

Area No.	Area Name	Central grid reference	Aprox. size(ha)	Vegetation/habitat type
632a	Ecan Orari Gorge kanuka	J37: 661-933		kanuka-kowhai forest

This SNA is illustrated on the attached aerial photograph and described in greater detail on the Area Inspection Form in this report. Note that the boundaries of this SNA are indicative, rather than precise. This SNA meets the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19). The SNA is considered to be sustainable in the long term (criterion vii, page B19), though will require some conservation management (notably control of cocksfoot) to maintain its ecological values. The SNA is 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. 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.

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 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. Areas of exotic riverbed vegetation on and adjoining the property also have some value as habitat for indigenous birds.

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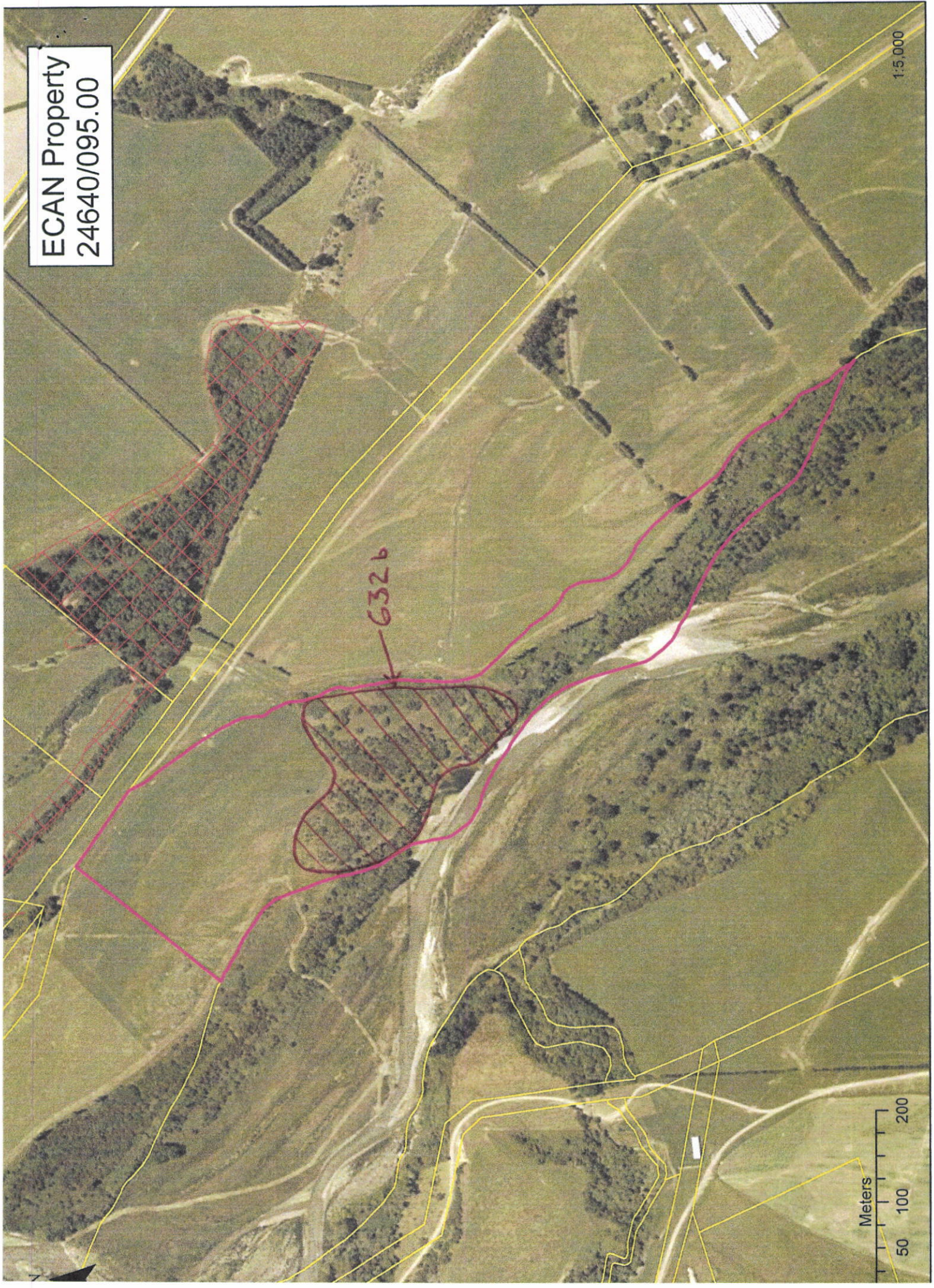
Scientific names of species cited by common name

Common Name	Scientific name
(* = naturalised species)	
alder*	<i>Alnus glutinosa</i>
blackberry*	<i>Rubus fruticosus</i>
black nightshade*.....	<i>Solanum nigrum</i>
broadleaf	<i>Griselinia littoralis</i>
broom*.....	<i>Cytisus scoparius</i>
bush lawyer.....	<i>Rubus cissoides</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
cocksfoot*.....	<i>Dactylis glomerata</i>
crack willow*.....	<i>Salix fragilis</i>
elderberry*.....	<i>Sambucus nigra</i>
five-finger	<i>Pseudopanax arboreus</i>
fuchsia.....	<i>Fuchsia excorticata</i>
gorse*.....	<i>Ulex europaeus</i>
hemlock*.....	<i>Conium maculatum</i>
Himalayan honeysuckle*.....	<i>Leycesteria formosa</i>
hookgrass	<i>Uncinia</i> sp.
kahikatea/white pine	<i>Dacrycarpus dacrydioides</i>
kanuka.....	<i>Kunzea ericoides</i>
kowhai.....	<i>Sophora microphylla</i>
lawyer.....	<i>Rubus schmidtioides</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>
matagouri	<i>Discaria toumatou</i>
matai/black pine	<i>Prumnopitys taxifolia</i>
matipo/kohuhu	<i>Pittosporum tenuifolium</i>
mistletoe.....	<i>Ileostylis micranthus</i>
native jasmine	<i>Parsonsia</i> sp.
pennywort	<i>Hydrocotyle</i> sp.
pohuehue.....	<i>Muehlenbeckia australis</i>
prickly shield fern	<i>Polystichum vestitum</i>
sweet brier*.....	<i>Rosa rubiginosa</i>
totara	<i>Podocarpus totara</i>

ECAN Property
24640/095.00

1:5,000

6326



TIMARU DISTRICT SNA SURVEY

AREA 632b

Area Name: Ecan Orari Gorge kanuka
Location (central map reference): J37: 661-933
Ecological District: Geraldine
Surveyors: Mike Harding, Jo Thompson, Jeanna McDonald

Property: Ecan (Orari Gorge)
Nearest Locality: Peel Forest
Area Size (ha): **Altitude (m):** 250
Survey Time: 1 hour **Survey Date:** 11-05-07

General Description:

The Area covers part of a recent low terrace on the floodplain of the Orari River just downstream from the Orari River gorge.

Plant Communities:

The dominant indigenous plant community present is kanuka-kowhai forest, separated by areas of open pasture. This plant community is described below. Naturalized (exotic) species are indicated with an asterisk*.

Main open part of the Area:

The forest canopy here is dominated by kanuka and kowhai trees 8 to 12 m tall. The kanuka trees have trunk diameters of 15 to 40 cm, with occasional larger trees. The kowhai trees have trunk diameters of 45 to 55 cm. Other species present in the forest canopy are broadleaf and cabbage tree.

The forest ground-cover is dominated, in most places, by rank pasture grasses (mostly cocksfoot*), with blackberry*, black nightshade*, hemlock*, thistles*, pennywort and *Hypolepis ambigua*.

Understorey species present are *Coprosma rotundifolia*, *C. rhamnoides*, *C. propinqua*, elderberry*, cabbage tree, bush lawyer and occasional matagouri and sweet brier*.

Mistletoe is present on *Coprosma rotundifolia*.

Riparian part of the Area:

This small part of the area lies to adjacent to the riverbed and appears to have been protected from grazing by a fence. The forest canopy here is dominated by kowhai, cabbage tree, five-finger and pohuehue. Several large kowhai trees are present, including one with a trunk diameter of 65 cm.

The forest understorey is more densely vegetated and more intact here than in the eastern grazed part of the Area. Dominant understorey species are *Coprosma rotundifolia* and mahoe. Other understorey species present are matipo, *Coprosma propinqua*, cabbage tree, kowhai (including abundant seedlings), mapou, native jasmine, prickly shield fern, hookgrass, pennywort, black nightshade* and male fern*.

Additional species present on the forest margin are lawyer, *Calystegia tuguriorum*, fuchsia and Himalayan honeysuckle*.

Birds/Fauna Observed:

Indigenous birds observed during this brief visit were fantail, bellbird and kereru.

Notable Flora, Fauna and Habitats:

The presence of tall kanuka and kowhai on a lowland alluvial site is the most notable feature of this area. This formerly widespread indigenous plant community is now only present at a few locations in the District. The Area lies within the known range of the South Canterbury population of long-tailed bat, a nationally endangered species. The larger trees in this Area do have some trunk cavities that would provide suitable roost sites for bats.

Notable Plant and Animal Pests:

Blackberry, elderberry and cocksfoot are the most prominent plant pests within the forest. Of these, cocksfoot probably poses the most serious threat beneath the forest canopy, as it out-competes and smothers other ground-cover species, notably any seedlings of canopy species. Other plant pests present (Himalayan honeysuckle, black nightshade, male fern and sweet brier) are present within or on the margins of the forest, and self-sown trees arising from flood-protection plantings (notably crack willow and alder) are present on the river margin of the Area.

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

The northwest part of this Area is relatively long and narrow and is more broken and open. The southeast part of the Area has a good shape, though the forest ground-cover here is dominated by cocksfoot. The northeast boundary is fenced. The unfenced southwest boundary is the open floodplain of the Orari River. This riverbed has stands of flood-protection plantings and open areas of recently-sprayed gorse and broom. The Area lies close to a stand of kanuka forest to the northwest (Area 632a) and lies within 150 m of indigenous forest remnants on a terrace scarp (Area 630). A water race forms the eastern boundary of the Area.

Condition and Management Issues:

The forest canopy of this Area is in relatively good condition. The condition of the understorey varies, apparently as a result of differing grazing histories. A narrow riparian part of the forest has a dense understorey dominated by indigenous plants; whereas the understorey in most other parts is dominated by cocksfoot. Active management, such as the removal of cocksfoot and/or planting of indigenous species would be required to maintain and improve the ecological integrity of the main part of the Area. If the kanuka-kowhai forest was protected and managed, it would eventually become mixed hardwood forest and, after many years, indigenous podocarp-hardwood forest. Evidence of recent sheep grazing was observed in the main part of the Area.

Property Owner Comment:**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	H	A good example of the forest that was originally present on recent alluvial (floodplain) surfaces in this part of the District.
Rarity	M	The forest provides good habitat for kereru (gradual decline).
Diversity and pattern	M	Species diversity is less than that originally present.
Distinctiveness/special features	M	Tall kanuka-kowhai forest is a distinctive and substantially depleted plant community. This stand is part of a network of fauna habitat in the area.
Other Criteria		
Size/shape	M/H	A moderate-sized area with a good shape and well buffered.
Connectivity	M/H	Provides an ecologically-viable link between other areas of indigenous vegetation and habitat.
Long-term Sustainability	M	The ecological values of the Area are likely to persist in the long-term, though active conservation management will be necessary.

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

The Area is not formally grazed, though evidence of sheep grazing was observed. Plant and animal pests are present but, with the exception of cocksfoot, do not pose a significant threat to the area. If protected and managed, the kanuka forest will eventually become by indigenous podocarp-hardwood forest, as part of a natural process of forest succession.

Discussion:

This area of kanuka forest easily meets the District Plan criteria for a Significant Natural Area. Important attributes are the presence of tall kanuka and kowhai trees, the habitat it provides for forest birds, the buffer it provides to the Orari River and the role it plays as a corridor of riparian habitat.