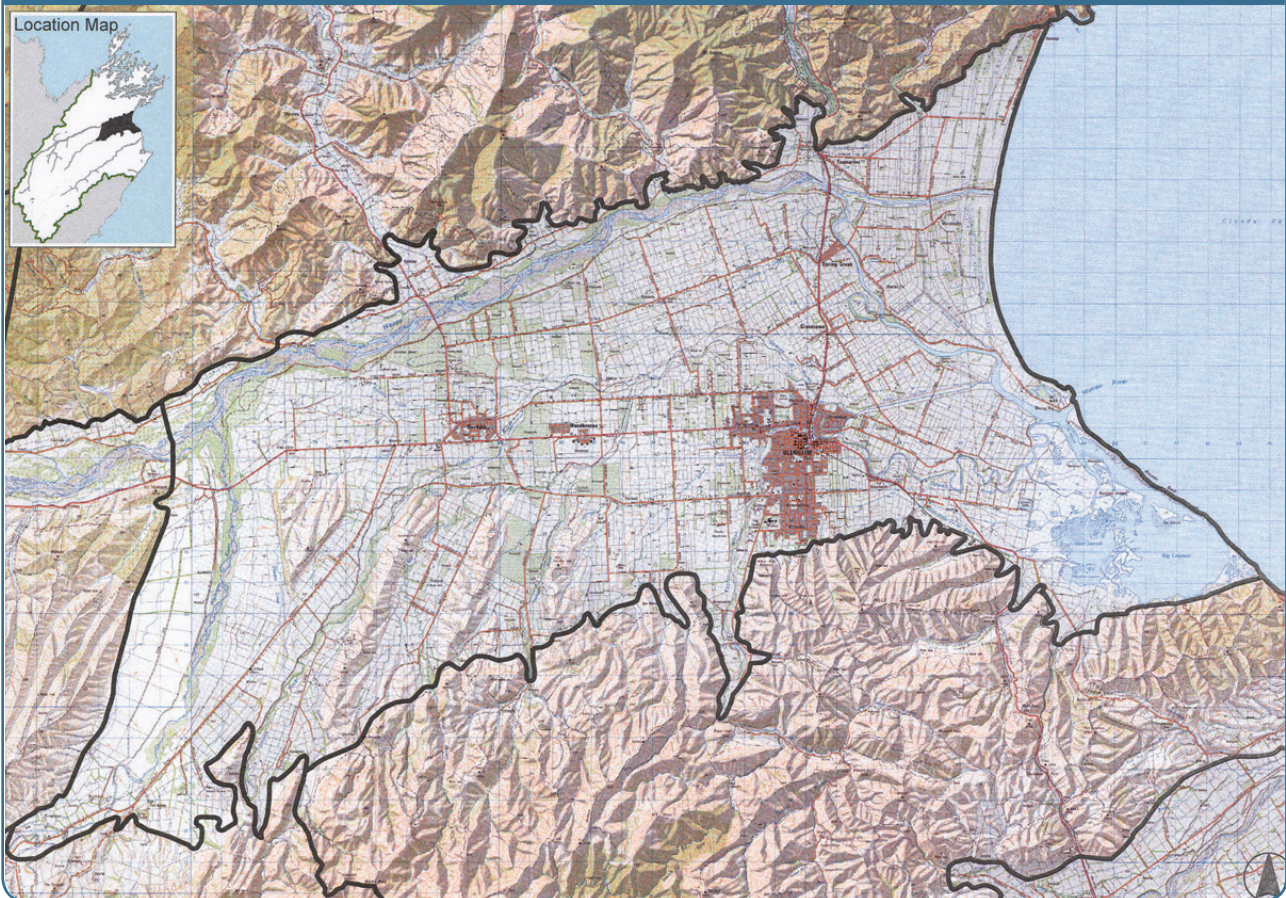


BLENHEIM ECOLOGICAL DISTRICT

MAP 6 - BLENHEIM ECOLOGICAL DISTRICT



OVERVIEW

The Blenheim Ecological District encompasses the entire lower Wairau River plain, downstream from the Waihopai River. It is bounded to the north by the Richmond Range and to the south by the Wither Hills. Its eastern boundary is the Cloudy Bay coastline. It spans a very small altitudinal gradient, from sea level to 251m, although the river plain only reaches to 75m. A number of small foothills protrude into the ecological district from the Wither Hills to the south. The river plain includes the lower reaches of a number of tributary rivers that flow in from the south: the Waihopai River; and the Omaka, Taylor, and Fairhall Rivers that become the Opawa River. The Tuamarina, Waikakaho and Kaituna Rivers all flow in from the north, but their courses quickly join the Wairau River.

The Wairau plain is composed substantially of post-glacial alluvium, with large areas of Quaternary glacial outwash gravels to the south. The small foothills of the Wither Hills reach into the south of the District. These are of Tertiary mudstones and sandstones grading into basal conglomerates. The Wairau boulder barrier and lagoon is considered to be of national importance as one of the best examples in New Zealand of a river mouth lagoon, bird's foot delta and narrow boulder barrier. A series of post-glacial beach ridges extending inland about 4 km at Rarangi date earthquake uplift events, and the Waihopai River fault terraces are a good example of the results of faulting and deformation occurring on the Wairau Fault.

The area has a warm dry climate with high solar radiation and frequent drought. Frosts occur in winter and the area is moderately windy.



The primeval vegetation cover was probably mainly podocarp forest of matai, totara, kahikatea and rimu, with warm temperate rainforest along the Wairau River corridor and coastal forest and shrubland along the coastal margin. There would have been a vast area of wetland in the lower Wairau River plain, with extensive harakeke, toetoe and raupo and areas of swamp forest of kahikatea, pukatea, cabbage tree and swamp maire. Burning after human arrival resulted in a mix of extensive dryland forest, shrubland and grassland, with kanuka and manuka being predominant. Although they were also burnt, the wetland vegetation types (except the forest) persisted.

Now, almost nothing remains of the former plant and animal life of the Blenheim Ecological District such has been the degree of land development on the lower river-plain. Only tiny remnant terrestrial indigenous ecosystems remain. However, the amount of land currently in protected natural areas is a surprising 6.1% of the ecological district. This is made up mainly of the large estuarine Wairau Lagoons, a nearby lagoon and an extensive sand-gravel beach system, all in public ownership. Otherwise, there are a few freshwater wetlands, mostly in public ownership but also protected private land, a small private cabbage treeland and a remnant of covenanted kanuka forest that was burnt in the Boxing Day fires in 2000.

SURVEY RESULTS

Of the 12 private properties where the owners were approached 11 were surveyed. A total of 9 significant sites were identified on private land. A further 10 sites on public land were identified. The total combined area of the sites on private land is 269 ha which is less than 1% of the total area of the ecological district.

The sites are classified into seven basic ecosystem categories or types (see table below). The majority of sites are wetlands, reflecting the history of almost complete destruction of native vegetation in the landscape. All of the sites are distinctive and special.

TABLE 5 - SITES IDENTIFIED, BLENHEIM ECOLOGICAL DISTRICT

Ecosystem type	Total number of sites	Public land	Private land	Total area of sites on privately owned land (ha) *	% area of Ecological District in private hands
Inland wetland	9	3	6	65	
Rarangi beach wetland/ridge system	1		1	200	
River bed	2	2		(2100)	
Kanuka forest	3	2	1	(49) 4	
Coastal wetland	1	1		(2309)	
Coastal dunes	2	2		(310)	
Cabbage treeland	1		1	0.2	
Total	19	10	9	269	<1%

* Publicly owned sites shown in brackets for information only

ECOSYSTEMS FOUND

The original vegetation cover of the ecological district has been almost all removed since human arrival. The remnant ecosystems remaining are briefly described below.

INLAND WETLANDS

Freshwater inland wetlands are extremely rare, the largest being an oxbow lake of the Wairau River at Grovetown, and Bankhouse wetland up-river from the Waihopai-Wairau confluence.



RARANGI BEACH RIDGE SYSTEM

The predominantly spring-fed wetlands in the beach ridge hollows include relatively extensive areas of raupo and flax swamp. They are aligned with unique shrublands (small-leaved shrubs including coastal shrub daisy, porcupine shrub, coprosmas and manuka) and stonefields that are remnants of older beaches.

RIVER BED/RIPARIAN COMMUNITIES (PUBLIC)

The Wairau River braids and margins are extremely weedy, but there remain discrete areas where mat-forming herbs still persist on recently semi-stable surfaces. Swamp nettle (*Urtica linearifolia*) has been found in the riparian margins of several waterways. The slower moving smaller rivers of the District are generally choked with exotic water weeds that have largely eliminated the native component. Many of the mid to upper reaches of the streams on the river plain run dry for long periods, and their beds can become thick with annual dryland weeds. The river bed areas provide important habitat to a number of bird species including the nationally threatened black-billed gull and black-fronted tern.

KANUKA FORESTS

Secondary kanuka-mixed broadleaved forest exists only around the north-western boundary at Rarangi, and there is a small pocket (9 ha) of kanuka on the plain near Renwick.

COASTAL WETLAND-ESTUARY AND LAGOONS (PUBLIC)

The brackish Wairau Lagoons support extensive eelgrass beds, with wide margins of glasswort-dominated salt turf, and deep beds of harakeke locally, whilst around the estuary margins are rushlands, shrublands and beds of *Bolboschoenus* sedgeland. The Boulder Bank that encloses it has extensive stonefields with associated coastal herb and shrub vegetation. The foreshore is otherwise dominated by dunes that, despite the abundance of marram, still support areas of native vegetation.

COASTAL DUNES (PUBLIC)

These areas have abundant marram grass but also contain native sandbinders such as spinifex and sand tussock and other prostrate plants such as mat daisies and *Pimelea* species. The dune systems are also habitat to a number of important invertebrates including the endemic mat daisy jumper.

CABBAGE TREE (TI KOUKA) TREELANDS

Cabbage trees occur in clumps and scatterings along creek margins.

SPECIAL FEATURES

Despite the history of great modification by people, there are several features to celebrate.

NATIVE FLORA

- Nationally threatened plants found in the ecological district during the survey include sand tussock (*Austrofestuca littoralis*), pingao (*Desmoschoenus spiralis*), sea holly (*Eryngium* aff. *vesiculosum*), coastal mat daisy (*Raoulia* aff. *hookeri*), swamp nettle (*Urtica linearifolia*), native musk (*Mimulus repens*), white fuzzweed (*Vittadinia australis*), *Muehlenbeckia ephedroides*, grassy mat sedge *Carex inopinata* and the herb *Mazus novaezeelandiae* subsp. *impolitus*.
- One plant species, leafless clematis (*Clematis afoliata*) reaches its northern limit in the Blenheim Ecological District. It is possible that Marlborough rock daisy (*Pachystegia insignis*) still reaches its northern limit here also, but permission was not granted to visit the site in question to reconfirm its presence. Swamp maire (*Syzigium maire*) reaches its southern limit.



NATIVE FAUNA

- The Wairau Lagoons and estuary are outstanding wetland bird habitat. The smaller wetlands are also important for birds. Wetland birds listed as nationally threatened that are found in the ecological district are Australasian bittern, grey duck, banded dotterel, white-fronted tern, spotless crane, marsh crane, banded rail, black shag and pied shag. The braided riverbeds are critically important to two other nationally threatened birds: black-billed gull and black-fronted tern.
- Bush birds are uncommon, because there is so little remaining forest cover. Present though are bellbird, kereru, silvereye, fantail and grey warbler. Of note is the occasional sighting of NZ falcon (karearea or sparrowhawk).
- Lizards (geckos and skinks) are present, especially in stonefields and mature shrubland. There are records of four species in the ecological district: common gecko (*Hoplodactylus maculatus*), Marlborough mini gecko (*Hoplodactylus* sp. "Marlborough mini"), spotted skink (*Oligosoma lineocellatum*) and common skink (*Oligosoma nigriplantare polychroma*).
- Sixteen species of native freshwater fish have been recorded in the District, more than any other in the Ecological Region. Listed as nationally threatened are dwarf galaxias, longfin eel, giant kokopu and lamprey. Banded kokopu and koaro are regionally scarce. Three species - dwarf galaxias, northern galaxias and upland bully - may have locally distinct populations because they are non-migratory.
- The Cloudy Bay coastline has recently been shown to be of considerable importance for its native invertebrates. Two species of moth are endemic (found nowhere else). Notable species present include a large tenebrionid beetle, a large predatory carabid beetle, the long-winged clapping cicada, and various moth and butterfly species associated with the native woody vegetation remnants.



BLenheim ECOLOGICAL DISTRICT - PHOTO ESSAY



WAIRAU LAGOONS AND BOULDERBANK

An estuarine lagoon complex which includes a river mouth and boulderbank. Although quite significantly modified, the Wairau Lagoons form the largest estuarine area between the Waimea Inlet in Nelson and the Waituna Lagoon in Southland. The area is nationally significant as a landform, culturally as a site for 'archaic'/moahunter Maori and paleofaunal remains, and as a site for bird species, particularly the royal spoonbill and caspian tern.



JEFFRIES ROAD KANUKA -

While this site is small and has suffered considerable damage through drought, it is one of only two remaining remnants of forest of any kind in the Blenheim Ecological District. It contains cabbage tree and kowhai, both of which are now also rare within this Ecological District.



GROVETOWN LAGOON –

A distinctive oxbow freshwater lagoon which provides habitat to a range of bird and insect species. A community restoration project is underway in this area.



RARANGI WETLANDS AND SHRUBLANDS -

This landform type of dry gravel ridges and associated wetland hollows formed by the retreating shoreline is unique nationally and is unusual internationally. It supports an array of rare plant and insect species.