

Environments within the Parks and Forest areas

1. Introduction

1.1 Greater Wellington Regional Council

Greater Wellington Regional Council (GWRC) manages around 25,500 hectares of indigenous ecosystems in its five parks and two future water collection areas. These areas contain some of the highest value ecosystems in the Region because many of the ecosystem types are now regionally rare or degraded, e.g., lowland forest, wetlands and dune lands. This range of habitat types provides for a range of biodiversity, as well as natural experiences for the park visitor (see figure 1).



Figure 1 - Variety of ecosystem types found in the parks and forests

1.2 National and regional policies

In 2008 the Council approved GWRC's *Biodiversity Implementation Plan*. The development of this document was guided by the *New Zealand Biodiversity Strategy* and GWRC's *Regional Policy Statement*.

The Wellington Region reflects the nation's history of biodiversity loss with the critical threshold for this loss having been reached in the lowland areas.

The top priority in the Implementation Plan is to *protect and maintain the significant habitats and ecosystems and the linkages between them* in order to prevent further loss and to make the most efficient use of the resources available. The second priority is to *restore representative habitats and ecosystems that have been degraded*, especially in the most threatened habitats, such as wetlands, lowland bush, rivers and dunes.

2. Significant habitats and ecosystems in the parks and forests

2.1 Forests

The larger indigenous forests on GWRC land form a forested continuum, which runs from the Kapiti Coast to Wainuiomata and links to the Tararua and Rimutaka Ranges. Kaitoke Regional Park, Akatarawa and Pakuratahi Forests and the northern forest of East Harbour Regional Park are part of this linked ecosystem. These combined GWRC -managed areas form the Region's largest forested block outside Department of Conservation (DoC) land. In terms of biodiversity, it is more important than the forests managed by DoC, because it contains lowland forest, much of which has been lost from the Region.

In a 2002 analysis of the Region's forest remnants, which involved a number of variables such as size (larger blocks are more resilient), natural character and distinctiveness, this forested continuum was identified as the highest priority forested ecosystem in the Region for protection and maintenance (see figure 2).



Figure 2 - Highest priority forest ecosystem in the Region for protection and maintenance

Parts of Belmont Regional Park (Korokoro Valley and Dry Creek forests) also feature in this high priority ecosystem. A number of publications about the Wellington Region's biodiversity list the GWRC parks and forests as high priority for protection, because of the importance of these areas to flora and fauna, [Biological Resources Centre, 1984; Parrish, 1984; Stephenson, 1977]

The vegetation communities found in this indigenous ecosystem are representative of the original forests that existed in the Wellington Region.

Three main forest types are present on GWRC -managed lands - podocarp, beech and coastal forest. Podocarp forest tends to occur below 500 m and original valley floor forest (old emergent rimu, kahikatea, matai and miro, with a canopy of tawa and titoki) can be found in Tunnel Gully in Pakuratahi Forest and at Pakuratahi Forks in Kaitoke Regional Park. Unmodified lowland forest (rimu/rata/hinau/kamaha) is present in parts of Pakuratahi and Akatarawa Forests, and Kaitoke Regional Park. Although logging of many of the lowland areas has occurred in the past, the forest has rapidly regenerated and it now provides an abundant food supply for the indigenous fauna.

Beech forest is common in the northern forest of East Harbour Regional Park and the upper reaches of Kaitoke Regional Park and Akatarawa and Pakuratahi Forests, while coastal kohekohe forest can be found in the Battle Hill Farm Forest Park bush remnant. Rare plant species, such as red-flowered mistletoe, Kirk's tree daisy and raukawa, are present in the forest areas, while the only self-sustaining population of *Rhabdothamnus solandrii* (New Zealand gloxinia) is found in the bush remnant in Battle Hill Farm Forest Park.

2.2 Providing habitat for native birds habitat and other fauna

The large forested continuum, which Kaitoke Regional Park, Akatarawa and Pakuratahi Forests, and the northern forest of East Harbour Regional Park are part of, provides habitat for all of the bird populations surviving in the wild in the Wellington Region. Kaka, whitehead, bellbird, tomtit, kakariki, rifleman, longtail cuckoo, fantail, tui, kereru, falcon, shining cuckoo, silvereye and grey warbler have all been recorded within this forest (see figure 3 for photos of some of these birds). The smaller forest blocks in Belmont Regional Park and Battle Hill Farm Forest Park have fewer bird species, although bird diversity has been increasing in recent times because of the ongoing pest control programmes. Other native fauna, such as lizards, snails and invertebrates, also require such native habitat for their survival.



Figure 3 - Some of the bird species that live in the parks and forests

2.3 Rivers, lakes and wetlands

Wetlands, lakes and rivers in the Wellington Region are, in general, threatened and degraded. However, some of the best remaining examples of these ecosystem types are found in the regional parks and forests. Relatively pristine wetlands found on GWRC land include manuka swamps in Queen Elizabeth Park and Pakuratahi Forest, and a kahikatea wetland in Akatarawa Forest. The Pencarrow Lakes (Kohangapiripiri and Kohangatera) in East Harbour Regional Park are regarded as nationally important, and provide habitats for a number of rare plants and birds. GWRC and Taranaki Whanui have responsibility for managing the land and wetlands surrounding them (figure 4).



Figure 4 - Lake Kohangatera wetland in East Harbour Regional Park

Four major rivers containing excellent water quality, i.e., Whakatikei, Akatarawa, Hutt and Pakuratahi Rivers, either originate in or run through either one or more of GWRC's parks and forests. The purity of the water in these rivers is to be expected, as their headwaters are all surrounded in indigenous forest, which reduces siltation and contamination by filtering impurities and holding the soil. These rivers and the many bush clad streams running through the parks and forests, provide excellent habitat for the freshwater fauna, such as giant, banded and short-jawed kokopu, eels, invertebrates and other freshwater species.

3. Degraded, Threatened Ecosystems

3.1 General

There are also ecosystems within the parks and forests that are threatened but have been degraded because of earlier loss of indigenous cover for farming or other development purposes and the impacts of invasive pests.

3.2 Small lowland bush remnants

Small remnants of the most threatened forest types are still found at Te Marua in Kaitoke Regional Park and in Queen Elizabeth Park (Figure 5). These remnants are the degraded remains of much larger and more diverse forests. They are now vulnerable to threats such as pests, lack of seed source and wind damage because of their small size and fragmented nature. They require restoration effort such as planting to increase their size and diversity in order to increase their resilience.



Figure 5 - Bush remnant at Queen Elizabeth Park

3.3 Coastal dunes

Coastal ecosystems are second only to wetlands as the most degraded ecosystem type in New Zealand and any remnants are a high priority for restoration. Within the parks and forests, dunes are the most vulnerable of the ecosystems because of their fragility and their susceptibility to pest plant invasion. The coastal dunes at Queen Elizabeth Park are, in terms of landform, one of the last unmodified dune systems on the Kapiti Coast. However, the vegetation has been considerably modified by grazing in the past and the invasion of pest plants. Despite this, the dunes still contain a relatively high diversity of indigenous species, including rare plants such as *spinifex* and *Coprosma acerosa*.

3.4 Wetlands and Streams

The fact that over 80 percent of New Zealand's wetlands have been lost since human settlement means that any wetlands that have survived must be protected and those that have been degraded need restoration effort. Degraded wetlands on GWRC land, such as the MacKay's wetland in Queen Elizabeth Park or Swampy Gully in Battle Hill Farm Forest Park, require such efforts in order to restore their water holding and purifying functions and to improve the habitats they provide.

Some streams or parts of streams that run through GWRC's parks and forests have also been degraded through farming practices. Many streams in the farmed areas are unfenced, e.g., in Battle Hill Farm Forest Park and Belmont Regional Park. These streams are important for fish life (e.g., Horokiwi Stream) and need to be considered in the context of the wider catchment (e.g., streams in Belmont Regional Park and Battle Hill Farm Forest Park that feed into Pauatahanui Inlet). The health of these streams can be restored through fencing and riparian plantings.

4. References:

- Biological Resources Centre, 1984
Biological Resources of the Wellington Region
- Parrish, G.R. 1984
Wildlife and Wildlife Sites of the Wellington Region
- Stephenson, G. 1977
Wildlife and wildlife areas in the Wellington Region