

# Waimairi County Foreshore a Comprehensive Landscape Develop- ment

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The basic problem which faces all Parks and Reserves officers today is one of providing for an expanding population, with its ever-increasing needs and demands, and its mobility. This provision has to be argued, moreover, in the face of increasing competition from other land-users.

The resolution of these conflicting demands into a proposal having maximum long-term benefit from all points of view, is only possible through adequate planning, when all aspects of the present and proposed land-use—work, living, and recreation and conservation, and the effects of these activities—are given due consideration. The New Zealand attitude has only in recent years been willing to accept this integrated and comprehensive approach to development, where concern for appearance and for the natural "resources" themselves are built into the programme, as well as normal utility. Few examples of this total-concept planning exist in New Zealand however, and it was our good fortune for the Landscape Consulting Service of the College to be requested by Waimairi County Council to conduct a study along these lines for the development of Waimairi County Foreshore. Since the approach we adopted will be of interest to other areas, a condensation of our study is given here, with Waimairi County Council approval.

The area of land involved extends from North Beach to Spencer Park, a total distance of about three miles. Bounded on the east by the Pacific Ocean, and limited westwards by the Bottle Lake plantations, access is largely limited to the north and south ends. The brief for our study required proposals for the development of recreational opportunity—in its broadest sense of a "different environment"—whilst accepting the limitations imposed by the need for residential development and an expressway further west. This was coupled, however, with the awareness that this area was almost the last remaining publicly-available beach and sand dune area within the Canterbury area.

Since our terms of reference from Waimairi County Council were broadly-termed, we looked first at the implications of such a development upon the regional area of Christchurch and its environs. It quickly became apparent that the area should be regarded as a regional resource, rather than a local one. Not only was the resource itself rather unique in the facilities it offered for active and passive recreation, and for nature education, but it could serve as the major open space for the developing residential areas of north Christchurch, and for areas further north.

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However, the problems which such concentrated use could develop had to be taken into account before proposing greater usage of such a "tender" landscape as sand-dune country. It is unfortunately easy to destroy, by our activities, the very environment we are planning to utilise. This problem, resulting from uncontrolled use, was indeed already evident, adjacent to Spencer Park, at the north of the site. The sand dunes here were being breached as a result of concentrated public usage, which caused the marram grass to be exposed, to die out as a result, and so allow the wind to remove but not replenish the dunes. The problem of stability had been evident on the site for almost a hundred years, for the Christchurch City Council took over control of 1300 acres, in 1878, under the Waste Lands Act.

How could use and stability be reconciled? As a preliminary to answering this question we made an assessment of the total area, through the aid of ecological cross sections and aerial photographs. The transect lines for our cross-sections were carefully chosen to obtain maximum ecological differences. Plant growth, surface conditions, and topography were then measured and charted for each profile.

In this way it was possible to obtain a rapid correlation between plant life, and the age and stability of the dunes over the total area involved. This data was then plotted as a source of further information, to be used in obtaining a planning concept which would be responsive to the environment itself.

This stage of the study demonstrated very clearly the areas which were particularly sensitive to human "pressure", and so, unsuitable for development without highly expensive stabilisation. This would have meant, of course, destruction of the environment in its existing state. Two important conclusions were drawn from this stage of the study:

First: Recreation should be limited to the beach area, which is highly tolerant of use, or the area between the primary and secondary dunes. The dunes themselves are intolerant of other than occasional, casual use, and need protection by boardwalks or other methods where access for many is necessary. Unless this protection was given the dunes would break down and the shelter they provided behind themselves for picnicking and other passive recreation, and the establishment of vegetation, would be lost.

Second: Since the area currently zoned as 'Recreation Reserve' by the Waimairi County Council was almost wholly on relatively unstable land, the development visualised would require

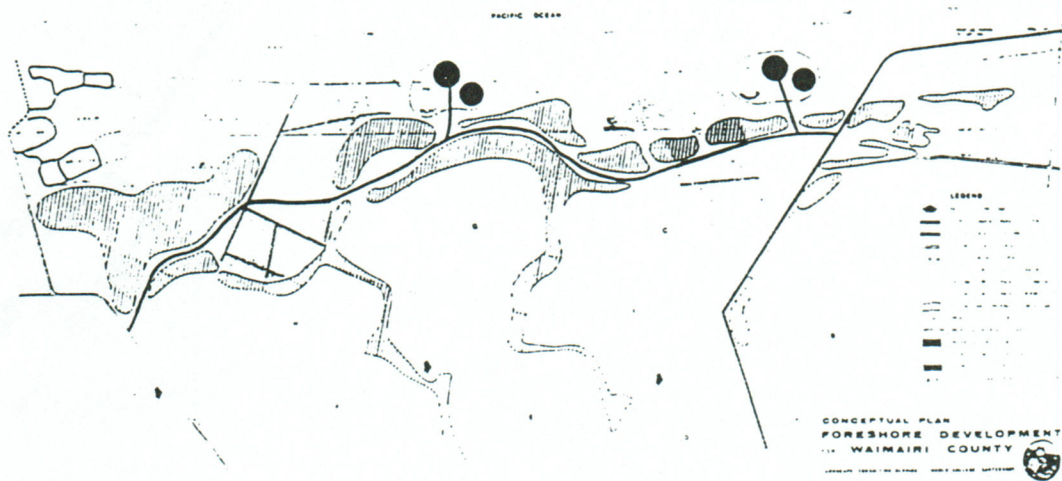


FIG. 1. A typical ecological-topographical cross section on Waimairi Beach.

additional space to be effective at reasonable cost. Without an increased area it was also apparent that the present unique state could not be maintained under development, and the original concept would have been lost.

The implications of this conclusion were discussed with Council officers, and permission obtained to extend our study area, seen as essential to carry out the original concept effectively.

Since the Christchurch Regional Planning Authority was proposing residential development in the area westwards, within the Bottle Lake Plantation area, our problem became now one of proposing integrated development. This had to be so organised that necessary zonings became "natural" controls, and allowed activities to co-exist without damage to each other.

The Conceptual Plan which eventually emerged

after a full study of the various factors, including stability, used the Marine Parade extension—which gave the main access through the area as a defining element between the recreational area to the east and the proposed urban development to the west. In addition, since it was proposed to locate this road through existing pine forest, it would act as both physical and visual barrier. The retention of this strip of pine forest has ecological implications also, for it gives complete stability to the dunes, and provides shelter to the urban area as well.

Areas for concentrated recreational usage were sited on eastwards piercing extensions off this road. It was felt that this method was more considerate of the site, for recreational use could be more easily controlled in this way than on a road straight through the dunes. The creation of these natural buffers between resi-

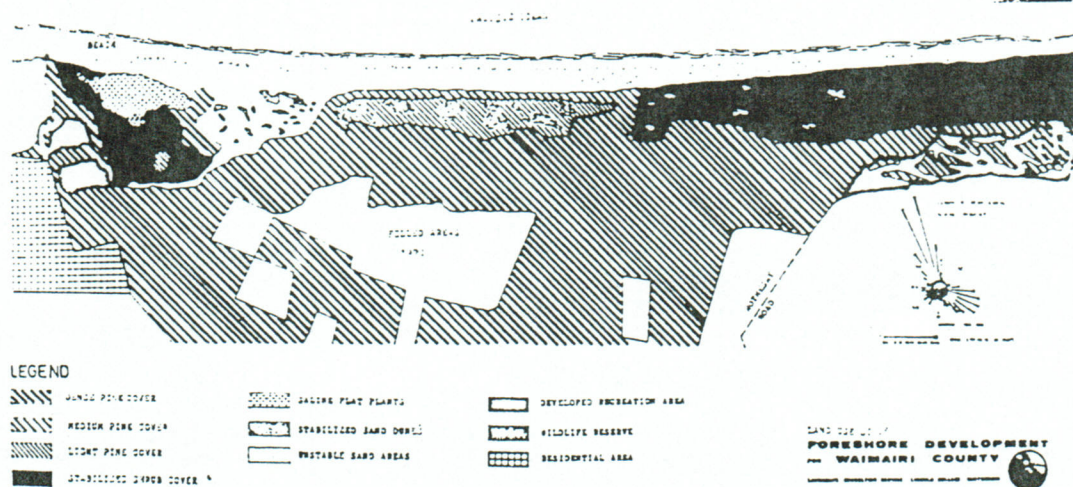


FIG. 2. Land-use study compiled from cross-sections and aerial photographs.

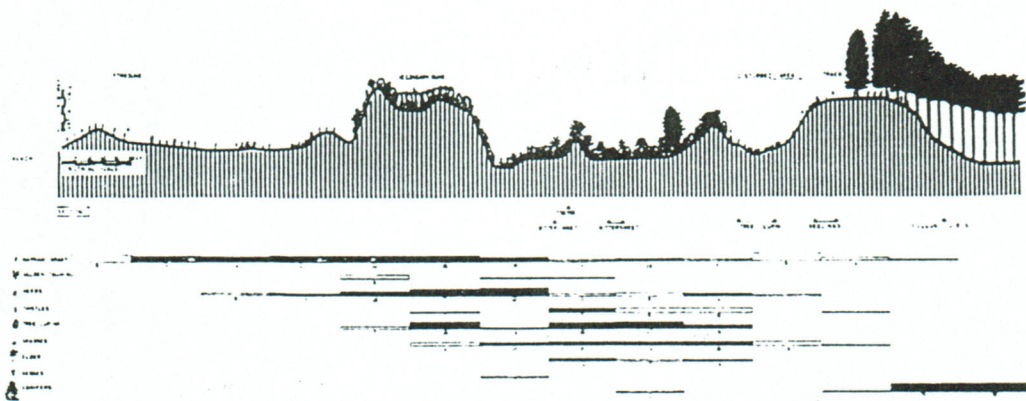


FIG. 3. Conceptual plan of area, showing proposed zoning and circulation.

dential and recreational area, and between the recreational areas themselves helps to control usage, as well as allowing sympathetic integration.

The location of the two golf courses which the Regional Planning Authority's studies had shown desirable was considered from the aesthetic as well as the functional viewpoint. Moreover, their integration with the areas of both urban development and of concentrated recreational usage is based on the idea of total-concept planning, mentioned previously. The whole recreation/residential issue is thus treated as one co-ordinated problem, instead of as single issues, so commonly the case. The greenbelts of retained pine forest, shown extending into the future urban areas are only conceptual in placement, but offer valuable 'green' connections between recreational development and urban usage.

Our previous studies relating ecology and soil stability showed that even where stability had development under vegetation this was quickly lost if the vegetation was disturbed, or the soil exposed through wear and tear. Complete stabilisation could result only from afforestation, or the introduction of vast quantities of soil, which allows the use of the wider range of stabilising plants associated with soil, rather than sand. It was consequently proposed that the two areas of concentrated recreation recommended should be stabilised prior to their development, to allow heavy usage in these areas specifically, without site degradation. The Council's need for additional area for refuse tipping could, in fact, be turned to advantage if the tipping were controlled, in conformity with an agreed-development plan, and the tipping was

covered with topsoil as it progressed. The area covered by the Detail Plan is, in fact, sufficient to meet the Council's Tipping requirements for about three years.

The design of this detail area has been to offer a variety of uses, rather than limit it to any one type of recreation. It has also been designed to allow phased development, as demand increases and funds become available. Basically, the design proposes an active recreation area, a multi-purpose surf club with attached car park, and a passive recreation area, in proximity to one of the golf areas. Access to the beach area is so designed that visitors are channelled to it over the board walk system, which protects the dunes from damage. The intention, therefore, is to organise and control the use of the area in such a way that many more people can use it than would be possible in its unprotected state. This "filtering" system will allow aggregate activities, without interfering radically with the sensitive dune areas. These will still be available for those seeking solitary enjoyment; the buffer zones developed provide maximum protection with the minimum of interference with personal choice.

The realisation of such a development as this requires that overall control be in the hands of one co-ordinating body. Without this vital requirement fragmentation is very difficult to avoid and so the "total-concept" philosophy lost. This type of development, however, which offers the opportunity for maximum enjoyment of our land, in both work and play, should be part of the standard thinking of the present-day Parks and Reserves Executive, who does have the opportunity for organising its conception and fulfilment.

# Waimairi County Foreshore Comprehensive Landscape Development Plan

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