

Land Use

Key Information	Why is this Useful?	What is Happening?
Total area of Christchurch City ⁵	This provides contextual information for the rest of this report. The boundaries of the City are set by the Local Government Commission and only change after a formal review.	● The area of the City is 45,240 hectares.
Urban area within Christchurch City.	As the urban area of the City expands natural resources and non-urban landscapes are lost. Unrestricted urban growth can consume these resources in an unsustainable manner. The size of the urban area can also create pressure on other urban resources eg infrastructure.	↑ The urban area increased by 771 hectares (5 per cent) between 1995 and 1999.
Loss of versatile soils.	Versatile soils are valued for their food-producing potential. They are a limited resource regionally and need to be considered when land is rezoned.	● Five hundred and seventy four hectares of versatile soils were rezoned to urban use between 1995 and 1999.

Other Related Sections: Population Growth, Built Environment, Surface Water, Groundwater, Open Space and Natural Ecosystems, Urban Amenity, Residential and Commercial Property.

The area of Christchurch City⁵ is 45,240 hectares. Of this area approximately 17,000 hectares are currently zoned urban. Just under 20,000 hectares are in some form of rural use, and the remaining 8,250 hectares are zoned for non-urban land uses such as conservation, open space and special purpose (Table 2.5).

Urban Land Use

The urban area of the City is diverse, with 72 per cent of the land area zoned for housing and residential land uses. Industrial and commercial land accounts for a

further 13 per cent. The urban part of the City also includes cultural, conservation, open space and special purpose zones. Cultural zones include education facilities and heritage precincts such as the Arts Centre and the Nga Hau E Wha National Marae. Conservation zones include historic and garden parks and cemeteries in the urban area, plus ecological reserves on the Port Hills and along the coastal margins. Special purpose zones are areas in which specialist activities are carried out. They include hospitals within the urban area, and Christchurch Airport and the Burwood Landfill outside the urban area.

Table 2.5 Area of Christchurch by Zoned Land Use, 1995 and 1999

Urban Areas	1995 Proposed Plan		1999 City Plan Decisions	
	Area (ha)	Percentage	Area (ha)	Percentage
Suburban Residential	7,999	17.7	8,424	18.6
Inner Residential	2,119	4.7	2,112	4.7
Residential Hills	1,273	2.8	1,394	3.1
Rural Residential	212	0.5	256	0.6
Central City Commercial	127	0.3	126	0.3
Suburban Commercial	164	0.4	187	0.4
Industrial	1,864	4.1	1,917	4.2
Cultural	600	1.3	597	1.3
Conservation	377	0.8	387	0.9
Open Space	1,337	3.0	1,412	3.1
Special Purpose	80	0.2	110	0.2
Sub Total Urban	16,151	35.7	16,922	37.4
Non-Urban				
Rural	20,612	45.6	19,547	43.2
Rural Industrial	185	0.4	188	0.4
Open Space	1,491	2.2	1,464	3.2
Conservation	4,370	10.5	4,505	10.0
Special Purpose	1,345	3.2	1,531	3.4
Coastal Marine Area	1,086	2.4	1,083	2.4
Sub-Total Non-Urban	29,089	64.3	28,318	62.6
Total	45,240	100	45,240	100.0

Source: Christchurch City Council.

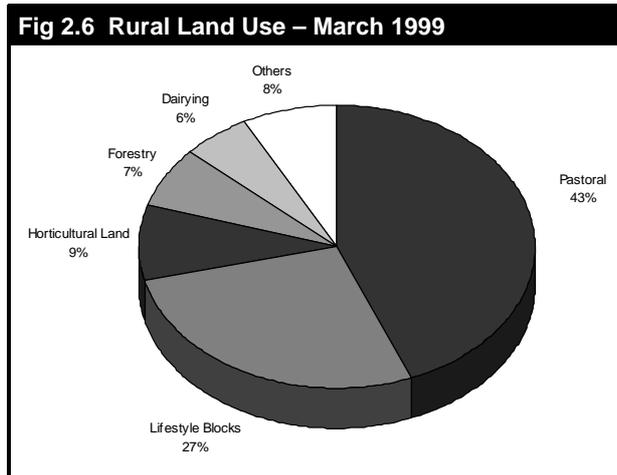
⁵ Christchurch City is defined in this report as the Christchurch Territorial Local Authority area.

Rural Land Use

Figure 2.6 shows the breakdown of rural land use for Christchurch City. Pastoral activities such as grazing occupy the largest area, approximately 9,500 hectares. Around 1,500 lifestyle blocks totalling 6,000 hectares make up the second largest rural land use in the City. The median size of these lifestyle blocks is 2.5 hectares. Horticulture, forestry, dairying and other rural activities each make up between 6 and 9 per cent of the remaining 29 per cent of rural land.

As the City's population grows, land is converted from rural to urban use. Between July 1990 and June 1998 the amount of land rezoned averaged 30 hectares each year. When the City Plan decisions were released in May 1999, an additional 665 hectares of land were rezoned to urban (Table 2.6). Potentially, an additional 465 hectares of rural land may be available for residential use where the Council's rezoning decisions are currently either under appeal or have been deferred.

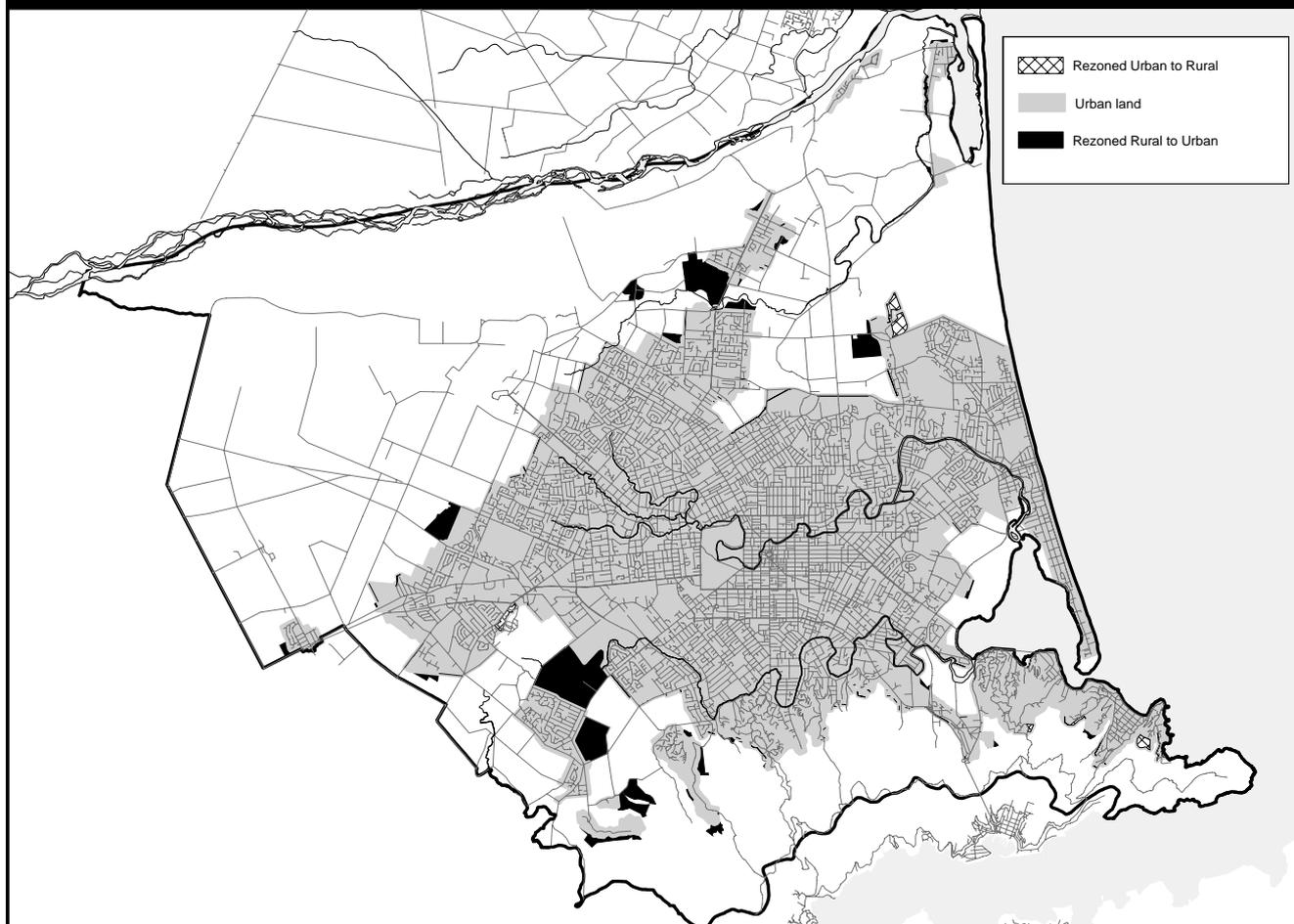
Figure 2.7 shows the areas of the City which have been rezoned to urban as a result of City Plan decisions. Of this land, 32 hectares were earmarked for commercial use.



Source: Quotable Value New Zealand.

The large amount of recently rezoned land resulted from increased development pressures during a period of rapid population growth in the mid-1990s and the City Council's desire to strategically plan for the next ten to 15 years of residential development.

Fig 2.7 Map showing Areas Rezoned from Rural to Urban Land Use Between the Proposed City Plan 1995 and the Decisions on the City Plan released in May 1999 (Includes Land rezoned but currently under appeal -Indicative only)



Source: Christchurch City Council.

PART 2. THE CITY'S NATURAL AND PHYSICAL ENVIRONMENTS

Year to June	Area of Rezoned Land (hectares)
1991	16.7
1992	55.5
1993	12.0
1994	0.0
1995	9.1
1996	11.7
1997	56.9
1998	77.5
1999	664.7
Total	904.3

Source: Christchurch City Council.

Soils

Soils in Christchurch generally relate to the local topography. The soils on the Port Hills are derived from basalt (volcanic rock) and loess (a deposit of wind blown dust). Variations in Port Hills soils also result from local microclimates that influence soil formation processes. Most of the soils on the Port Hills are susceptible to erosion, particularly soil creep and gully erosion.

Soils on the Canterbury Plains are derived from outwash gravels and sand from the large braided rivers such as the Waimakariri, which traverse the Plains. They include fertile and versatile soils, soils which have natural drainage problems, and soils which are stony to very stony, poorly drained and susceptible to wind erosion.

The Horticultural Versatility System^{6,7} has been used to assess the extent of high productivity soils in Christchurch City (Table 2.7). Versatility is mainly assessed in terms of the soil's physical characteristics and assumes that nutrient and soil moisture limitations are overcome by fertiliser application and irrigation.

Approximately 7,800 hectares (30 per cent of the non-urban land in the City) are highly versatile, that is Class 1 and 2 in the Horticultural Versatility System. Existing in limited quantities, both regionally and nationally, they are valued for their high productivity potential. Traditionally they have been used in Christchurch for market gardening, berry fruit production and town supply dairying. It should be noted, however, that the full productive potential of these soils is currently not being used. The lowest quality soils in the City tend to be on the Port Hills, in coastal areas or in areas associated with remnants of the Waimakariri River gravels.

Much of the City's versatile soils are in areas adjacent to the urban area. As a result of the 1999 City Plan decisions 574 hectares of Class 1 and 2 land were rezoned to urban use (Table 2.7). These versatile soils were converted to urban land use because the impact of other options, such as the loss of urban amenity values, restricted housing choice and adverse

Horticultural Versatility Classes	Area 1995 (ha)	Area 1999 (ha)	Change between 1995 and 1999 (ha)
Class 1	3,042	2,770	-271
Class 2	5,363	5,060	-303
Class 3	6,023	6,047	23
Class 4	1,491	1,468	-23
Class 5	4,028	3,998	-30
Class 6	6,288	6,184	-104
Areas not Classified	1,124	1,124	0
Total	27,357	26,650	-708

Source: Christchurch City Council, Landcare Research NZ Ltd.

traffic effects, were seen as more significant.

⁶ Definitions and description of Horticultural Versatility Classes

Class 1

Very highly versatile with minimal limitations to horticultural crop production. Well suited to a wide range of crops with differing growth/soil management requirements with small management inputs.

Class 2

Highly versatile with slight limitations to horticultural crop production. Such limitations may slightly constrain the range of crops that can be grown, or require slightly higher management inputs compared to Class 1 soils.

Class 3

Moderately versatile and are usually capable of high production levels from a more limited range of crops than in Classes 1 and 2. Yields may be lower than for Classes 1 and 2 and management inputs higher.

Class 4

Low Versatility. Land attributes impose significant limitations on the range of crops that can be grown successfully and/or crop production requires moderately high management inputs.

Class 5

Very low versatility. Growth of a wide range of crops is likely to be severely limited and/or crop production requires high management inputs.

Class 6

Least versatile soils. Soils can only be assigned to Class 6 on the basis of slope, poor aeration status, excessive stoniness, severe erosion or flooding risk or excessive salinity.

Source: Webb et al. 1993.

⁷ Christchurch City Update '97 used the Landuse Capability Classification system to identify soil quality. The change to the Horticultural Versatility system is to be consistent with the versatile soils policy in the Christchurch City Plan.