

District Plan Review - Rural Chapter
Section 32: Appendix 4

The rural environment of Christchurch District



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1.0 Introduction

The purpose of this report is to describe the rural environment of Christchurch District (the District) as at August 2014 to provide background trends and analysis to inform the development of the rural chapter as part of the District Plan Review (DPR). The report describes the pattern of development, key land uses and how it varies across the District. The report also outlines some of the key changes in the past 10 years that have affected the rural environment. As a result of the limitations on data and resources available at the time, the description and level of analysis is provided at a broad level and is not intended to provide an exhaustive list of land uses or purport to be a detailed rural land use study.

2.0 Methodology

To describe the main characteristics of rural land across the District, three different measures have been used:

- a) The rating unit has been used to illustrate broad land use trends of properties, which can consist of one or more sites
- b) Site size, based upon certificate of title, has been used to assess the range of site sizes which also indicates potential for subdivision and development
- c) Parcels have been used to indicate where a dwelling is located. A site can be made up of one or more parcels.

To understand and describe the rural environment across the District it was divided into smaller geographic areas based on grouping of Census Area Units. These areas are used to describe the key characteristics based on the three different measures outlined above. These geographic areas do not match the current rural zone boundaries.

A further explanation of the methodology and combination of census area units into broader geographic areas is contained in Appendix A.

3.0 Overview of the Christchurch District rural environment

The rural environment of Christchurch District generally includes land that is not in the urban or coastal environment, the three broad environments that make up Christchurch District (as shown in Figure 1). The rural environment is broader than rural zoned land. The rural environment extends to the District boundaries in the north (Waimakariri District Council) and west (Selwyn District Council). Taking into account the rural land rezoned as part of the DPR Phase 1 (as at 27 August 2014) the area covered by rural zones is approximately 109,566ha¹ or 77% of the area of the District.

¹ This figure will change with rezoning of rural land for other purposes such as Open Space as part of Phase 2 of the DPR.

The rural environment contains a variety of resources, land uses and values with rural land providing multiple functions including:

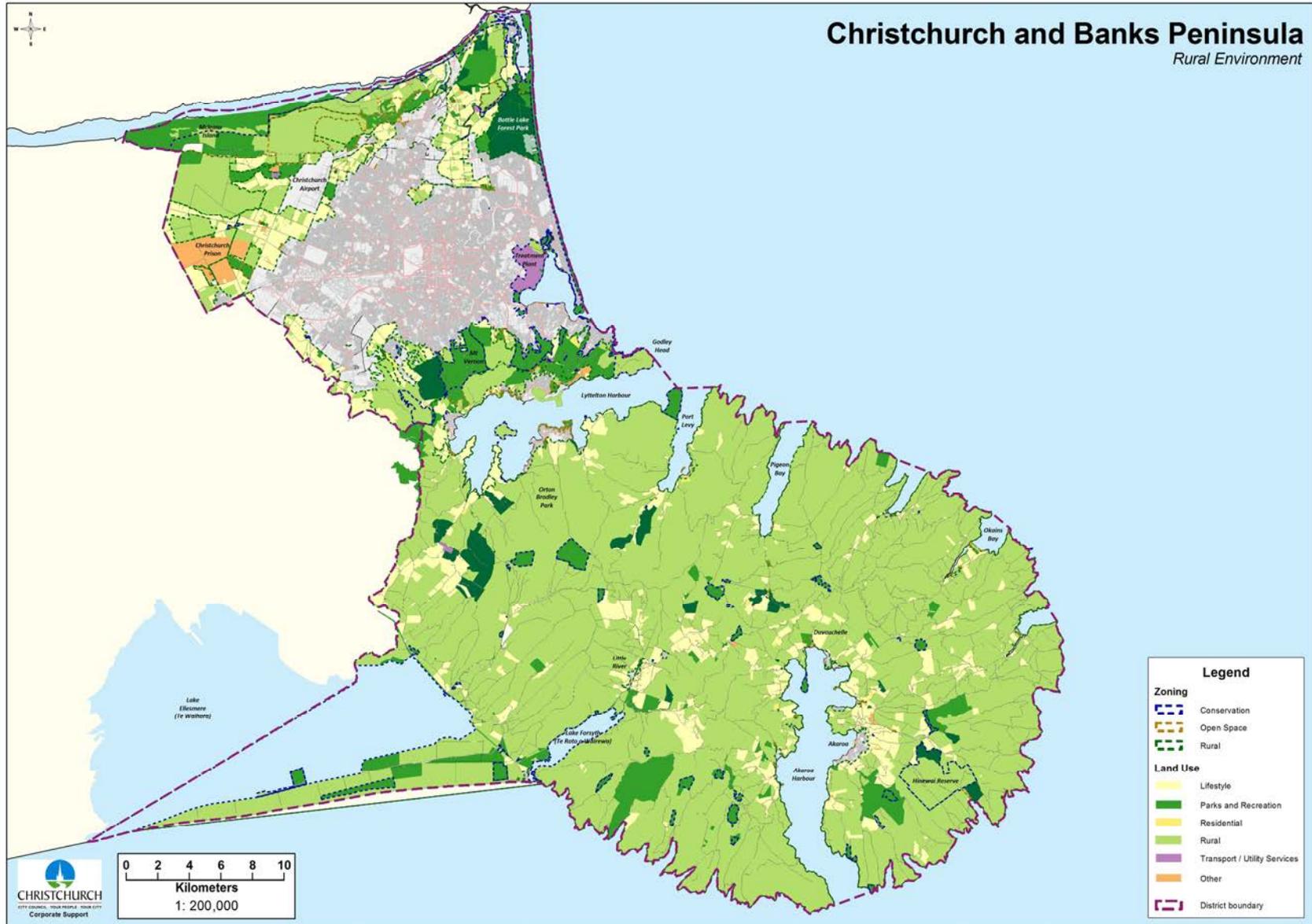
- protecting, enhancing and utilising ecosystem services, including biodiversity, natural hazard management, food, water, timber
- economic productivity including farming, forestry, mineral extraction and tourism
- maintaining natural and outstanding landscapes
- providing recreation areas
- location of key strategic infrastructure

The rural environment contains the full range of rural land uses, dominated by pastoral agriculture, horticulture and forestry, along with recreation, tourism and conservation activities.

The rural environment of Christchurch District can be broadly described as having three parts:

- a. The rural flat land surrounding the Christchurch main urban area which is highly fragmented with intensive land use, dominated by lifestyle and horticultural activities. Key strategic infrastructure, flood mitigation works, aggregate extraction and recreation facilities are also located in this area supporting and protecting the urban area.
- b. The Port Hills are highly valued for their landscape and conservation values. The Port Hills provides a significant recreation resource for the District and a visual point of reference for the urban population. Pastoral grazing and forestry are the main productive land uses.
- c. Banks Peninsula is best described as a rural working landscape where traditional rural land uses are complemented by recreation, conservation and tourism activities. The environment is highly valued for its landscape, cultural and conservation values. The small settlements, papakainga and rural residential areas provide for concentrations of urban activity within the rural environment with some small settlements providing essential services to the surrounding rural communities. Banks Peninsula contributes 84% of rural land in the District, substantially increasing the rural land resource when Banks Peninsula District was amalgamated with the Christchurch City Council in 2006.

Figure 1. Rural environment of Christchurch District



It is noted that there is no detailed land use study or data for the rural environment of the District. The rating unit has been used to identify different land uses. Area studies for urban growth opportunities have been undertaken for the North West and South West areas, which provide a higher level of detail for those specific areas.

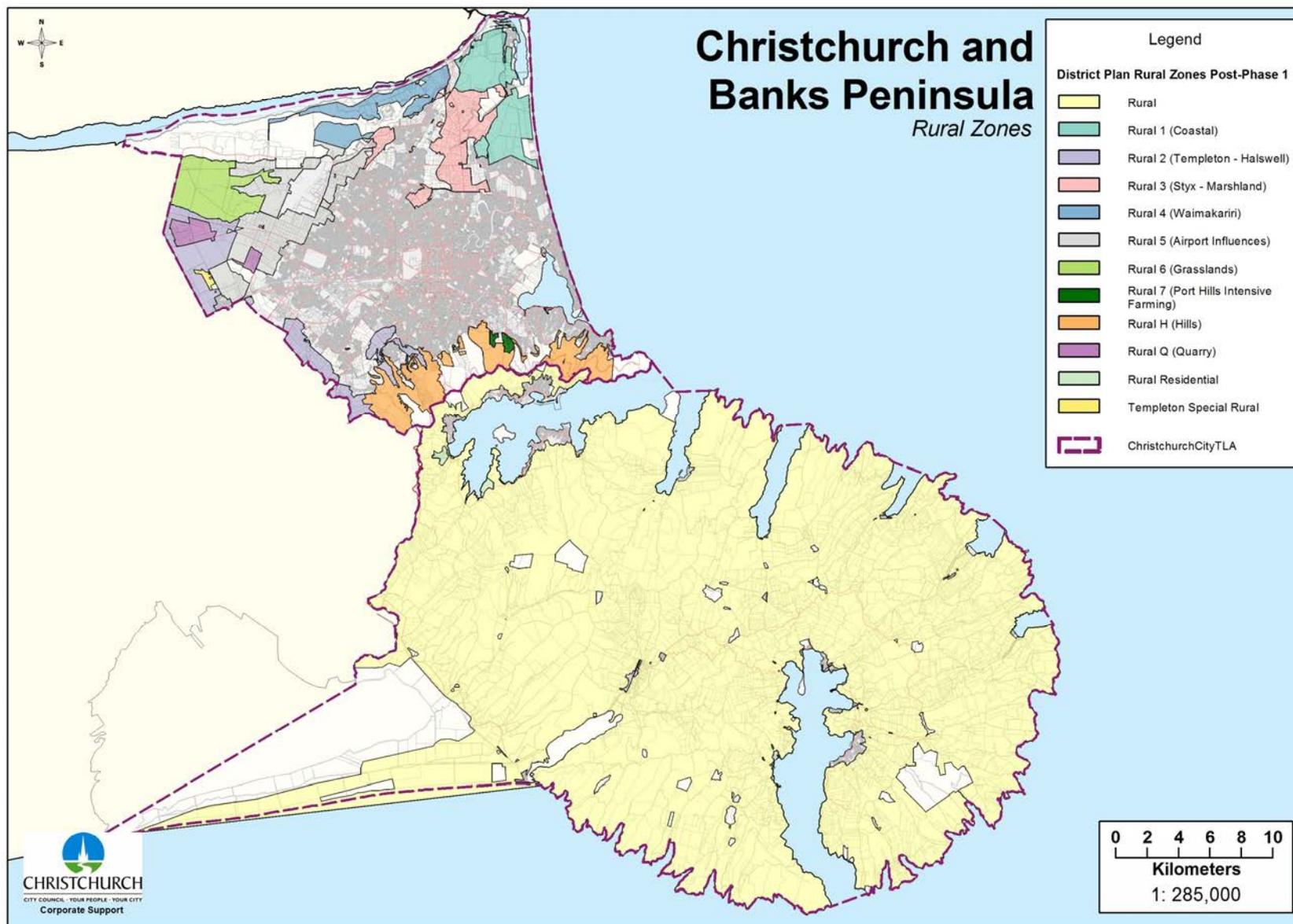
3.1 Zoned rural land

The current District Plans apply 12 zones to rural land (Table 1). The zoned extent is illustrated in Figure 2. A description of the purpose of each zone is contained in Appendix B. The remainder of the rural environment is made up of zoned land for open space, conservation and strategic infrastructure.

Table 1. Area of existing rural zoned land post DPR Phase 1

Rural Zone	Area post Phase 1 rezoning (hectares)
<i>City Plan</i>	
Rural 1	2102.5
Rural 2	2440.6
Rural 3	1878
Rural 4	2434.7
Rural 5	3068.2
Rural 6	1732.1
Rural 7	95.5
Rural Hills	2714.3
Rural Templeton Special	61.4
Rural Quarry	475.2
<i>Banks Peninsula Plan</i>	
Rural	92454.8
Rural Residential	109
Total area zoned rural	109,566 (77% total city area)

Figure 2. Current extent of rural zones



3.2 Rural land use

The rural environment encompasses a range of rural and other activities. Table 2 illustrates the range of land uses as defined by rating categories at the rating unit or property level for rural zoned land in the District. A property can contain one or more sites.

The dominant land use based on total area is stock finishing and store livestock i.e. pastoral farming followed by lifestyle and then recreation. In terms of total number of properties, Banks Peninsula dominates the stock and store livestock category while lifestyle land use is spread consistently throughout the District. Market gardens and orchards are dominant around the Port Hills (Avoca and Horotane Valleys), Yaldhurst, Marshlands and Styx. Specialist livestock, such as alpaca, mainly occur in Yaldhurst, Papanui and Styx. Banks Peninsula dominates forestry land use. Recreation is dominated by Banks Peninsula and Styx.

New Zealand Agricultural Census

The Agricultural Census undertaken by Statistics New Zealand provides another perspective on rural land use. According to the 2012 Agricultural Census², there were 771 farm units within Christchurch District, of which 31% were under 5 hectares in size, 45% under 10 hectares, 58% under 20 hectares and 74% under 60 hectares. This compares with the 1992 Agricultural Census, when there were 872 farm units in the District, of which 40% were under 5 hectares in size, 60% under 10 hectares, 75% under 20 hectares and 88% under 50 hectares. The Agricultural Census only provides data at the District wide level based on farmers and foresters surveyed. These statistics document a decline in the total number of farms within Christchurch District with an overall increase in farm size and a reduction in farms less than 10 hectares. The main farm types recorded in the census are horticulture (177 units), sheep (105), beef (123) and forestry (84). Compared with 1992 there has been a decline in horticulture (261 units) and sheep (142) with a doubling in beef units (63).

The District also has a role in the provision of value added products and processing of rural produce from within the District and the wider Canterbury Region, which is undertaken in the industrial and commercial areas of the District.

² 2012 Agricultural Census tables, Statistics New Zealand

Table 2. Rural land use in Christchurch District

Rating Category	Number of rating units by area (as at July 2014)										Total area per category (hectares)
	Akaroa Harbour	Lyttelton	Eastern Bays & Port Levy	Little River	Port Hills	Halswell	Paparuia-Yaldhurst	North West	Marshlands	Styx	
<i>Commercial</i>	1	0		5	1	0	2	1	1	1	13.4
<i>Commercial Services</i>	11	2	12	7	1	1	3	6	1	2	885.6
<i>Industry</i>	3	1	0	0	0	1	10	2	1	7	237.3
<i>Transport</i>	1	2	1	0	1	0	2	0	1	2	430.5
<i>Utility</i>	16	16	9	27	7	0	2	1	2	3	89.2
<i>Recreation</i>	95	18	48	34	8	2	8	4	3	42	2918.7
<i>Lifestyle</i>	283	108	185	344	154	156	364	160	180	217	13,512.3
<i>Residential</i>	6	12	3	2	38	45	42	106	48	70	316.7
<i>Multi-use</i>	12	11	6	3	4	2	7	7	8	10	2317.6
<i>Rural Industry</i>											
- <i>Arable</i>	0	0	0	3	0	1	7	0	0	4	731.6
- <i>Dairy</i>	5	1	10	7	0	0	0	0	0	4	1816.7
- <i>Forestry</i>	1	7	10	23	1	0	0	0	2	5	2933
- <i>Market gardens & orchards</i>	3	2	0	1	32	4	6	11	24	20	567
- <i>Mineral extraction</i>	3	0	1	7	2	0	17	0	0	0	663.3
- <i>Multi use</i>	0	0	0	0	1	0	0	0	0	2	407.6
- <i>Specialist livestock</i>	2	1	1	1	1	1	15	1	0	7	418
- <i>Stock finishing and store livestock</i>	118	40	219	166	14	2	32	1	0	17	79,852.2
- <i>Vacant</i>	5	2	2	2	2	1	0	1	1	9	430.5

Source: CCC rating database

3.3 Rural site size

Settlement patterns of rural zoned land are illustrated through site size, equating to one or more parcels held in a certificate of title. Overall there are a total of 4834 sites on rural land distributed across a range of sizes as outlined in Table 3. It is noted that these sites include publically owned land such as reserves where they are currently zoned rural. 79% of the total rural sites in the District have an area of 20 hectares or less.

Table 3. Rural site sizes in Christchurch District

Site size (hectares)	Number of sites	Percentage of total
0-2	1451	30%
2-4	758	16%
4-8	919	19%
8-12	337	7%
12-20	349	7%
20-40	395	8%
40-100	341	7%
>100	229	5%
Total	4834	99%

3.4 Soils

The soils on the Canterbury Plains are mostly formed from a layer of alluvium and/or loess over gravels. The depth and degree of stoniness of the fine material (mostly silt loams or stony silt loams to fine sandy loams or stony fine sandy loams) are two of the main factors influencing the pattern of soils on the plains. This can vary considerably over very short distances.

Based upon the Land Use Capability Classification System Christchurch soils include Class II to VI soils. Versatile soils are defined by the Canterbury Regional Policy Statement as being Class I and II. These soils have inherently high productive values that allow them to sustain higher levels of productivity with fewer inputs than other soils. The Class II soils in the District are located in the peri-urban area, as shown in Appendix C.

Table 4. Area of versatile soils in the rural environment within the District, 2007 and 2013

	2007	2013
Hectares of Class II soils	6528	6030

Source: CCC State of the Environment Monitoring Indicator Reporting Sheet, Land, January 2008. Updated 2015 CCC Corporate Support.

Soils on Banks Peninsula are mainly loess which are vulnerable to erosion due to the steep landform. Tunnel gully and gully erosion is typical of most of the loess-covered hill slopes of Banks Peninsula and the Port Hills.

3.5 Freshwater

There are significant freshwater resources located within and adjacent to the rural environment. The catchments for most waterways are located within the rural environment. The Waimakariri River is the largest waterway adjoining and influencing the rural environment in the north of the District. The groundwater resource for the Christchurch urban area sits under the rural environment in the western part of the District.

3.6 Rural character

Rural character is the combination of qualities which make an area appear rural rather than urban. These qualities generally include openness, dominance of natural features and vegetation, low density of buildings, traffic and people and lack of urban infrastructure. Rural character is often connected to landscape values. The rural environment is often described as a working landscape or working environment reflecting a landscape that is actively managed and worked as a place of business which has noise, smells and dust and is not static in the way it appears, but rather continually changing and evolving with seasonal and land use changes.

Some areas within the District are more reflective of a working environment than others, such as those dominated by lifestyle development, which only display some aspects of rural character. Other parts of the District are more reflective of the topography and landscapes, where inappropriate development can compromise the values. The main characteristic in common with all rural areas is the dominance of natural features and vegetation over built form.

4.0 Planning framework for the rural environment

The character of the rural environment is influenced through time by various factors including the planning framework, which changes over time in response to issues and regulations. The current planning framework is outlined below.

4.1 Strategic Policy Direction

Canterbury Regional Policy Statement (CRPS)

At the regional level the broad direction for rural land through the Canterbury Regional Policy Statement is to ensure land use activities and land management practices do not cause significant long term effects on soil quality and that subdivision and land-use does not foreclose the ability to utilise physical resources which are or foreseeably could be valued for primary production, or create reverse sensitivity effects. Rural activities that support the rural environment should be provided for, including providing for educational facilities if they otherwise cannot be provided within an urban area. Urban activities are however restricted from establishing within the Greater Christchurch rural area. The expectation is that areas for primary production will be identified with appropriate provisions in district plans, including areas where soil versatility with characteristics and location meaningfully contributes to the rural productive economy of Canterbury. It is noted that the CRPS does not reference primary production or versatile soils in relation to the Greater Christchurch area, which is where Christchurch's versatile soils are located.

Earthquake Recovery and the Land Use Recovery Plan

Following the earthquakes of 2011 and 2012, the rural environment was largely unaffected by earthquake damage particularly in the western areas. Areas of the Port Hills have been subject to mass movement, cliff collapse and rockfall hazard. Parts of the Avoca and Horotane Valleys have been included in the CERA residential red zone. Temporary activities have been established in some rural areas, particularly in the peri-urban area. These include contractor's yards and temporary dwellings.

In terms of recovery, the LURP/CRPS seeks to achieve a land use and integrated framework that avoids urban development outside of existing urban areas and maintains the character and amenity of rural areas and settlements. No additional rural residential development is to be established in the Christchurch City Plan area of Greater Christchurch.

CCC Long term community plan

The Christchurch City Council community outcomes 2013-16 seeks a healthy environment where the unique landscape and indigenous biodiversity of Christchurch are protected and enhanced, water quality and quantity is protected and restored and the community values natural resources and uses them sustainably. The prosperous economy community outcome ensures there is adequate and appropriate land for agricultural uses so Christchurch is a good place to do business.

Replacement District Plan – Strategic Directions

The Strategic Directions chapter (as notified on 27 August 2014) provides the following policy direction for management of rural land in Christchurch:

- a. Sufficient land to meet the communities immediate recovery and longer term needs for a range of activities including rural activities
- b. A range of housing options
- c. Long-term sustainable and efficient use of resources
- d. Development and urban form that recognises the landscape, recreational and environmental values of rural areas
- e. Restricting the provision and location of rural residential
- f. Location of education activities within the rural environment
- g. Urban activities are located within the urban environment
- h. Manawhenua values in sustainable management of resources
- i. Natural and physical resources are protected or enhanced through a high quality natural and cultural environment including health and productive capacity of ecosystems and resources including rural soils

4.2 Current District Plan provisions

Much of the pattern of rural subdivision and dwellings evidenced today around the Christchurch main urban area reflects the 'economic unit' criteria used until 1995 when the City Plan adopted a more prescriptive approach. The City Plan established a series of rural zones based on geographic areas, productive areas, groundwater protection, airport influences, coastal, Waimakariri River and the Port Hills (shown in Figure 2). The City Plan is effects based which has led to some urban activities within the rural environment. The validity of this framework to deal with existing and future issues needs to be considered.

The current Banks Peninsula District Plan has a single rural zone. The objectives and policies seek to maintain the landscape values, natural character and amenity values, and protect water quality and soil resources. It enables a range of rural land uses along with tourist and recreation activities based on scale of facilities.

5.0 Values, character and landscapes of different rural areas in the District

5.1 *Rural Plains*

The rural plains area encompasses all of the flat area immediately adjoining the main Christchurch urban area extending south to the lower slopes of the Port Hills, west to the city boundary with Selwyn District, north to the Waimakariri River and east to the coast.

The Christchurch City Plan currently manages the rural land resource for a range of rural activities whilst seeking to retain the character and life supporting capacity of the soil resource. As at December 2013, Christchurch City (including the Port Hills) contained some 19,787 hectares of zoned rural land³.

Rural land use

Rural land use within the plains area includes:

- horticultural and agricultural farming
- intensive farming
- forestry
- tourism facilities
- aggregate extraction activities
- recreation areas (active and passive) and sporting facilities, including Port Hills parks and reserves, McLeans Island recreation area; Ruapuna raceway, camping grounds, Bottle Lake, Chaney's plantations
- transport facilities and corridors e.g. airport, roading and rail networks
- public utilities necessary for the efficient functioning of the urban area, including the International Airport, Bromley Sewage Treatment Works; Burwood Landfill; major transmission lines, power generation equipment and telecommunication facilities,
- institutional facilities, such as Paparua Prison
- rural industrial activities, including the Templeton Special Rural Zone
- rural residential and lifestyle activities
- other activities inappropriate to urban areas such as catteries and dog pounds.

Landscapes and biodiversity

The Christchurch City Landscape Study by Boffa Miskell (Reviewed Draft 3 September 2014) provided an assessment of identified landscape character areas including the Port Hills, Coast Bottle Lake, Coast Brooklands, Waimakariri, Grasslands and Halswell Templeton. In terms of areas in the rural environment,

³ CCC Monitoring -

areas have been identified as outstanding natural landscapes on the Western Port Hills, Eastern Port Hills and the Waimakariri River south bank. Parts of the Grasslands and some parts of the Port Hills have been identified as significant landscapes.

Tangata whenua values

The rural plains are covered by the catchments of the Waimakariri and Ihutai in the Mahaanui Iwi Management Plan 2013. Issues of significance in relation to these catchments include: the effects of rural and urban land use on lowland waterways; protection of groundwater resource; subdivision and development activities that have the potential to adversely affect Ngai Tahu values such as waterways, mahinga kai and sites of significance; recognising and providing for cultural landscapes.

Rural resources

- *Groundwater*
The Canterbury Natural Resources Regional Plan Chapter 4: Water Quality (Operative June 2011) seeks to maintain or enhance the quality of Christchurch groundwater in its overall high quality state in the long term. The majority of the Groundwater Protection Zone 1 falls within the rural plains area, along with parts of Groundwater Protection Zone 3. Zone 1 comprises a significant portion of the land surface recharge area for the Christchurch Groundwater System. While Zone 3 covers the area of low hydrogeological vulnerability.
- *Flood management areas*
The Cranford Basin and Hendersons Basin provide flood ponding areas for the rural plains.

The boundaries of the areas in the following discussion reflect Census Area Unit boundaries and not any zone or suburb boundaries. The methodology and census area unit boundaries are outlined in detail in Appendix A.

5.1.1 Halswell

The Halswell area for the purposes of this report takes in the south west edge of the District east of Sparks Road and south of Halswell Junction Road, up to the District boundary with Selwyn District and to the lower slopes of the Port Hills as they wrap around towards Tai Tapu. The area also includes the rural area east of Pound Road up to Buchanans Road.

Transpower New Zealand Limited transmission lines and substation is a key infrastructure feature of the northern part of this area.

Lifestyle and rural residential development are the predominant land uses in the area (Figure 3). Rural land uses includes specialist livestock farming. These rural land uses are limited to nine properties, involve the larger sites within the area and tend to be located in the lower slopes of the Port Hills.

As a result of the South West Area Review (2006) part of the Halswell area was included within the urban environment as defined in the Land Use Recovery Plan and the Canterbury Regional Policy Statement. The review highlighted that the area is valued for its landscape and amenity values, which differ from

traditional values of openness provided by pastoral rural landscapes. Due to the level of development the amenity is that of rural lifestyle and rural residential where buildings and extensive boundary planting reduce the openness appearance. The main element of the areas character is the extent of naturalness, absence of built up areas, minimal levels of modification and urban structures (*South West Christchurch Rural Resource Scoping Report prepared by Beca June 2006*).

A number of goals and objectives for the rural land in the area were identified in the South West Area Review as outlined below.

South West Area Review (2006)

Goal 10 – maintain the versatility, function and character of rural land

Rural areas have a function and character distinct from the urban environment. While the primary function is a place for rural production, the openness and historic land-use patterns provide a range of recreation opportunities, areas of environmental, heritage and cultural value, space for large-scale activities that do not fit in the urban area, and natural hazard mitigation.

Fragmentation of land presents the greatest risk to the versatility and character of the rural resource. Subdivision reduces lot sizes that can compromise productive capacity and introduce increasingly urban-style residential activity. This affects rural character and the long-term versatility of rural areas for future generations. It is therefore necessary to define the limit of urban Christchurch to prevent urban encroachment across rural land, and control subdivision and development.

.....Without a significant natural barrier in the South-West, an urban edge must be clearly defined, using a variety of elements and features to provide a clear visual reinforcement of the separate identity and activities of urban and rural land uses.

Objective 10.1 Promote productive rural land-use activities that provide goods and support the local economy.

Objective 10.2 Locate buildings and structures to maximise the area of productive land.

Objective 10.3 Encourage buildings, structures and boundary treatments to reflect rural character and local landscape in terms of scale, form, materials and colour.

Objective 10.6 Co-ordinate the management of rural areas with those within the Selwyn District to ensure the contrast between urban and rural environments is maintained and the versatility, function and character enhanced.

Figure 3. Land use in Halswell

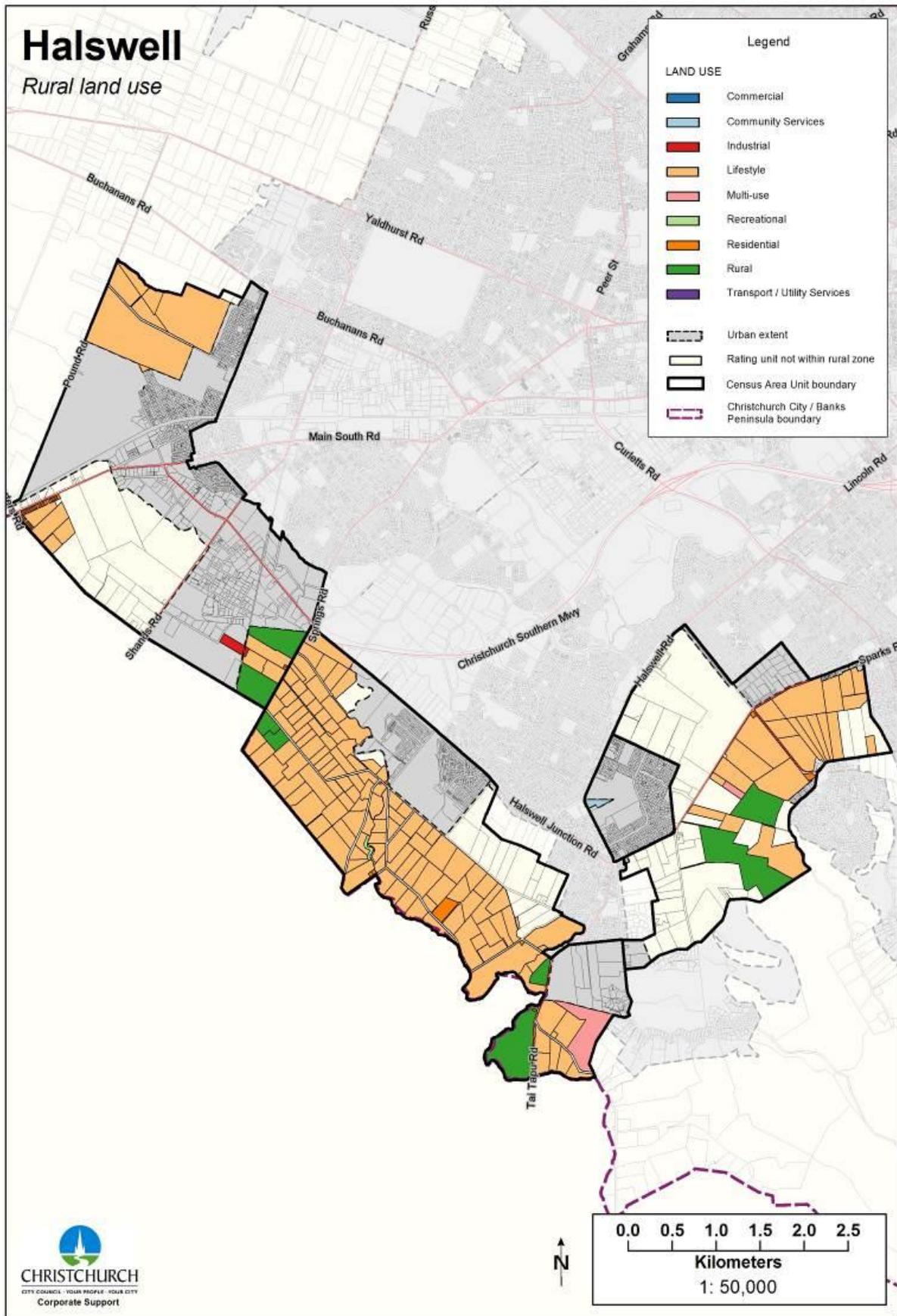


Table 5. Distribution of site sizes in Halswell

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	63	54	14%
2-4	64	48	25%
4-8	68	38	44%
8-12	10	5	50%
12-20	8	3	63%
20-40	3	0	100%
>40	1	0	100%
<i>Total</i>	<i>217</i>	<i>148</i>	<i>32%</i>

The predominant rural land pattern is one of smaller land holdings between 2ha and 8ha, illustrated by Table 5 and Figure 4. There is not significant potential for additional dwellings or subdivision with few remaining large sites in the area, which are currently farmed. Generally most sites have a dwelling with the exception of the larger sites (Figure 6).

The largest land holding in this area is located on the corner of Pound Road and Roberts Road which is subject to land use consent applications to undertake mineral extraction activities on and constraints on future development with transmission lines crossing the site. The other remaining larger sites tend to be located away from the urban edge towards the District boundary.

Figure 4. Distribution of site sizes in Halswell

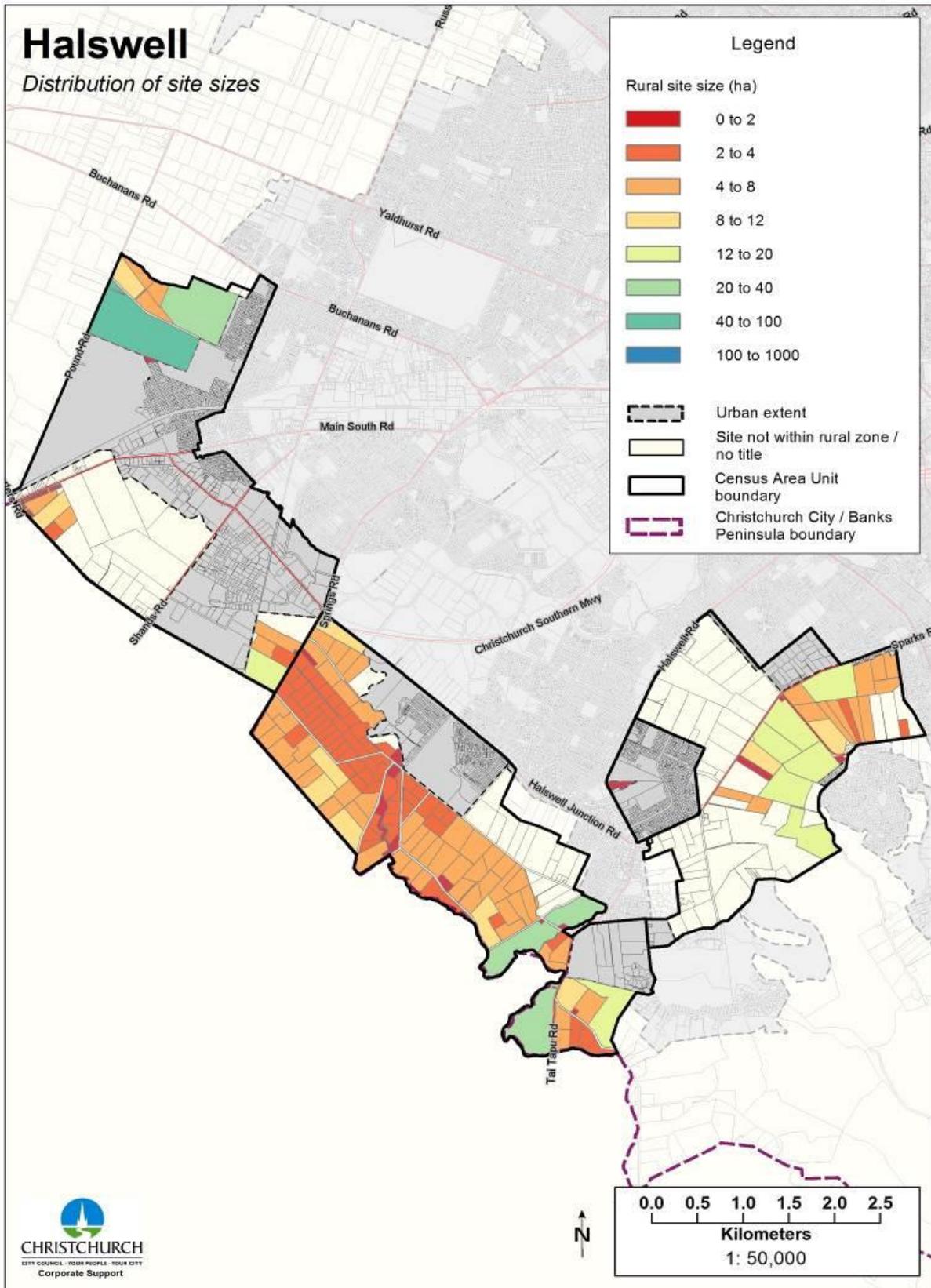
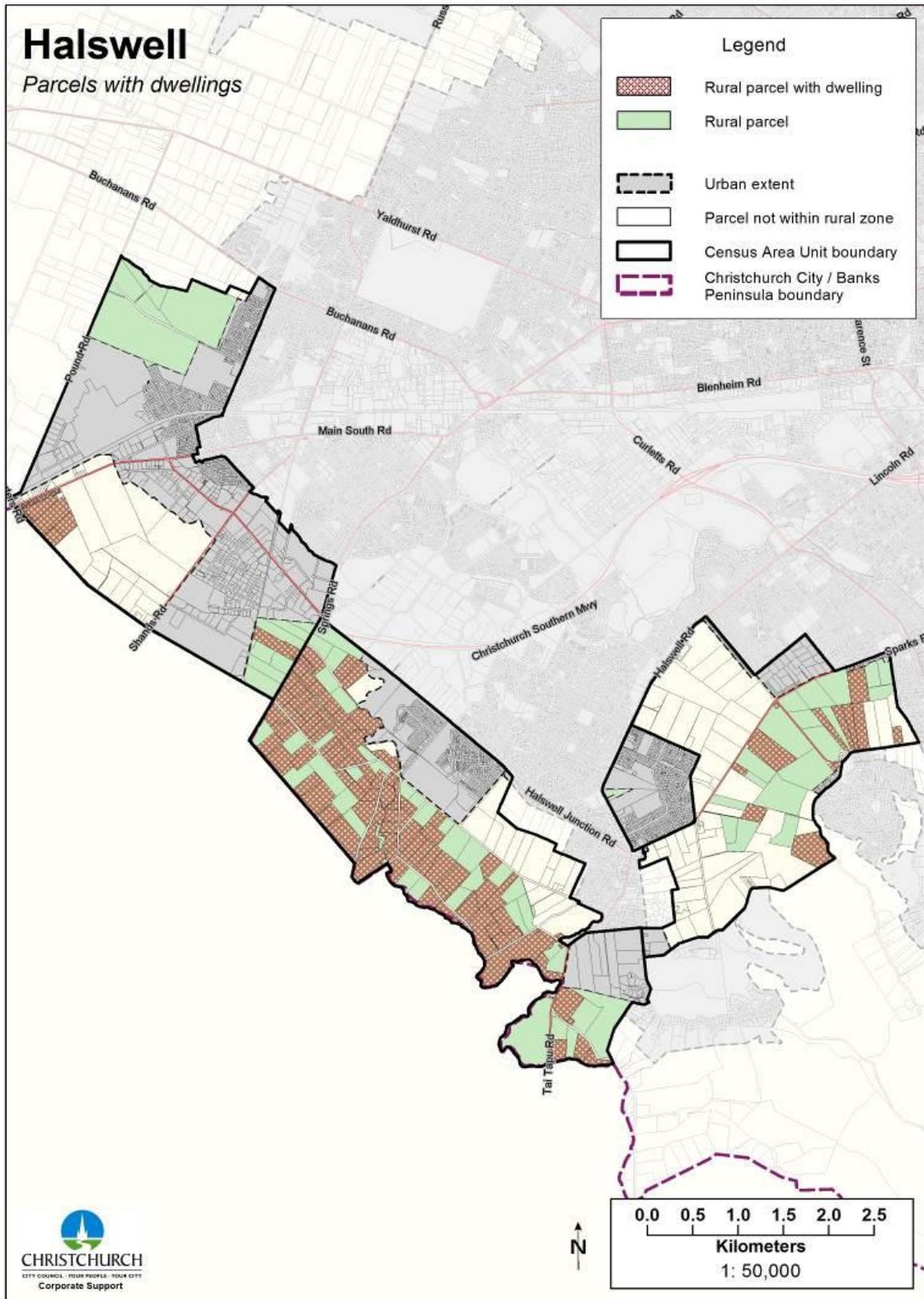


Figure 5. Distribution of parcels with dwellings in Halswell



5.1.2 North West Area

This area consists of the area to east of the Christchurch International Airport between the State Highway 1 and the western urban edge of the Christchurch main urban area. The majority of the area was part of the North West Area Review (2012). The review recommended that the majority of the area be rezoned as a 'Rural-Urban Fringe' zone with part of the area to be rezoned for industrial purposes, which has been included under Phase 1 of the District Plan Review.

The area contains a range of rural land uses including agriculture, horticulture and viticulture reflecting the highly versatile/productive soils (Figure 6). The predominant land use is lifestyle development. The area also provides important through connections between the urban area, State Highway 1 and the airport. The majority of the area is covered by the 50 dbA Ldn airport noise contour which limits the ability for the area to be used for urban development.

The pattern of development is intensive reflecting the predominance of lifestyle development (Table 6, Figure 7 and 8), with 57% of sites less than 2ha. Only two sites exceed 20ha, consisting of part of the farming operations of Isaac Conservation Park located to the north of the Johns Road industrial area and the Russley Golf Course.

Table 6. Distribution of site sizes in the North West

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	172	152	12%
2-4	73	64	12%
4-8	50	37	26%
8-12	2	2	0%
12-20	3	1	66%
20-40	1	0	100%
40-100	1	0	100%
>100	0	0	-
Total	302	256	16%

Figure 6. Land use in the North West Area

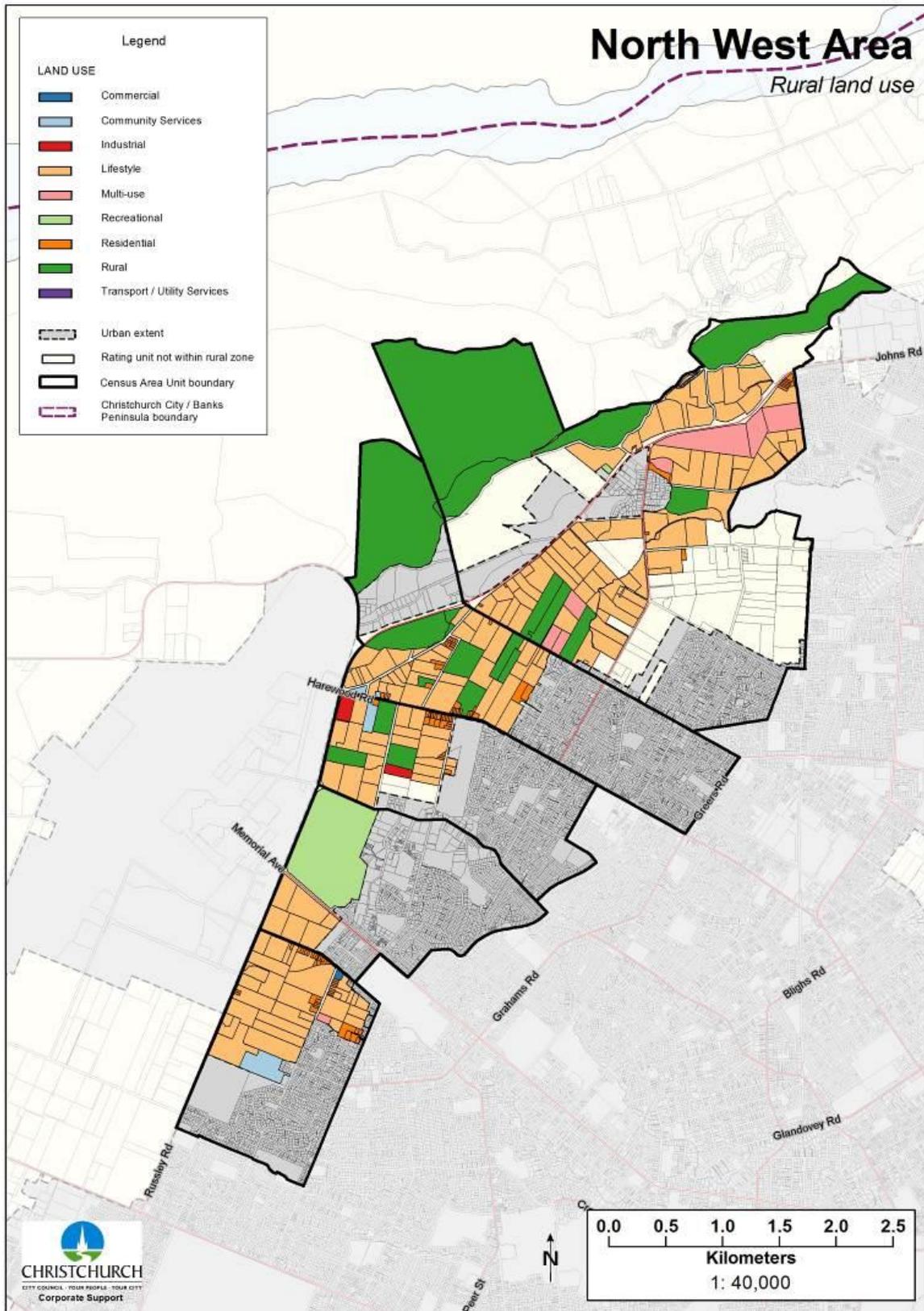


Figure 7. Distribution of site sizes in the North West

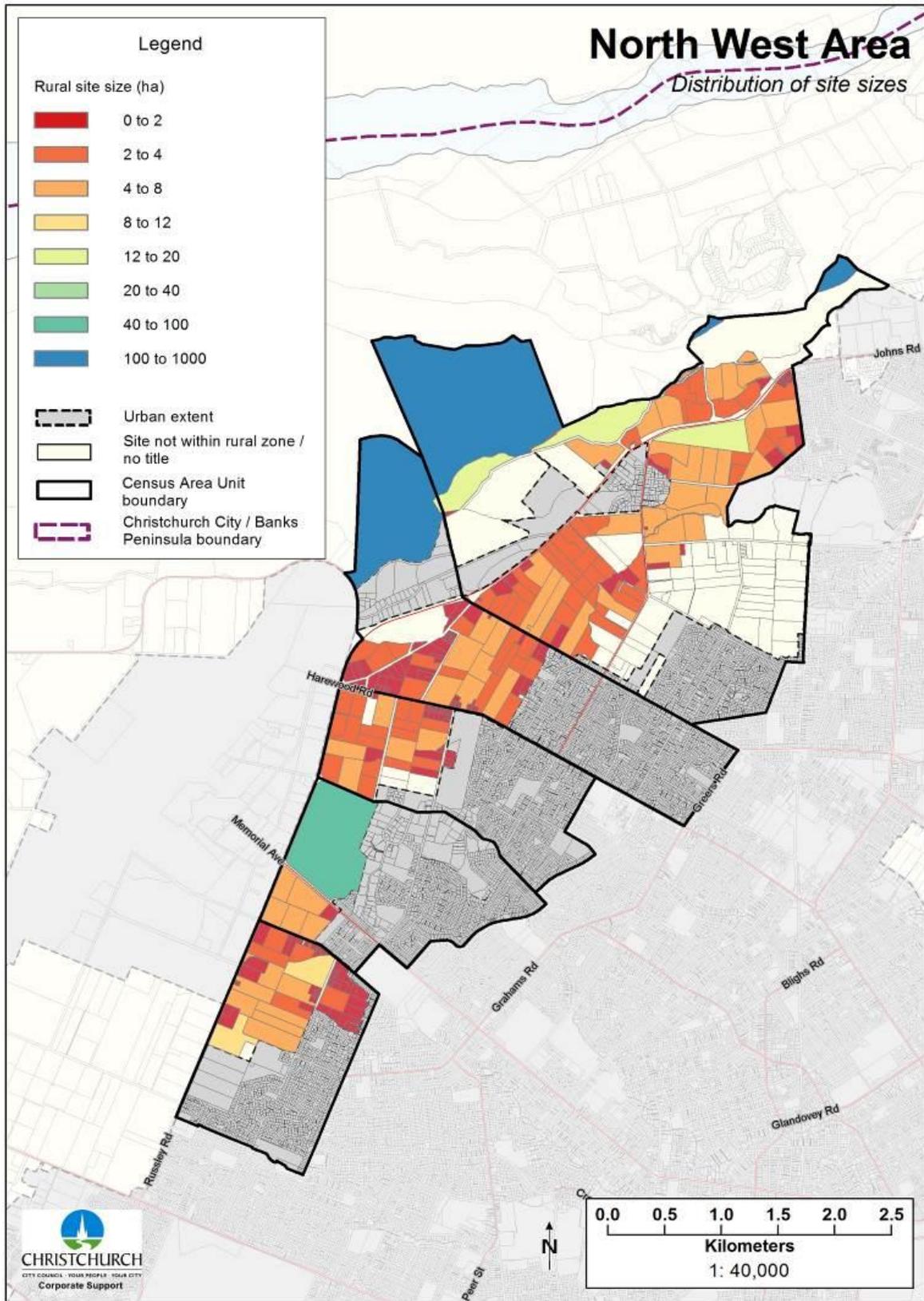
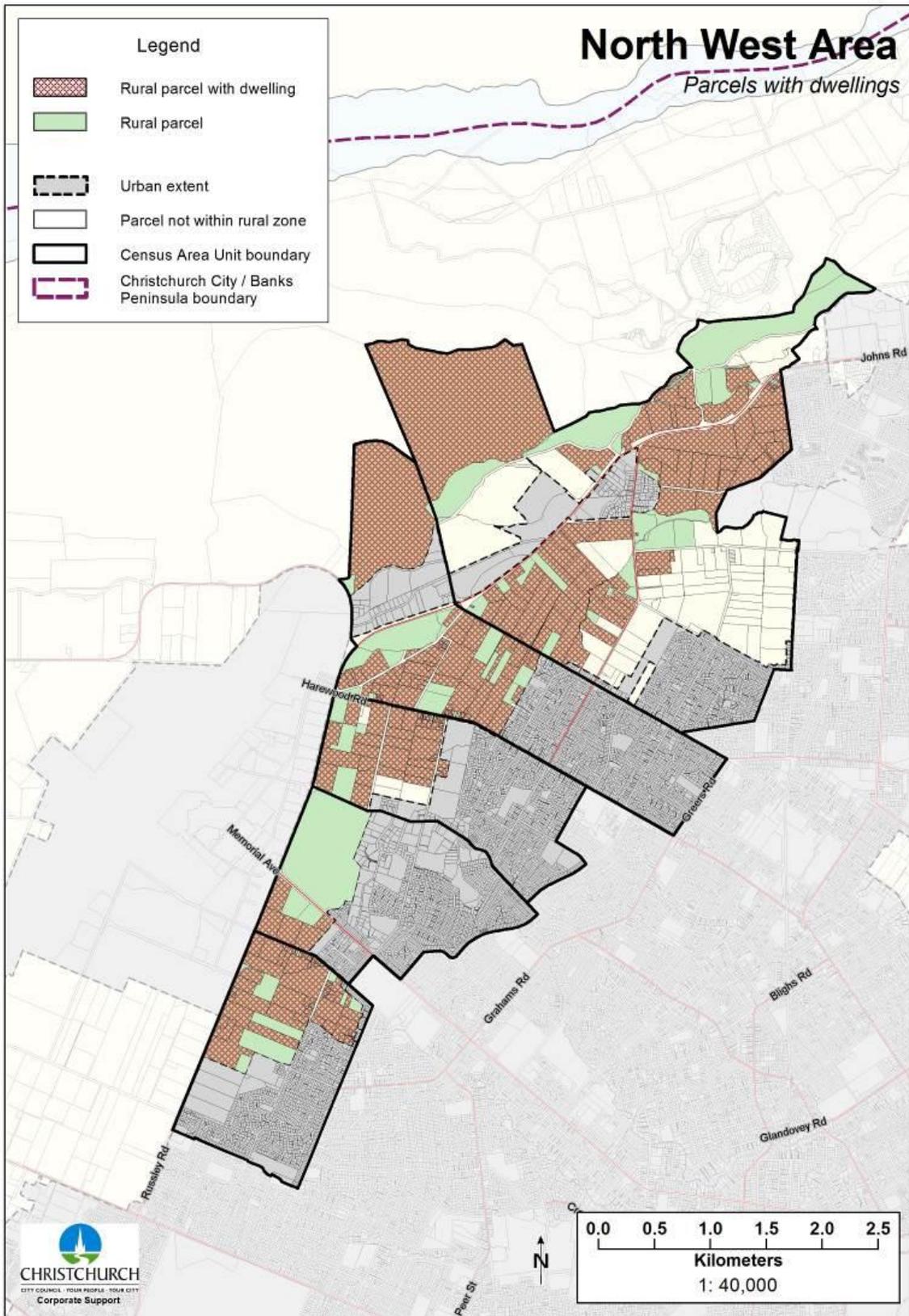


Figure 8. Parcels with dwellings in the North West Area



5.1.3 Marshlands

This area adjoins the urban edge in the north east extending north along Marshland Road, in between the Prestons residential development to the east, and bound to the west by the Styx River. The Cranford Basin is part of this area along with the Waitikiri Golf Course in the eastern edge of the area.

The area supports rural land uses based around agriculture and horticulture (market gardens and glasshouses) (Figure 9). Marshlands is one of three horticultural areas that remain in the District and one of the few areas contributing to horticulture in the Canterbury Region.

The intensive pattern of development includes a number of sites created in the 1940-50's reflecting its horticulture history. The majority of sites have a dwelling on them and there is limited potential for additional development based upon the current 4ha minimum site size with 95% of sites less than 8ha (Table 7, Figure 10 and 11).

Table 7. Distribution of site sizes in Marshlands

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	120	94	22%
2-4	96	77	20%
4-8	44	30	32%
8-12	7	6	14%
12-20	3	1	66%
20-40	1	0	100%
40-100	2	0	100%
>100	0	0	-
Total	273	208	24%

Figure 9. Land use in Marshlands

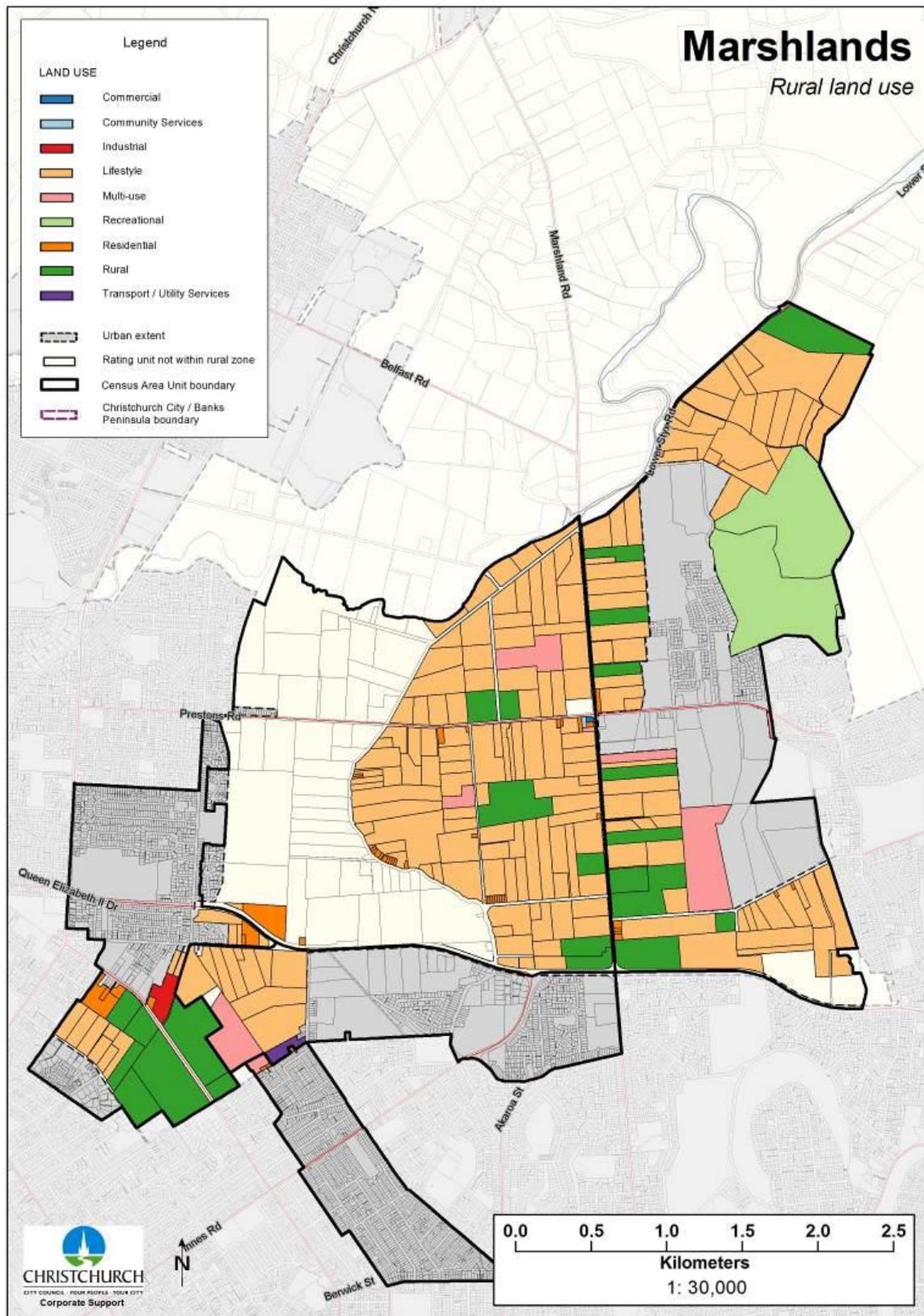


Figure 10. Distribution of site sizes in Marshlands

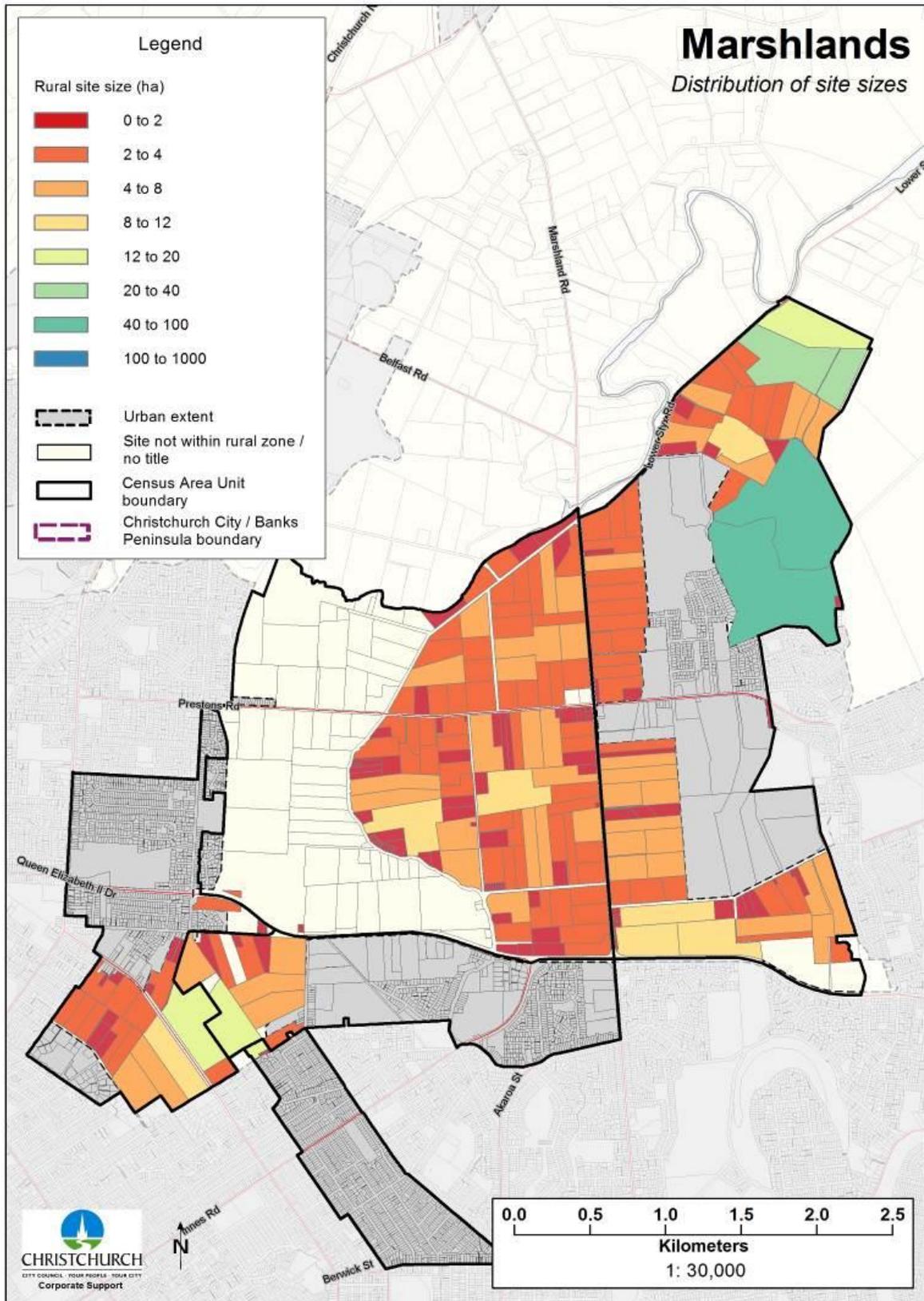
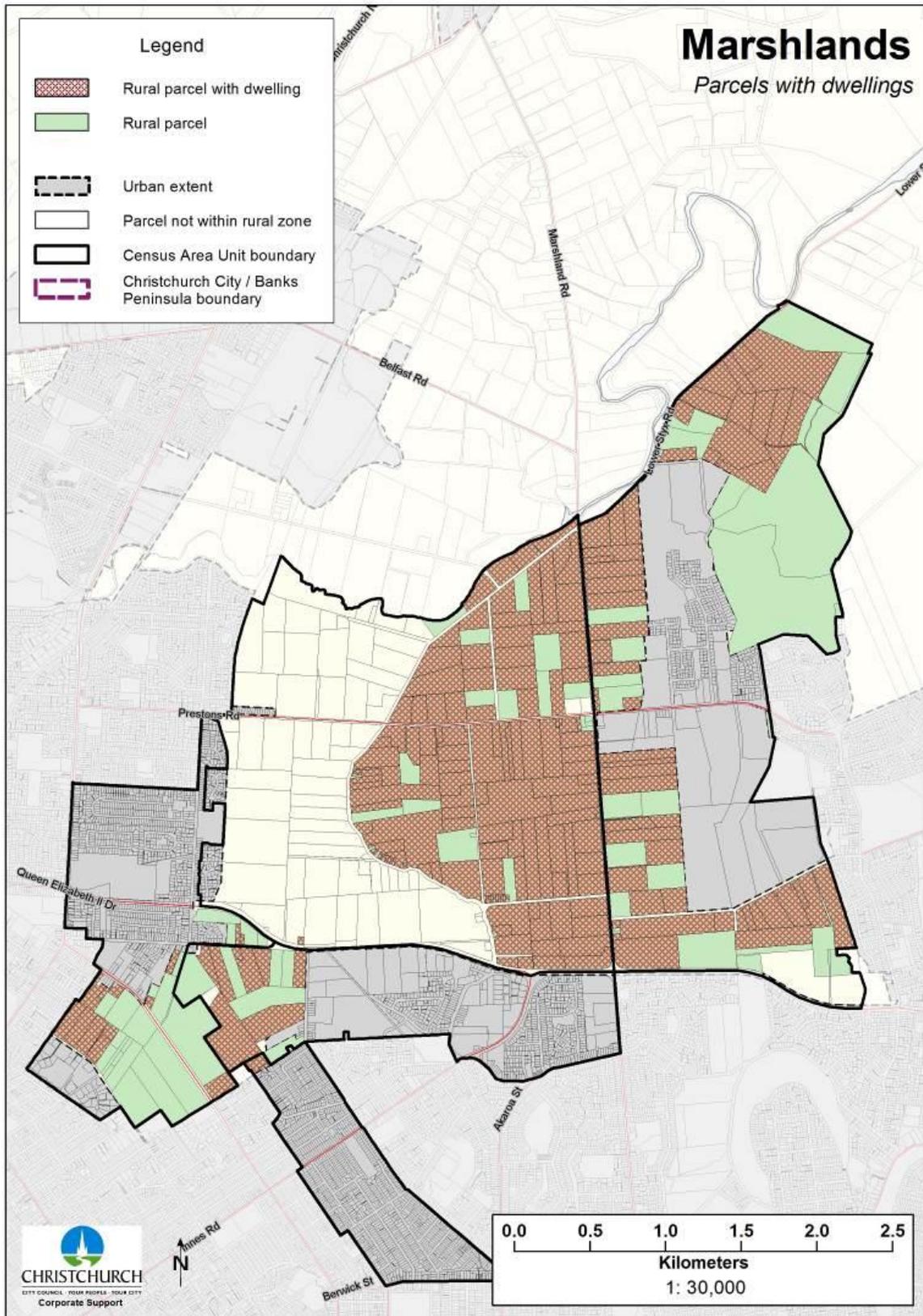


Figure 11. Parcels with dwellings in Marshlands



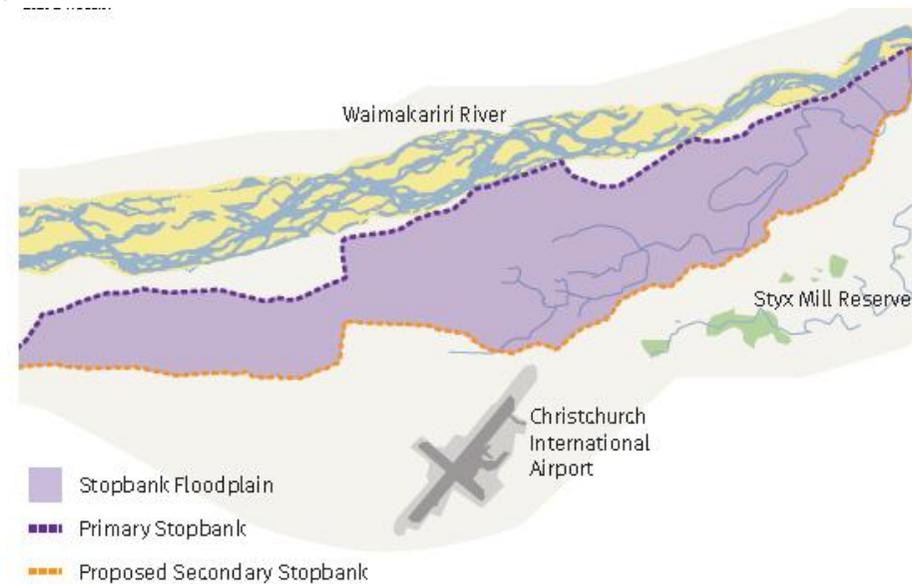
5.1.4 Yaldhurst - Paparua

This area extends west of State Highway 1 and beyond the Christchurch International Airport up to the city boundary with Selwyn District, northwards to the Waimakariri River and includes the Templeton area north of State Highway 1.

The area contains strategic infrastructure and institutional facilities including Paparua Prison and Transpower New Zealand substation and transmission lines. The Christchurch International Airport adjoins the area to the north east. There are a number of recreation uses including golf courses (Templeton, Harewood), motorsport (Ruapuna Speedway, Carrs Road Kart Club), West Melton Reserves area (owned by Environment Canterbury) which includes the Waimakariri Reserves (rural grasslands) and McLeans Island. Isaac Conservation Park is also within the area. The McLeans Island area provides for various clubs and groups that lease land, with the remaining area in plantation forestry and dryland grazing. The West Melton Reserves Management Plan focuses upon the grasslands area and its key values of providing for protection of the Christchurch municipal water supply, rare remnant ecosystems and soil conservation.

The area mostly covers the Christchurch groundwater protection zone and includes half of the Waimakariri River stopbanks, illustrated in Figure 12. The remainder of the stopbanks are included in the Styx area discussed in 5.2.5.

Figure 12. Waimakariri River Stopbanks



Source: Christchurch City Council, Consultation Proposed City Plan change Waimakariri Stop bank floodplain information brochure

The site of the former Templeton Hospital on Kirk and Maddisons Road, is zoned Templeton Special Rural Zone under the current City Plan, which enables re-use of the site and buildings for a variety of rural support activities including rural research facilities.

Rural land uses include stock and store livestock (Figure 13). Operating quarries are located around Old West Coast/Miners Road, Pound Road and McLeans Island Road. Lifestyle development.

Table 8 and Figure 13 illustrates that the intensive pattern of subdivision, based around lifestyle development, is concentrated along the main roads and the edges of the Paparua-Yaldhurst area i.e. Old West Coast Road. Larger less developed sites are located beyond these areas, tending to have lifestyle development around their perimeters. The existence of larger sites in this area is reflective of their crown (i.e. Corrections Department) or public ownership (Environment Canterbury) and use for large strategic infrastructure i.e. Christchurch International Airport. The Isaac Conservation Trust owns a significant area to the north providing for farming, quarrying and conservation activities. These larger sites protect the openness of the area and the naturalness.

Table 8. Distribution of site sizes in Paparua-Yaldhurst

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	81	59	27%
2-4	138	119	14%
4-8	228	145	36%
8-12	25	12	52%
12-20	21	13	38%
20-40	19	7	63%
40-100	15	4	73%
>100	14	3	79%
<i>Total</i>	<i>541</i>	<i>362</i>	<i>33%</i>

Figure 13. Land use in Paparua-Yaldhurst

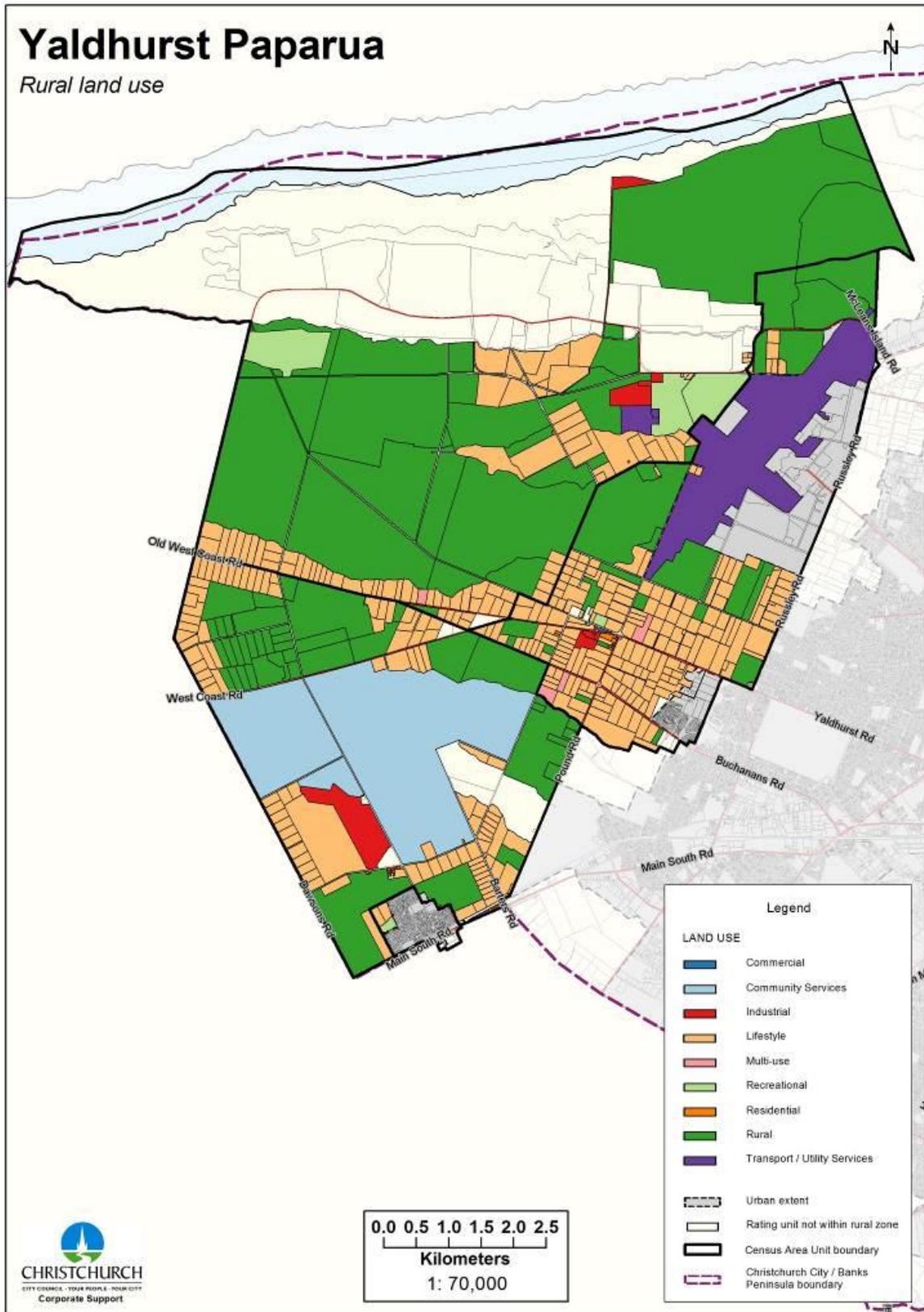


Figure 14. Distribution of site sizes in Paparua

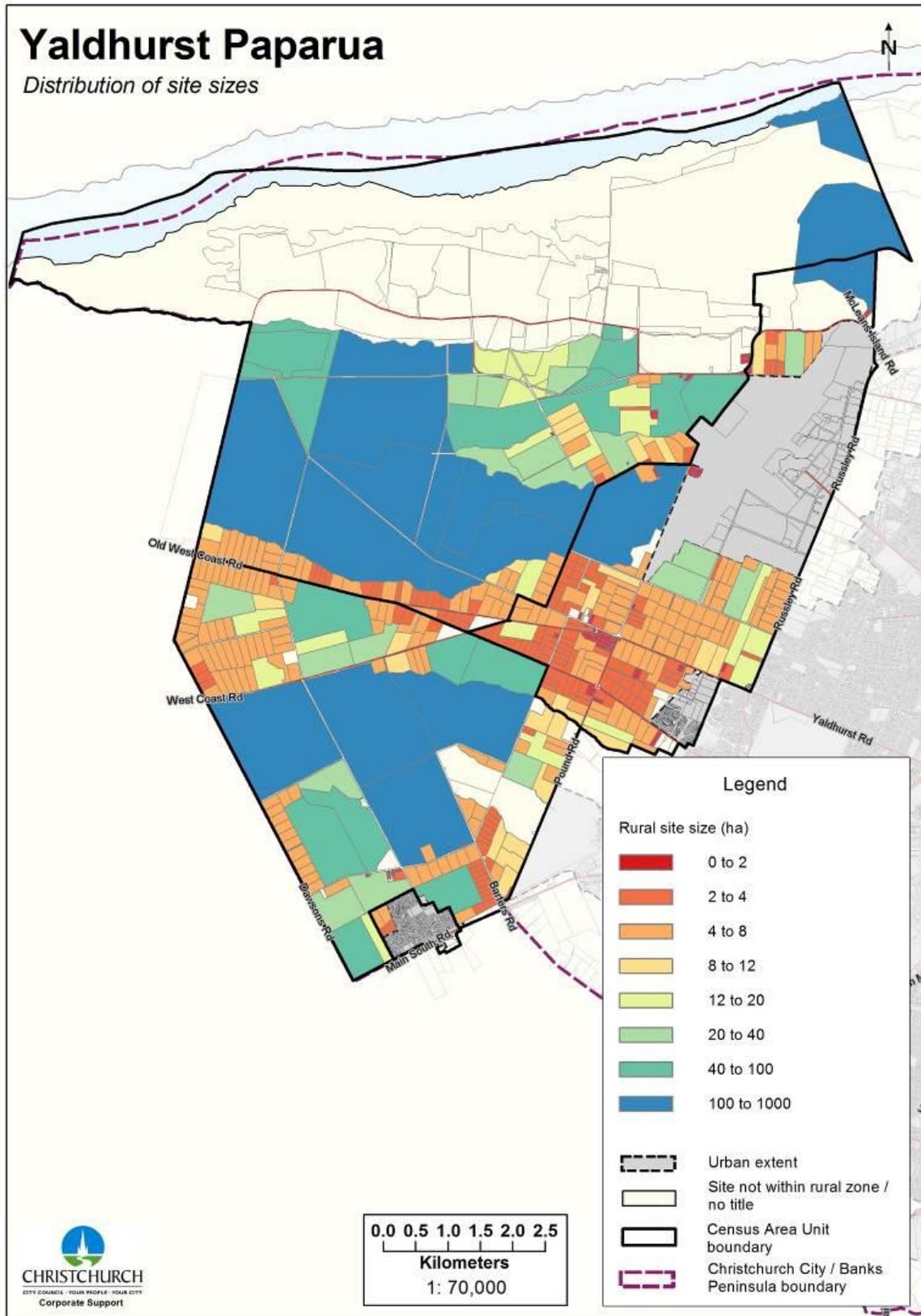
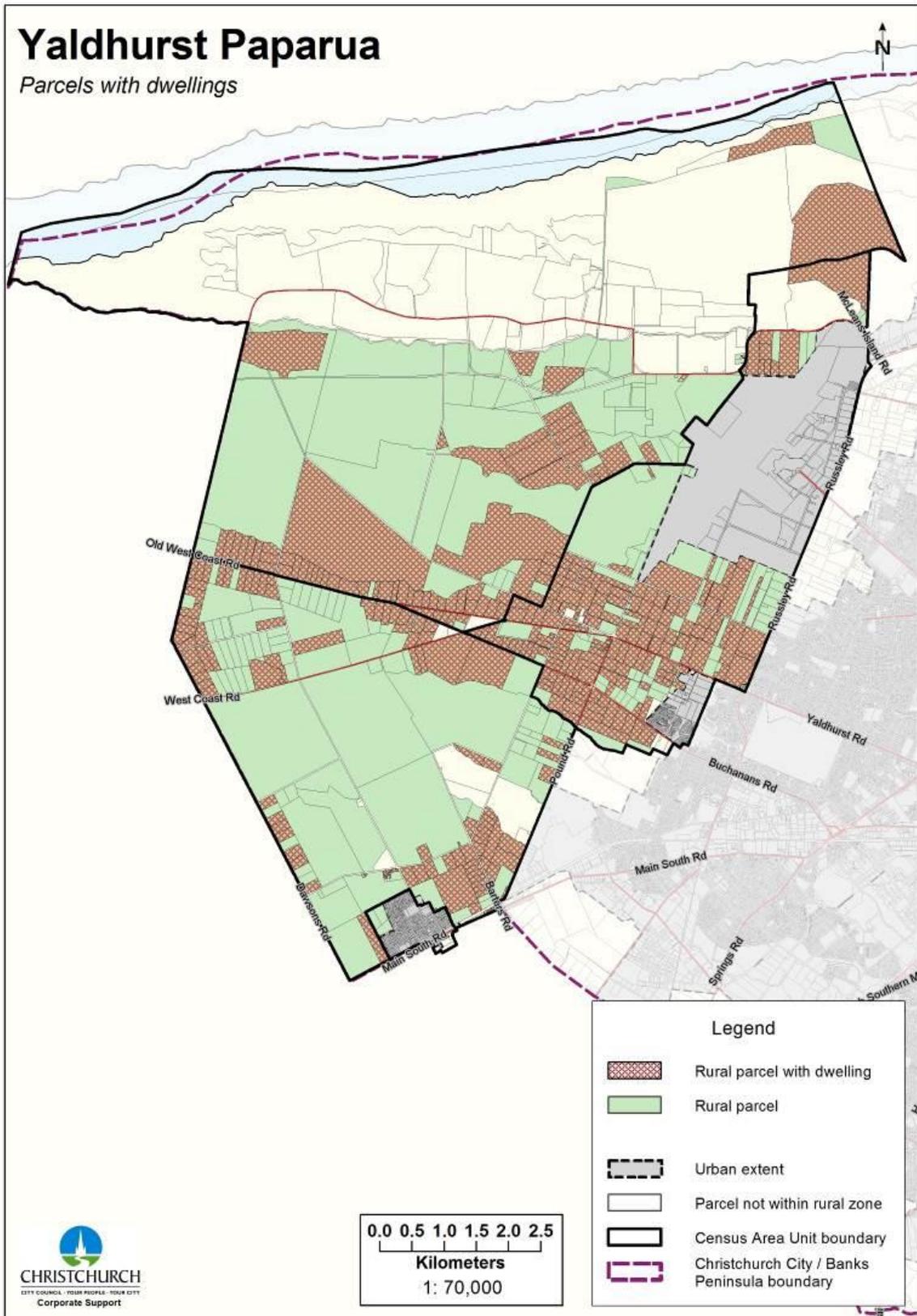


Figure 15. Parcels with dwellings in Papanua-Yaldhurst



5.1.5 Styx

This area adjoins the northern edge of the Christchurch main urban area, east of the Papanui-Yaldhurst area discussed previously. The area includes land directly adjoining and extending east along the edge of the Waimakariri River, taking in the Waimakariri River Regional Park, The Groynes and extending east to the coastal edge of Brooklands Lagoon and south taking in Bottle Lake Forest.

The significant feature of this area is the network of public recreation opportunities based around the Waimakariri River Regional Park system, including Templars Island and Coutts Island through to Brooklands Lagoon. Other key reserves owned by the Christchurch City Council add to the network including The Groynes, Bottle Lake Forest, Spencer Park and Styx Mill Reserve. Private land uses in the area include Clearwater resort, Christchurch Golf Resort and part of the Isaac Conservation Park.

The area provides significant ecosystem services through groundwater, biodiversity, recreation opportunities and flood management including the primary and secondary floodbanks for the Waimakariri River (Figure 12).

Rural land use is based on a mix of horticulture, agriculture and forestry (Figure 16). Some dairying occurs in the Brooklands area. There are large areas of plantation forest at Bottle Lake, Chaney's and Kainga, with Bottle Lake functioning as a recreation area. All these plantations are publicly owned.

The pattern of subdivision is relatively intensive adjacent to the Marshlands area with site sizes increasing with land use and public ownership eg. Bottle Lake (Figure 17 and 18). There are extensive areas that do not contain dwellings, once again these are related to public land ownership.

Table 9. Distribution of site sizes in Styx

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	240	122	66%
2-4	78	48	45%
4-8	92	63	32%
8-12	37	15	59%
12-20	12	7	42%
20-40	16	8	62%
40-100	8	2	75%
>100	7	0	100%
Total	490	265	46%

Figure 16. Land use in the Styx

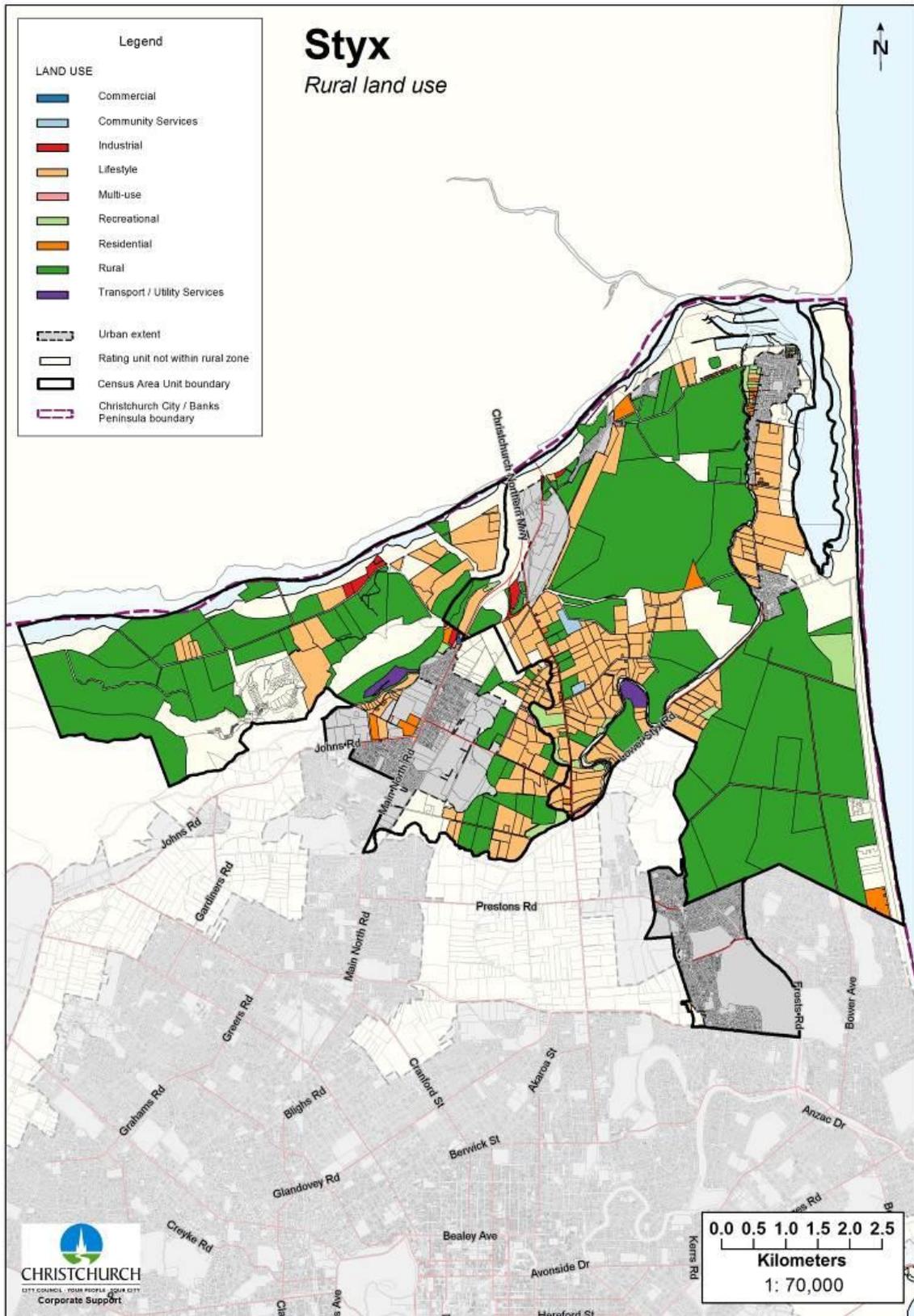


Figure 17. Distribution of site sizes in Styx

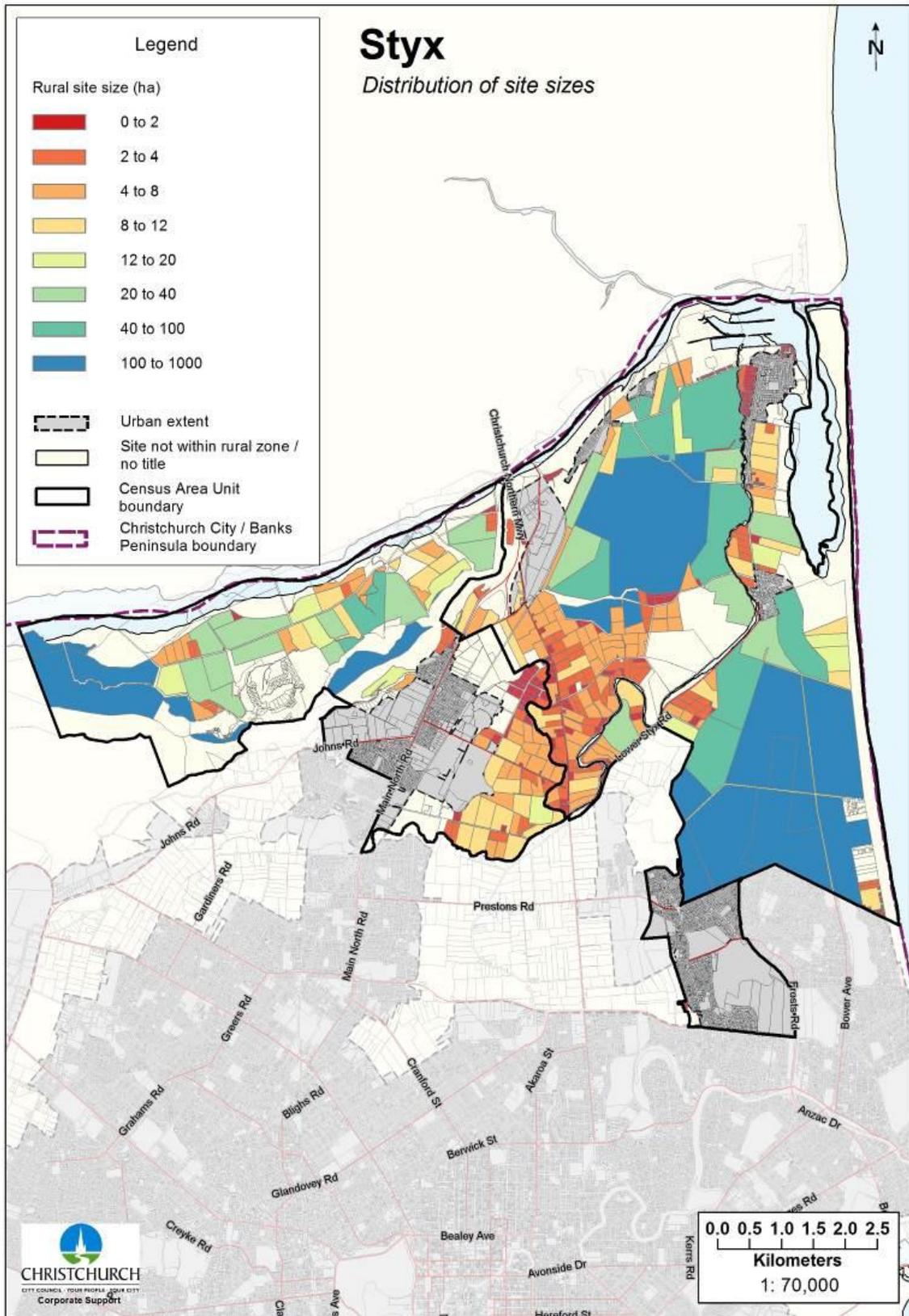
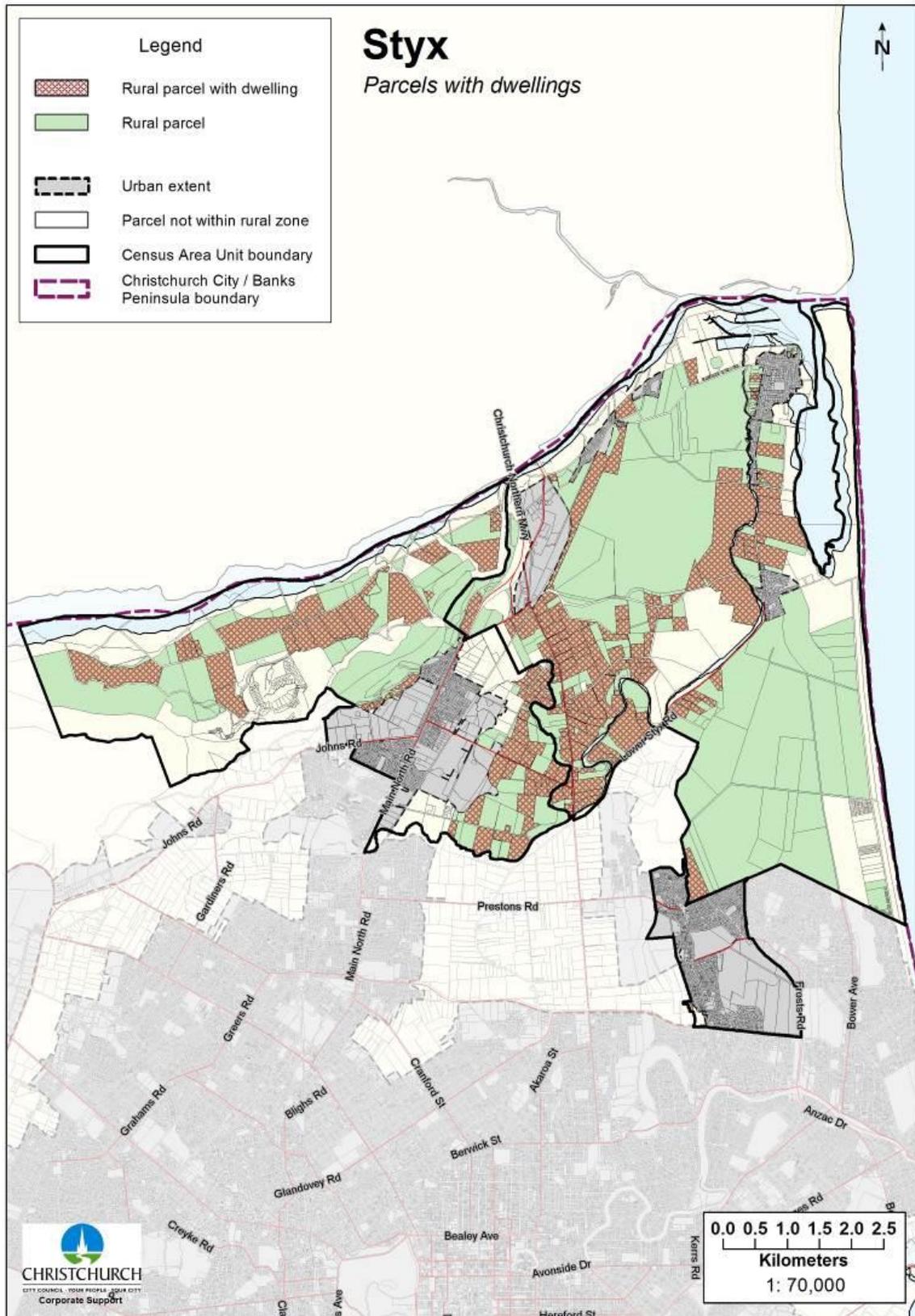


Figure 18. Parcels with dwellings in the Styx



5.2 The Port Hills

For the purposes of this report the Port Hills area extends from Godley Head through to western edge of the District near Kennedy's Bush. It encompasses the faces, spurs and valleys of the Port Hills when viewed from various parts of the flat part of the District. It also incorporates the Avoca and Horotane Valleys.

The Port Hills contain a limited range of rural land uses with a mix of ownership. There has been a steady programme of acquisition of land for public purposes over the years, which has enhanced the recreation and conservation areas accessible on the Port Hills, particularly towards the eastern end. Land uses include pastoral grazing, plantation forestry, conservation, passive recreation, tourism and rural living. The Avoca and Horotane Valleys contain intensive land use based around horticulture. Rural land uses sustain the landscape, heritage and conservation values of some of the recreation areas, combining uses into farm parks on Godley Head and Mt Vernon. There are also a number of areas covenanted for open space or biodiversity purposes. Along with the recreation opportunities there are also tourist attractions such as the Christchurch Gondola.

Viewed from the main Christchurch urban area the Port Hills provide an important visual backdrop to the city which is enjoyed by the majority of the District's population and provides a reference point from within the city. Parts of the Port Hills have been identified as an outstanding natural landscape (*Christchurch City Landscape Study, 3 September 2014*) particularly the undeveloped open areas, ridgeline and main spurs. The distinctive highly open and visible landscape with few structures and dominant natural character provides a contrast to the urban environment. The high minimum site size (100ha), controls on buildings and high degree of public ownership have maintained the open character of the Port Hills.

The Summit Road is managed through the Summit Road (Canterbury) Protection Act 2001 administered by the Summit Road Protection Authority. The purpose of the Summit Road Protection Act is to provide for the preservation and protection of the scenic amenity associated with the Summit Road and other roads, walkways, paths and public open spaces within the protected land; to provide for the preservation and protection of natural amenities; and to provide for the improvement of facilities for the public enjoyment of the scenic amenity and the natural amenities. The protected area applies at varying widths (up to 30m) either side of Summit Road through to Gebbies Pass. The Act restricts a number of activities within the protected area including subdivision, erection of structures, quarrying, planting and earthworks. The restrictions imposed by the Act are separate to the District Plan and managed through the Summit Road Protection Authority.

Dwellings tend to be concentrated on smaller sites at the lower elevations along spurs, particularly at the western end (Figure 21). Some of these sites have developed through historical subdivision patterns, with the orientation of sites running in a west east direction. There is very limited ability to subdivide on the Port Hills due to the high minimum site size that applies to the Rural Hills, with only two sites greater than 200ha on the Port Hills.

The Ports Hills supplies three main water catchments, Halswell, Heathcote and the estuary. As part of the Waterways and Wetlands Natural Asset Management Strategy (1999) a number of project areas were focused upon the Port Hills. Retention of existing vegetation and re-vegetation of the valleys and watercourses was encouraged to assist in managing erosion prone areas, stormwater management and flooding.

The Port Hills have suffered damage as a result of the earthquakes with areas identified as being subject to cliff collapse and rock fall hazard. Parts of the Horotane and Avoca Valleys are included in the residential 'red' zone.

Most rural zoned sites on the Port Hills are less than 8 hectares (Table 10 and Figure 20). The smaller sites reflect historical subdivision development, with a pattern of small sites extending adjoining roads that extend up spurs. The small sites of the Avoca and Horotane Valley (2ha) also contribute to the high number of small sites. The larger sites are utilised for farming, forestry or are held in public ownership as reserves. The areas of land held in public ownership towards the eastern end of the Port Hills are yet to be rezoned as open space.

Table 10. Distribution of site sizes in Port Hills

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	124	86	37%
2-4	31	29	41%
4-8	60	36	28%
8-12	8	4	33%
12-20	2	1	80%
20-40	4	3	67%
40-100	4	1	80%
>100	6	2	80%
<i>Total</i>	<i>239</i>	<i>162</i>	<i>40%</i>

Figure 19. Land use in the Port Hills

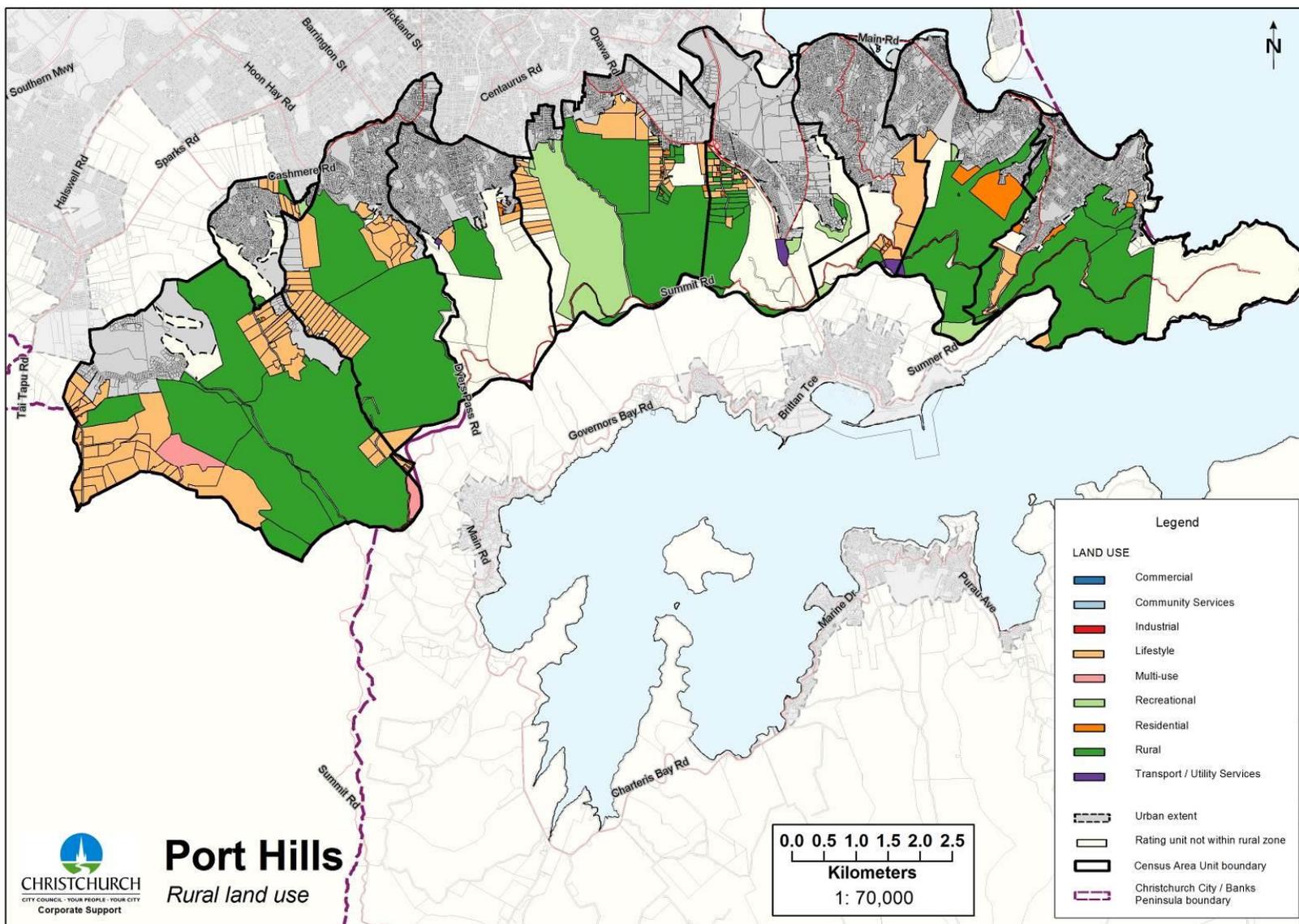


Figure 20. Distribution of site sizes in Port Hills

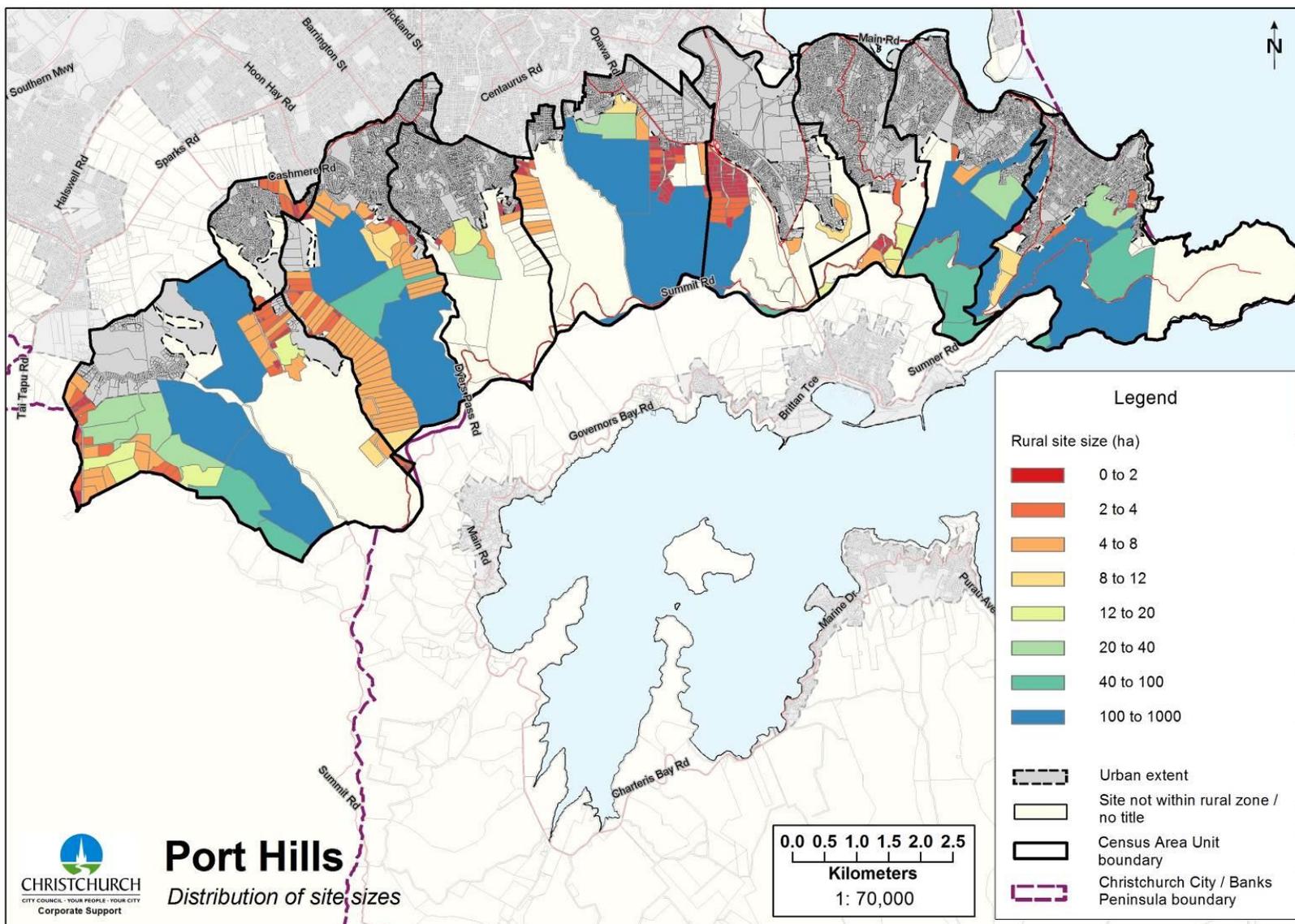
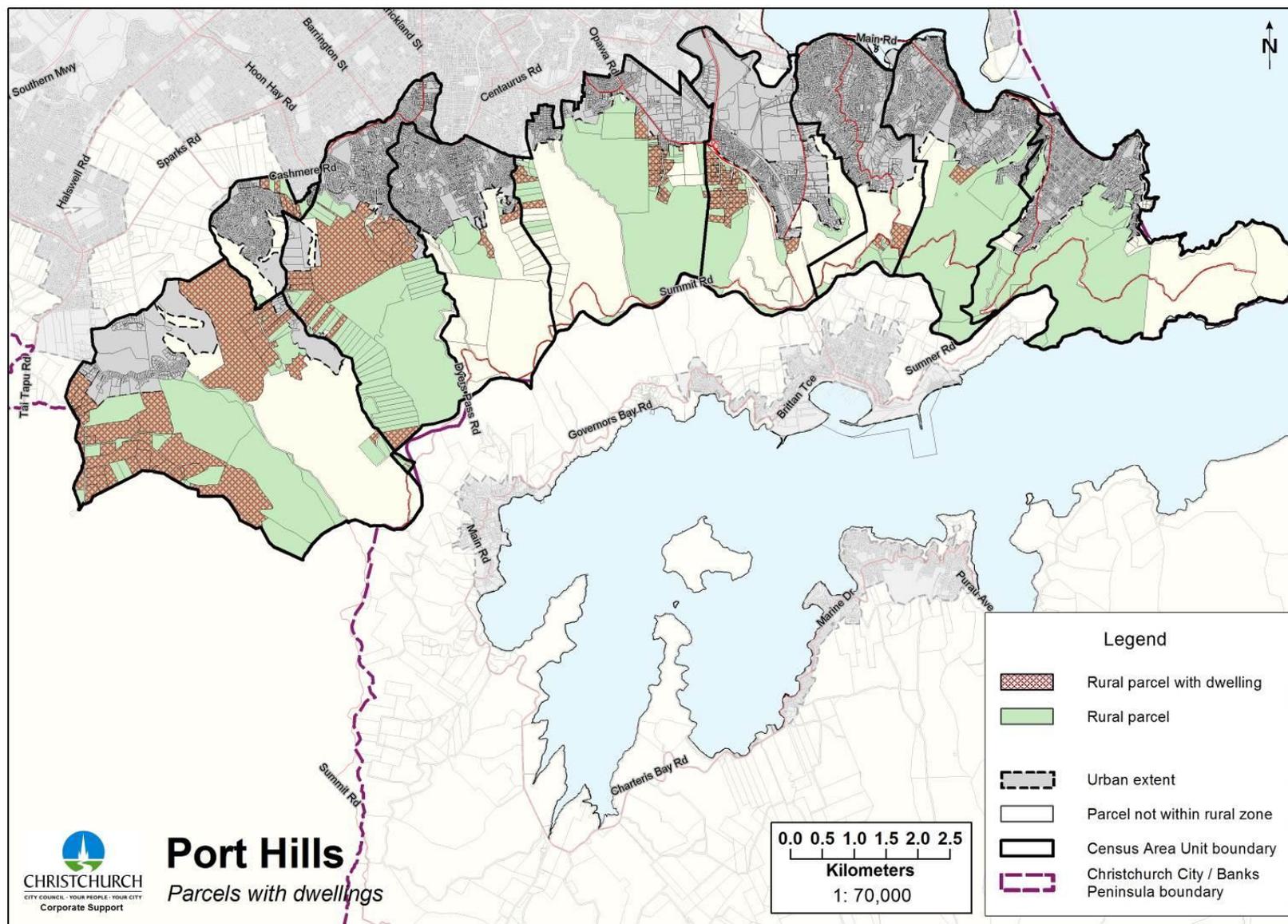


Figure 21. Parcels with dwellings in the Port Hills



5.3 *Banks Peninsula*

Banks Peninsula contains approximately 92,450ha of zoned rural land and incorporates the majority of the Banks Peninsula area. A total of 8,700 people live on Banks Peninsula (in urban and rural areas) with a projected increase to 9,500 by 2031⁴.

Rural land use

The range of activities undertaken within Banks Peninsula includes dairying, horticulture, pastoral farming, forestry, and tourism and recreation areas/facilities. Pastoral farming, based around stock and store livestock, is the dominant land use. Tourism activities based upon landscape and biodiversity have increased in importance and visibility over the past few years. Figure 22 illustrates the distribution of land uses across Banks Peninsula.

Landscapes and biodiversity

The natural character of the Banks Peninsula landscapes is well known and documented for its volcanic origins. Areas identified as outstanding along with a range of natural features and are managed through the district plan. The Banks Peninsula Landscape Study May 2007 (Boffa Miskell) provides a detailed assessment of the landscape based upon landscape character areas. Areas of indigenous vegetation are protected through programmes of fencing and covenanting, and are actively managed assisted by landowners and volunteer groups including the Banks Peninsula Conservation Trust.

Tangata whenua values

Banks Peninsula and its coastal environment holds significant values for Ngai Tahu. Four papatipu rununga are located on Banks Peninsula: Te Hapu o Ngati Wheke/Rapaki Rununga, Te Rununga o Koukourarata, Te Rununga o Onuku and Wairewa Rununga with marae located at Rapaki, Port Levy, Onuku and Little River. Maori reserve land exists at a number of locations including Rapaki, Port Levy, Wainui, Onuku, Birdlings Flat and Little River. Papakainga housing is located at Rapaki and Port Levy. Ripapa Island, Lyttleton Harbour and Te Roto o Wairewa are statutory acknowledgement areas. There are a number of pa sites around the coastal edge along with landing sites, nohonga, urupa and mahika kai.

Settlements

Banks Peninsula contains several settlements of varying functions and size that service the rural area and rely upon the rural resource and its values. With the exception of Little River and Kukupa, these settlements are located at the head of bays along the coastal edge, with larger settlements developed around Lyttleton and Akaroa harbours. The settlements are often isolated and remote which limits their size while influencing their character. The settlements range in size, infrastructure servicing and activities. A characteristic of these settlements is that they provide for both permanent residents and holiday homes.

⁴ CCC Monitoring and Research Team, August 2014 Population and Household Projections summary based on Statistics New Zealand

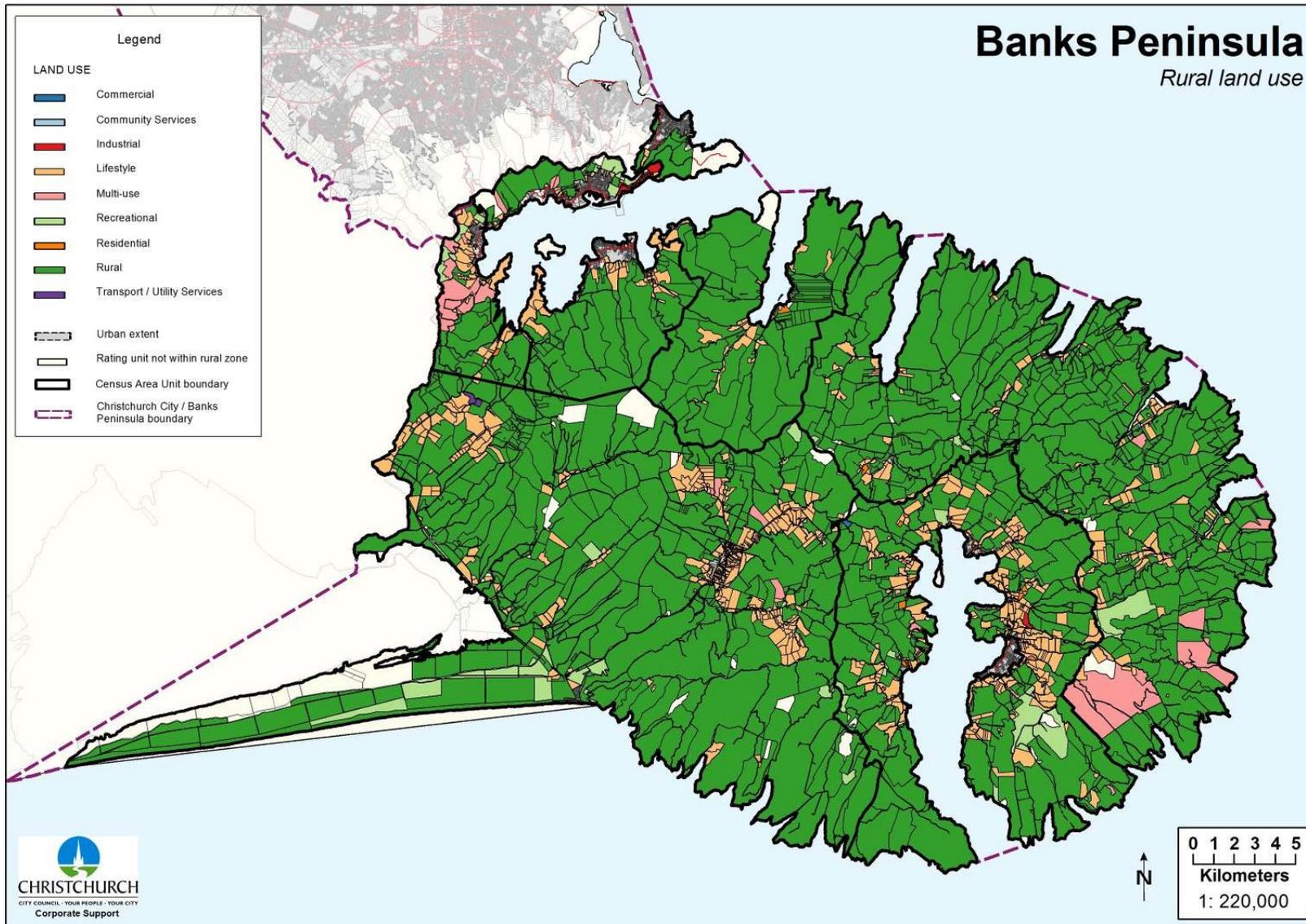
Current District Plan provisions

Rural land is zoned Rural under the Banks Peninsula District Plan with overlays for outstanding natural landscape and coastal natural character. The remainder of the zone not covered by the overlays is referred to as a rural amenity landscape. There are two areas zoned Rural Residential, Allandale and Samarang Bay. Most settlements are zoned Small Settlement with reserves zoned as Conservation Reserve. Akaroa and Lyttelton are zoned Residential.

The minimum site size for establishing a dwelling or subdividing within the Rural Zone is 40ha where it is below the 160m contour line and 100ha above. The current provisions of the Rural Zone were established through Variation 2, which became operative in 2010 after extensive consultation and analysis including the Banks Peninsula Landscape Study. A degree of flexibility through cascading activity status is provided for within the zone to enable landowners to establish a lifestyle site down to 1ha in the following circumstances:

	Permitted	Controlled	Discretionary	Non Complying
<i>Rural Amenity Landscape – land use</i>	Dwelling on 40ha/100ha	1ha Dwelling plus balance meets density	1ha Dwelling plus balance >4ha	<4ha
<i>Rural Amenity Landscape – Subdivision</i>		40/100ha 1ha dwelling plus balance meets density	4ha 1ha dwelling plus balance >4ha	<10ha
<i>Overlay areas - Outstanding Natural Landscape and Coastal Natural Character – subdivision</i>			4ha plus no dwelling in ONL/CNC consent notice	4ha but no consent notice

Figure 22. Rural land use on Banks Peninsula



5.3.1 Eastern Bays and Port Levy

This area covers the eastern part of Banks Peninsula extending east of the Purau-Port Levy Road and the Summit Road. It includes the settlements at Port Levy, Pigeon Bay, Little Akaloa, Okains Bay and Le Bons Bay. Hinewai Reserve is located at the southern boundary of the area extending across an area of 1230ha of regenerating native bush. The Banks Peninsula Track, a private walking track across several farms, traverses through Hinewai Reserve from Onuku then along the coast towards Otanerito Bay before heading back across to Akaroa.

Land uses in the area are based around stock and store livestock farming with some forestry, lifestyle and recreation land uses. Dairy farms are located in Little Akaloa and Okains Bay. Table 11 and Figure 23 illustrate the distribution of site sizes in the area. The area contains large sites, up to 800ha in size. The large site size reflects the dominance of farming as a land use, the need to have large farming units due to the topography and soil types and reflects the isolation of the area. Farming rating units tend to consist of a number of sites. Smaller sites tend to be located in and around the coastal settlements. Pigeon Bay and Port Levy are not as finely subdivided as the remaining Eastern Bays areas, particularly around the headlands. Figure 24 illustrates those parcels with dwellings, which tend to be concentrated in and around the settlements and then in pockets along roads with isolated farm dwellings in remaining areas. The majority of small sites have dwellings on them while large sites are unlikely to have a dwelling on them which reflects the role these sites play within farming and also reflects the degree of isolation of these sites.

Table 11. Distribution of site sizes in Eastern Bays and Port Levy

Site size (hectares)	Number of sites	Number of sites with dwellings	Sites without a dwelling
0-2	177	93	47%
2-4	57	23	60%
4-8	116	34	71%
8-12	94	26	72%
12-20	110	15	86%
20-40	142	23	84%
40-100	143	17	88%
>100	68	5	93%
<i>Total</i>	<i>907</i>	<i>236</i>	<i>74%</i>

Figure 23. Distribution of site sizes in Eastern Bays and Port Levy

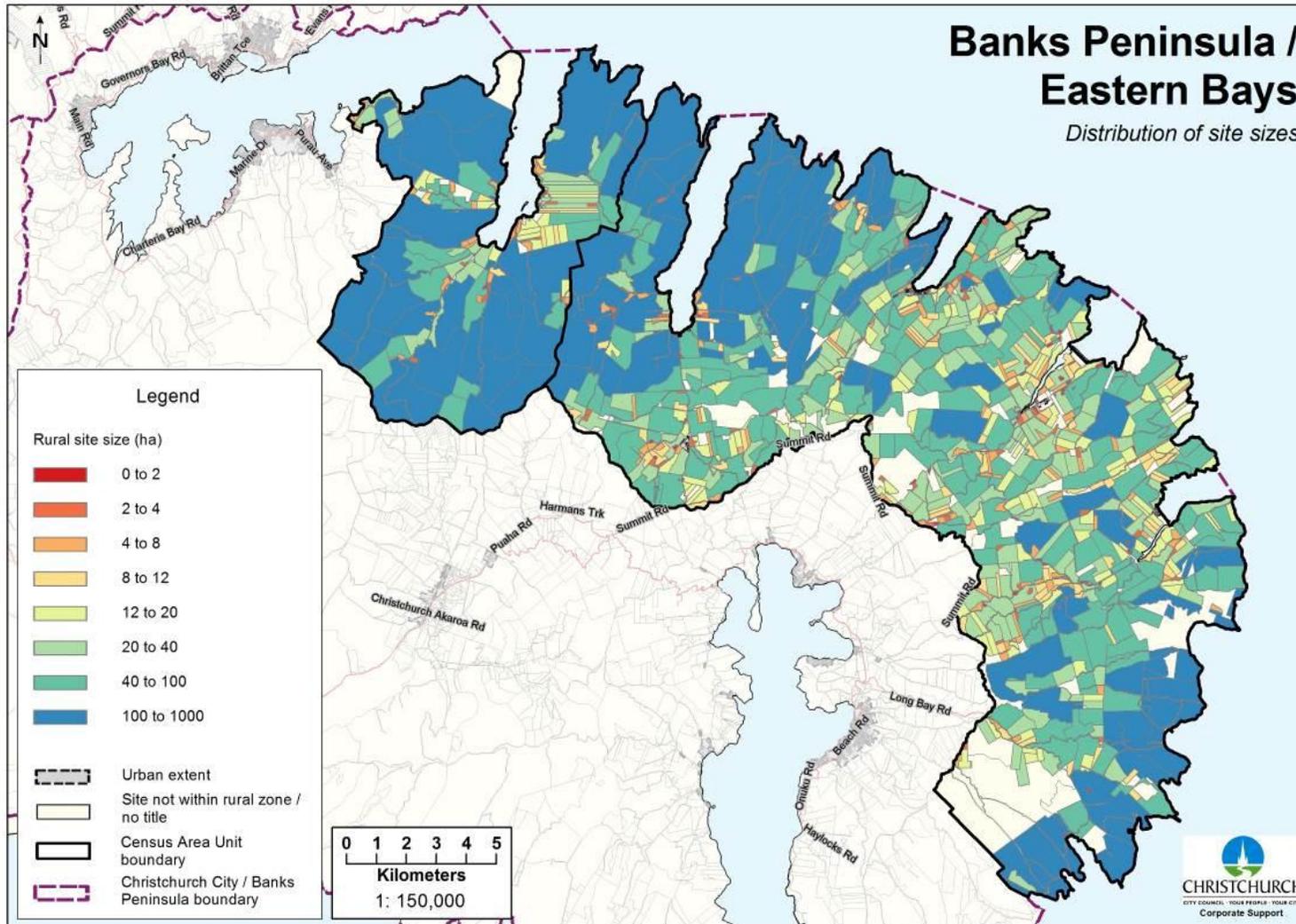
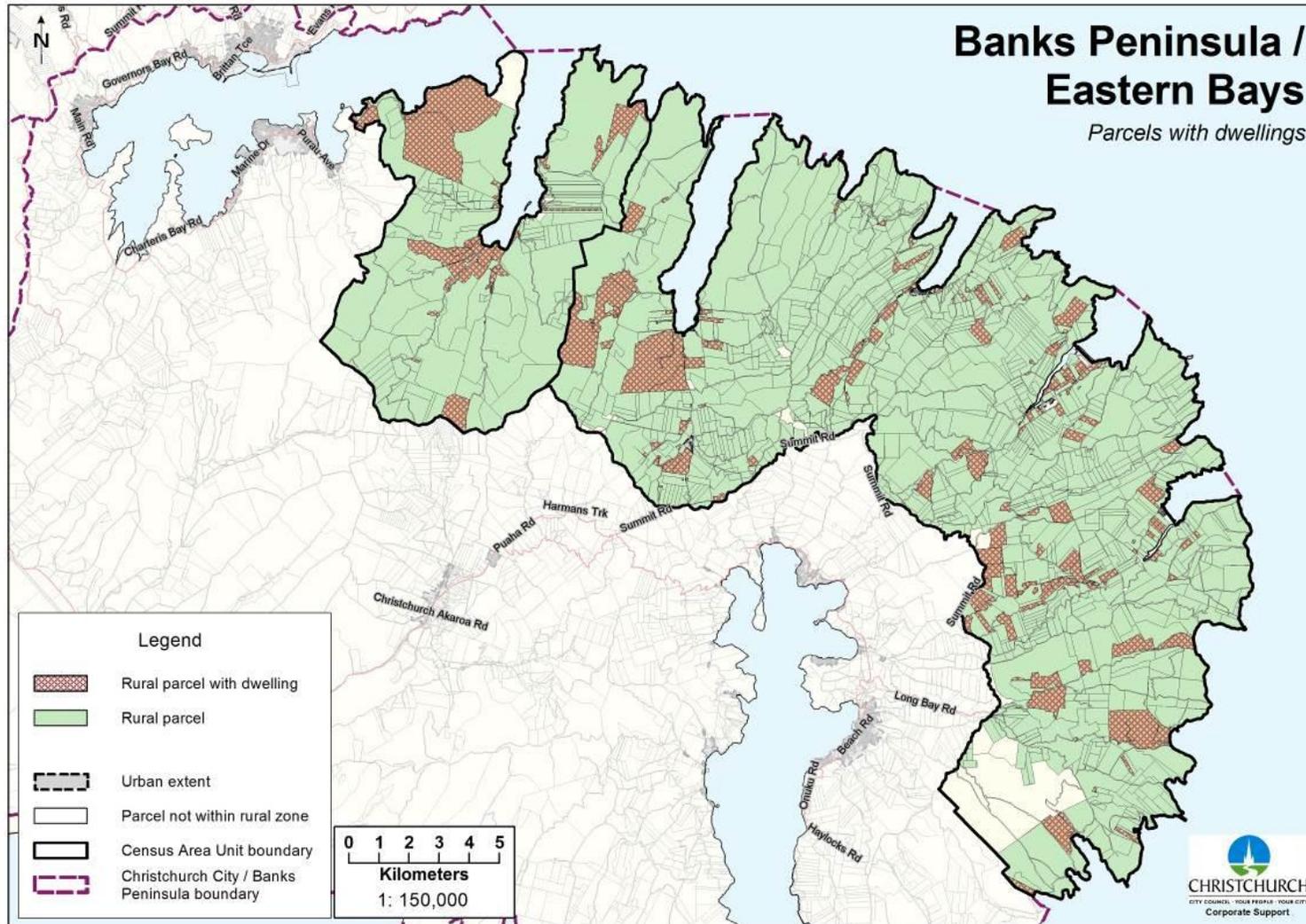


Figure 24. Parcels with dwellings in Eastern Bays and Port Levy



5.3.2 Akaroa Harbour

This area encompasses all of the land in the Akaroa Harbour Basin to the top of the harbour crater rim. Akaroa Harbour is the key focus of activity for the southern side of Banks Peninsula, focused upon Akaroa township and the settlements around the harbour.

The area is dominated by lifestyle land use with pastoral farming and multi-uses for tourism and rural produce i.e. Barry's Bay Cheese Factory.

There are a high number of smaller site sizes, less than 8ha (Table 12). The lower slopes close to settlements and the harbour edge contain a more intensive pattern of smaller sites, dominated by lifestyle and recreation land use. Larger sites tend to be located on the higher slopes and headlands at the harbour entrance (Figure 25 and 26). The subdivision pattern is a mix but is dominated by parcels orientated in a north-south and east-west direction as they encompass the harbour.

The Akaroa Harbour Basin Settlements Study (2009) undertook an analysis of the issues and options for land use change and growth of the existing settlements surrounding the harbour. The study provides high level guidance for consideration in future decision making on settlements in the harbour.

Table 12. Distribution of site sizes in Akaroa Harbour

Site size (hectares)	Number of sites	Number of sites with dwellings	Sites without a dwelling
0-2	218	117	46%
2-4	75	35	53%
4-8	106	42	60%
8-12	72	25	65%
12-20	83	13	84%
20-40	81	28	65%
40-100	59	14	76%
>100	30	3	90%
Total	724	277	62%

Figure 25. Distribution of site sizes in Akaroa Harbour

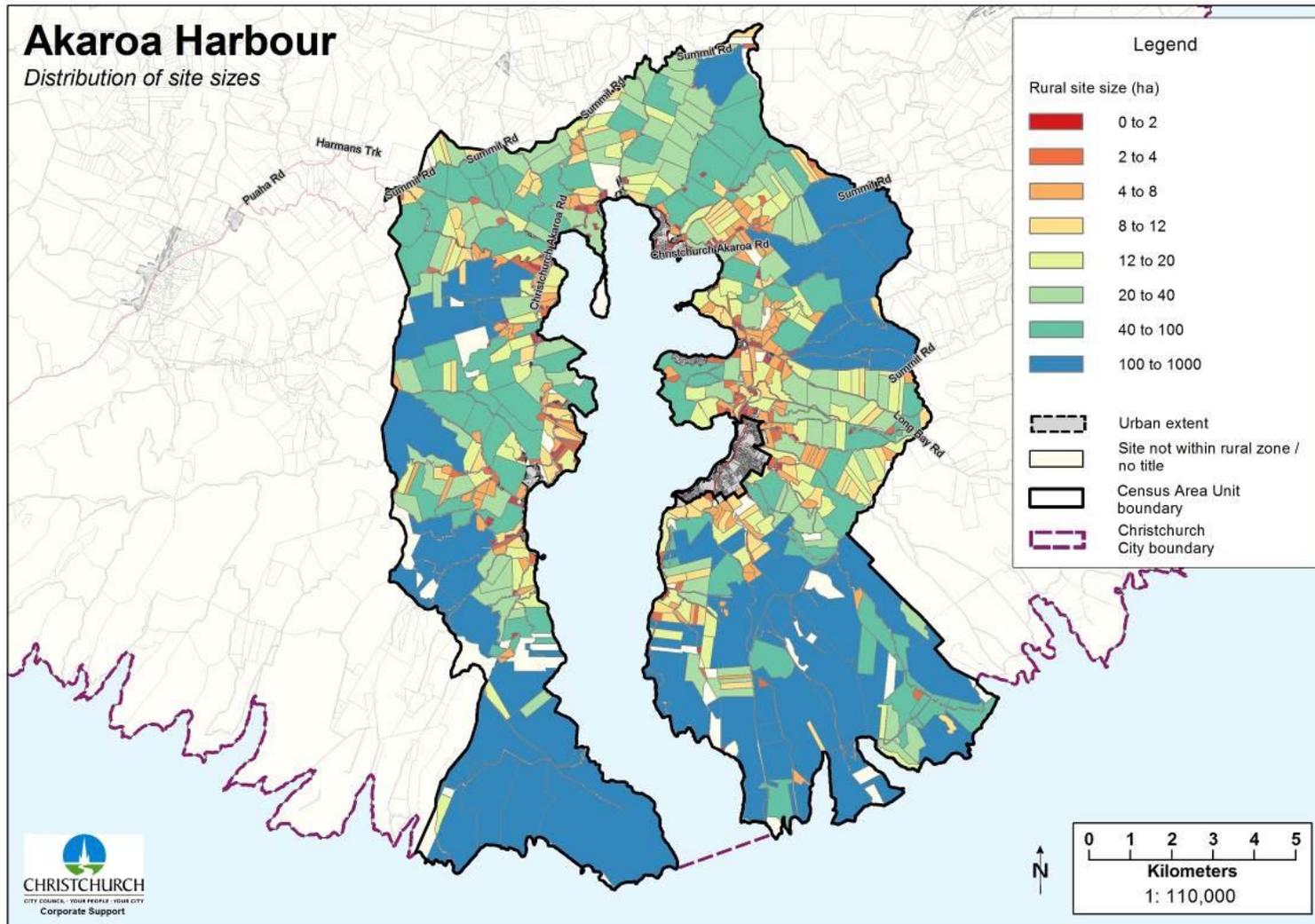
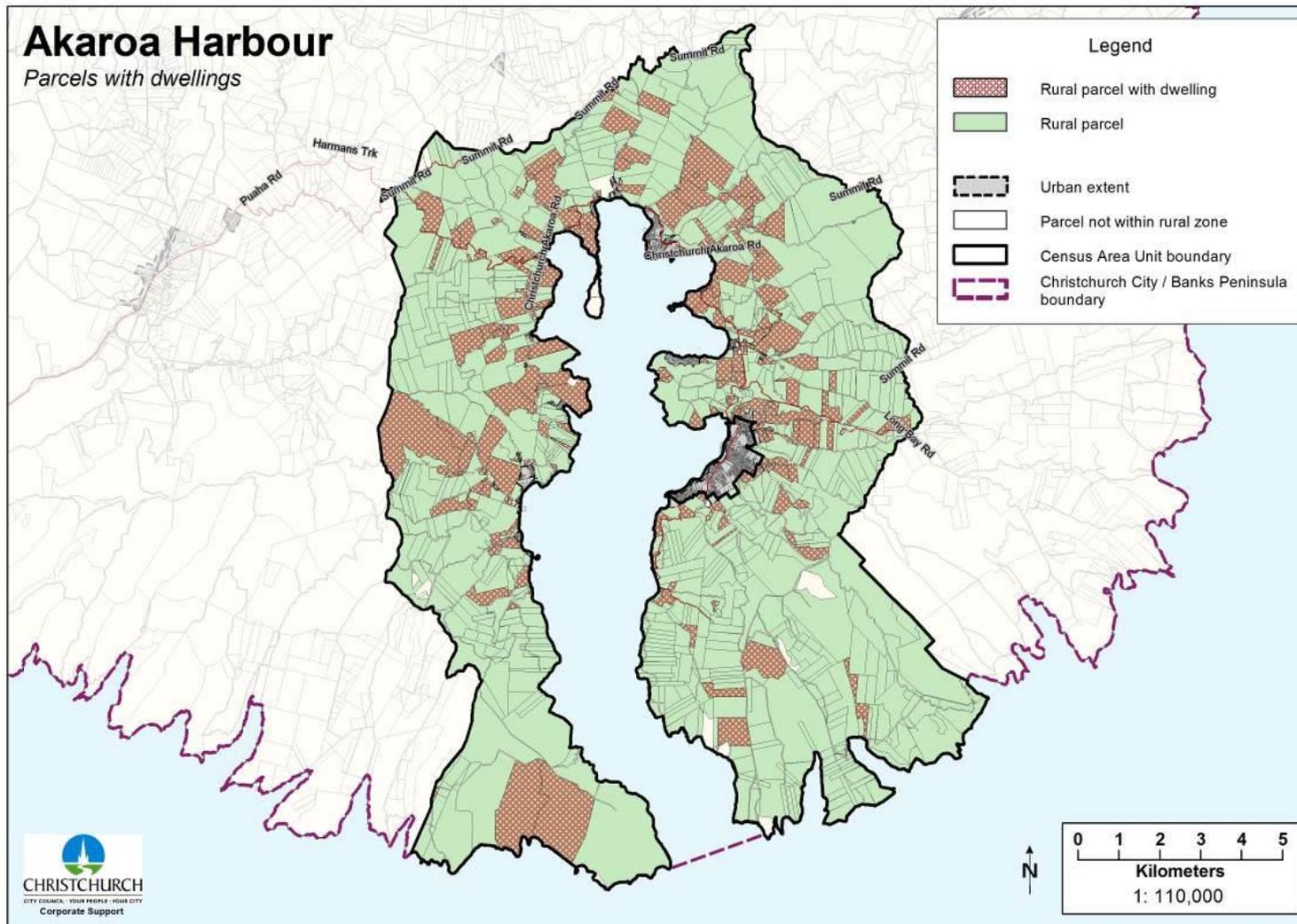


Figure 26. Distribution of dwellings in Akaroa Harbour



5.3.3 Lyttelton Harbour

This area takes in Lyttelton Harbour basin, dominated by the residential townships and settlements of Lyttelton, Rapaki, Governors Bay, Charteris Bay and Diamond Harbour. The slopes of the Port Hills behind Lyttelton are a mix of public and private ownership with covenanted areas of indigenous vegetation or landscape open space. Orton Bradley Park, located on rural land in Charteris Bay on the eastern side of the harbour, is a private farm park combining farming with recreation and visitor experiences. Living Springs is an event, function and activity centre complex located in Bamfords Road, Allandale.

Rural land use is dominated by forestry and stock and store farming. More intensive lifestyle and rural residential development is located around the small settlements of Diamond Harbour and Governors Bay and at the coastal edge along Allandale and Teddington with the remainder of sites being retained as larger farmed land holdings. Figure 27 illustrates that the pattern of site sizes extending from the edge of the settlements progressively gets larger with distance away from the settlement while sites with dwellings tend to be located along the coast and in valleys.

Table 13. Distribution of site sizes in Lyttelton Harbour

Site size (hectares)	Number of sites	Number of sites with dwellings	Sites without a dwelling
0-2	84	40	52%
2-4	42	26	38%
4-8	25	14	44%
8-12	17	5	71%
12-20	22	6	73%
20-40	27	13	52%
40-100	28	12	57%
>100	18	3	83%
Total	263	119	55%

Figure 27. Distribution of site sizes in Lyttelton Harbour

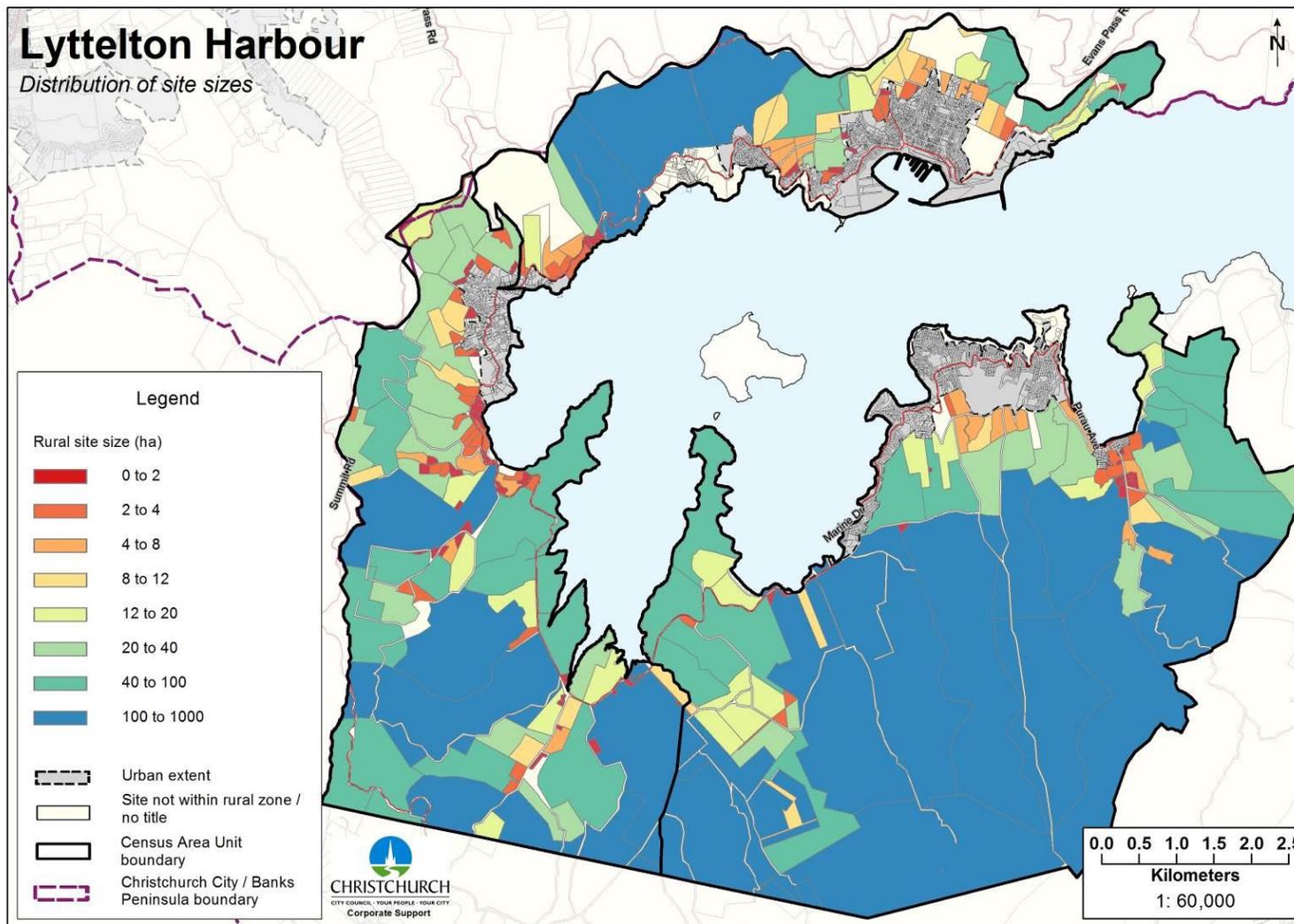
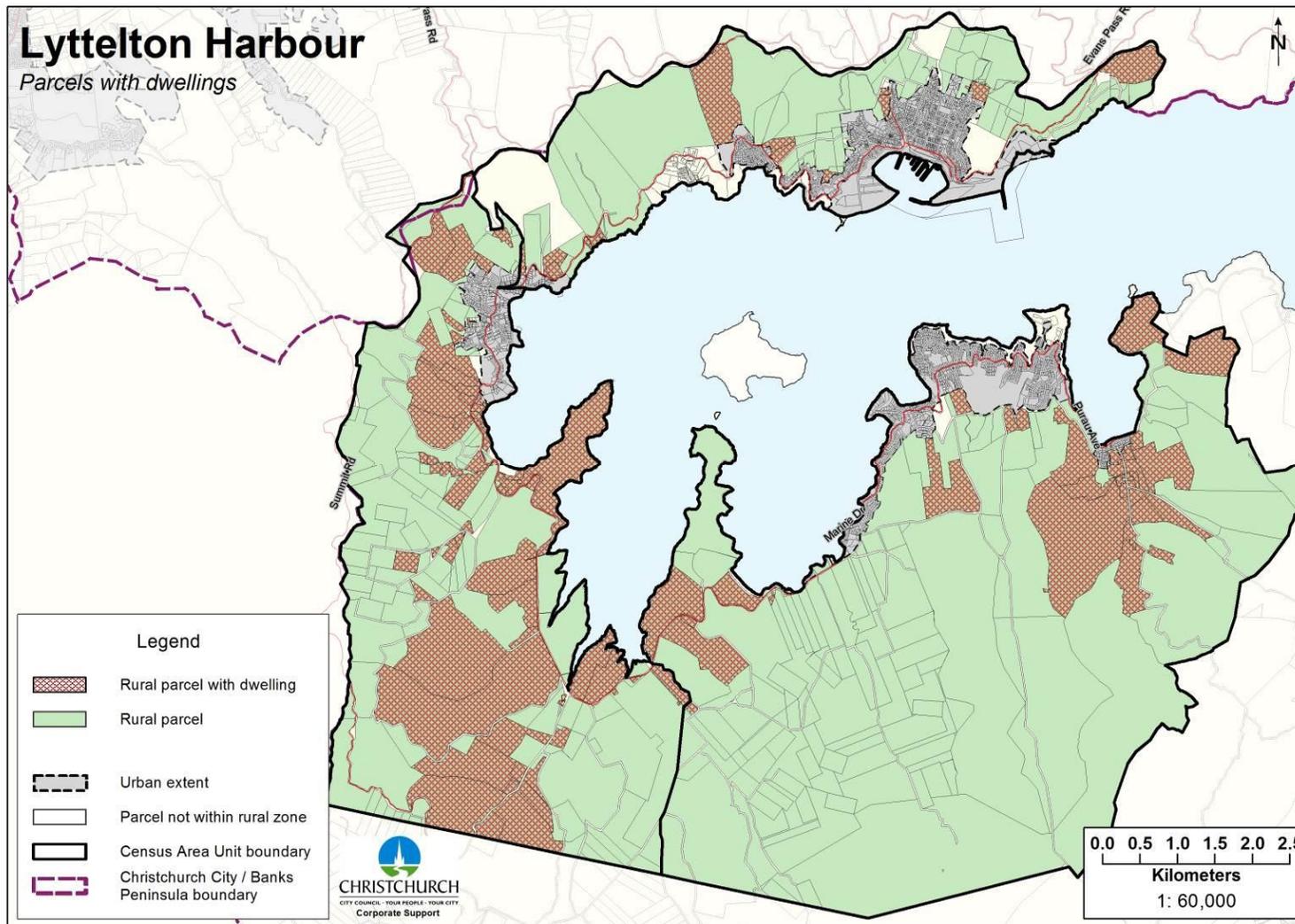


Figure 28. Distribution of dwellings in Lyttelton Harbour



5.3.4 Little River

This large area encompasses the western part of Banks Peninsula from Long Bay on the coast extending to Kaitorete Spit and inland through to Gebbies Pass. The settlements of Little River, Cooptown and Birdlings Flat are within the area. It includes Lake Wairewa and adjoins Lake Ellesmere.

The main rural land uses include stock and store livestock, forestry and limited dairy. The area includes a number of recreation and visitor attractions including the Little River Rail Trail, conservation reserves and tourist accommodation in Little River and camping grounds. Little River provides the southern entrance to Banks Peninsula and the key transport route to Akaroa on State Highway 73.

The pattern of subdivision is more intensive in the valleys and lower slopes of various catchments such as Little River, Okuti, Western, McQueens and Gebbies Pass. Beyond these areas larger site sizes have been retained (Table 14, Figures 29 and 30).

Table 14. Distribution of site sizes in Little River

Site size (hectares)	Number of sites	Number of parcels with dwellings	Sites without a dwelling
0-2	208	84	60%
2-4	88	36	59%
4-8	113	57	49%
8-12	63	22	65%
12-20	80	25	69%
20-40	98	32	67%
40-100	78	17	78%
>100	82	12	85%
Total	810	285	65%

Figure 29. Distribution of site sizes in Little River area

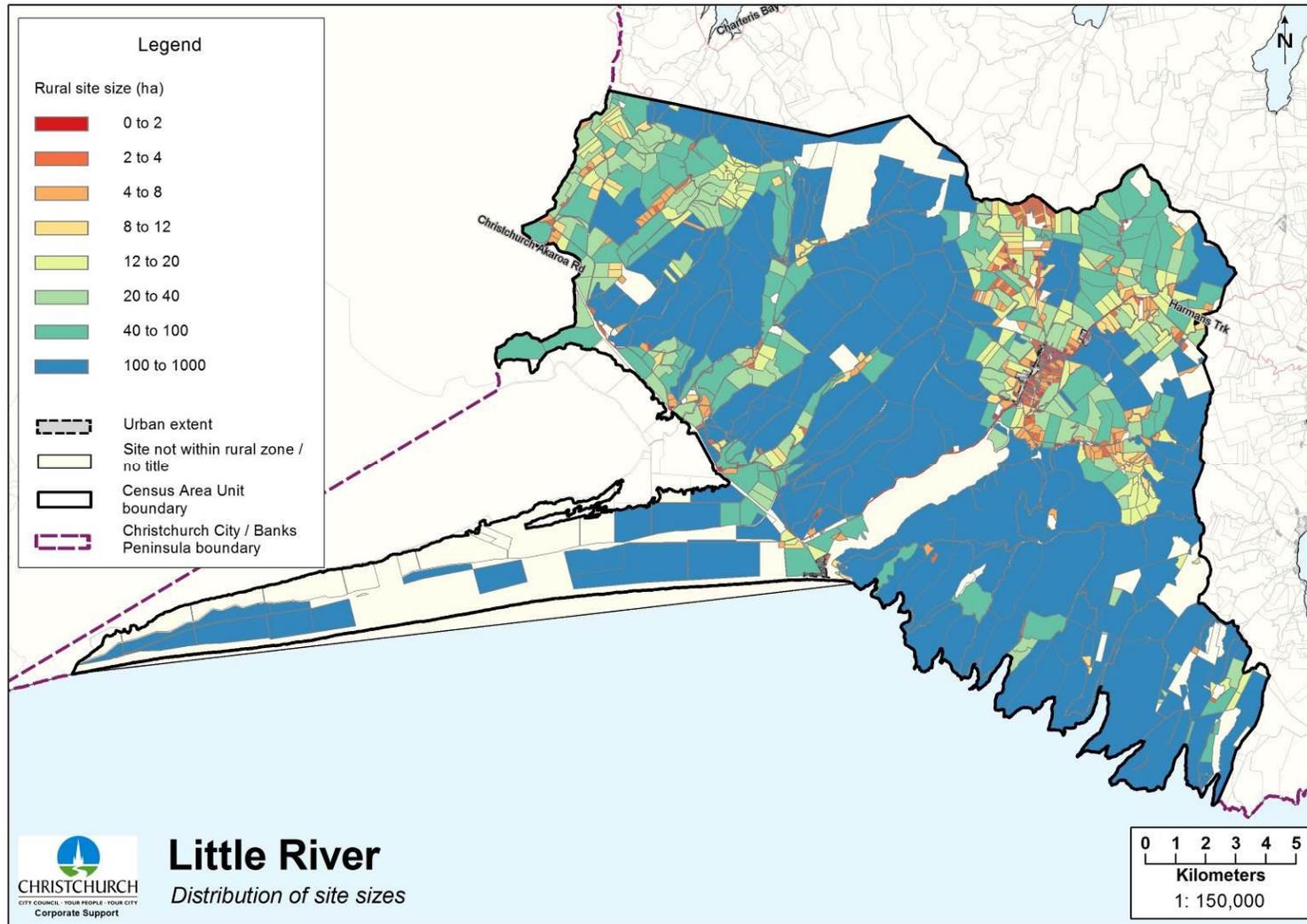
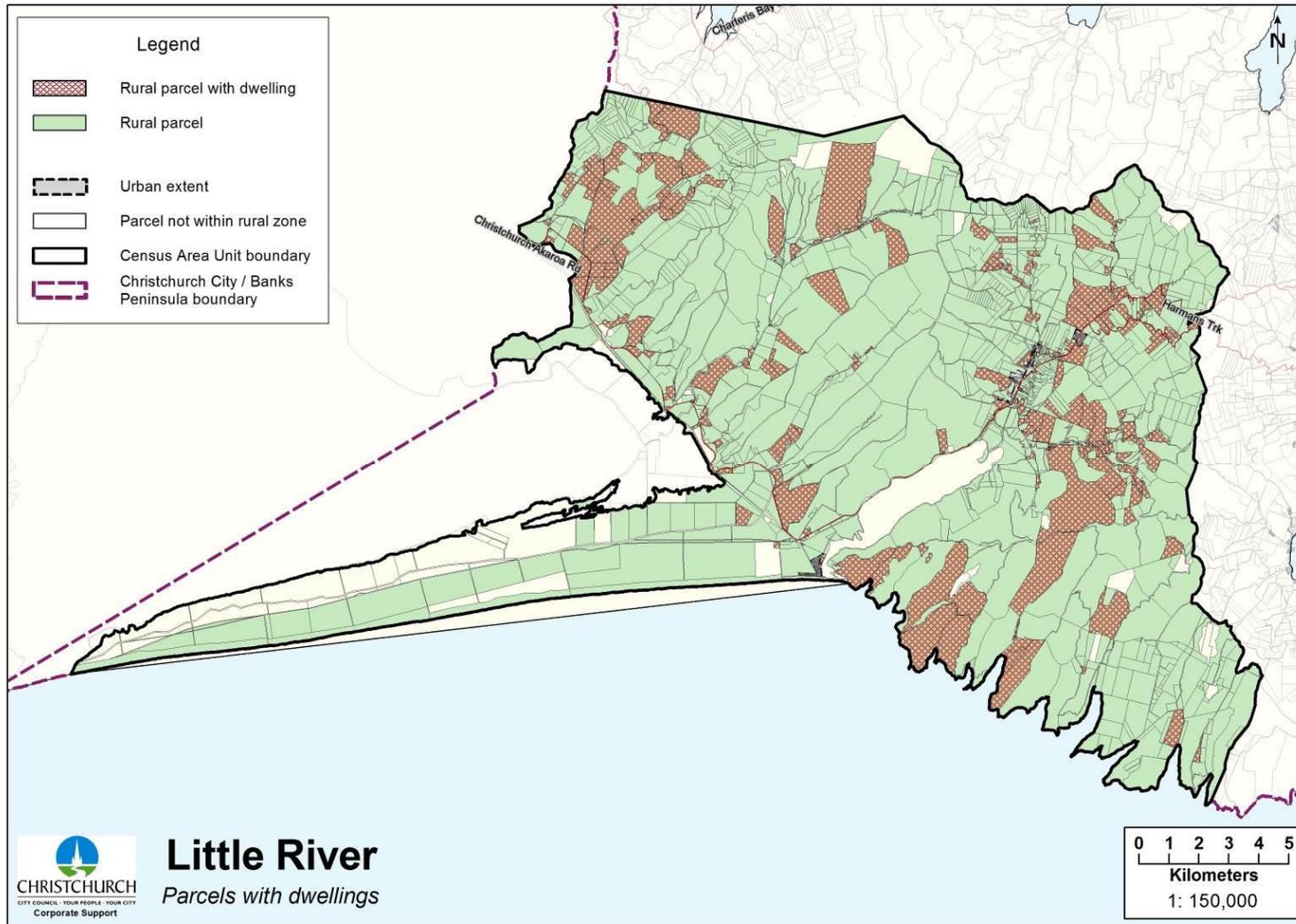


Figure 30. Distribution of dwellings in Little River area



5.4 *Summary*

The rural environment of Christchurch District is diverse. It is highly fragmented in parts with significant lifestyle and rural residential development, particularly in the peri-urban area around the main Christchurch urban area and small settlements. Areas dominated by lifestyle development have a high percentage of small site sizes with a lower number of sites without a dwelling. In lifestyle dominated areas, rural activities are less dominant with a tendency towards horticulture and specialist livestock. Areas where there are higher levels of public land have higher sites sizes and fewer dwellings.

The traditional rural characteristics of a high degree of openness based around rural land uses of pastoral grazing, dairying and forestry are still in existence on Banks Peninsula, the upper slopes of the Port Hills and the areas to the west of the Christchurch International Airport. Site sizes are larger, with multiple sites often needed to make up a property, and there is a higher percentage of sites without dwellings (55-75%). Dwellings are generally located to reflect their relationship with a rural land use and lifestyle development tends to locate in clusters around small settlements, on coastal edges or in valleys.

6.0 The changing rural environment – key changes in the past ten years and challenges ahead

6.1 *Christchurch Rural Plains*

6.1.1 Rural productive systems

Changing market demands and conditions for agriculture and horticulture, combined with a strong focus on development of urban growth strategies and plans for Christchurch, has impacted upon rural land and rural activities, particularly on the Christchurch rural plains. Recent reports undertaken on rural land (Response Planning 2011 and Market Economics 2008) suggest that primary productive activities within Christchurch City, particularly on the rural plains, are no longer the dominant land-use activity. Rural areas in the urban fringe are increasingly being developed for rural lifestyle purposes. Areas where primary production of land is still occurring tend to be located further away from the city edge on larger land units. These trends are confirmed through the analysis of land use and site size character described in Section 5.0.

The reality of achieving economic productive use of rural land appears difficult when in close proximity to a large urban area. It also becomes increasingly difficult as more lifestyle development occurs which increases the potential for reverse sensitivity issues and increases land prices. Despite this the opportunity or ability for primary production in the future still exists and has not been totally foreclosed on rural land.

A 2008 Market Economics Limited rural land economic assessment model indicated that the viability of establishing a new horticulture venture is severely constrained by the establishment cost with the bulk (between 58% and 65%) of set-up cost captured by land value. The high land value acts as an inherent 'barrier to entry' for new ventures and stops them from establishing in the market place. Horticulture activities also have small margins making cost containment critical from an operational perspective. The thin margins reduce the ability to create 'economies of scale' and the investment required to set-up required infrastructure prohibits the 'main stream' take-up of the horticultural activities. From this it can be surmised that unless prices for rural property/land decreases, then economic viability for rural enterprises in the rural urban fringe is unlikely to improve and presents a barrier for new rural activities.

Market Economics identified that financial sustainability of rural enterprise is influenced by various factors including market price(s) for produce, business characteristics (cost structures) and the overall market size for produce (total demand). The expected financial outcomes (expected return) play a vital role in the decision to pursue, or avoid, specific opportunities (for land-use activities). Similarly, the likely financial profits are likely to determine (or strongly influence) investors' business decisions regard the long term use of property.

To increase the productive output of Christchurch's rural (agricultural) resource base, non-regulatory methods could be used to improve product yields (which will in turn improve financial sustainability) by working with agricultural specialists and research and development organisations. However, whilst there are potential measures that can be taken to enhance the productive output and protecting 'high value' areas, ultimately the economic value (from a productive perspective) of rural land in the Christchurch context is relatively low. The reality is that most of the rural plains are heavily fragmented sites containing dwellings, existing productive activities or are in public ownership. Market Economics conclude that emphasis of the rural land management practices in these areas should focus more strongly on other factors/values such as rural amenity values, rural character, open space issues and environmental protection and management.

6.1.2 Urban growth demands

Over the last ten years significant focus has been given to the development of urban growth strategies, through the Greater Christchurch Urban Development Strategy, Area Plans, proposed changes to the Canterbury Regional Policy Statement, and more recently through the Land Use Recovery Plan (LURP) and its directions to change District Plans and the CRPS (Chapter 6). Whilst the focus has been on urban growth and development, the direct impact on rural land has been the rezoning (operative and proposed) of 688ha of rural land. There has been significant market speculation on the value of rural land in the short-medium term for future urban development. The recent changes directed by the LURP and CRPS may dampen such speculation and result in some readjustment of property values for rural land along with reduced availability of sites large enough to have any future development potential.

However, the property revaluation released in March 2014 by Quotable Value indicated a 9% rise in the capital value of rural properties across the District. The rural plains area has increased generally with the biggest changes (30% or more) in the rural urban fringe in the South West, Templeton, North East and Belfast areas, some of which has been rezoned as urban (residential and industrial). Banks Peninsula dropped up to 20% in value. Appendix C visually illustrates the areas of change.

A further consequence of urban expansion has been the displacement of activities that require large open space and/or are less compatible within an urban environment along with pressure on other activities e.g. Ruapuna motorsport park to constrain their activities. Examples include the Canterbury Kart Club and greyhound racetrack in Awatea (Halswell) and a number of small aircraft related activities (i.e. gliding, model aircrafts) in Wigram. There is also increasing demand for tourist and recreational facilities set within a rural area and to meet a growing city and region. Examples include restaurants attached to wineries; cafes; and golf resorts with attached conference and visitor facilities. Other community facilities and infrastructure seeking a rural environment include cemeteries and national roading projects.

6.1.3 Minimum site size

As outlined in Section 5.0 there is an intensive pattern of subdivision in the rural urban fringe, some of which is historical from the early 20th century. The current City Plan provides for subdivision ranging from 2ha to 100ha depending on the zone, with a minimum of 4ha covering the majority of the rural urban fringe area. Appropriate minimum site size in the rural environment is an on-going debate. Unlike the urban environment, minimum site size establishes the land use expectations and is normally focussed upon managing residential activities.

The CRPS has established a definition of rural activity for the Greater Christchurch area which includes any residential activity on a site of 4ha or more. It has also set a directive of no further rural residential development to be provided in the Greater Christchurch area of the District.

Another determining factor of rural property size has been the limitations on subdivision size to accommodate a septic tank to service a dwelling. Policy direction at both a regional and local council level, has been to restrict rural subdivision to 4ha minimum allotments to manage the effects of discharges from septic tanks. Recent amendments to the proposed Canterbury Land and Water Regional Plan, relating to the discharge of contaminants to land or water, maintain this policy direction. However technology has advanced with effluent disposal systems requiring less land and creating minor environmental effects reducing the need to utilise septic tanks.

6.1.4 Mineral Resources

Mineral resources in Christchurch include aggregate both in rivers and dry land along with hard rock quarries on Banks Peninsula. The ability to access these resources is a significant economic benefit for the city, particularly during the rebuild.

Prior to the earthquakes a number of issues had emerged in regard to dry land quarrying within the Christchurch area, some of which may have been exacerbated as a result of the rebuild. The issues relate to the adequacy of aggregate supply in the long term; effects on local communities from quarrying activities located on zoned and (resource) consented land; and operational realities in meeting required rules and consent conditions on quarrying activities. A report was prepared by Richard English (Twelfth Knight Consultancy) in December 2012 and updated in October 2014. This report identified current aggregate supply levels (from dry land quarries and from rivers including the Waimakariri) and projected future demand. It concluded that there is sufficient aggregate available to meet the needs of the recovery and beyond to 2024, but beyond that land based quarries would effectively be exhausted. Since this report however, resource consent has been granted for new large quarries and further resource consents continue to be processed.

6.2 The Port Hills

The Port Hills are highly valued for their environmental, open space, landscape, scenic, historic and recreation attributes. It is a highly open and visible landscape. The Christchurch Landscape Study has confirmed the majority of the Port Hills as an outstanding natural landscape. Much of the area is

managed as public land and used in a combination with extensive pastoral grazing but is also actively used for recreation purposes providing a network of walking and bike tracks. The lack of land development and high degree of public ownership of the upper slopes has helped to maintain biodiversity and vegetation values and its openness. The Christchurch City Council has acquired additional large areas of land on the Port Hills for its recreational, landscape and ecological values and has extensive land holdings.

Future issues for the Port Hills relate to managing development on private land to retain the openness and lack of structures, along with managing the differentiation between urban and rural areas particularly in areas under pressure for urban development. Poor land management on private land is also an issue where it leads to weed control issues which affect biodiversity values and management on public land.

6.3 Banks Peninsula

6.3.1 Rural Zone

The provisions of the Rural Zone and its areas of Outstanding Natural Landscapes and Coastal Natural Landscape Protection were the result of Variation 2 to the Banks Peninsula District Plan and these provisions have only been operative since the latter part of 2010. A greater level of control is extended to buildings, structures and earthworks occurring in the landscape protection and coastal protection areas, compared with the remaining rural areas. Residential development is managed in the rural environment based on minimum site size down to a 1ha lifestyle site provided a larger area is covenanted to restrict further subdivision and development.

Managing development to retain landscape values and rural character on Banks Peninsula is an on-going issue. It is a difficult environment to farm and landowners also have to balance farming with landscape along with biodiversity, tourism and recreation opportunities. Landowners are taking opportunities to develop brands and diversification e.g. Banks Peninsula Farms, Banks Peninsula walking track. The ability to enable these opportunities is important in retaining the working environment.

6.3.2 Rural-Residential

There is some demand for rural residential development on Banks Peninsula which is currently recognised through two zoned areas in Lyttleton Harbour with policy support for additional areas to be added through plan changes. The current policy approach encourages rural residential to be sited to avoid creating a physical extension to existing urban areas or settlements. However such an approach is not always supportive of small settlements and can lead to ad hoc areas of rural residential development within the rural environment. The CRPS seeks that limited rural residential (outside of the Greater Christchurch area) is concentrated or attached to existing urban areas and promotes coordinated pattern of development.

Future rural residential development needs to be managed to ensure sustainable development patterns and that it is beneficial to the wider community in Banks Peninsula. Well-designed development can provide opportunities to create innovative designs that enhance the landscape, water quality and biodiversity.

6.4 Global and national trends that affect the rural environment

6.4.1 Local food production

There is a global movement within cities to support local food producers which assists with achieving food resilience along with urban food opportunities. Christchurch is well placed to obtain local food resilience with its supply of good quality soil in close proximity to the urban area and existing infrastructure and producers well established. This is contributed to by market gardens, community gardens, community orchards, food forests and other local suppliers from within the urban area. It is important to ensure that the ability to undertake this is not foreclosed through inability to undertake these activities should the community demand this. Avoiding rural residential development in the peri-urban area will assist in maintaining the future potential for local food production.

6.4.2 Peri-urban opportunities

The rural area immediately surrounding the Christchurch main urban area is referred to as a peri-urban area. These areas are generally regarded as a transition between urban and rural areas located between the urban edge and the traditional rural environment. The peri-urban areas provide for a mix of activities that support the urban area including rural living, recreation, tourism, hazard mitigation and strategic infrastructure along with rural activities. Peri-urban areas are also important in providing options for future urban growth, local food production and ecosystem services e.g. water supply catchments for the urban area. While rural farming activities are no longer the dominant land use these areas are valued for their rural amenity and degree of open character, which differs from the more traditional working landscapes due to the intensive subdivision pattern and higher level of lifestyle development. There is still a high degree of naturalness to the peri-urban area, sharing more elements of rural character rather than urban character. Managing the peri-urban area requires consideration of all its functions and how it best supports the adjoining urban area.

Peri-urban areas provide a variety of opportunities including:

- Biodiversity and open space networks - Currently subdivision and development in the peri-urban area takes a traditional form of subdivision and results in large areas of lifestyle development that have little or no public recreation or biodiversity opportunities or could be developed in a manner that maximised or protected the openness of a site. Often these aspects are not considered because biodiversity or landscape values may not exist so it is not perceived as a necessary consideration, unlike a rural environment such as Banks Peninsula where landscape and biodiversity are integral considerations in all subdivision. Encouraging alternative subdivision layout that maximises open space and provides for public open space networks and biodiversity enhancement would also have significant potential for good outcomes and enhance the peri-urban area.

It is noted that strategic planning has been undertaken in some areas such as the South West Area and North West Area which can assist in identifying opportunities for biodiversity or recreation. Strategic planning would be useful for the Marshlands/Styx area and Paparua/Yaldhurst.

- Local catchment management: - The rural urban fringe contains a number of river catchments that traverse the city. These rivers can provide for recreation and biodiversity opportunities along with improved water quality and flood management.

6.4.3 Managing for climate change

The projected effect of climate change means that the east coast will become drier, with less annual rainfall overall particularly in the winter months. This will be an issue for those parts of Banks Peninsula which rely upon rainfall for water supplies. It may also be an issue for groundwater recharge in the long term. As rainfall events occur in intensity the flood ponding areas and other flood management areas provided in the rural environment are essential for protection of the urban environment. For the main Christchurch urban area these areas include Hendersons and Cranford basins.

The rural environment adjoins the majority of the extensive coastline of the District, particularly in Banks Peninsula. Coastal inundation and coastal erosion around Banks Peninsula may create the longer term need for some settlements to relocate to rural land on higher ground.

7.0 Function of the rural environment in Christchurch District

As described in Section 5.0, the rural environment of Christchurch District provides multiple functions and roles. There are areas of similar character, land use and values that can be grouped together to describe the overall rural environment and inform future management through the District plan.

Rural environment description	Rural environment outcomes
<p>Rural urban fringe</p> <p>This area adjoins the Christchurch main urban area. It has an intensive subdivision pattern dominated by lifestyle development interspersed with rural production activities based around horticulture, viticulture and grazing. There are very few large sites i.e. over 10 hectares. The area is in demand for lifestyle development and urban growth.</p> <p>A rural-urban fringe location is regarded as the transition between urban and rural areas providing for activities typically associated with a peri-urban area while retaining its lower density of buildings and extent of vegetation. The areas are valued for their amenity, which differs from the more open traditional working landscapes, however still relies upon a high degree of naturalness.</p> <p>The area contains recreation activities such as golf courses and motorsport tracks, institutional activities and aggregate resources. Significant infrastructure of transmission lines, state highways and Christchurch International Airport also exist in these areas.</p> <p>Areas contain soils capable of a variety of agricultural and horticultural land uses.</p>	<p>The outcome for these areas is to retain their 'ruralness' to separate them from the urban environment which they adjoin. This involves strong management to avoid further intensive subdivision for rural residential development, urban activities and any form of development that reflects urban character.</p> <p>Conflicts between lifestyle development and rural productive activities need to be managed to ensure the continuation of rural activities, strategic infrastructure, mineral extraction and recreation opportunities.</p> <p>Continue to encourage these areas to provide rural produce and products to the local market and function as rural areas retaining a high degree of naturalness and low density of buildings.</p>
<p>Waimakariri ecosystem services</p> <p>This area adjoins the Waimakariri River, wrapping around the north and west of the Christchurch International Airport, and extending to the coast. Large tracts of land are held in public or crown ownership with a low level of built development.</p> <p>Provides various ecosystem services including flood management, groundwater</p>	<p>Built development should be minimal to protect groundwater and flood management functions and retain the degree of openness of the area. Rural activities continue to operate and maintain the open character of the area.</p> <p>Area is maintained as a key recreational asset on the rural flat land that compliments the Port Hills and Banks Peninsula.</p>

Rural environment description	Rural environment outcomes
<p>protection and recharge, grasslands, plantation forestry and the extensive recreation resources of McLeans Island and The Groynes. The area also provides the northern limit to urban growth, effectively serving as a green belt, and protects the western side of the Christchurch International Airport.</p> <p>A range of rural land uses exist dominated by pastoral farming and plantation forestry. Mineral extraction activities in the area provide a close supply for the District. The area is a significant recreation resource for the main urban area and the wider region.</p> <p>This area interfaces with the coastal environment and northern urban edge of the Christchurch main urban area.</p>	<p>Continued access to aggregate resources enabled.</p>
<p>Rural working landscapes</p> <p>Banks Peninsula is a rural working landscape where rural productive land use, based around pastoral farming, dominates the landscape. A low density of buildings extends across the landscape with more intensive pockets of development based around clustered coastal settlements or historical development.</p> <p>High degree of remoteness in some parts with very limited road access will limit development.</p> <p>Highly valued natural landscape and natural coastal character influences and has economic benefits in the form of tourism and recreational opportunities. Highly valued by tangata whenua.</p> <p>Mix of landholdings with some large extensive land holdings with smaller land holdings concentrated around Lyttleton and Akaroa Harbours.</p> <p>Biodiversity values are high with a number of reserves and private covenants. Regenerating native vegetation also prominent. Extensive waterways reflecting the steep incised catchments.</p>	<p>Retain the rural working landscape based around productive activities which are integrated with biodiversity protection and enhancement.</p> <p>Buildings and structures are managed to retain values of the outstanding landscape and coastal landscape and general rural character. Manage lifestyle and rural residential development directed into identified areas.</p> <p>Recognise the variability and viability of farming in the area and the need to enable a range of activities within the rural environment that retains and enhances the landscape and biodiversity values which they are reliant on.</p>

Rural environment description	Rural environment outcomes
Under some pressure for rural residential development.	
<p>Port Hills</p> <p>This area includes the extent of the Port Hills from Godley Head through to Kennedy's Bush, facing the main Christchurch urban area. The key feature of the Port Hills is the openness of the landscape and uncluttered slopes with minimal buildings and structures.</p> <p>The distinctive boundary between urban and rural development varies as move along the lower slopes of the Port Hills, with some areas being able to absorb more development than others.</p> <p>Significant recreation resource for the District with a variety of tourism, lifestyle and recreation activities undertaken.</p> <p>Pastoral farming maintains the open landscape. Plantation forestry exists at the eastern end of the Port Hills. Revegetation of gullies for enhanced biodiversity values and improved stormwater management and water quality is occurring.</p>	<p>Retention of the Port Hills outstanding natural landscape and open character with minimal buildings and structures. Management of forestry and other uses that impact upon the landscape, including structures associated with recreation and tourism. Recognise existing utilities structures. Reinforce the distinctive difference between urban and rural environments by limited development.</p>

8.0 Conclusion

The rural environment in Christchurch District is diverse and valued for its multiple services and functions including primary production, landscape, biodiversity, water protection and recreation opportunities. There are distinctive differences between the flat land and the hilly land in the District. The underlying pattern of development is highly fragmented in some parts of the District as a result of historical development and previous planning frameworks, which may not necessarily support the outcomes desired now and into the future. There is less emphasis upon agricultural production in the rural flat land which is dominated by lifestyle development and other activities that support the urban environment. Lifestyle development and urban

activities need to be managed to retain the rural character and amenity of the rural flat land. A balance is necessary to achieve retention of the rural environment or those characteristics that are recognised as being the difference between rural and urban.

For the Port Hills the rural environment provides the highly visible landscape values and recreation resources valued by residents in the District. While Banks Peninsula is dominated by pastoral agriculture as a working landscape but faces challenges of maintaining its value for landscape and biodiversity purposes.

Appendix A. Methodology used to derive data for land use and site size

Site size

Activities, land use and subdivision, within the District Plan are generally based upon a site. Site is defined within Phase 1 of the DPR as: *an area of land or volume of space shown on a plan with defined boundaries, whether legally or otherwise defined boundaries, and includes:*

a. an area of land which is:

- comprised in a single allotment, or other legally defined parcel of land, and held in a single certificate of title; or*
- comprised in a single allotment or legally defined parcel of land for which a separate certificate of title could be issued without further consent of the Council;*

Sites or certificate of title is the best measure of existing and future development in the rural environment.

To obtain sites within rural zoned land, data was used from Land Information New Zealand primary parcels database. The rural zones used were those remaining after the DPR Phase 1 zonings were applied, which took in areas of rural land into the urban environment.

Geospatial method

Using Intergraph Geomedia software: the current cadastral (parcel) boundaries within the proposed rural zone boundaries (DPR Phase 1) were identified by the spatial condition where the parcel centroid is contained by the zoned area.

This centroid method eliminates the potential for exclusion of parcels at the fringe of the rural zone due to the digital quality of the boundary alignments; however, very large parcels that cross zone boundaries may be excluded if the centroid falls over the line on the non-rural zoned area.

Centroid

This is a GIS point that represents the geometric center of a GIS feature (multi-point, line, multi-line, polygon, complex or multi-polygon).

Land use

The land use data was obtained from the rating information as categorised by Quotable Value New Zealand (QVNZ) based on the Rating Valuation Rules issued by the Valuer-General under sections 5 to 5c of the Rating Valuations Act 1998.

The land use data was taken at the rating unit level. This entity describes a part, a whole, or a collection of cadastral sites that form a land holding or property that is abstracted to an area for the purpose of generating rates charges and valuation estimates. This can include one or more certificates of title.

Degree of error

There is a degree of error within the data due to the way some rating units are described. However this is considered to be minor and does not significantly affect the overall trends the data illustrates.

Rating category

The property category used by Quotable Value New Zealand for each rating unit was used to determining land use categories. According to the Rating Valuations Rules 2008 (LINZS30300, Version 1 October 2010) each rating unit must have a property category recorded, which broadly describes the nature of the property based on its highest and best use, or the use for which the property would be sold given the economic conditions prevailing at the effective date of valuation. The first character category codes taken from the Rating Valuation Rules 2008 are listed below:

First character	Definition
A	Arable cash cropping land, generally farmed with some stock. This code does not include market gardening.
C	Commercial uses
D	Dairy land suitable for all types of supply and stud
F	Forestry land that may be either in production or currently available for planting, and includes protected forest areas. This code does not include forest nurseries.
H	Horticultural land suitable for uses such as orchards, market gardening, or glasshouses
I	Industrial uses, including associated retailing
L	Lifestyle land, generally in a rural area, where the predominant use is for a residence and, if vacant, there is a right to build a dwelling. The land can be of variable size but must be larger than an ordinary residential allotment. The principal use of the land is non-economic in the traditional farming sense, and the value exceeds the value of comparable farmland.
M	Mining and other mineral extraction sites of all descriptions
O	Other uses not covered by any alternative category in this table, generally non-economic uses of a government, civic, or recreational nature
P	Pastoral farming land where the main farming use is a use such as grazing or fattening of livestock
R	Residential land of a domestic type, including investment flats
S	Specialist livestock of a non-dairy or pastoral land use type
U	Utility assets

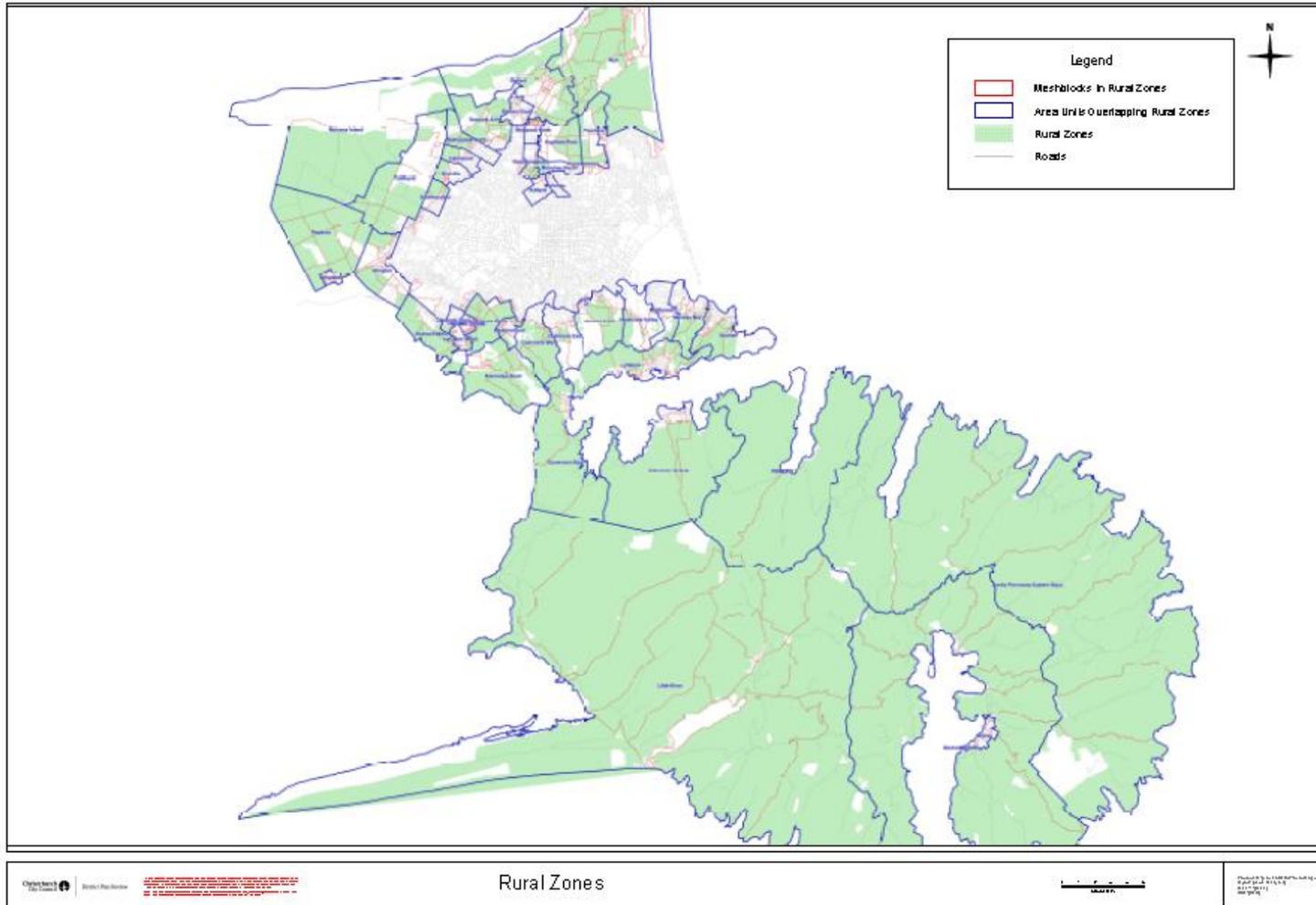
Census area units

Census area units were used as the basis of breaking the data into geographic areas. The areas described in section 4.0 of the report consist of the following census area units:

General rural area	Census Area Units making up area
Akaroa Harbour	Akaroa Harbour
Little River	Little River
Banks Peninsula Eastern Bays	Banks Peninsula Eastern Bays
	Port Levy
Lyttelton Harbour	Lyttelton
	Governors Bay
	Diamond Harbour
Port Hills	Sumner
	Moncks Bay
	Mt Pleasant
	Heathcote Valley
	Rapaki Track
	Cashmere East
	Cashmere West
	Kennedys Bush
	Westmoreland
Halswell	Halswell Domain
	Halswell West
	Hendersons Basin
	Islington
Paparua - Yaldhurst	McLeans Island
	Paparua
	Templeton
	Yaldhurst

General rural area	Census Area Units making up area
North West	Bishopdale North
	Harewood
	Hawthornden
	Russley
	Sawyers Arms
Marshlands	Highfield Park
	Mairehau
	Mairehau North
	Prestons
	Redwood South
Styx	Belfast
	Styx
	Travis Wetland

Census Area Unit boundaries in Christchurch District

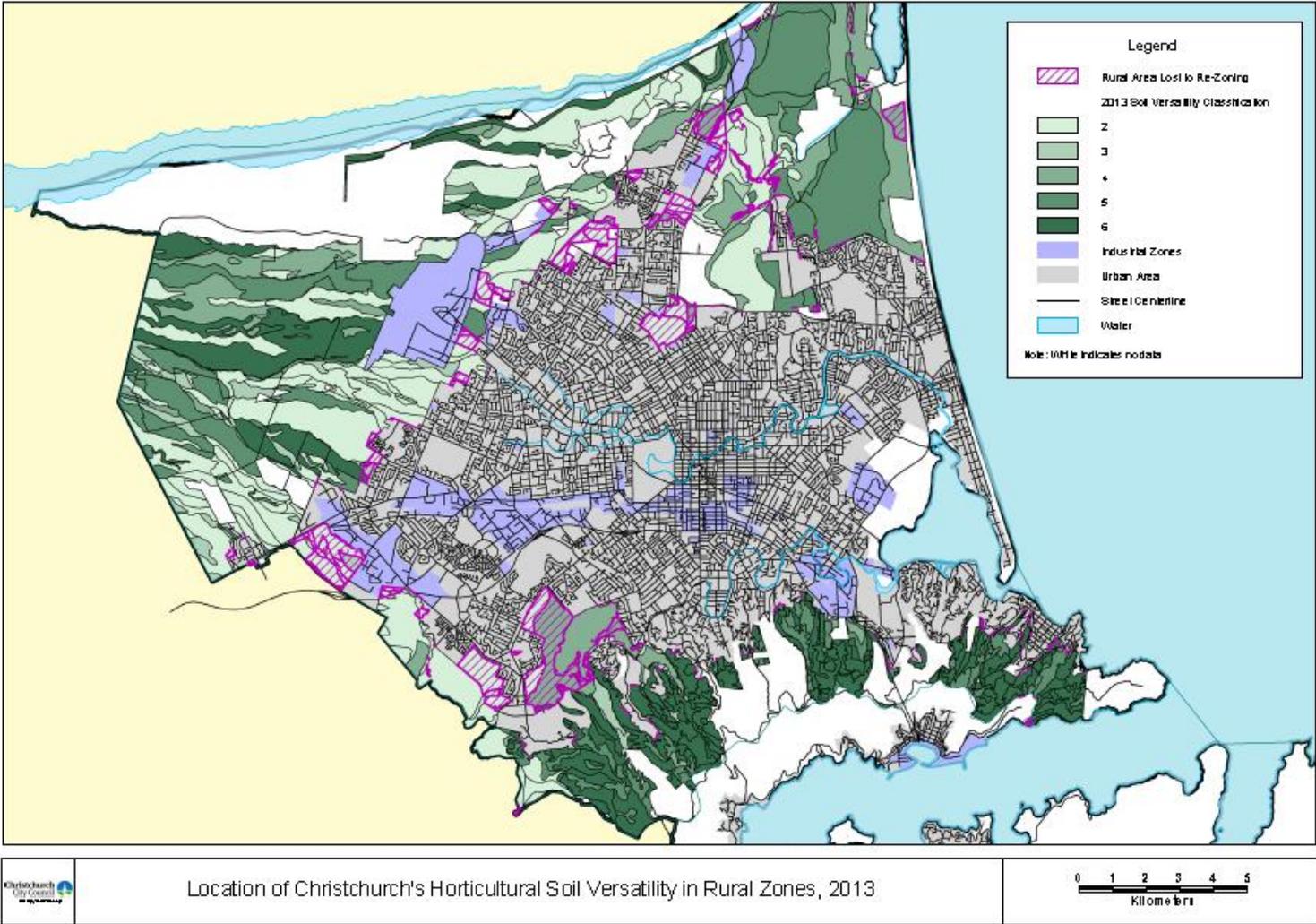


Appendix B: Existing Rural Zones in current District Plans

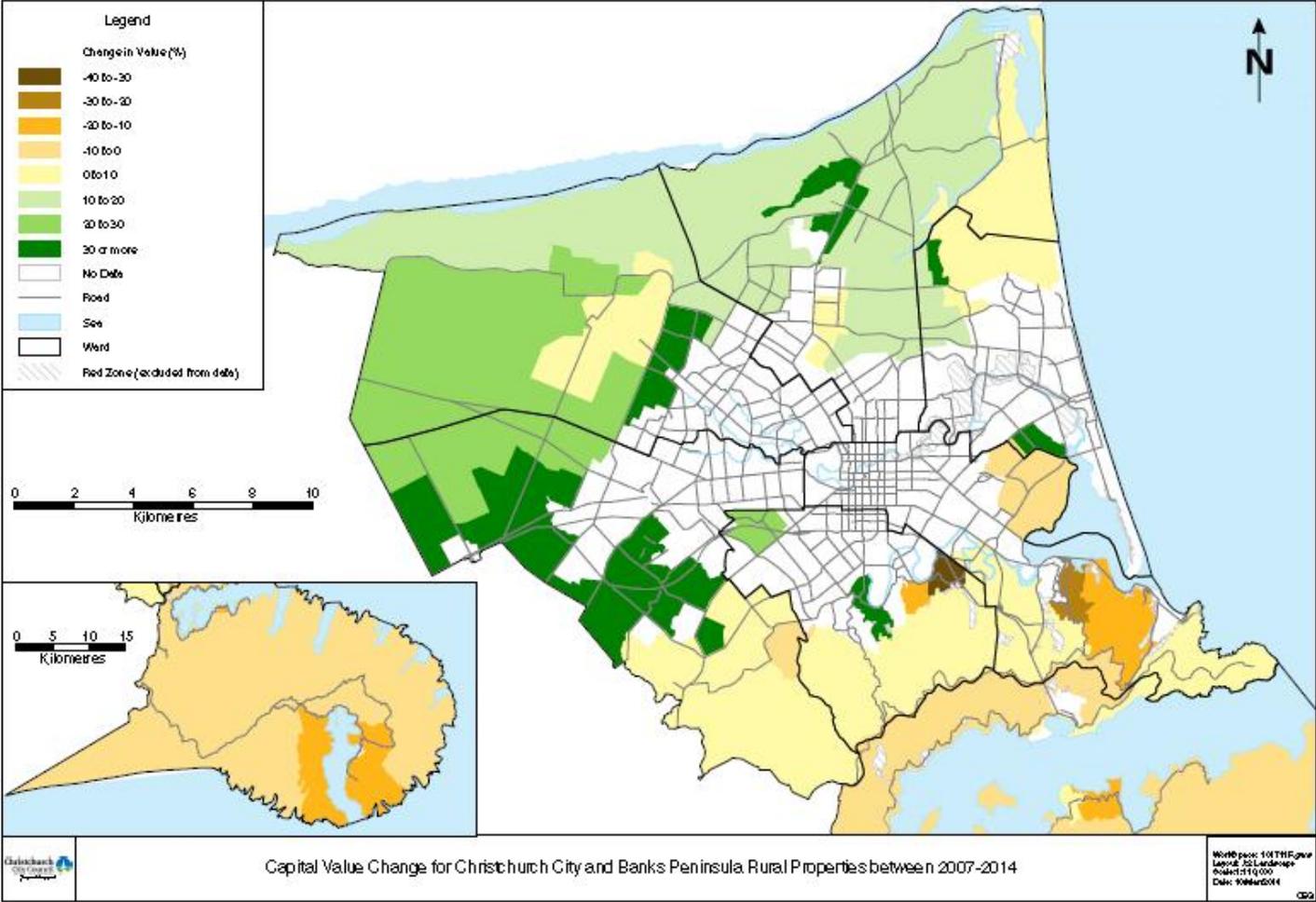
District Plan	Zone	Minimum site size	Reasons for zone
City Plan	Rural 1 Coastal	20ha	Influenced by coast and lower reaches of Styx River. Generally poor soil versatility with a limited range of alternative potential farming uses except on large sites. Groundwater protection through limiting potential dwelling/septic tank densities (especially Rural 4 and part Rural 5 Zones). Floodplain area over a large part of these zones. Airport noise influences of parts of these zones. Retention of existing open rural landscape character. Potential use for farming or forestry or recreation activities with adverse impacts in more densely settled rural areas.
	Rural 2 Templeton-Halswell	4ha	Primary purpose is to provide for continued primary production south and west of the city. Existing pattern of generally small lots and intensive land use. Close proximity to urban boundaries for parts of these zones, with pressure for urban expansion and lifestyle opportunities. Groundwater protection through limiting densities over these large zoned areas to a level consistent with on-site (septic tank) disposal. Important part of the city's rural environment and surrounding landscape. Generally good soil versatility but with water limitations in the west and soil wetness in the Marshlands and Upper Heathcote areas. Airport noise influences in the Rural 5 Zone.
	Rural 3 Styx-Marshland	4ha	As per Rural 2
	Rural 4 Waimakariri	20ha	As per Rural 1
	Rural 5 Airport Influences	4ha/ 20ha	As per Rural 1 and 2. This zone is split based on the air noise boundary.
	Rural 6 Grasslands	100ha	Generally poor soil versatility with a limited range of alternative potential farm uses except on large sites. Groundwater protection through limiting potential dwelling/septic tank densities (Rural 6 Zone). Poor subsoil drainage conditions and potential for erosion (Rural Hills Zone). Potential for detracting from landscape values and in particular "open landscape". Potential for detracting from, or destruction of, ecological heritage sites and their natural values, which are an important part of these zones. Floodplain area (Rural 6 Zone).
	Rural 7 Port Hills Intensive	100ha	An existing pattern of generally small lots and intensive land use. High soil versatility and local micro-climate enabling a range of intensive farming activities on small allotments. Unique local character and high standard of visual amenity associated with existing rural density and local topography.
	Rural Hills	2ha	As per Rural 6
	Rural Quarry	4ha	Ability to continue to operate and provide aggregate for rebuild; what is the potential for further development around area - do not want to intensify further with lifestyle development
	Templeton		Site specific mixed use enabling rural activity, businesses supporting agriculture and horticulture, parks and continued use of

	Special Rural		existing buildings to maintain amenity and character.
Banks Peninsula	Rural Zone	40ha / 100ha	Seeks to foster the protection of landscape character and amenity values by managing zone as Outstanding Natural and Coastal Natural Character Landscapes and Main Ridgelines with the remainder Rural Amenity Landscape. Covers the whole of Banks Peninsula that is not zoned for urban purposes.
	Rural Residential		Provides for rural-residential development in identified locations

Appendix C. Location of versatile soils in Christchurch District, 2013



Appendix D. Capital Value Change for Christchurch City and Banks Peninsula Rural Properties between 2007-2014



Source: CCC website

Appendix E: References

Boffa Miskell, Banks Peninsula Landscape Study, Final Report Prepared for Christchurch City Council, May 2007

Boffa Miskell, Christchurch City Landscape Study, Reviewed Draft 3 September 2014

Christchurch City Council, South West Christchurch Area Plan, April 2009

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Office of the Valuer-General, *Land Information New Zealand*, Rating Valuations Rules 2008 LINZS30300, Version date 1 October 2010

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Tonkin & Taylor Ltd, Effects of sea level rise for Christchurch City Report prepared for Christchurch City Council, November 2013