

## RESOURCE SECTION

---



Dense stands of grassy club sedge (foreground), three-square and tall fescue grass close to the banks of the Styx River/Puharakekenui.



## 1 THE PLACE

The planning area addressed by this master plan covers a five kilometre long, one kilometre wide coastal landscape at the northeastern corner of the greater Christchurch urban/rural area.

It encompasses a variety of features, including public parks, a beach zone, a coastal estuary (Brooklands Lagoon/Te Riu o Te Aika Kawa), natural values, exotic forest and adjoining rural and expanding residential areas.

### The key geographic components are:

**Spencer and southern Seafeld Parks** – the popular family recreational hub located at the southern end of the area.

**Brooklands Lagoon/Te Riu o Te Aika Kawa** – a prominent coastal estuary, fringed with saltmarsh<sup>3</sup> and contained within sand dune ridges that run along the length of the area.

**Lower Styx River/Puharakekenui corridor** – the meandering waterway defining the western edge of the area.

**Waimakariri River** – the major river at the northern end of the area.



Sourced from Land Information New Zealand data. Crown Copyright Reserved.



Image (cropped) sourced from NASA.



Image (cropped) sourced from Image Science and Analysis Laboratory, NASA-Johnson Space Centre. "The Gateway to Astronaut Photography of Earth." <<http://eol.jsc.nasa.gov/>>.

<sup>3</sup> A saltmarsh is a special type of wetland ecosystem that naturally establishes in the upper tidal zone of sheltered estuarine mudflats.

## 2 INTRODUCTION AND CONTEXT

There has not previously been a truly integrated parks planning exercise undertaken for the planning area that is able to properly account for the wide range of natural area, open space and recreation issues and values. In addition, the area is of strong significance to Ngāi Tahu. Instead, planning in the past has focused on just part of the area and covered a limited set of values and uses. This resulted in a management plan for Spencer Park approved in 1982 and a draft management plan for Seafield Park prepared in 1995 but the latter was never approved for public consultation. In addition, a management plan for Bottle Lake Forest Park to the south was approved by the Council in 1997. This was all work that was undertaken by the Council's then Parks Unit. Also, at about the same time, work commenced on an area plan for wider community and infrastructure values such as roading and storm water treatment in the area by the then Environmental Policy and Planning Unit. That work continues today by the Strategic Planning Unit.

There is also a framework of strategic district/regional planning affecting the area that has been facilitated by the Council (Christchurch City Plan (the City Plan)) and the other resource management authorities, Environment Canterbury (Regional Coastal Environment Plan for the Canterbury Region) and the Department of Conservation (Canterbury Conservation Management Strategy).

Engagement by the community and community representatives, Ngāi Tahu, land and resource administrators and interest groups in planning for

the open space and natural values for the area has been relatively sporadic, dis-jointed and site specific since 2003, when planning issues were first raised for discussion. There have been multi-agency/elected representative seminars and on-site meetings and a summer (2003/2004) user survey undertaken.

The way forward is for coordinated and integrated planning for this area, which is intended to be led through this master plan. The plan highlights the values of the area and the issues affecting these values, considers these in the context of community and environmental needs, and proposes actions to achieve the best development, management and care of the area in the future.

Achieving a sustainable balance between (1) the development/growth of the area and the consequent environmental pressures, access and recreational use and (2) the protection, enhancement and restoration of natural values and protection and enhancement of tangata whenua values is a challenge for the managers of this land and environment. This master plan plays a part in addressing this, in the context of public parks and open space, through identification of the values in, potential threats to, and options available to Council to manage such places in the planning area. The plan serves as a basis for consultation with local communities, tangata whenua and users of the area on matters relating to public parks and open spaces in the area and specifically for those parks and open space administered by the Council. For those parts of the area under the administration

of other government bodies, it is a matter of Council advocating actions to those bodies, including feeding back the views of the local communities, tangata whenua and users.

The values, issues and uses vary over the planning area. The more critical parts are those which currently have a predominance of natural values. [The Key Planning Area Elements](#) section of the master plan considers the values, issues and uses for parts of the area.

### 3 PLANNING DRIVERS

- Increasing adjoining residential development and expanding population in the area.
- Increasing demand for and provision of new recreational facilities and opportunities.
- Consequent increasing intensity of public access to and use of the recreational/natural areas.
- Growing number of visitors to the public areas, thereby increasing the potential risk of damage to the natural values of the area.
- Need for rationalisation of the facilities provided (including roads, buildings and car parks) to ensure optimum and sustainable provision of these.
- The imperative to co-ordinate and integrate the multi-area, multi-value and multi-agency planning for the area's public open space resource.
- The need to protect and manage natural values and processes.
- To take into account, in significant decisions for the area, the relationship of Māori and their culture and traditions with their ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga.

### 4 THE URBAN AND REGIONAL CONTEXT

The Brooklands Lagoon/Te Riu o Te Aika Kawa Area Parks Master Plan is just one of a suite of several overlapping plans, strategies, policies, regulations, bylaws and other planning and regulatory documents that cover the master plan planning area, as well as the wider Christchurch and Canterbury areas. These have been prepared by the Council, Environment Canterbury and the Department of Conservation. The main documents are listed on pages 139 to 141.

The master plan supports other operative planning and regulatory documents. It summarises some key elements of these documents that are relevant to the planning area, highlights key issues concerning public natural/recreational open space values, incorporates tangata whenua values and poses potential solutions, along with some initiatives for consideration.

As the planning area is largely in the coastal environment, planning and regulatory documents addressing the values and use of that zone hold particular sway, such as the Regional Coastal Environment Plan.

### 5 AREA ELEMENTS

The elements of the overall planning area include:

- Several public parks.
- Three public land/resource administering bodies.
- Brooklands Lagoon/Te Riu o Te Aika Kawa coastal estuary.
- Waterway corridors – the lower Styx River/Puharakekenui and the mouth of the Waimakariri River.
- A long beach zone.
- Forested areas.
- A dynamic physical coastal environment.
- Expanding residential development.
- Values and sites of significance to tangata whenua (Māori Reserve, wāhi tapu, mahinga kai).





## 6 PLANNING PRINCIPLE

For promotion of a future regional park for the Brooklands Lagoon/Te Riu o Te Aika Kawa area of public parks and open space that is based on a natural coastal environment<sup>4</sup>, protects the values<sup>5</sup> present, promotes restoration of habitat and other values, and provides for public access and recreational use that does not compromise these values and is appropriate for each distinct part of the area (these are identified as key planning area elements 20 to 25 on page 73).

To support this, it is important that there is:

- An integrated approach taken to the regulation and management of activities in, and uses of, the area, and in the protection and restoration of values.
- Recognition and management of existing uses of the area, and planning to protect and conserve values, in the context of future adjoining residential growth and development.
- Recognition of, and provision for, the tangata whenua's cultural and spiritual relationships with the area and its natural environment.

<sup>4</sup> Centred on a large natural estuary, which is flanked by vegetated dune ridges.

<sup>5</sup> There are significant ecological and landscape values here, such as the saltmarsh and coastal birdlife and habitat, as well as important cultural and spiritual associations and values for the tangata whenua.

## 7 VISION

The natural, landscape, cultural and recreational values of the Brooklands Lagoon/Te Riu o Te Aika Kawa area are protected and enhanced by the integrated management of parks and open spaces.

## 8 PLANNING OBJECTIVES

- Integrate the planning for a diversity of landforms, values and recreation.
- Address a number of outstanding parks and open space issues for the Brooklands Lagoon/Te Riu o Te Aika Kawa area.
- Establish an ongoing planning and research programme.
- Identify and develop linkages.
- Take into account environmental forces (flooding, sea level rise).

Photos  
Saltmarsh vegetation of the lower marsh (top) and upper saltmarsh (bottom) zones of Brooklands Lagoon/Te Riu o Te Aika Kawa at high tide. The middle photo shows sand dunes in northern Seafield Park.

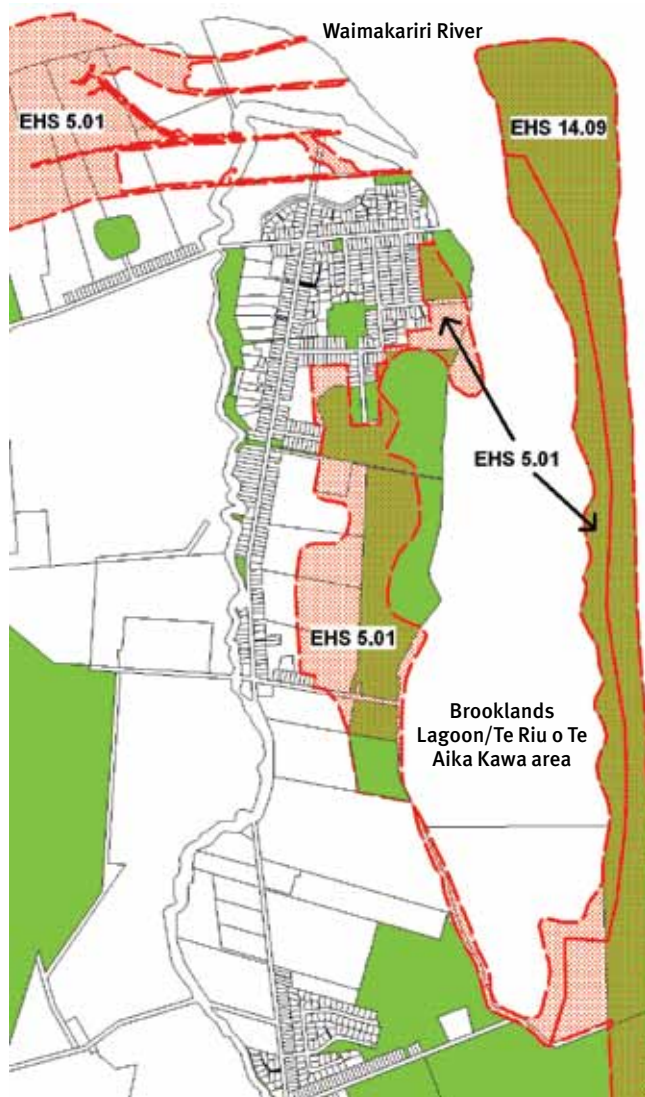
## 9 VALUES

- Important natural and wildlife areas (the coastal strip, Brooklands Spit/Kairaki and northern part of Seafield Park are in Ecological Heritage Sites (EHS)).
- Tangata whenua values.
- A scenic and varied coastal landscape.
- Opportunities for education.
- A range of places and opportunities for outdoor recreational experiences.

### 9.1 Ecological Heritage Sites

These are sites identified in the Christchurch City Plan to protect and, where appropriate, restore areas of ecological heritage in order to sustain the flora and fauna dependent on them.

These sites represent the majority of the pre-European nature of Christchurch. They are given protection under the City Plan in order that a representative sample of Christchurch nature is maintained for future generations and for their own intrinsic worth.



Two ecological heritage sites are relevant for the area covered by this master plan:

#### EHS 5.01<sup>6</sup>

Wetland and riparian areas around Brooklands Lagoon/Te Riu o Te Aika Kawa and in the confluence area of the Styx River/Puharakekenui and the Waimakariri River. The vegetation type is saltmarsh.









#### EHS 14.09

Covers the coastal dunes from the Waimakariri River south to the tip of the South Brighton spit. The vegetation type is coastal dune grassland.

<sup>6</sup> There are significant areas of saltmarsh not included in this ecological heritage site (EHS) because they lie in the Coastal Marine Area (below Mean High Water Springs) and are outside the jurisdiction of the Christchurch City Plan. These areas, though, have equivalent or even higher ecological value to those lying within the EHS and warrant a corresponding level of protection.

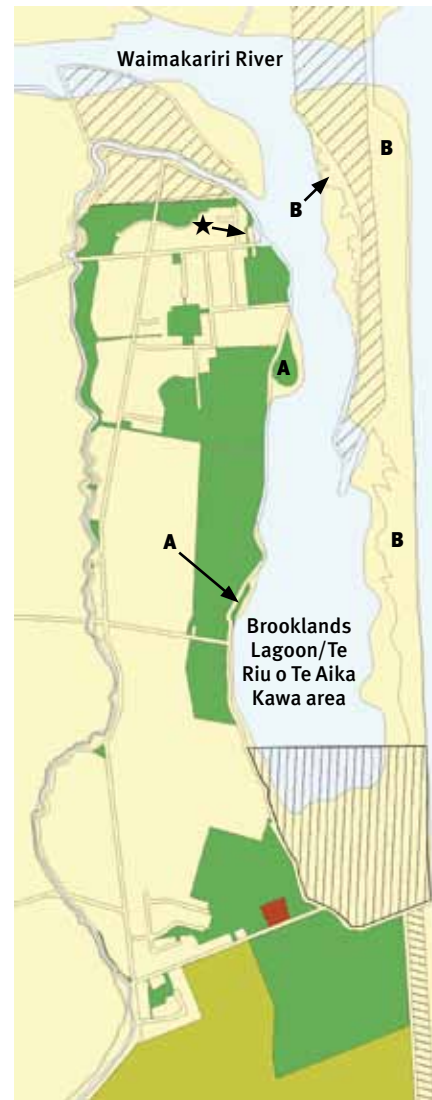
## 10 LAND TENURE

### KEY

-  Council parks, plus accretion to legal road.
-  Public easement for foot access [see note on page 102].
-  Environment Canterbury reserves for river protection purposes.
-  Crown land not administered by the Department of Conservation.
-  Recreation reserve administered and managed by the Christchurch City Council.
  
-  Hibburt Park, controlled and managed by the Associated Churches of Christ.
-  Bottle Lake Forest - the land is administered and managed by the Christchurch City Council, the trees owned by the Selwyn Plantation Board Limited.
  
-  Legal road (formed and unformed) administered by the Council.
  
- A** Accretion to legal road.
- B** Legal road to be stopped.

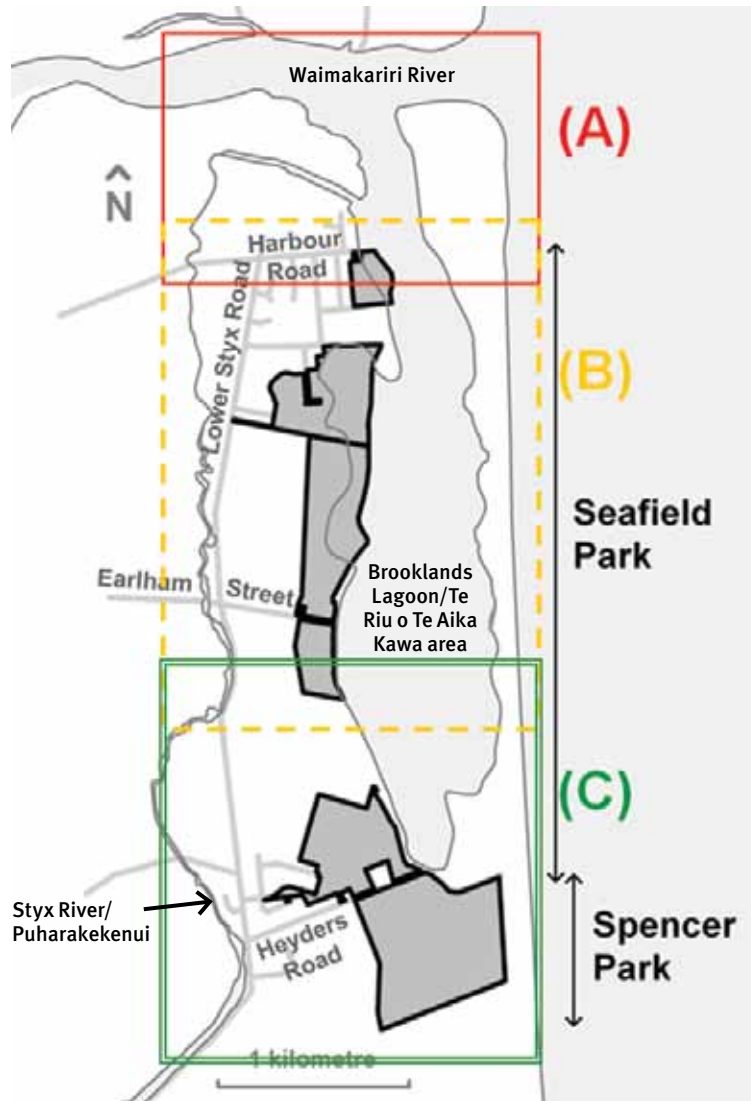
Waimakariri River  
 Brooklands Lagoon/  
 Te Riu o Te Aika  
 Kawa area

Diagrammatic representation of the boundaries of the rivers, estuary and the sea only – does not represent the Mean High Water Springs (MHWS) line, which defines the Coastal Marine Area (CMA).



Only public land is shown

Areas vested in the Crown pursuant to the Foreshore and Seabed Act 2004 are not shown.



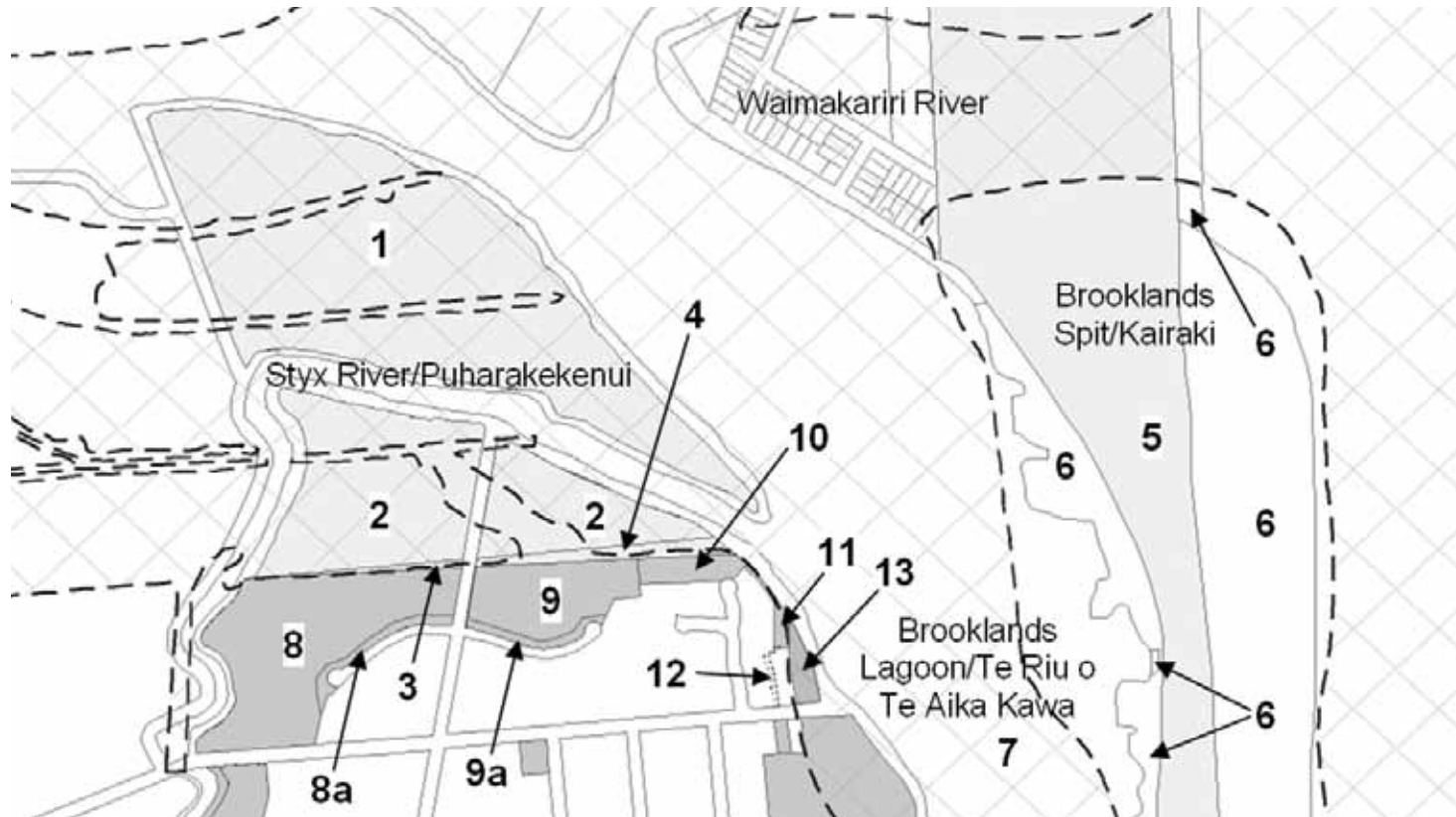
## 11 LAND STATUS

Solely to enable maps of cadastral information to be clearly shown in sufficient detail, the elongated planning area is split into three parts:

- (A) River/lagoon confluence (go to page 28)
- (B) Brooklands Lagoon/Te Riu o Te Aika Kawa margin (go to page 32)
- (C) Spencer Park area (go to page 39)



11.1 River/lagoon confluence (A)



MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
1*	Reserve 4231	19.6272	Land set aside by the Governor-General of the Dominion of New Zealand on 14 May 1929 permanently as a reserve for river protection purposes (Gaz 1929 p1451 <sup>7</sup> ).	N/A	Part Waimakariri River Regional Park	Environment Canterbury, Department of Conservation
2*	Part Reserve 4234	9.6922				
3*	Part Rural Section 7428	0.1821	Land declared by the Governor-General of the Dominion of New Zealand on 4 August 1932 to be taken for the purposes of river conservation works generally, and for river works, and to be vested in the Waimakariri River Trust <sup>8</sup> (Gaz 1932 p1766).	N/A	Part Waimakariri River Regional Park	Environment Canterbury, Department of Conservation
4*	Part Rural Section 7428	0.6804				
5*	Part Reserve 4060	47.8287	Land set aside, under the Land Act 1924, by the Governor-General of the Dominion of New Zealand on 25 October 1932 permanently as a reserve for river protection purposes (Gaz 1932 p2167). Subsequently vested, under the Public Reserves, Domains and National Parks Act 1928, by the Governor-General on 15 December 1932 in the Waimakariri River Trust, in trust, for river protection purposes (Gaz 1932 p2786). <b>P24 Propose for the part of this reserve above MHWS to be transferred to the Council and classified as scenic reserve.</b>	N/A	Part Brooklands Spit/ Kairaki	Environment Canterbury, Department of Conservation
6	Sections 1 to 8 Survey Office Plan 340420	56.7807	Legal road to be stopped. <b>P24 Propose for this land to be classified as scenic reserve in conjunction with the rest of Brooklands Spit/Kairaki.</b>	N/A	Part Brooklands Spit/ Kairaki	
7	Coastal Marine Area		The Coastal Marine Area is the foreshore, seabed, and coastal water, and the air space above the water, between the outer limits of the territorial sea (twelve nautical miles) and the line of Mean High Water Springs (MHWS <sup>9</sup> ). On the maps in the Regional Coastal Environment Plan for the Canterbury Region 2005, MHWS is shown as an indicative line only <sup>10</sup> .	N/A	Part Brooklands Lagoon/Te Riu o Te Aika Kawa	Department of Conservation, Environment Canterbury

<sup>7</sup> New Zealand Gazette: Year – 1929, page 1451.

<sup>8</sup> Set up to deal with the with drainage and flooding in the Waimakariri River Trust District, which was established under the Waimakariri River Improvement Act 1922. The Trust was dissolved on 13 February 1947 and the powers and functions of the Trust transferred to the North Canterbury Catchment Board under the Soil Conservation and Rivers Control Amendment Act 1946.

<sup>9</sup> Generally, MHWS is the line of the average of the highest tides (known as spring tides).

<sup>10</sup> Description adapted from the Regional Coastal Environment Plan for the Canterbury Region 2005 (Section 1.3, page 1-2).

\* With the enactment of the Foreshore and Seabed Act 2004 vesting ownership and management of land that is public foreshore and seabed (that is, land lying below Mean High Water Springs and contained within the Coastal Marine Area) in the Crown, part of this land parcel (cross-hatched on the accompanying plan) is vested in the Crown.

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
8	Lot 34 Deposited Plan 380529	5.5622	Land vested on deposit upon subdivision for Scenic Reserve, subject to Section 19(1)(b) of the Reserves Act 1977, in the Council on 23 May 2007.	Not classified	Part Styx River Mouth Conservation Reserve	Council
9	Lot 33 Deposited Plan 380529	2.2368				
8a	Lot 38 Deposited Plan 380529	0.3928	Land vested on deposit upon subdivision for Local Purpose (Utility) Reserves in the Council on 23 May 2007.	Not classified	Part Styx River Mouth Conservation Reserve	Council
9a	Lot 39 Deposited Plan 380529	0.3065				
10	Lot 28 Deposited Plan 311066	0.5937	Land vested on deposit upon subdivision for Recreation Reserve in the Council on 7 November 2002.	Not classified	Part Styx River Mouth Conservation Reserve	Council
11	Lot 30 Deposited Plan 311066	0.1621	Land vested on deposit upon subdivision for Local Purpose (Esplanade) Reserve in the Council on 7 November 2002.	Not classified	Part Styx River Mouth Conservation Reserve	Council
12	Easement A over Lot 27 Deposited Plan 311066		Right of way on foot in gross over privately owned land, granted to the Council on 7 November 2002 (Note: The Council on 14 May 2009 resolved to surrender this easement (see page 102 of this plan)).	N/A	Pedestrian access-way to the Styx River Mouth Conservation Reserve	
13*	Lot 29 Deposited Plan 311066	0.3760	Land vested on deposit upon subdivision in Her Majesty the Queen on 7 November 2002, pursuant to Section 237A of the Resource Management Act 1991. Certificate of title not issued.	N/A	Part Brooklands Lagoon/Te Riu o Te Aika Kawa area	Department of Conservation, Environment Canterbury

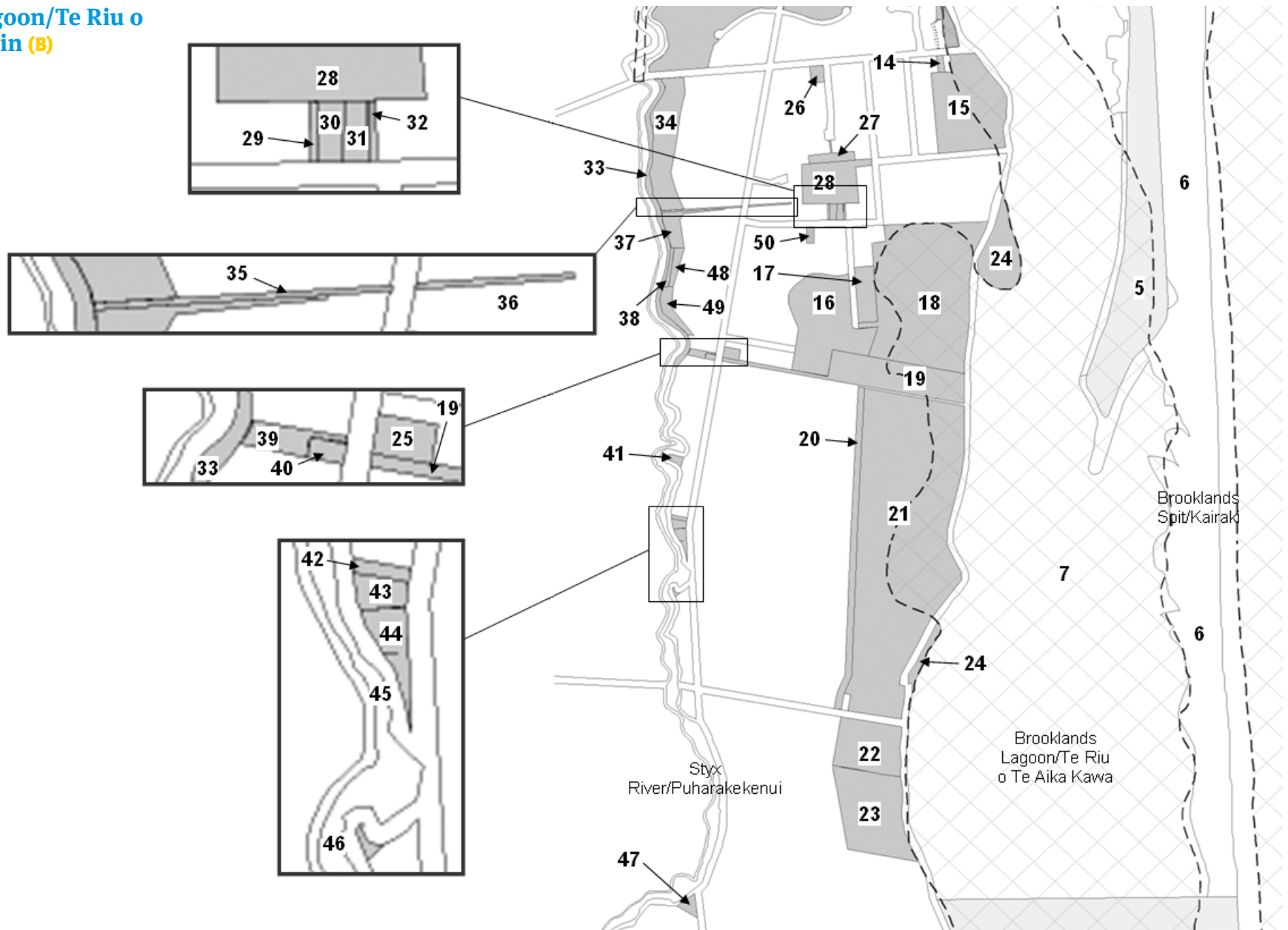
\* With the enactment of the Foreshore and Seabed Act 2004 vesting ownership and management of land that is public foreshore and seabed (that is, land lying below Mean High Water Springs and contained within the Coastal Marine Area) in the Crown, this land parcel is vested in the Crown.





Sand dunes of Spencer Park Beach showing wilding pines and silver poplar invading in the foreground.

11.2 Brooklands Lagoon/Te Riu o  
Te Aika Kawa margin (B)



MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/ MANAGEMENT
14	Lot 14 Deposited Plan 7667	0.1012	Fee simple title, half transferred to the Council on 7 July 1993 and the remaining half on 22 November 2004. <b>P11 Propose for the Council to declare by resolution, under Section 14(1) of the Reserves Act 1977, that this land parcel is classified scenic reserve and added to Seafield Park.</b>	N/A	Northern entrance-way to Seafield Park (currently not part of the Park)	Council
15*	Lot 2 Deposited Plan 27026	5.4076	Classified as Scenic Reserve (Section 19(1)(a) of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as a Reserve for Recreation in the Waimairi County Council, subject to the Reserves Act 1977, on 2 December 1969.	Scenic Reserve	Part Seafield Park	Council
16	Lot 10 Deposited Plan 342547	5.1840	Classified as Scenic Reserves (Section 19(1)(a) of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple titles, originally vested on deposit as Local Purpose (Environment and Habitat Protection) Reserves in the Council, subject to the Reserves Act 1977, on 15 March 2005.	Scenic Reserve	Part Seafield Park	Council
17	Lot 8 Deposited Plan 342547	0.9581				
18*	Lot 1 Deposited Plan 44685	12.5000	Classified as Scenic Reserve (Section 19(1)(a) of the Reserves Act 1977) by resolution of Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as a Recreation Reserve in the Waimairi County Council on 16 January 1982.	Scenic Reserve	Part Seafield Park	Council

\* With the enactment of the Foreshore and Seabed Act 2004 vesting ownership and management of land that is public foreshore and seabed (that is, land lying below Mean High Water Springs and contained within the Coastal Marine Area) in the Crown, part of this land parcel (cross-hatched on the accompanying plan) is vested in the Crown and not subject to classification under the Reserves Act 1977.



MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
19*	Reserve 3748	4.0469	The earlier vesting of this land parcel in the Waimakariri District Council was cancelled and it was changed from being a reserve for a site for harbour board buildings to being a Recreation Reserve classified under the Reserves Act 1977 and vested in the Christchurch City Council, in trust, for the purpose of a recreation reserve on 8 January 1990 (Gaz 1990 p143). <b>P10 Propose for the Council to resolve, under Section 14(1) of the Reserves Act 1977, that the classification of this reserve should be changed to scenic reserve.</b>	Recreation Reserve	Part Seafield Park	Council
20	Lot 9 Deposited Plan 44428	1.9500	Classified as Scenic Reserve (Section 19(1)(a) of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as a Local Purpose (Road) Reserve in the Waimairi County Council on 18 September 1981.	Scenic Reserve	Part Seafield Park	Council
21*	Lot 1 Deposited Plan 44428	24.7960	Classified as Scenic Reserve (Section 19(1)(a) of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as a Recreation Reserve in the Waimairi County Council on 18 September 1981.	Scenic Reserve	Part Seafield Park	Council
22	Lot 8 Deposited Plan 44428	2.9550	Classified as Scenic Reserves (Section 19(1)(a) of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as Recreation Reserves in the Waimairi County Council (for Lot 8) on 18 September 1981 and Waimairi District Council (for Lot 2) on 29 July 1988 <sup>11</sup> .	Scenic Reserve	Part Seafield Park	Council
23	Lot 2 Deposited Plan 52199	4.8413				

\*With the enactment of the Foreshore and Seabed Act 2004 vesting ownership and management of land that is public foreshore and seabed (that is, land lying below Mean High Water Springs and contained within the Coastal Marine Area) in the Crown, part of this land parcel (cross-hatched on the accompanying plan) is vested in the Crown and not subject to classification under the Reserves Act 1977.

<sup>11</sup> On 11 April 1982, the Waimairi County Council became the Waimairi District Council.

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
24	Legal road		These are areas of accretion alongside legal road. When land along the Mean High Water Springs (MHWS) of the sea adjoins a legal road the accretion is deemed to be legal road pursuant to Section 315(4) <sup>12</sup> of the Local Government Act 1974. The Foreshore and Seabed Act 2004 does not remove provisions under the Local Government Act 1974 for accretions of land in the Coastal Marine Area (CMA) (that is, below MHWS) to be added to land that is under control of the local authority.	N/A		Council
25	Res 4119 (DP 7061)	0.1517	Occupied and utilised wholly by the Brooklands Playcentre.	N/A	Brooklands Playcentre Reserve	Council
26	Reserve 4085 (Lot 41 Deposited Plan 6159, being part Rural section 6540)	0.2023	Vested originally in the Waimairi County Council, in trust, for public purposes by the Minister of Lands, pursuant to the Reserves and Domains Act 1953, on 15 December 1961 (Gaz 1961 p1980). <b>Propose for the Council to classify, by notice in the New Zealand Gazette, as recreation reserve under Section 16(1) of the Reserves Act 1977.</b>	Not classified	Harbour Reserve	Council
27	Lot 25 Deposited Plan 74992	0.3663	Fee simple title vested on deposit as a Recreation Reserve in the Council on 28 May 1997. <b>Propose for the Council to classify by resolution, under Section 16(2A)(a) of the Reserves Act 1977, this land parcel as recreation reserve.</b>	Not classified	Part Brooklands Domain	Council
28	Lot 116 Deposited Plan 8957 and Part Lot 1 Deposited Plan 11734	2.1246	Fee simple title vested in the Waimairi County Council on 27 June 1967. <b>Propose for the Council to declare by resolution, under Section 14(1) of the Reserves Act 1977, that the land parcel is classified as recreation reserve.</b>	N/A	Part Brooklands Domain	Council

<sup>12</sup> Local Government Act 1974: Section 315 (Interpretation), Subsection (4) - Every accretion to any road along the bank of a river or stream or along the mean high-water mark of the sea or along the margin of any lake caused by the action of the river or stream or of the sea or lake shall form part of the road.

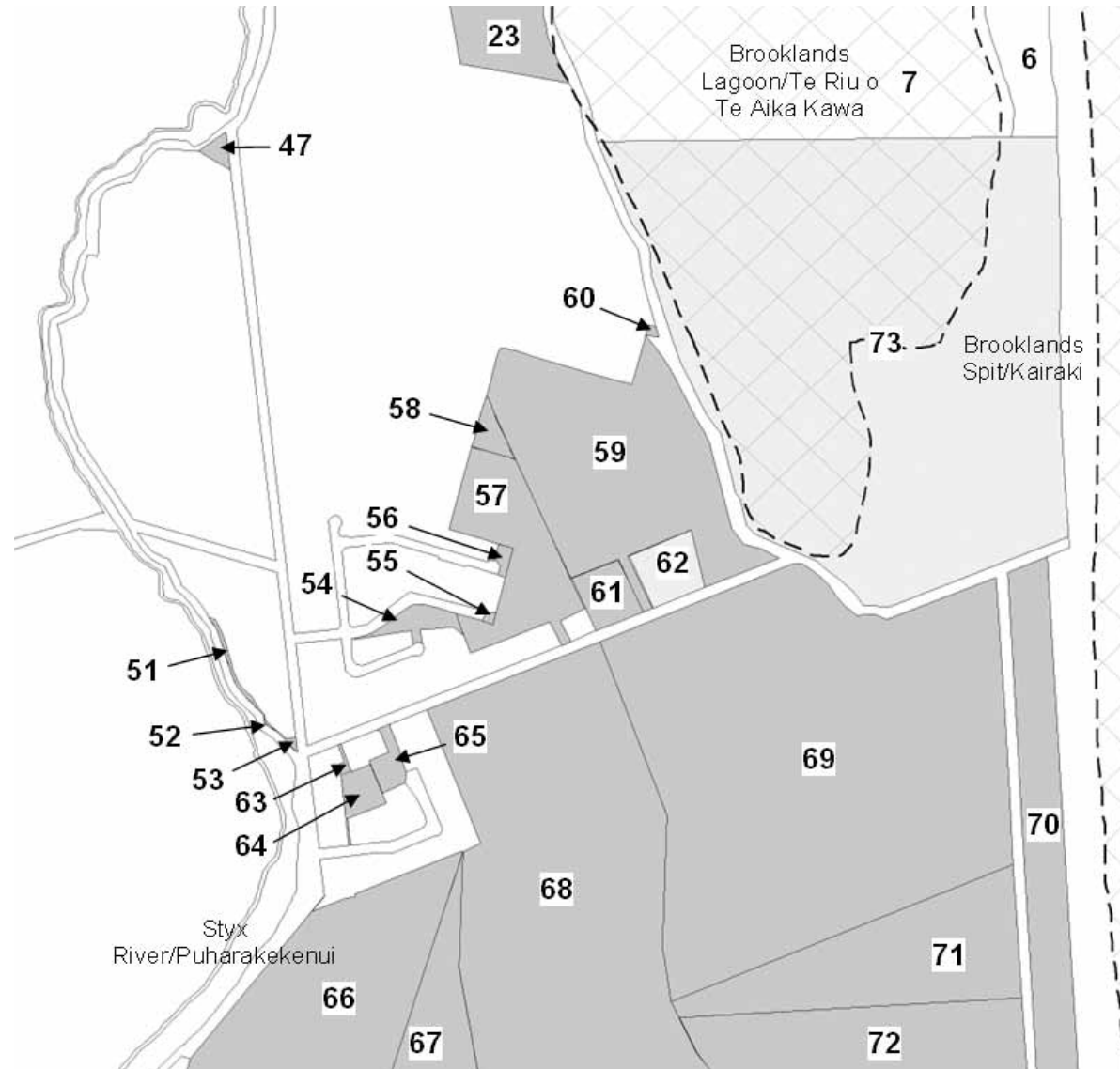
MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION /MANAGEMENT
29	Lot 11 Deposited Plan 77045	0.0325	Fee simple titles vested on deposit as Recreation Reserves in the Council, subject to the Reserves Act 1977, on 31 March 2000. <b>Propose for the Council to classify by resolution, under Section 16(2A)(a) of the Act, this land parcel as recreation reserve.</b>	Not classified	Part Brooklands Domain	Council
30	Lot 12 Deposited Plan 77045	0.1061				
31	Lot 156 Deposited Plan 8475	0.1059	Fee simple title vested on deposit as a Local Purpose Reserve (Road) in the Council, subject to the Reserves Act 1977, on 18 May 2000. <b>Propose for the Council to resolve, under Section 24(1)(b) of the Act, that the purpose of this reserve should be changed to recreation reserve.</b>	Not classified	Part Brooklands Domain	Council
32	Lot 13 Deposited Plan 77045	0.0325	Fee simple title vested on deposit as Recreation Reserve in the Council, subject to the Reserves Act 1977, on 31 March 2000. <b>Propose for the Council to classify by resolution, under Section 16(2A)(a) of the Act, this land parcel as recreation reserve.</b>	Not classified	Part Brooklands Domain	Council
33	Sec 1 Survey Office Plan 19785	1.1937	Esplanade Reserve, subject to the Reserves Act 1977. Previously road, stopped in 1997, pursuant to the Local Government Act 1974.	Not classified	Part Styx River (lower) Conservation Reserve	Council
34	Lot 23 Deposited Plan 332031	2.8875	Fee simple title vested on deposit as Recreation Reserve in the Council on 30 March 2004.	Not classified	Part Styx River (lower) Conservation Reserve	Council
35	Lot 1 Deposited Plan 59863	0.0977	Fee simple title held by the Council for the purpose of a Drain Reserve.	N/A	Part Styx River (lower) Conservation Reserve	Council



MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
36	Lot 2 Deposited Plan 59863	0.0513	Fee simple title held by the Council for the purpose of a Drain Reserve.	N/A		Council
37	Lot 22 Deposited Plan 326204	0.6366	Fee simple title vested on deposit as Recreation Reserve in the Council on 24 November 2003.	Not classified	Part Styx River (lower) Conservation Reserve	Council
38	Lot 3 Deposited Plan 301138	0.1077	Fee simple title vested on deposit as Local Purpose (Esplanade) Reserve in the Council on 24 April 2001.	Not classified	Part Styx River (lower) Conservation Reserve	Council
39	Sections 2 and 3 Survey Office Plan 20162	0.0953 and 0.0202	Classified under the Reserves Act 1977 as Recreation Reserves (Gaz 2000 p663) on 23 March 2000.	Recreation Reserve	Part Lower Styx Reserve	Council
40	Section 1 Survey Office Plan 20162	0.0500	Classified under the Reserves Act 1977 as a Local Purpose (Utility) Reserve (Gaz 2000 p663) on 23 March 2000.	Local Purpose (Utility) Reserve	Part Lower Styx Reserve	Council
41	Reserve 4302 (Deposited Plan 6164)	0.0759	Fee simple title held as a Local Purpose (Boating) Reserve (unclassified) by the Council. Originally vested as a Boating Reserve in the Waimairi County Council in 1921.	Not classified	Part Styx River Boating Reserve	Council

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
42	Part Lot 125 Deposited Plan 6164	0.0506	Fee simple titles held by the Council. <b>Propose for the Council to declare by resolution, under Section 14(1) of the Reserves Act 1977, that these land parcels are classified local purpose (esplanade) reserves.</b>	N/A	Part Styx River Boating Reserve	Council
43	Lot 126 Deposited Plan 6164	0.1012				
44	Lot 127 Deposited Plan 6164	0.1012				
45	Reserve 4303 (Deposited Plan 6164)	0.0481	Fee simple titles held as Local Purpose (Boating) Reserves (unclassified) by the Council. Originally vested as Boating Reserves in the Waimairi County Council in 1921.	Not classified	Part Styx River Boating Reserve	Council
46	Reserve 4304 (Deposited Plan 6164)	0.0177				
47	Lot 1 Deposited Plan 5048	0.2023	Fee simple title held by the Council.	N/A		Council
48	Lot 6 Deposited Plan 367740	0.2921	Fee simple title vested on deposit as Recreation Reserve in the Council on 7 December 2006.	Not classified	Part Styx River (lower) Conservation Reserve	Council
49	Lot 21 Deposited Plan 326280	0.4757	Fee simple title vested on deposit as Recreation Reserve in the Council on 24 November 2003.	Not classified	Part Styx River (lower) Conservation Reserve	Council
50	Lot 180 Deposited Plan 8475	0.1021	Fee simple title vested on deposit as a Local Purpose (Road) Reserve in the Council, subject to the Reserves Act 1977, on 18 May 2000.	Not classified		Council

11.3 Spencer Park area (C)





MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
51	Lot 17 Deposited Plan 83580	0.1332	Fee simple title vested on deposit as Recreation Reserve in the Council on 15 December 2000.	Not classified	Part Styx River Bank Reserve	Council
52	Lot 16 Deposited Plan 82960	0.0122	Fee simple title vested on deposit as Recreation Reserve in the Council.	Not classified	Part Styx River Bank Reserve	Council
53	Lot 18 Deposited Plan 82960	0.0415	Fee simple title vested on deposit as Recreation Reserve in the Council.	Not classified	Part Styx River Bank Reserve	Council
54	Lot 78 Deposited Plan 311069	0.6780	Classified as Recreation Reserves (Section 17 of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as Recreation Reserves in the Council, subject to the Reserves Act 1977, on 23 August 2002.	Recreation Reserve	Part Seafield Park	Council
55	Lot 79 Deposited Plan 311069	0.0384				
56	Lot 80 Deposited Plan 319911	0.1393				
57	Part Lot 15 Deposited Plan 11576	5.1764	Classified as a Recreation Reserve by resolution of the Waimairi District Council in October 1989. Fee simple title, previously transferred from private ownership to the Waimairi County Council as a reserve subject to the Reserves and Domains Act 1953 on 7 December 1977.	Recreation Reserve	Part Seafield Park	Council
58	Reserve 4414 Deposited Plan 11576	0.4666	Classified as a Recreation Reserve by resolution of the Waimairi District Council on 27 September 1989. Land originally vested on deposit as a reserve for recreation in the Waimairi County.	Recreation Reserve	Part Seafield Park	Council

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/ MANAGEMENT
59	Rural Section 40231	15.1605	Classified as a Recreation Reserve by resolution of the Waimairi District Council on 27 September 1989. Originally derived from the Crown and set aside as a reserve for recreation purposes under the Land Act 1948 and vested in the Waimairi County Council, in trust, for that purpose pursuant to the Reserves and Domains Act 1953 on 3 April 1973 (Gaz 1973 p742).	Recreation Reserve	Part Seafield Park	Council
60	Lot 3 Deposited Plan 305575	0.0378	Classified as Recreation Reserve (Section 17 of the Reserves Act 1977) by resolution of the Council on 10 July 2008, pursuant to Section 16(2A)(a) of the Act. Fee simple title, originally vested on deposit as a Recreation Reserve in the Council, subject to the Reserves Act 1977, on 11 April 2002.	Recreation Reserve	Part Seafield Park	Council
61	Reserve 5253 Survey Office Plan 10973	1.1533	Classified as a Local Purpose (Youth Holiday and Recreation Camp) Reserve under the Reserves Act 1977 on 14 October 1980 (Gaz 1980 p3328). The Waimairi County Council was appointed to control and manage this reserve, subject to the provisions of the Reserves Act 1977, also on 14 October 1980 (Gaz 1980 p3332). <b>Propose for the Council to resolve, under Section 24(a) (b) of the Reserves Act 1977, that the classification of this reserve should be changed to recreation reserve.</b>	Local Purpose (Youth Holiday and Recreation Camp) Reserve	Part Seafield Park	Council
62	Reserve 5252 Survey Office Plan 10973	1.3931	Classified under the Reserves Act 1977 as a Local Purpose (Youth Holiday and Recreation Camp) Reserve on 26 June 1984 (Gaz 1984 p2430). The Associated Churches of Christ Church Extension and Property Trust Board was appointed to control and manage this reserve on 22 July 1969 (Gaz 1969 p1367).	Local Purpose (Youth Holiday and Recreation Camp) Reserve	Hibburt Park	Associated Churches of Christ Church Extension and Property Trust Board
63	Reserve 5011 (Deposited Plan 20364)	0.0693	Classified under the Reserves Act 1977 as a Local Purpose (Community Buildings) Reserve on 16 December 2004 (Gaz 2004 p4422).	Local Purpose (Community Buildings) Reserve	Part Spencerville Reserve	Council

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/ MANAGEMENT
64	Reserve 4518 (Vested Deposited Plan 13262)	0.6245	Classified under the Reserves Act 1977 as a Local Purpose (Community Buildings) Reserve on 16 December 2004 (Gaz 2004 p4422).	Local Purpose (Community Buildings) Reserve	Part Spencerville Reserve	Council
65	Lot 37 Deposited Plan 78706	0.4923	Classified under the Reserves Act 1977 as a Recreation Reserve on 16 December 2004 (Gaz 2004 p4422). Fee simple title, originally vested on the deposit as a Recreation Reserve in the Council, subject to the Reserves Act 1977, on 17 September 1998.	Recreation Reserve	Part Spencerville Reserve	Council
66	Part Rural Sections 20278 and 20279 Survey Office Plan 481	35.8121	Fee simple title held by the Council.	N/A	Part Bottle Lake Forest Park	Council/Selwyn Plantation Board Ltd <sup>13</sup>
67	Rural Section 35648 Survey Office Plan 4076	4.0367	Fee simple title held by the Council.	N/A	Part Bottle Lake Forest Park	Council/Selwyn Plantation Board Ltd
68	Part Reserve 1579 Survey Office Plan 3068	58.1735	Fee simple title held by the Council.	N/A	Part Bottle Lake Forest Park	Council/Selwyn Plantation Board Ltd
69	Lot 1 Deposited Plan 44484	46.9820	Previous Rural Section 40048 (redefined as Lot 1 Deposited Plan 44484 on 2 December 1993) classified as a recreation reserve by resolution of the Waimairi District Council on 27 September 1989. Fee simple title, originally derived from the Crown. Rural Section 40048 was a recreation reserve subject to Part II of the Reserves and Domains Act 1953 and vested with the County of Waimairi, in trust, for recreational purposes on 23 March 1972 (Gaz 1972 p674).	Recreation Reserve	Spencer Park	Council

<sup>13</sup> The Selwyn Plantation Board Ltd (SPBL) is a Council Controlled Trading Organisation (CCTO), with the shareholders being Selwyn Investment Holdings Limited (60.68%) and Christchurch City Holdings Limited (39.32%). The SPBL owns the trees and contracts out management and harvesting. The Council owns the land.

MAP REF	LAND PARCEL	AREA (HECTARES)	DESCRIPTION/HISTORY/INTENTION	RESERVES ACT CLASSIFICATION	PLACE NAME	ADMINISTRATION/MANAGEMENT
70	Crown land; shown as Sections 4 and 10 on Survey Office Plan 17137	50.2200	80.47 metre wide strip of land extending south of Heyders Road in more than one parcel to Waimairi Beach, beyond Bottle Lake Forest Park. Classified, by New Zealand Gazette notice on 28 November 2008, as recreation reserve, subject to the provisions of the Reserves Act 1977, and vested in the Council in trust for that purpose (Gaz 2008 p4964) (Correction made on 15 December 2008 (Gaz 2008 p5178)). Previously administered by the Department of Conservation as conservation land, subject to the Conservation Act 1987. The Council resolved on 12 June 2008 to accept a free vesting of the area as recreation reserve under the Reserves Act 1977.	Recreation Reseve	Spencer Park Beach	Council
71	Lot 2 Deposited Plan 44484	10.2230	Classified as a Local Purpose (Plantation) Reserve under the Reserves Act 1977 on 18 March 1982 (Gaz 1982 p1453). <b>P32 (part) Propose for this reserve to be included as part of Spencer Park.</b>	Local Purpose (Plantation) Reserve	Part Bottle Lake Forest Park	Council/Selwyn Plantation Board Ltd
72	Rural Section 35995	12.1406	Fee simple title held by the Council. Area is part of land (possibly Reserve 2636 Survey Office Plan 3068) that was originally classified as Local Purpose Plantation Reserve on 12 August 1981 (Gaz 1981 p 2435). <b>P32 (part) Propose for this reserve to be included as part of Spencer Park.</b>	Local Purpose (Plantation) Reserve	Part Bottle Lake Forest Park	Council/Selwyn Plantation Board Ltd
73	Rural Section 41137 Survey Office Plan 16630	63.3325	Crown land and foreshore. The part that is foreshore is below MHWS and therefore in the CMA. <b>P25 Propose for the land above MHWS to be surveyed off from the foreshore and transferred to the Council, and to be classified as scenic reserve. The Council resolved on 8 July 2010 to accept a free vesting of the part that is Crown land as scenic reserve under the Reserves Act 1977.</b>	Crown land part to be Scenic Reserve	The part below MHWS is part of Brooklands Lagoon/ Te Riu o Te Aika Kawa	Crown# (Crown land part)/Department of Conservation, Environment Canterbury (foreshore part)

# To be Council once process of vesting is completed.



## 12 KEY ISSUES

- Inter-relationship of recreational use and conservation of natural values.
- Inter-relationship of planning, development and recreational values with tangata whenua values in the area.
- Impact of surrounding development and increasing use of the area on natural values and tangata whenua values/practices, through:
  - People cutting wire off fences.
  - Trampling of vegetation by foot, hoof or vehicle.
  - Destruction of habitat.
  - Dumping of rubbish.
  - Hunting (duck shooting).
  - Dogs adversely affecting wildlife.
- Interaction with the local community.
- What facilities should be provided?
  - Camping ground.
  - Shop/food/café.
  - Seafield Park animal area.
  - Buildings, such as an information centre.
  - Structures for play and outdoor recreational pursuits.
  - Tracks - how to address conflict between different users - for example, horse riders and walkers.
- Linkage with other areas – roads and tracks - issues of:
  - Intersection safety.
  - Increased congestion.
  - Road status/condition.
- Public access - what is appropriate?
  - Vehicles on Brooklands Spit/Kairaki<sup>14</sup>.
  - Whitebaiting and fishing at the Waimakariri River mouth - should these recreators be able to stay overnight?
  - Locked gates to beach – who should have keys?
  - Motorised craft, such as jet skis – need for speed of these to be controlled and to be kept out of excluded areas.
  - Dog areas – should there be further opportunities for dog exercise?
- Hazards
  - Flooding.
  - Much of the planning area is identified as a “Flood Management Area.”
  - Variation 48 to the City Plan sets rules affecting building and filling in the area.
  - Sea level rise/inundation/tsunami risk.
  - Fire - for example, started on the beach and spreading into the dune area.



Saltmarsh at the Brooklands (left) and Spencer Park (middle) ends of Brooklands Lagoon/Te Riu o Te Aika Kawa. Pied cormorants in the estuary (right).

<sup>14</sup> Includes vehicles (1) below the high tide line (that is, the Mean High Water Springs (MHWS)), (2) on and above the high tide line, (3) driven along the toe of the dunes, (4) driven on the dunes, and (5) driven along the estuary side of the spit. Each of these needs separate assessment as some may have minimal impacts while others have significant detrimental impacts in terms of damage to fragile physical environments, and on plants and wildlife.

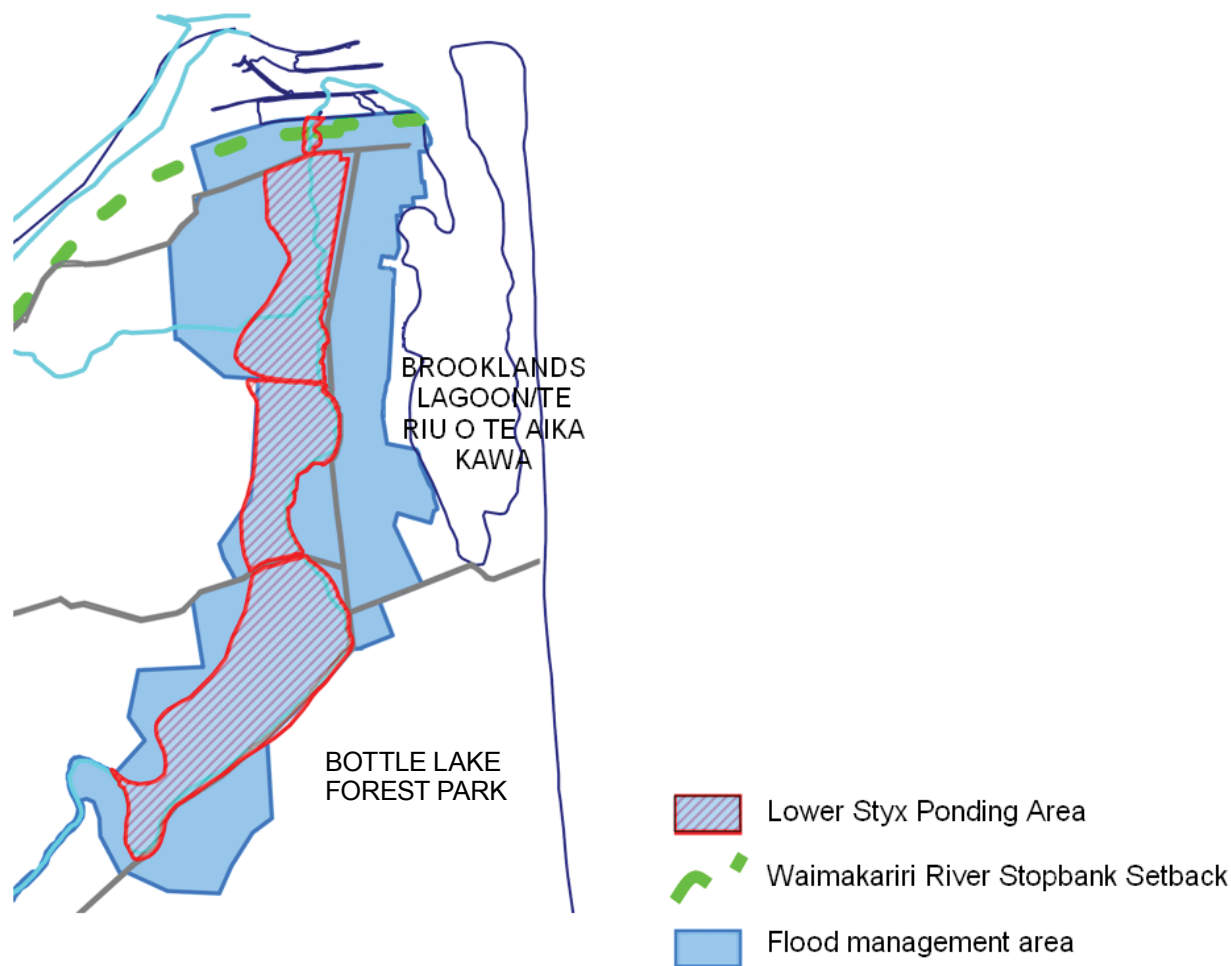
## 12.1 Flood Management Area – Variation 48 – a proposed variation to the City Plan<sup>15</sup>

The proposed variation relates to managing the potential effects of flooding and inundation in Christchurch. It is a statutory function of the Council under the Resource Management Act 1991 (RMA) to control land use for the purpose of avoiding or mitigating any adverse effects associated with natural hazards. The package of measures proposed within this variation has been developed to assist the Council to meet its statutory obligations with respect to floodplain management under the RMA.

The measures recommended in this variation have been developed following detailed investigations on the major river systems and coastal areas in Christchurch. These studies have analysed the level of flooding risk and potential floodplain mitigation measures in different areas of the City. In respect of the Styx River/Puharakekenui, detailed investigations have been undertaken. In terms of the Waimakariri River, Environment Canterbury has undertaken detailed studies over a number of years that have resulted in the Proposed Waimakariri River Regional Plan. The Council and Environment Canterbury have also commissioned reports on the effects that climate change and sea level rise may have on coastal areas of Christchurch and Canterbury respectively.

<sup>15</sup> Information for this account is sourced from Council information, including the City Plan, about Variation 48. This information is freely accessible on the Council's website. It has been edited to cover information relevant to the Brooklands Lagoon/Te Riu o Te Aika Kawa Parks Area Master Plan only.

## Flood Management Areas Map (Variation 48 City Plan)



The findings of these reports indicate that climate change, and in particular sea level rise, has the potential to have significant effects on the risk of flooding within Christchurch. The results of these studies indicate that it is neither effective nor efficient for the Council to rely on one mechanism. It is concluded that the most effective option is to adopt an approach that relies on a combination of measures.

Variation 48 to the Proposed City Plan relates to flooding issues in Christchurch. The variation, amongst other things:

- Amends the policies of the City Plan relating to natural hazards, flooding and the management of ponding areas.
- Identifies areas of the City subject to greater risk of flooding than the City generally as flood management areas and imposes controls on filling and floor levels for buildings within those areas.
- Introduces a building setback from the primary stopbank of the Waimakariri River.
- Amends the rules relating to the ponding area within the lower Styx River/Puharakekenui catchment.

The proposed variation was publicly notified on 13 December 2003. The Council issued its decision on submissions and the variation on 11 May 2006. This decision was subsequently appealed to the Environment Court. Appeals were held in July and August 2008 and an interim decision issued in May 2009. The Court essentially

endorsed the variation, but required further mediation in respect of the permitted activities in ponding areas.

### Flood Management Area explained

Areas of the city exposed to a flooding risk that is greater than the remainder of the city have been identified. These areas are generally located alongside the major river systems, within Landsdowne Valley and along the coast. They have been identified on the planning maps as 'flood management areas'. One of these covers the Lower Styx River/Puharakekenui.

### Lower Styx Ponding Area

The Styx River/Puharakekenui is a small, but significant, river to the north of the Christchurch City urban area that plays an important role for flood control for the northern part of the city. Flooding from the Styx River/Puharakekenui normally occurs throughout the catchment once or twice a year. It is usually caused by rapid runoff of stormwater. However, there are other factors, such as tidal influence and aquatic weed growth, which may influence frequency, intensity and duration of a flood event. The river and existing catchment, including areas already partially developed, are prone to an increase in flooding. New buildings and paved areas will increase the volume and rate of runoff.

In the lower Styx River/Puharakekenui, the discharge of floodwaters to the sea is restricted during high tides and

an extensive low lying area of the floodplain acts as a ponding area for floodwaters. This ponding area acts as a natural detention basin reducing the extent of flooding down stream following storms events. The storage capacity of this area would be substantially reduced if filling and development were allowed to take place on a large scale in this area. Controls on filling and excavation are therefore required.

Exemptions from the rules have been provided for works that have minor effects. Essential utilities and floodbank protection works are also excluded.

### Relevance to the Brooklands Lagoon/Te Riu o Te Aika Kawa area's parks and open space

Part of the planning area covered by this master plan that lies to the west of the Lower Styx Road, including the Styx River/Puharakekenui, is in a flood management area. The implications of this are that these places may be flooded at times and that development of facilities, such as tracks, need to be of a standard that reflect this. Also, if any buildings are proposed (other than exempted structures, such as accessory buildings with a footprint up to 25 square metres in area), they are subject to a restricted discretionary resource consent with respect to flooding issues and would require a minimum floor level.

## 13 DEVELOPMENT AND USE

### 13.1 City Plan zones for the area

The zonings of relevance to the public open space areas addressed by this master plan are:

#### C1A: Conservation 1A (Coastal margins) Zone

This zone comprises the coastal dune system and parts of the margins of the Avon-Heathcote Estuary and Brooklands Lagoon/Te Riu o Te Aika Kawa, including saline wetlands. Much of the land in the zone is ecologically fragile. The aim is to recognise and protect areas of significant natural flora and fauna, and prevent these areas being subject to the adverse effects of inappropriate use or development, particularly disturbance of the land surface and of vegetation. The coastal environment is dynamic, with the seaward boundary subject to constant change. Any activities located within this area are at risk from the natural hazards associated with these changes.

The coastal margin is also becoming increasingly appreciated for recreation, which is usually informal and passive. Management of this area must take into account the potential effects of human activities on these easily damaged areas. In addition to recreational and ecological values, many sites in the coastal margin are also important for scenic, educational and heritage reasons. Activities within the coastal area must be sympathetic with its natural character. Land in the zone is, like that in the Conservation 1 Zone, of important heritage and resource value to the tangata whenua.

#### C1: Conservation 1 (Natural, ecological and scenic parks) Zone

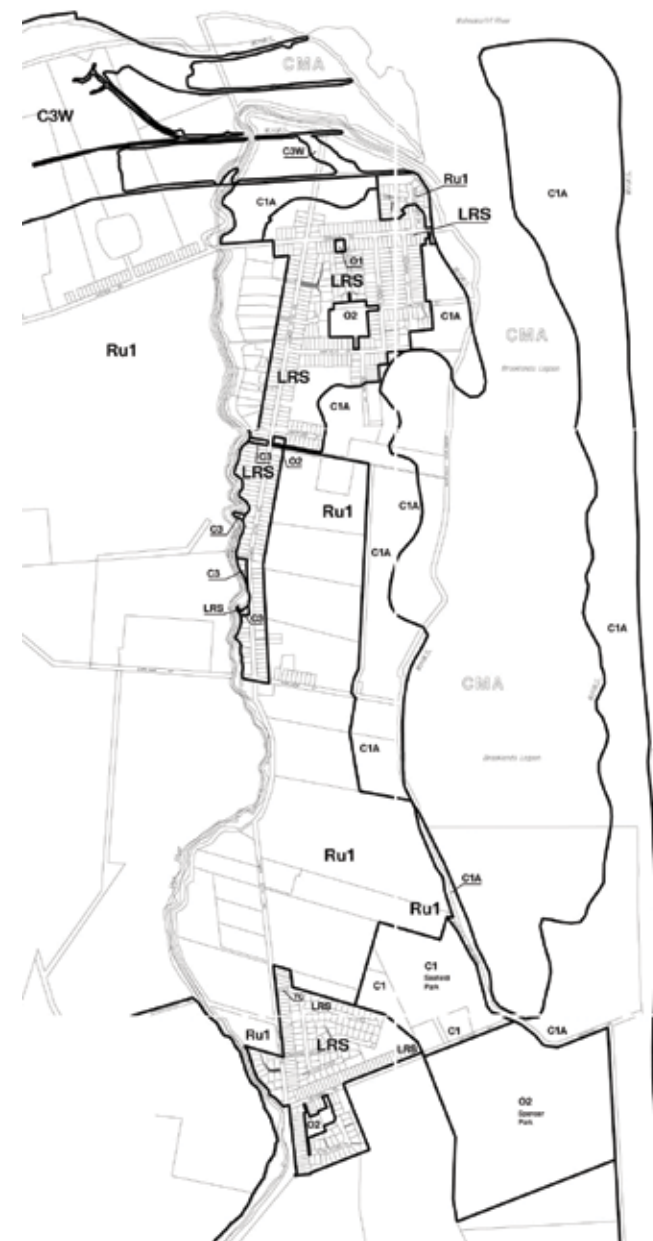
This zone comprises mostly public land of particular scenic, natural, habitat and ecological value. The zone includes freshwater wetlands, parts of the river system, native grasslands and natural forest areas.

Areas include habitats for birds, fish and invertebrate species. These areas also have significant scientific, educational, recreational and landscape values. In addition, a large number of these areas are important for tangata whenua, both in the past and present.

The importance of these areas for passive and generally informal recreation is becoming more appreciated and management of these sites must take into account the impacts of human activities on fragile ecological systems. Some sites may contain facilities associated with education, research, ecotourism, recreation or associated uses.

#### C3: Conservation 3 (Waterway conservation) Zone

This zone covers waterways and their margins (except the Waimakariri River and some minor waterways and areas within other conservation or open space zones), which have moderate to high ecological and/or cultural values and contribute significantly to the identity and character of the area they pass through. Some parts may contain important areas of historical and contemporary significance for Māori.







The protection of the natural and cultural values of the waterways and their margins, the surrounding land activities, the desirability or otherwise of public access to and along waterways and the varying levels of public use of the waterways are all taken into account.

The zone includes any land that is vested in the Council as esplanade reserve or strip.

### C3W: Conservation 3W (Waterway conservation - Waimakariri) Zone

This zone includes the southern half of the surface and bed of the Waimakariri River and its margins up to the line of the primary stopbank. Excavation of aggregates from the river to lessen flooding risk is undertaken, but controlled with respect to impacts on wildlife and recreation. As well as having significant recreational values, the Waimakariri River margin also supports a range of regenerating indigenous vegetation, including a number of ecological heritage sites that require protection and enhancement.



### O2: Open Space 2 (District Recreation and Open Space) Zone

This zone provides for parks that have substantial physical resources, such as sports fields, clubrooms,



Photos  
Extensive saltmarshes of the Spencer Park end of Brooklands Lagoon/Te Riu o Te Aika Kawa (top and middle) and wind-shorn pines on sand dunes of Brooklands Spit/Kairaki (bottom).

changing sheds and toilet facilities. A high level of open space is required to be maintained in this zoning, as parks in it will often serve both district and local functions. A high level of public use of open spaces and recreation areas within the zone is expected. Buildings and facilities necessary to facilitate both formal and informal recreation need to be consistent with the overall maintenance of an open space character that is not dominated by buildings and hard surfacing.

### O1: Open Space 1 (Neighbourhood Recreation and Open Space) Zone

Recreational uses of the smaller park areas that are found in this zone are mostly informal in nature, such as walking and playing, and therefore many contain or require seating, playground equipment or other small structures. It is important that the open space character of these areas is maintained and that they are not cluttered by facilities. At the same time, their important role as a recreational area and visual open space for local neighbourhoods needs to be maintained.

### Adjacent zones to the public open space area zones are:

The zonings of land adjacent to the aforementioned conservation and open space zones are LRS (Living RS (Rural Settlement) Zone) and Ru1 (Rural 1 (Coastal) Zone).

### 13.2 Policy and Bylaws

New bylaws came into force on 1 July 2008 and apply in the whole of the Christchurch District. Those that are relevant to the Council controlled areas covered by this master plan include (but are not limited to):

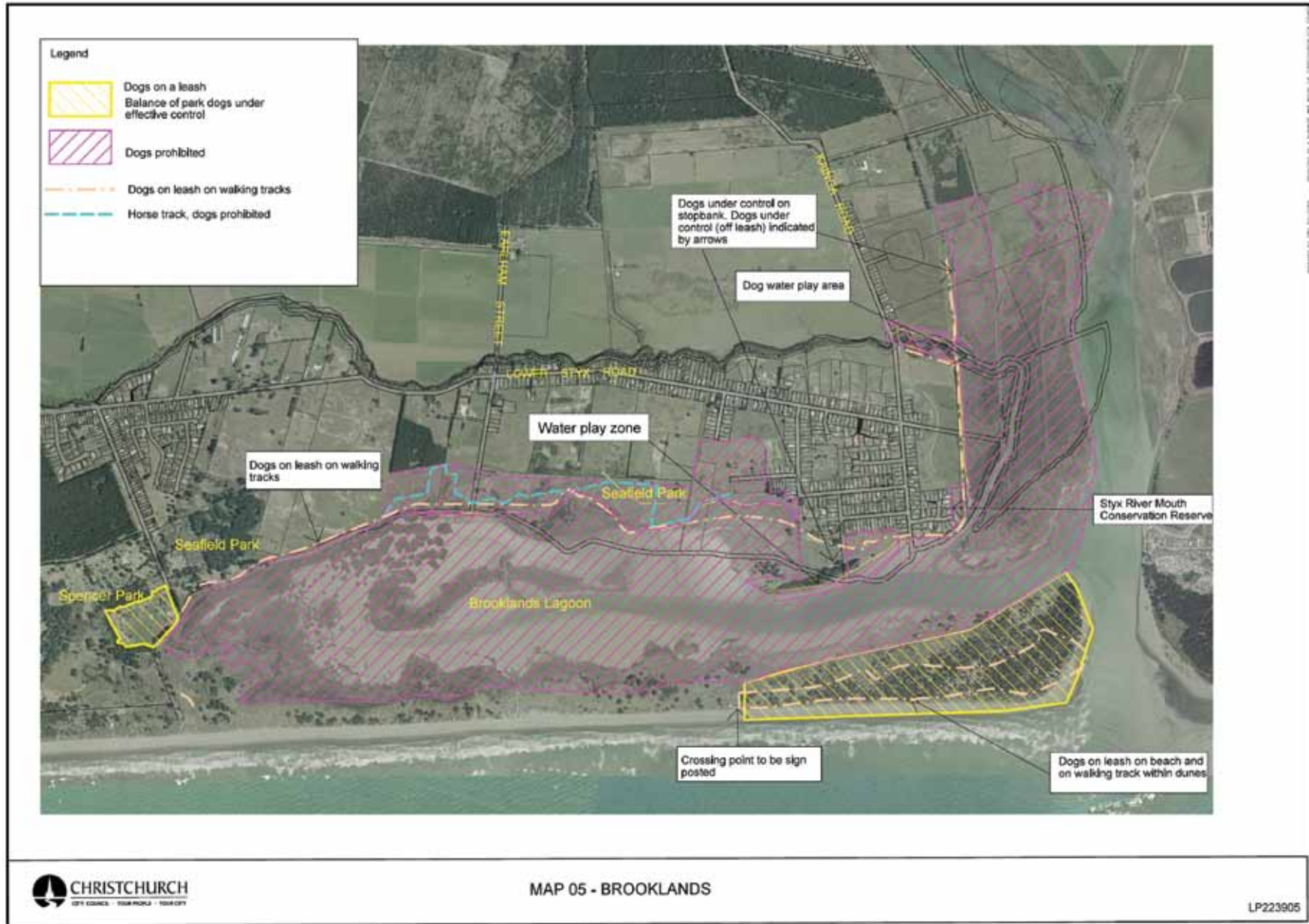
- Christchurch City Council Dog Control Bylaw 2008.
- Christchurch City Council Parks and Reserves Bylaw 2008.
- Christchurch City Council Marine and River Facilities Bylaw 2008.

#### Dog Control Policy 2008

Since 2006 there have been significant additions and changes to the areas of land under Council control, including parks and reserves and foreshore areas. There has also been an increase in knowledge and awareness of the significant values of some areas, such as mudflats. These areas all have specific amenity, recreation and wildlife values that need to be supported and/or protected.

An objective of this policy is to notify areas where specific dog control status has been designated for reasons such as public health, safety and hygiene and protection of wildlife, animals and stock. The table below specifies the areas within the master plan planning area where dogs are prohibited and/or required to be leashed. Map 05-Brooklands on the following page displays where dogs are prohibited or controlled. The policy can be viewed at: <http://www.ccc.govt.nz/Policy/DogControlPolicy/>.

PLACE	DOG CONTROL STATUS	COMMENT
Styx River Mouth Conservation Reserve	Prohibited/Leashed	Dogs prohibited as this area is a very important wildlife reserve for threatened species such as bittern and other sensitive species including marsh crake and nesting waterfowl. It is also a conservation area. There are plans to re-introduce locally extinct species such as fern bird, spotless crake, banded rail and brown teal. Dogs must be on a leash on the walking track along the top of the stopbank through the reserve.
Styx River/Puharakekenui mouth	Prohibited/Leashed	Dogs prohibited due to wildlife habitat, tidal saltmarsh and many nesting native birds that include threatened species. Dogs must be on a leash on the walking track along the stopbank.
Brooklands Spit/Kairakei and estuary	Prohibited/Leashed	Prohibited, except for gun dogs during the game bird hunting season.
Waimakariri Walking Track (Spencer Park-Brookland Spit/Kairaki)	Leashed/Under effective control	Dogs are permitted under effective control on the walkway to the 'crossing point' and from there must be on a leash because of ecological values beside Brooklands Lagoon/Te Riu o Te Aika Kawa.
Seafield Park (western edge of Brooklands Lagoon/Te Riu o Te Aika Kawa)	Prohibited/Leashed	Dogs prohibited due to wildlife habitat. Dogs permitted on a leash on the walking track. Dogs prohibited on the horse track.
Spencer Park	Leashed	This area is leashed for dogs, because it is used for families as a picnic area – necessary for health and hygiene reasons.
Spencer Park Beach	Prohibited/Under effective control	Bathing and recreation area - dogs prohibited from 1 Dec to 1 March, between 9am and 7pm, for public safety and hygiene reasons, except for the purposes of passing through, when dogs must be on a short leash. Outside these times dogs are permitted under effective control.





## 14 LANDFORM

Note:

The following account is largely adapted from a 1993 NIWA report to the Council and Environment Canterbury on sedimentation in the Styx River/Puharakekenui catchment and Brooklands Lagoon/Te Riu o Te Aika Kawa<sup>16</sup>. The intention for the inclusion of this account here is to generally indicate the geomorphic change that has taken place in this area over a particular period of time. It is not necessarily complete or up to date.

### 14.1 Evolution of Brooklands Lagoon/Te Riu o Te Aika Kawa

Brooklands Lagoon/Te Riu o Te Aika Kawa is at the centre of the coastal landform of the area covered by this master plan. This is a very elongated estuary<sup>17</sup>, with the Styx River/Puharakekenui emptying into it and the Waimakariri River flowing past the entrance. It owes its origin principally to the interaction of the large, powerful and sediment-laden Waimakariri River and a predominantly southerly long-shore drift along the prograding<sup>18</sup> Pegasus Bay coast. In addition, the estuary is affected by sand blowouts in Brooklands Spit/Kairakei and by inflows from the Styx River/Puharakekenui. People have also had an influence, through stabilising the Waimakariri River mouth and the sand-dune blowouts and through the extraction of water from, and discharge of stormwater to, waterways.

<sup>16</sup> Hicks, D. M. and Duncan, M. J. (1993).

<sup>17</sup> Estuaries have twice daily tidal flow, lagoons do not.

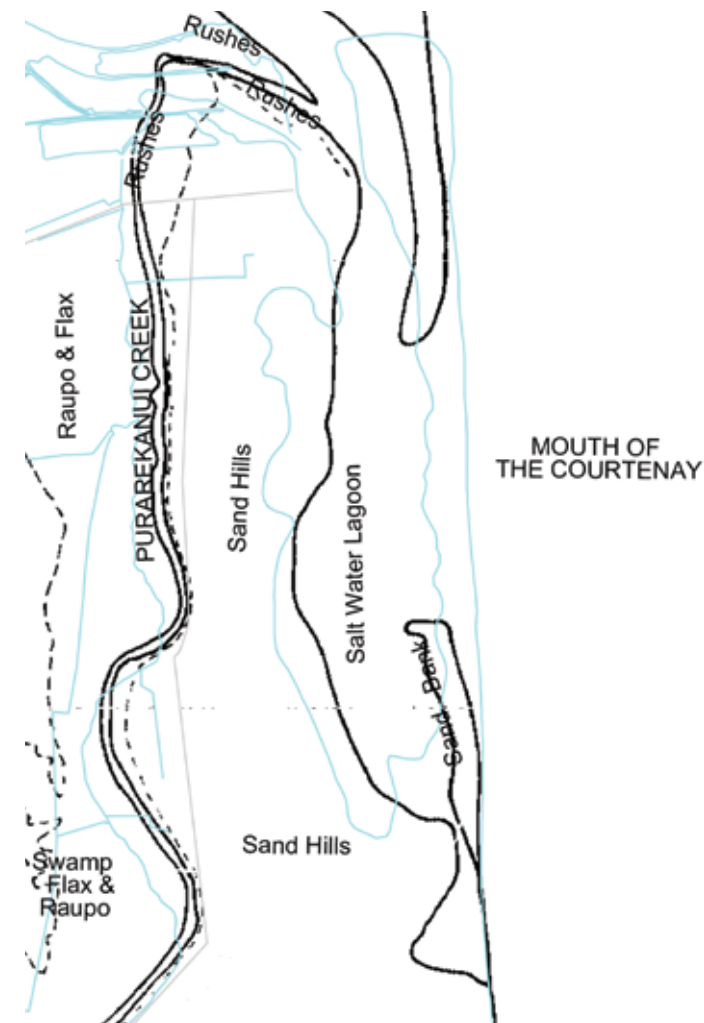
<sup>18</sup> A coast where sediment is deposited, such that the shoreline is shifting seaward.

The site where Brooklands Lagoon/Te Riu o Te Aika Kawa is today was occupied over the northern extent of the site by the main Waimakariri River channel earlier in the Twentieth Century. The river then showed great variability, with its mouth migrating southward along much of the site's length, with the river flowing behind a wave-built spit (the predecessor of Brooklands Spit/Kairakei today). Occasionally, usually during floods, the river would force a new mouth through the spit. Then, as with the current mouth situation, the site now occupied by an estuary would be temporarily abandoned by the river.

Maps and photographs show the dramatic changes to the lower reaches of the Waimakariri River<sup>19</sup> and the Brooklands Lagoon/Te Riu o Te Aika Kawa area over the last 150 years.

A Council map of the Christchurch area showing waterways, swamps and vegetation cover in 1856 was compiled in 2004 from the 'Black Maps' approved by J Thomas and Thomas Cass, Chief Surveyors, in 1856. This shows a configuration of the mouth of the River Courtenay (as the Waimakariri River was named then).

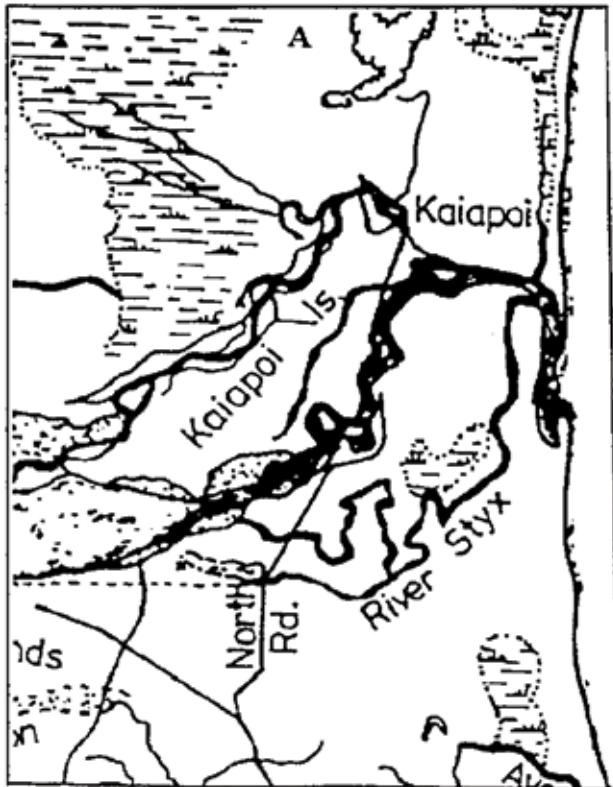
<sup>19</sup> The Waimakariri River itself was realigned through a cut created to bypass Kaiapoi.



Part of compilation of the 1856 'Black Maps'.

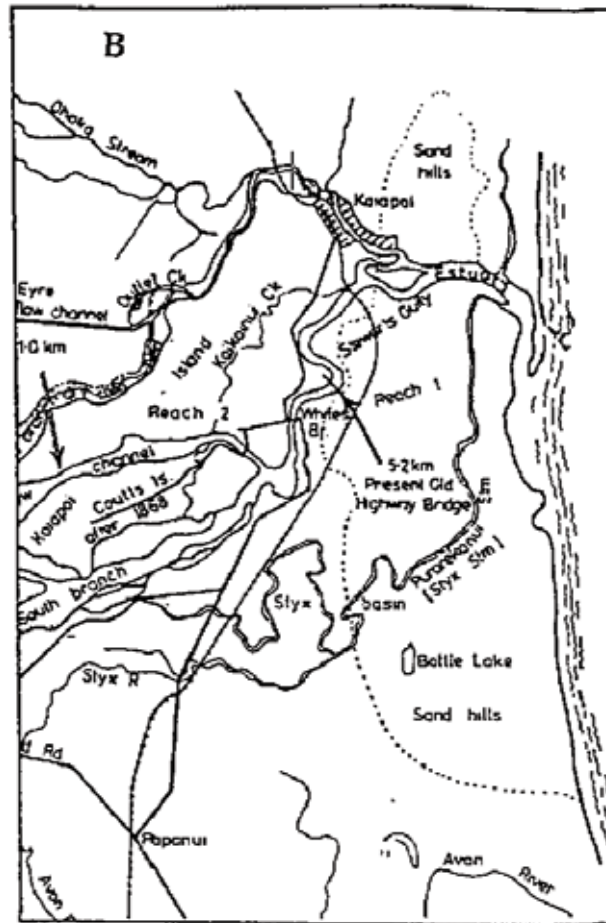


Another 1865 map<sup>20</sup> shows the estuary with a very wide mouth between spits built from north and south (see A below).



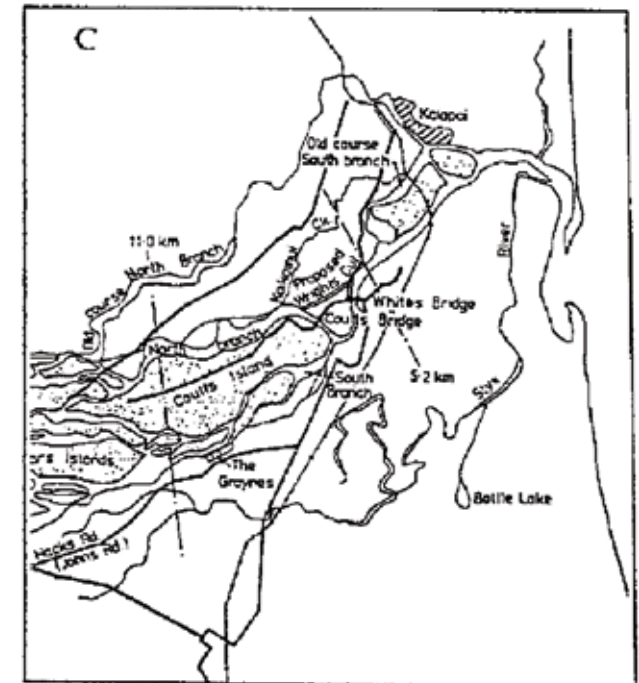
1865 map attributed to Doyne.

A map dated 1880<sup>21</sup> (see B below) shows only a short spit attached at the north.



1880 map.

A 1928 map<sup>22</sup> (see C below) shows a configuration similar to that of 1865.



1928 map.

<sup>20</sup> Part of Figure 3.1 in Hicks and Duncan (1993), with the content for this figure sourced from Blakely and Mosley (1987).

<sup>21</sup> Part of Figure 3.1 in Hicks and Duncan (1993), with the content for this figure sourced from Blakely and Mosley (1987).

<sup>22</sup> Part of Figure 3.1 in Hicks and Duncan (1993), with the content for this figure sourced from Blakely and Mosley (1987).

In 1930, in an attempt to lessen the risk of flooding, engineers made a cut in the sand hills to create a new direct course to the sea to the south of the current opening. However, the river continued to use the natural mouth until 1940, when it shifted three kilometres north to its current position during a flood. Rock bank protection on the north bank of the river opposite Brooklands Lagoon/Te Riu o Te Aika Kawa probably encourages the river to maintain its present position.

The position of the Waimakariri River mouth has been stable since the 1940s and Brooklands Lagoon/Te Riu o Te Aika Kawa has been a quiet tidal backwater, trapping sediment from the Waimakariri River and Styx River/ Puharakekenui floodwaters and sand that has been blown and washed over the spit from the coast.

Photographs from 1940 show the current spit area as a broad expanse of water and shifting sand bars with little vegetation, and estuary openings at the centre and north end.

Sedimentation rates in the estuary were high soon after the change in the position of the Waimakariri River mouth in 1940, but these have waned in recent years. Gradual infilling has progressed from the southern end of the estuary, while, towards the estuary mouth, localised erosion and deposition has accompanied shifts of tidal channels and bars, resulting in some flushing of sediment. Overall, the recent net changes have been relatively minor

and future average sedimentation rates are inferred to be of the order of a few millimetres a year<sup>23</sup>.

Although Owen in 1992<sup>24</sup> reports that the southern end of the lagoon was silting up even in the 1930s, the lagoon appears to have filled substantially since the 1940's, both with silt and sand from the Waimakariri River and sand blown and washed from the open coast.

In 1978 storms widened a narrow low point in the spit at the site of the old (1930s) river mouth and, over the space of a few weeks, a 250 metre wide gap appeared in the dunes. Sand flooded into the estuary on the high tides and with the prevailing north-easterly wind. The foredune here was then rebuilt with the help of fencing (Owen, 1992).

A 1983 aerial photograph shows dramatic changes, with vegetation on the spit and north bank of the Waimakariri River (Blakely and Mosley, 1987). The present vegetation coverage is more extensive still, with large trees covering more of the spit than is evident in the 1983 photo (Owen, 1992). Thus, what was a desolate area of shifting sand bars and estuary mouths before 1940 has now been transformed into a relatively stable, vegetated environment, with large areas of self-established pine forest.

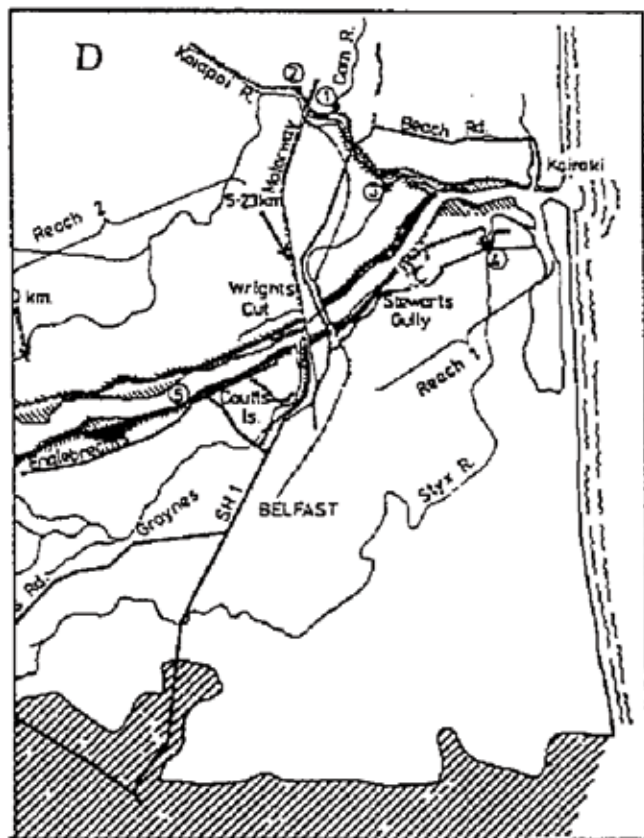
<sup>23</sup> Initial results from a survey in 2008 show that accretion rates at the Spencerville end of the estuary have, in fact, been as high as three millimetres per annum. However, this is offset by an equivalent sea level rise. At the Brooklands end of the estuary there is no sign of sediment accretion, although localised increases and decreases are occurring, mostly the result of shifting channels.

<sup>24</sup> Owen, S.-J. (ed.) (1992).



Photos  
Tidal channels from mudflats to saltmarsh in the estuary near Brooklands.

A 1982 map<sup>25</sup> (see D below) shows the current day geomorphology.



1982 map.

<sup>25</sup> Part of Figure 3.1 in Hicks and Duncan (1993), with the content for this figure sourced from Blakely and Mosley (1987).

Left to its own devices, the Waimakariri River mouth would likely migrate from somewhere just north of its current position to the south end of Brooklands Lagoon/Te Riu o Te Aika Kawa. There would be a cycle of the river breaking through the spit near the location of the current river mouth during a large flood, with the mouth then moving southwards again under the influence of the long-shore drift and the estuary deepening to accommodate the flow as the mouth moved south. When a breakout occurred, the estuary would be left as a deep backwater which would quickly infill with sediment spilled from the river, blown over the sand spit by the prevailing north-easterly wind or washed over by storm waves.

There is evidence that Brooklands Lagoon/Te Riu o Te Aika Kawa is continuing to fill appreciably. Sediment laden water certainly does fill the estuary during flooding of the Waimakariri River and this drapes a covering of mud a few millimetres thick over the bed of the estuary. This sediment is, however, easily resuspended by wave action and much may be removed from the estuary with outgoing tides.

The chances of injection of coastal sand into the estuary from wind-blows and/or storm wash-over should lessen progressively as Brooklands Spit/Kairaki grows in width and height and is stabilised by vegetation, especially pine trees. The likelihood of another major migration of the Waimakariri River mouth should also diminish for the same reasons.

#### 14.2 Stabilisation of Brooklands Spit/Kairaki

Brooklands Spit/Kairakei has experienced major change since the 1940s, when it was a low, largely unvegetated area of shifting sand. Now it is well vegetated with marram grass and pine forest<sup>26</sup> and is broadening and increasing in elevation. Its estuary shore, near the estuary mouth, appears to have been gradually eroding over the past thirty plus years, partly as a consequence of the much reduced supply of wind-blown sand across the spit<sup>27</sup> and partly due to shifts in the estuary channels<sup>28</sup>.

<sup>26</sup> Most of the pines have self-established from a very small plantation at the tip.

<sup>27</sup> A reason given for this is that the wide band of large *Pinus radiata* trees at the northern end of the spit filters out any wind blown sand, so there is no replacement of any sand eroded away.

<sup>28</sup> For example, the Styx River/Puharakekenui is building a shallow delta where it enters the estuary, which appears to have forced the tidal channel in this narrow part of the estuary eastwards against the spit.



### 14.3 Change in the Styx River/Puharakekenui

The mouth of the Styx River/Puharakekenui at the northern end of Brooklands Lagoon/Te Riu o Te Aika Kawa has been slowly but constantly shifting, at least in recent decades. Boyle (1984) reported that from 1971 to 1979 the true left bank was eroding as the Styx River/Puharakekenui channel migrated laterally towards the Waimakariri River. This trend reversed from 1979 to 1983. Presently, the Styx River/Puharakekenui is eroding its true left (north-east) bank again<sup>29</sup>.

The Styx River/Puharakekenui likely exerts only a small influence on the sedimentation processes in the estuary, and this is mainly in reworking the estuary sediments towards the estuary mouth, but generally only when the tide is low. The supply of sediment to the estuary from the Styx River/Puharakekenui catchment is small compared to the amount that circulates in and out with Waimakariri River water.

Tidal influence on water levels in the Styx River/Puharakekenui extends upstream to Marshlands Road. Salt water penetration currently stops just upstream of tidal gates just north of Harbour Road. The tidal gates were installed in 1934 by the North Canterbury Catchment Board, mainly to keep out flood waters from the Waimakariri River. The gates were replaced in 1981. They currently open to drain Styx River/Puharakekenui runoff when the upstream water level is 100 millimetres higher than the downstream level.

<sup>29</sup> There is little sign of accretion here, so such erosion is likely to result in channel widening.

These tidal or flood gates are designed to pass Styx River/Puharakekenui flood flows downstream, but to prevent high tides and flood waters from the Waimakariri River from passing upstream.

**Note:**

Since 1993 a different situation with respect to the patterns of accretion and erosion in the estuary and surrounding areas is likely to have occurred. Other more recent reports or studies will need to be read to get a more current account. Furthermore, there is a range of popular opinion as to the present patterns of accretion and erosion in the area, although these are not necessarily backed by official scientific record.



Pukeko perched on coastal ribbonwood shrubs.



## 15 TANGATA WHENUA

Note: This section has been provided by Ngāi Tahu.

Tangata whenua is the Māori name for 'people of the land'. In the area of the Brooklands Lagoon/Te Riu o Te Aika Kawa Area Parks Master Plan, the tangata whenua are Ngāi Tahu. The iwi of Ngāi Tahu comprises whānau who descend from both the northern ancestor Tahu and the peoples who were here before the Ngāi Tahu southward migration: Ngāti Mamoe and before them Waitaha. Ngāi Tahu rangatira (leaders/chiefs) gained control of the land and resources from Ngāti Mamoe through acquisition and intermarriage to become the rangatira of the area and to hold manawhenua (tribal authority) over the lands, waters and other taonga. Ngāi Tahu holds the ancestral and spiritual relationships within the Christchurch City area, and in the area of this plan.

The Te Runanga o Ngāi Tahu Act 1996 established Te Rūnanga o Ngāi Tahu (TRONT) to give a legal identity to the tribe and to represent the tribal collective of Ngāi Tahu Whānui. Te Rūnanga o Ngāi Tahu is made up of eighteen Papatipu Rūnanga, who represent the whānau and hapū interests of particular areas. Under Section 15 of the Te Runanga o Ngāi Tahu Act 1996, it is Te Rūnanga o Ngāi Tahu who is recognized for all purposes as the representative of Ngāi Tahu whānui, and where consultation is required, it is to be held with Te Rūnanga o Ngāi Tahu. In matters of local significance, Te Rūnanga o Ngāi Tahu requires engagement with the local Papatipu Rūnanga.

In the area of the master plan, there is one Rūnanga with interests associated with the area: Te Ngāi Tūāhuriri Rūnanga. In addition, the whānau of the Kāti Urihia hapū of the Rūnanga have some specific interests, including property rights in a Māori Reserve.

The Local Government Act 2002 sets requirements for Councils in relation to Māori. When the matters being addressed relate to areas of ancestral and spiritual connection, these requirements are directly relevant to the tangata whenua of a particular area. In this case, the area of the master plan holds significant historical and contemporary values for Ngāi Tūāhuriri Runanga and the hapū of Kāti Urihia.

### 15.1 Ngāi Tahu associations

Ngāi Tahu associations within the area covered by the master plan are both historical and contemporary. Waitaha stories tell of use of the area for settlement, use of flax, fishing, and spiritual practices. Whānau of Te Ngāi Tūāhuriri Rūnanga trace their whakapapa (ancestry) to tūpuna (ancestors) known to have associations with the area, primarily through Urihia, son of Tūrākautahi (a son of Tūāhuriri), and Hinekākai. Another tūpuna and descendant of Urihia associated with the area is Te Aika. A strong relationship between the Te Aika tūpuna and the area is demonstrated through the traditional name given to Brooklands Lagoon – Te Riu o Te Aika Kawa – meaning “the area of Te Aika protocols/authorities”. The location of a Māori Reserve (Puharakekenui MR892), between the

lagoon and the river, is another important indicator of key ancestral associations to the area. The original owners of the reserve were those people who could demonstrate their whakapapa connection to original tūpuna who had established their traditional claim to the area. In the case of the Puharakekenui Reserve, the list of original owners is small, with the Te Aika whānau comprising around half of the original ownership, and four other whānau represented - Whitau Kahaki, Te Hua, Rehu and Tarapuhi.

The setting aside of Māori Reserves was a means taken by the government of the day to acknowledge the loss of land and access to resources suffered by ancestors. It demonstrates tūrangawaewa (place of the people on the land) of those ancestors and their traditional rights in the area, and it traces descendancy to those whānau with contemporary rights to the area.

The area, including the river and the estuary, was known to be used and was highly regarded for mahinga kai (food and resource gathering - including tuna, kanakana, kōura and harakeke), urupā (burial sites) and places of spiritual practice. Tangata whenua continue food gathering and spiritual practices in the area today, as well as having property rights in the Māori Reserve.

## 15.2 Ngāi Tahu policy, objectives and management plans

Two documents are of relevance to the area of the master plan: Te Whakatau Kaupapa (Tau et al, 1990) and Ngāi Tahu Freshwater Policy (Te Rūnanga o Ngāi Tahu, 1999).

Te Whakatau Kaupapa was prepared in 1990 to guide resource management decision-makers in Canterbury. It contains issues and policies in relation to protection and enhancement of sites, water and mahinga kai. These issues and policies are reflected in the matters listed below.

The Ngāi Tahu Freshwater Policy contains objectives relating to water quality, water quantity, protection of the mauri of freshwater, loss of species habitat and discharge of contaminants to freshwater. In particular, there is a policy that there be no discharges of stormwater to waterways.

## 15.3 Ngāi Tahu values

Ngāi Tahu values are strongly embedded in natural environmental values, spiritual values, whakapapa (genealogical relationships) and historical associations with the environment and particular areas. The relationships were, and are, expressed through occupation, use and naming of areas. This parks master plan is significant for Ngāi Tahu as it addresses an important area from the perspective of its historic associations, intrinsic natural values and contemporary associations.

A broader planning approach to management of areas with high natural values is supported by Ngāi Tahu for the opportunity it presents to address potential impacts on tangata whenua values from management, use and development of the area.

The values held by Te Ngāi Tūāhuriri Rūnanga and the hapū of Kāti Urihia for this area are:

- Wāhi tapu/wāhi taonga sites.
- Māori Reserve.
- Water quality, mahinga kai and ecological values for the Styx/Puharakekenui River and Brooklands Lagoon/Riu o Te Aika Kawa.
- Mauri.
- Spiritual values.
- Ancestral and contemporary associations with and practices around the whenua (land), awa (rivers) and moana (sea) in the area.

## 15.4 Ngāi Tahu issues

There are several key matters that arise for tangata whenua in relation to use, planning and management for this area:

- Particular uses that can adversely affect tangata whenua values, for example, stormwater discharges to waterways, motorised craft use in the estuary, dogs in sensitive areas and abuse of the area.
- Prior Council decisions affecting sites and matters of cultural significance undertaken without consideration

of Ngāi Tahu values, without consultation with Te Ngāi Tūāhuriri Rūnanga or using consultation with people who did not have the mandate.

- Inconsistent application of the Treaty Principle of “Active Protection of tangata whenua values” in the past.
- Exclusion of Ngāi Tahu in planning and management for the area.
- Kī Uta Kī Tai (mountains to the sea) management not always utilised in Council planning.
- Need for protection of mauri, wāhi tapu and wāhi taonga sites.
- Need for protection and enhancement of water quality.
- Loss of habitat, degradation of water quality, and availability and accessibility and quality of mahinga kai.
- Reclamation and infill of wetlands.
- Need for monitoring of impacts on tangata whenua values.
- Multi-agency demarcations and boundaries not effectively addressing issues of concern for tangata whenua.

## 15.5 Ngāi Tahu objectives for area planning

The mana of Ngāi Tūāhuriri and Kāti Urihia is maintained by Council:

- Informing of planning and decision processes for the area, for example, in planned land acquisition, walkway or information planning, reserves designations and management planning, city plan zoning, subdivision and stormwater management.
- Having process timeframes reflecting the need for consultation by providing sufficient time.
- Using good information on tangata whenua interests and values in decision making.
- Being aware of wāhi tapu and cultural heritage sites that may be affected by planned earthworks and other development, and taking advice from Ngāi Tahu on avoiding adverse effects on such sites.
- Designing and managing development and infrastructure to achieve Ngāi Tahu objectives for land, water and taonga.
- Decisions to acquire, designate or zone land including consideration of potential impacts on, and potential benefits for, tangata whenua and which do not restrict the carrying out of cultural practices.
- Involving Ngāi Tūāhuriri Rūnanga and Kāti Urihia (through Te Hapū o Kāti Urihia Ahu Whenua Trust) where matters are relevant to sites or matters of cultural significance.
- Using names in signage and information that reflect tangata whenua associations.

- Adopting a culturally sensitive approach for any management and operations in areas of wāhi tapu.

The mana of Ngāi Tūāhuriri and Kāti Urihia as kaitiaki is supported by Council:

- Addressing protection of mauri of waters.
- Addressing protection of water quality, wetlands and ecological values in resource management, reserves management and infrastructure planning.
- Recognising, protecting and providing for mahinga kai values through ecological protection and restoration programmes.
- Protection and enhancement of areas for taonga species.
- Containing impacts of recreation on natural and tangata whenua values of the area through restrictions on access, timing of uses and emphasis on passive recreation activities.
- Integrating planning and management between geographic areas and functional departments of Council.
- Using a Kī Uta Kī Tai (mountains to sea) approach to Council-wide planning and management and providing consistency in objectives across planning areas.
- Monitoring the cultural health of waterways using the Ngāi Tahu State of the Takiwā cultural health monitoring tool.

## 15.6 Planning proposals

Note: The following planning proposals are not a commitment on the Council to implement with the Council's approval of this master plan. Instead, approval of the plan will indicate the Council's willingness to progress further investigation in the case of projects needing to be considered for funding in the Long Term Council Community Plan. The numbering P1-4 relates to the summarised proposals on page 11.

To ensure the tangata whenua values and relationships are addressed and processes are in place for involvement of Ngāi Tahu in the ongoing planning, development and management of the Brooklands Lagoon/Te Riu o Te Aika Kawa area arising from implementation of this master plan and with respect to matters of relevance and importance to Māori and for areas under the control of the Council only<sup>30</sup>, the following planning proposals are proposed for all areas covered by this master plan - Brooklands Lagoon/Te Riu o Te Aika Kawa, Spencer Park, Seafield Park, Brooklands Spit/Kairaki and the Styx River/Puharakekenui.

<sup>30</sup> This master plan is a Council document. For those areas not under the control of the Council, advocacy only is made to the government bodies controlling those areas, including with respect to matters of interest to Māori. This plan confers no obligations on these government bodies.

**P1 Naming, and involvement of Ngāi Tahu in the development of amenity features in public spaces in the Brooklands Lagoon/Te Riu o Te Aika Kawa planning area**

Recognition of Ngāi Tahu through identification in planning documents and through use of appropriate names in location and directional signage, management plans, maps, information tools and publicity materials, particularly for the Brooklands Lagoon/Te Riu o Te Aika Kawa, Styx River/Puharakekenui and Seafield Park.

Involvement of Te Ngāi Tūāhuriri Rūnanga and Te Hapū o Kāti Urihia Ahu Whenua Trust in public space naming and through advice on constructions in public spaces.

Dual place names to be used, in the first instance, for Brooklands Lagoon/Te Riu o Te Aika Kawa and the Styx River/Puharakekenui in the master plan, and this to be advocated for wider use.

Cultural sensitivity to construction in public spaces can be maintained through:

- Involvement of Te Ngāi Tūāhuriri Rūnanga and/or Te Hapū o Kāti Urihia Ahu Whenua Trust in design and construction phases of public space enhancement and structures.
- The land management bodies not including Māori elements in public space information/structures or in public domain information without agreement of Te Ngāi Tūāhuriri Rūnanga and/or Te Hapū o Kāti Urihia Ahu Whenua Trust.

- Involvement of representatives of the Rūnanga and/or Trust being sought for such above-mentioned projects.

That the Council considers establishing a collaborative project with Ngāi Tūāhuriri Rūnanga and/or Te Hapū o Kāti Urihia Ahu Whenua Trust to investigate the ability to establish Te Ara Toi, Te Awa Whakairo - a river trail along the Styx River/Puharakekenui with interspersed Ngāi Tahu stories/markers/artworks.

**P2 Protection, restoration and enhancement of natural values and Mahinga Kai values**

For the Council to consider development of a native species restoration programme for the planning area, with the margins of the Styx River/Puharakekenui and Brooklands Lagoon/Te Riu o Te Aika Kawa being the initial focus, followed by Kairaki (Brooklands) Spit, for the purposes of habitat restoration and/or enhancement, in consultation with Te Ngāi Tūāhuriri Rūnanga and/or Te Hapū o Kāti Urihia Ahu Whenua Trust.

That, with existing planting programmes, native species are used in the marginal plantings of the Styx River/Puharakekenui, Brooklands Lagoon/Te Riu o Te Aika Kawa and on Brooklands Spit/Kairaki.

The Council to consider undertaking annual planting days for riparian margin planting of native plants around Brooklands Lagoon/Te Riu o Te Aika Kawa, including considering supporting Ngāi Tahu-led planting events.

In preparing strategies and plans for areas of this catchment, upstream of the master plan planning area, the Council to take into account Kī Uta Kī Tai management principles, and, within its jurisdiction and powers, influence and advocate for upstream land use and management that ensures water quality in this area of the catchment is not degraded further.

In its planning, consent and regulatory roles with respect to development activities in the planning area, that the Council takes into account the significance of the area to Ngāi Tahu, including the value of there being good water quality for such activities as mahinga kai gathering.

That the Council, where appropriate, advocates for improved agency collaboration in the management of the area, and in enhanced Ngāi Tahu involvement in the planning and management for the area.

The Council to support investigating the development and implementation of an Exotic Plant and Pest Eradication Strategy.

The Council to consider its role in seaward coastal erosion protection, where appropriate, and where it falls under the Council's jurisdiction. The Council to advocate, as necessary, to those government bodies with responsibility in coastal erosion protection in the planning area.

The Council to consider, if a request is made by Ngāi Tahu, its role in, and potential support for, the creation of a Mahinga Kai Cultural Park in the area.

The Council to investigate the possibility of restricting vehicle access to the beach/foreshore north of the Spencer Park access gate to the fishing season only.

### Protection of cultural heritage sites

The Council consult with the Te Ngāi Tūāhuriri Rūnanga and Te Hapū o Kāti Urihia Ahu Whenua Trust about proposed development activities in parks and reserves to avoid adverse affects on cultural heritage sites.

The Council adopt an Accidental Discovery Protocol (ADP) for development and maintenance activities involving earthworks (including planting) in parks and reserves so that in the event cultural materials or kōiwi (human remains) are discovered, work is stopped immediately and Te Ngāi Tūāhuriri Rūnanga, Te Hapū o Kāti Urihia Ahu Whenua Trust, and New Zealand Historic Places Trust, are contacted for advice.

### P3 Reserves planning and management

That the Council recognises Ngāi Tūāhuriri Rūnanga (and Kāti Urihia Hapū) as tangata whenua and, when appropriate, seeks their involvement in further planning and management of the planning area such as in the preparation of reserves management plans and representation on reserve management committees.

The Council to ensure it gives consideration to tangata whenua values in its decisions related to reserve

acquisition, designation and management and to actively protect those values if they are threatened.

### P4 Research and monitoring

That the Council considers the following research and monitoring proposals for the planning area.

- The identification and monitoring of pollution sources.
- Investigation of the impacts of development proposals within, and upstream of, the planning area on water quality in the Styx River/Puharakekenui and Brooklands Lagoon/Te Riu o Te Aika Kawa.
- Identification of wastewater infrastructure options that avoid degradation of water quality in the Styx River/Puharakekenui and Brooklands Lagoon/Te Riu o Te Aika Kawa.
- Cultural health monitoring by Ngāi Tahu, using the State of the Takiwā tool of Te Rūnanga o Ngāi Tahu.
- Investigation of the state of the shell fishery in Brooklands Lagoon/Te Riu o Te Aika Kawa.
- Investigation of the effect of the operational regime of the Styx River/Puharakekenui control gates on the salt water/freshwater interface.



Photos  
Dense saltmarsh at the Spencer Park end of the Brooklands Lagoon/Te Riu o Te Aika Kawa estuary (top), view down the extensive saltmarshes, comprising oioi with shrubs of coastal ribbonwood, of the estuary towards Spencer Park and the Port Hills beyond (middle) and rounded patches of oioi amongst three-square (bottom).



## 16 VEGETATION <sup>31</sup>

### 16.1 Seafield Park and adjacent areas

The habitat types of the Seafield Park area are the product of modern coastal aggradation, which has produced a series of dune ridges running parallel to the coast, with hollows between these. The most recent of these ridges comprises the active dunes of Brooklands Spit/Kairaki, which extend southwards along the edge of Pegasus Bay. Inland is the embayment of Brooklands Lagoon/Te Riu o Te Aika Kawa and south of this the freshwater wetlands of Spencer Park. On the western side of Brooklands Lagoon/Te Riu o Te Aika Kawa there is a series of older low dunes, then a narrow inter-dune basin followed by an even older dune ridge close to Lower Styx Road. The next hollow to the west has the Styx River/Puharakekenui running along its length. The narrow gap between the two close dune ridges on the western side of Brooklands Lagoon/Te Riu o Te Aika Kawa is not continuous as sand from the more coastal ridge extends across to the next ridge in some areas. Thus, although there are two major alternating ecosystems - sand dune and wetlands, these change and become less distinctive inland.

### 16.2 Brooklands Spit/Kairaki sand dunes

The only active sand dunes in the area are those of Brooklands Spit/Kairaki. The seaward side of the Spit comprises an active foredune at the top of a wide beach.

<sup>31</sup> Adjusted from information provided by Dr. Trevor Partridge, Christchurch City Council.

Marram grass (*Ammophila arenaria*) dominates this face, along with occasional iceplant (*Carpobrotus edulis*) and purple groundsel (*Senecio elegans*). There are signs here of alternating accretion and erosion phases, the latter probably occurring during storms. The back face of the foredune is sheltered from coastal processes and contains a greater variety of plants characteristic of non-active dunes below the high sand ridge. Most of these are exotic grasses and herbs, such as downy brome (*Bromus tectorum*), but others are exotic shrubs such as gorse (*Ulex europaeus*) and small trees such as elder (*Sambucus nigra*). Right near the base of the dunes, on the western side, there are some native plants, such as flax (*Phormium tenax* (Harakeke – a Ngāi Tahu Taonga species)) and cabbage tree (*Cordyline australis* (Ti Kōuka/Ti Rākau – another Ngāi Tahu Taonga species)). Plants of tauhinau (*Ozothamnus leptophylla*) found half way down the Spit are all that remain from an attempt to establish native vegetation on the dunes. Experience elsewhere has shown that, when planted, such plants need to be watered, and no supply of water is available here.

At the northern tip of Brooklands Lagoon/Te Riu o Te Aika Kawa there is a plantation of radiata pine (*Pinus radiata*). Mixed with it are occasional trees of macrocarpa (*Cupressus macrocarpa*) and maritime pine (*Pinus pinaster*). The radiata pines have produced an invasion of wilding trees on both the sand dunes and the edges of the saltmarshes of Brooklands Lagoon/Te Riu o Te Aika Kawa. Beneath these pines the dune plants disappear, and the pines' establishment on the saltmarsh edge threatens the

viability of that ecosystem. A recent notable discovery at the edge of the pines has been the native dune annual herb glaucous goosefoot (*Chenopodium glaucum*), a species that is extremely rare around Christchurch.

### 16.3 Brooklands Lagoon/Te Riu o Te Aika Kawa

The hollow of Brooklands Lagoon/Te Riu o Te Aika Kawa comprises an estuary that fills and drains of sea water to the north. This was not always the case, as there were previously one, or at some stages, two wide openings in the centre of what is now Brooklands Spit/Kairaki. The shifting of the opening to the north has resulted in major changes to the estuary. A recent study has shown that there are now effectively two ecosystems in the estuary - a southern 'Spencerville' system and a northern 'Brooklands' system. The two are quite distinct and change fairly abruptly from one to the other. On the western side of the estuary, the channel between the two halves of a long island of saltmarsh marks the boundary.

The saltmarshes of the southern end are characterised by the deposition of large amounts of fine sediment ever since the time the mouth to the estuary shifted north. This deposition has resulted in an increase in vegetated cover, especially of the native sedge three-square (*Schenoplectus pungens*). Three-square occupies vast areas of continuous vegetation that is blue-green in colour in summer, but appears bare in winter when this plant dies down. The spread of the plant is not all one way

though, as patches where it was previously present are now bare mud. Other species occur along the dendritic channels, including two threatened species, the sedge *Carex litorosa*, and the creeping native musk (*Mimulus repens*). Around the edges, three-square grades into sea rush (*Juncus kraussii*), oioi (*Apodasmia similis*) and coastal ribbonwood (*Plagianthus divaricatus*). The only remaining occurrence in Christchurch of four square (*Lepidosperma australe*) is at the edge, and there are two small areas here containing some of the last patches of manuka (*Leptospermum scoparium*) in the city.

In contrast, the saltmarsh at the Brooklands end of the estuary is typical of coarser sandy sediments. It covers a much smaller portion of the mudflats and is relatively stable. The lower-most zones have sea rush or herbfield of New Zealand primrose (*Samolus repens*) and the succulent glasswort (*Sarcocornia quinqueflora*). At higher elevations, they are joined by remuremu (*Selliera radicans*) and the sedge *Schoenus concinnus*, a plant that is common here, but rare elsewhere in Canterbury. Above that, and at the land margin, are the characteristic circles of oioi and scattered shrubs of coastal ribbonwood. The succulent sub-shrub *Suaeda novae-zelandiae* can be found on sand ridges in the saltmarsh, but increasing amounts of exotic sand couch (*Thinopyrum junceiforme*) threaten this microhabitat. A few tiny patches of the semi-marine eelgrass (*Zostera capricorni*), once probably common at Brooklands Lagoon/Te Riu o Te Aika Kawa, can be found in channels.

#### 16.4 Teacher research projects

Research work was undertaken by two teachers over 2008 at Brooklands Lagoon/Te Riu o Te Aika Kawa as part of a New Zealand Science, Mathematics and Technology Teacher Fellowship that each teacher had received. These fellowships are funded by the New Zealand Government and administered by The Royal Society of New Zealand.

One of the teachers involved undertook an extensive vegetation survey of all the saltmarsh wetlands at Brooklands Lagoon/Te Riu o Te Aika Kawa. The results of this survey is covered in a comprehensive report<sup>32</sup>. Further information is provided in an identification guide on the saltmarsh plants of the estuary<sup>33</sup>.

This project was hosted by the Styx Living Laboratory Trust, Environment Canterbury and the Council.

The other teacher collected data from extensive sediment sampling along thirteen previously monitored transect lines across Brooklands Lagoon/Te Riu o Te Aika Kawa.

In 2007, another teacher fellow had completed a survey of aquatic plants in the Styx, Avon and Heathcote Rivers<sup>34</sup>.

To view the detail of the saltmarsh species identification guide prepared following this work go to Appendix 1 starting on page 120.

<sup>32</sup> Worner, G.; Partridge, T. (2008).

<sup>33</sup> Worner, G. (2008).

<sup>34</sup> van den Ende, B. (2007).

#### 16.5 Spencer Park

To the south of the southern end of Brooklands Lagoon/Te Riu o Te Aika Kawa, the hollow between the dunes continues as a series of freshwater depressions. These, and their margins, once contained some notable native species, which have mostly disappeared under a canopy of pines and poplar. The threatened species *Gunnera arenaria* has disappeared from this last site in Christchurch (it has been rescued into cultivation), as has a once large patch of the native creeping silverweed (*Potentilla anserinoides*). Other creeping herbs once recorded from this area can no longer be found there. The native freshwater rushes (*Juncus edgariae*), sedges (*Carex secta*), flax, cabbage tree, pohuehue (*Muehlenbeckia complexa*) and shrubs of *Coprosma propinqua* remain, because they are either in openings where the exotic trees cannot invade or are shade tolerant.

#### 16.6 Western dune ridge

On the western side of Brooklands Lagoon/Te Riu o Te Aika Kawa there is a low ridge of older inactive sand dunes. Parts of these dunes ceased being active at different times, so carry different vegetation along their ridge. The youngest ones are opposite the previous estuary mouth and still carry marram grass and associated species. On the older dunes to the north and south, the dune plants have been replaced. Until recently, shrubweeds such as gorse and broom (*Cytisus scoparius*), along with trees of elder, dominated much of those dunes, but these have been mostly cleared and pasture now occupies most of the area. Some large stands of white poplar (*Populus alba*) occur in some areas and at Brooklands the dune ridge now supports houses.

### 16.7 Interdune slacks

Between the two close ridges to the west of Brooklands Lagoon/Te Riu o Te Aika Kawa are a series of dune hollows, termed slacks. These are interrupted, because in the past sand has blown inland from the eastern dune ridge to the inland one, along which Lower Styx Road and its accompanying housing is located. The hollows have been highly modified through farming and forestry. Just to the south of Brooklands, a highly degraded dune slack has recently been deliberately connected to the estuary, and a series of channels and islands constructed as bird habitat. This area will be colonised by saltmarsh plants as the tidal regime is established, and other species will be planted. North of Earlham Street, the dune slack hollow is well developed, but only one area, comprising about twenty five percent of the original slack, still contains good native dune slack vegetation. This comprises a low herbfield of mostly remuremu, with glasswort, New Zealand primrose, *Schoenus concinus* and other herbs. Near Earlham Street, there are patches of sea rush and three-square in the deepest hollows. Unfortunately, in addition to the human impacts, many of the smaller slack hollows have been invaded by couch grass (*Elymus repens*), which has displaced the native plants. The even older dune ridge that occurs to the east of the Styx River/Puharakekenui has lost all its dune vegetation and most of its structure to housing and farmland. The Styx River/Puharakekenui, and its associated wetlands, occupies the next hollow to the west.

### 16.8 Waimakariri River and Styx River/Puharakekenui mouths

The well defined series of ridges running north to south are interrupted by the channels of the Styx and Waimakariri Rivers. Originally, the Waimakariri River flowed down the bed of the Kaiapoi River, but repeated flooding resulted in a 'cut' being made to the south of Kaiapoi and much closer to the mouth of the Styx River/Puharakekenui. There are extensive saltmarshes around the mouth of the Styx River/Puharakekenui, but these have been highly modified by the changes in both rivers. The construction of tidal gates on the Styx River/Puharakekenui, and the floodbank ridges constructed to protect Brooklands, have confined the southern areas of this saltmarsh. A series of floodbanks constructed to stop the Waimakariri River cutting through to the Styx River/Puharakekenui have partially or completely empoldered the former areas of saltmarsh. There is also evidence of attempts to drain some of these marsh areas. This has resulted in the saltmarsh in this area becoming confined and thus, ecologically, it is unable to progress as would a normal saltmarsh. The part closest to the Waimakariri River has even lost its tidal regime and now comprises remnant coastal ribbonwood and oioi that is being gradually invaded by land plants, especially tall fescue (*Schedonorus arundinaceus*) and freshwater species. To the south, the lower reaches of the Styx River/Puharakekenui still allow salt water to enter and exit, but the marshes are held in the later stages of succession, comprising sea rush, oioi and coastal ribbonwood, with increasing amounts of tall fescue. These marshes can be

said to be 'moribund'. The only active area is immediately around the mouth of the Styx River/Puharakekenui and opposite the opening to the Waimakariri River. Here, a very active zone comprising patches of saltmarsh species, such as three-square, New Zealand primrose and glasswort, that come and go. The aggressive pest plant cord grass (*Spartina anglica*) has recently been discovered here.

## 16.9 Weeds

From the report of McCoombs (1999), the saltmarsh on the Brooklands Lagoon/Te Riu o Te Aika Kawa margins was being invaded by weeds, including gorse, Spanish heath and pines. Most of the extensive areas of scrub weeds have been brought under control and no longer pose such a threat. Spanish heath is the subject of an intensive eradication project on the one remaining site on Brooklands Spit/Kairaki. Pines have, despite some effort at removing individuals, become a major pest plant, especially on Brooklands Spit/Kairaki. These kind of species threaten the high ecological values of the estuary by significantly altering the habitat. McCombs (1999) considered that the increase in weeds may be related to

the hot summers encouraging growth, and also to the infilling and consequent drying out that is occurring in parts of the estuary. Areas that were previously saltmarsh are now marsh fringe and therefore more prone to weed invasions<sup>35</sup>.

The main weed species present in 1999 in the Brooklands Lagoon/Te Riu o Te Aika Kawa and wider area are listed in the following table. These particular species are a problem because of the effect they have on other vegetation, such as changing the composition or structure of the habitat,

<sup>35</sup> Unlike many natural New Zealand habitats saltmarshes can generally resist invasion by exotic weeds because of the need for salt tolerance.

and suppressing regeneration of other species. They also tend to reproduce and/or spread quite rapidly. In addition, they can be difficult (and/or expensive) to control. All are considered serious environmental weeds.

Since that time, two new weeds have been recorded in the saltmarsh; sea couch and cord grass, the later being a 'pest plant' in the Environment Canterbury Regional Pest Management Strategy. The area is being monitored for other potential weed pests such as sea lavender (*Limonium companyonis*), which may invade from the Avon/Heathcote Estuary.

	BLACK BERRY	BROOM	COAST WATTLE	GORSE	GREY WILLOW	NODDING THISTLE	PINE	SILVER POPLAR	SPANISH HEATH	SWEET BRIAR
Brooklands Spit/Kairaki end							✓			
Brooklands Lagoon/Spit margin				✓			✓			
South Brooklands Lagoon margin	✓	✓	✓	✓	✓		✓		✓	✓
Seafield Park	✓	✓		✓	✓	✓		✓		
Spencer Park wetlands	✓			✓	✓		✓			
Rest of Spencer Park	✓	✓		✓	✓			✓		
Foreshore				✓			✓	✓		

**Table showing location of main weed species present in 1999**

## 17 WILDLIFE

### 17.1 Birdlife

Most of the following birdlife information is taken from an unpublished Council report on what is referred to as the Brooklands Lagoon/Te Riu o Te Aika Kawa wetland complex, prepared in August 2008<sup>36</sup>. Information on taonga species for Ngāi Tahu was provided by Mahaanui Kurataiao Ltd on behalf of the tangata whenua for the area.

The Brooklands Lagoon/Te Riu o Te Aika Kawa wetland complex comprises Brooklands Lagoon/Te Riu o Te Aika Kawa, Brooklands Spit/Kairaki, inland saltmarsh and dune environments on the estuary's western margin, the lower Styx River/Puharakekenui ponding area, the Styx River/Puharakekenui mouth marshes, Kainga Road salt meadow, the Waimakariri River mouth and the Kaiapoi Oxidation Ponds. It is considered one of the largest coastal wetland complexes in Canterbury.

Since the 1850s, some 100 species of bird have been recorded using Brooklands Lagoon/Te Riu o Te Aika Kawa and its immediate environs. This avifauna comprises 43 resident species, 23 seasonal visitors, 26 vagrants and eight species now locally extinct.

Forty-four bird species occur year round in the estuary and on its environs, with 37 species breeding locally. Many of the other species are migrants, coming from other parts of New Zealand, or as far away as the arctic regions of Siberia and Alaska.

Sixty nine species (69% of the total) are classified as wetland/coastal birds and numbers of these peak at over 6000 in late summer/autumn.

The following table lists 26 wetland/coastal bird species that use Brooklands Lagoon/Te Riu o Te Aika Kawa and its environs in numbers of national (N), regional (R) or local (L) significance (defined as greater than five percent of local or regional, or greater than one percent of national, populations; based on estuary bird monitoring data and best estimates for local/regional/national populations).

The table also identifies those species that are defined in the Ngāi Tahu Claims Settlement Act 1998 as taonga species for Ngāi Tahu (T), defined in this way to recognize the special relationship Ngāi Tahu hold with these species.

Many rare species are also recorded in the estuary, including sightings in the last few years of such species as Hudsonian godwit, Asiatic whimbrel, ruff, black stilt/kakii, little tern/tara, Arctic skua, chestnut-breasted shelduck, long-tailed cuckoo/koekoeaa and Australasian crested grebe/kaamana.

The Brooklands Lagoon/Te Riu o Te Aika Kawa complex is the second largest wetland area within the 'urban' part of Christchurch City (excluding Banks Peninsula) and, in terms of bird abundance and species richness, is the second most important local site for wetland/coastal birdlife (Innes et al. 1991). In both rankings, Brooklands is second only to the Avon-Heathcote Estuary/Bromley

Oxidation Ponds and ahead of such other sites as Travis Wetland, Styx Mill Basin, Horseshoe Lake and Peacock Springs.

#### Table of wetland/coastal bird species that use Brooklands Lagoon/Te Riu o Te Aika Kawa and its environs:

New Zealand shoveler/kuruwhengu	NT
Grey teal/tete	NT
New Zealand scaup	N
South Island pied oystercatcher	R
Bar-tailed godwit/kuuaka	RT
Pied stilt/poaka	RT
Paradise shelduck/puutakitaki	RT
Pied cormorant	R
White-faced heron	R
Royal spoonbill	R
Caspian tern	R
White-fronted tern/tara	RT
Black-fronted tern/tara	RT
Black-billed gull/tarāpunga	RT
New Zealand kingfisher	R
Variable oystercatcher	L
Banded dotterel	L
Black swan	L
Canada goose	L
Mallard	L
Black cormorant/kooau	LT

<sup>36</sup> Crossland A. C. (2008).



Little cormorant/kooau	LT
Spotted shag	L
Puukeko	LT
Red-billed gull	L
Black-backed gull/karoro	LT

The Brooklands Lagoon/Te Riu o Te Aika Kawa wetland complex is an important wintering site and migration stop for wetland/coastal birdlife that breed on the Waimakariri River bed, as well as in other parts of Canterbury and the eastern South Island. It is also an important breeding ground in its own right. Important bird nesting areas include Brooklands Spit/Kairaki, the saltmarsh margins and the Kaiapoi Oxidation Ponds.

### In the regional context ...

Brooklands Lagoon/Te Riu o Te Aika Kawa contains the second most extensive area of saltmarsh habitat in Canterbury, after Lake Ellesmere.

The estuary represents the fourth most extensive area of nesting ground for wetland/coastal birds in coastal Canterbury, after Lake Ellesmere, the Ashley-Saltwater Creek Estuary and Lake Ki-Wainono.

In terms of species richness, the Brooklands area probably has the fifth highest ranking in Canterbury, behind Lake Ellesmere, the Avon-Heathcote Estuary and Bromley Oxidation Ponds, Lake Ki-Wainono and the Ashley-Saltwater Creek Estuary. The number of bird

species recorded at Brooklands Lagoon/Te Riu o Te Aika Kawa (100) is comparable with, or higher than, most other New Zealand estuarine systems.

As for total wetland/coastal bird abundance, the recent creation of a large extent of shallow pond/mudflat/marsh habitat at the Kaiapoi Oxidation Ponds (on the north bank of the Waimakariri River), and new saltmarsh development in the Dartford/Beacon Street area, has boosted the regional ranking of the Brooklands Lagoon/Te Riu o Te Aika Kawa complex. It now probably ranks fifth within the Canterbury Region, behind Lake Ellesmere, the Avon-Heathcote Estuary and Bromley Oxidation Ponds, Lake Ki-Wainono and Lake Forsyth.

Further, detailed information on birds specific to each major landform in the planning area is given in the section dedicated to that landform component.

## 18 RECREATION

The Brooklands Lagoon/Te Riu o Te Aika Kawa area was a popular holiday resort and picnic area for day trippers in the 1800s, and the area was used for surf/river fishing, boating, yachting and whitebaiting. During the 1920s and 1930s it became a haven for yachties and water skiers.

In recent times, to the present day, the greatest number of people visiting has been casual visitors, with informal picnicking and walking, sometimes in conjunction with other activities such as bird watching, becoming increasingly popular. Fishing takes place at the end of Brooklands Spit/Kairaki at the mouth of the Waimakariri River, south along the ocean beach and in the Styx River/Puharakekenui. Trout, salmon and whitebait fishing is most popular, with two seasons for trout and salmon (1 October to the end of April, and from the first Saturday after Queens Birthday weekend to the end of August). The whitebaiting season runs from 1 August to the end of November each year.

Vehicle access to the beach is by permit only, via a locked gate at the end of Heyders Road in Spencer Park Beach. Vehicles may only be driven on the beach north of this point. Horses also have entry here and can be ridden up to the Spit tip or south to Bottle Lake Forest Park.

In Brooklands Lagoon/Te Riu o Te Aika Kawa itself, activities that take place include recreational shooting and motorised/non-motorised water sports. Game bird shooting is only permitted, during season (varies between species) in the mid-reaches of the estuary. Motorised watersports, such as power boating and water skiing,

are restricted to north of a line that extends across the Lagoon just south of Dartford Street, with the exception of motorised vessels operated for official purposes (see the photo plan on page 84).

The area centred on Spencer Park and the southern end of Seafield Park is a well developed public recreational area, with facilities provided such as information, toilets, picnicking, play and camping. The focus for this area is on it being a relatively un-commercial, family/group based passive recreational experience with good track connections between amenity and natural sub-areas. It is also seen as a core or hub for the wider area Brooklands Lagoon/ Te Riu o Te Aika Kawa area, providing the primary arrival/departure point for a spectrum of recreational experience radiating out from this centre-point.

There are other more typical metropolitan local parks nearby in the townships of Spencerville and Brooklands that are clearly developed spaces for play or sporting activity and contain little or no natural or wild element. They are valuable areas for the local community, despite the large natural areas nearby around Brooklands Lagoon/Te Riu o Te Aika Kawa, because they provide the community opportunities for play relatively near their homes. They provide the space and facilities for organised sports activities. These include Harbour Reserve, Brooklands Domain and Spencerville Reserve.

Overall, the focus for the publicly accessible open space in the Brooklands Lagoon/Te Riu o Te Aika Kawa area, and particularly in the case of the Council parks, is to provide

for access for recreation that is primarily non-motorised and non-impacting on the natural coastal environment. This includes recreational activities, such as picnicking, walking, dog walking, horse riding, mountain biking, orienteering and beach play, to name some. Each activity has its own place, sometimes shared, in the area where it is appropriate and desirable for the activity to be undertaken.

### 18.1 Summer User Survey 2003/2004<sup>37</sup> Survey Details

- On 108 days from mid December 2003 to mid March 2004.
- Undertaken at 5 sites (see below).
- 474 questionnaires were completed.

#### Survey Area Zones

- A:** Spencer Park (including the holiday park and surf life saving club).
- B:** Seafield Park (including the animal area, Seafield Park horse area and the south end of the estuary area).
- C:** Brooklands Lagoon/Te Riu o Te Aika Kawa and north Seafield Park.
- D:** Brooklands Spit/Kairaki and beach.
- E:** Lower Styx River/Puharakekenui.

<sup>37</sup> Contracted to Rob Greenaway & Associates (RG&A). Note: there have been developments to the Spencer Park picnic ground play facilities since the survey.

### Respondent Demographics

- 52% were female.
- Those in full-time employment were over-represented.
- Most live in Christchurch.
- Most visitors came from the northern and north-eastern suburbs of Christchurch.

### Main Recreational Activities Indicated By Respondents:

- Walking
- Family outings
- Picnicking
- Camping
- Visiting the animal area
- Visiting the beach
- Mountain biking

## Entry and Exit Sites

SURVEY AREA ZONE	ACTUAL ENTRY/ EXIT POINTS	% OF RESPONDENTS THAT USE THESE
A	Including Spencer Park, the holiday park, surf life saving club	78%
B	Including the animal area, Seafield Park horse area, south end Brooklands Lagoon/Te Riu o Te Aika Kawa area	11%
E	Styx River mouth jetty, Kainga Road	7%
D	Brooklands Spit/ Kairaki and beach	2%
C	Including Brooklands Lagoon/Te Riu o Te Aika Kawa	1%

## Respondent Interactions

- 53% had interactions with other visitors.
- Of these, 87% considered their interaction positive, 7% felt neutral and 7% were negative about it.

## Level of Satisfaction

RESPONDENT	NO	YES
Dis-satisfied with experience	64%	30%

### Main reasons given for dissatisfaction:

- Weather 14%
- Rubbish 12%
- Condition of barbeque facilities and overcrowding 7%

## Perceptions of the Area

Respondent's view of the area's naturalness / degree of modification:

- Moderately natural/partially modified 14%
- Highly natural 12%

## Top Features Indicated

- Beach environment 67%
- Peacefulness 52%
- Range of possible activities 50%

## Choice of Area

- 35% ranked it as the top area in the city for their chosen activity.
- 45% ranked it as their second choice of location.

### Reasons for choice:

- Accessibility 14%
- Range of activities available 9%
- Good for children 6%
- Closeness to home and access to the beach 5%

### Commercial Activities

- 62% of 312 respondents objected to activities with an aspect of development/commercialisation.
- Most reasons given related to the risk of spoiling the nature of the area.

### Improvements

- Half the respondents had no suggestion.
- Main requests were for:
  - More rubbish bins<sup>38</sup>.
  - Better signage and maps.
  - More toilets.
  - Improved track maintenance.

Photo  
White-faced heron on the mudflats of Brooklands Lagoon/Te Riu o Te Aika Kawa.

<sup>38</sup> The Council's policy of "Rubbish-Free Parks" applies here, and has been, and continues to be, successful. Therefore, rubbish bins will not be provided.





## 19 LINKS

Extending south from Heyders Road, the Pegasus Bay walkway links Seafield and Spencer Parks with Waimairi Beach approximately five kilometres down the coastline.

Bottle Lake Forest Park, which adjoins Spencer Park, also provides walking and riding links with Seafield and Spencer Parks. Accesses to these tracks are located at various points along Heyders Road.

A walkway from Seafield Park to The Groynes in the west, via the Waimakariri River bank, has been proposed in the past. While this extended walkway may be some years from being realised, such a track would likely extend along Environment Canterbury administered flood protection stopbanks on the southern side of the Waimakariri River. It is thought that with sensitive development and use of the track though this ecologically significant area, appropriate recreational use could be successfully integrated.

More recently, Environment Canterbury's commencement of development of the Waimakariri River Regional Park has initiated more consideration being given to improving recreational opportunities and environmental enhancement in addition to maintaining flood protection along the Waimakariri River. This regional park is to extend down river from The Waimakariri Gorge Bridge to the river mouth, and include Kaiapoi Island on the northern side of the river.

Sections of the Styx River/Puharakekenui corridor are linked to the open space areas on the western side of Brooklands Lagoon/Te Riu o Te Aika Kawa by existing roads and accessways. The potential is, in the future, for walking access along the length of the river corridor, with good access at several points to the public reserves in the east. This can be achieved through the stopping of the unformed legal road along the river length and its promotion and development as local purpose (esplanade) reserve, catering for both riparian protection and public walking access.



Image (cropped) sourced from Image Science and Analysis Laboratory,  
NASA- Johnson Space Centre. "The Gateway to Astronaut Photography of Earth."  
<<http://eol.jsc.nasa.gov/>>.