



Part One: Policy

Policy guidance and direction for the conservation and restoration of Christchurch and Banks Peninsula indigenous biodiversity to 2035.

Ngāi Tahu's relationship with biodiversity

A key thread of the Strategy is the relationship of local iwi to biodiversity. Ngāi Tahu's traditional relationship with local biodiversity has developed over centuries of close interaction and remains an important part of Ngāi Tahu culture and identity.

Ngāi Tahu are kaitiaki (guardians) of the biodiversity within their takiwā (tribal area including Christchurch and Banks Peninsula) and are holders of traditional and tribal knowledge.

The importance of Ngāi Tahu's relationship with many indigenous species has been recognised through the *Ngāi Tahu Claims Settlement Act 1998* and a number of other tribal policy documents.

MĀORI NAMES FOR BANKS PENINSULA AND CHRISTCHURCH

The commonly used Māori name for Banks Peninsula is Horomaka, named after the island in Port Levy (Potiriwi)/Koukourārata where the Ngāi Tahu waka Makawhiu landed on Banks Peninsula.

Te Pātaka o Rākaihautū is the ancient Māori name for Banks Peninsula. It is used in the Biodiversity Strategy title to refer to Banks Peninsula because of its reference to the Peninsula as a place of abundant natural resources (i.e. store house (Pātaka) of Rākaihautū – see *Te Whakatau Kaupapa*, 1990), therefore implying a need for wise management.

Christchurch is known as Ōtautahi. This name refers to the kāinga of the Port Levy (Potiriwi)/Koukourārata chief Tautahi who used the swamplands around the Avon River/ Ōtakaro.

The name is a reminder of the iwi links between Banks Peninsula and Christchurch.

KAITIAKITANGA (STEWARDSHIP)

Mō tātou, ā, mō kā uri āmuri ake nei

For us and our children after us

PHOTO: PORT LEVY (POTIRIWI)/ KOUKOURĀRATA.



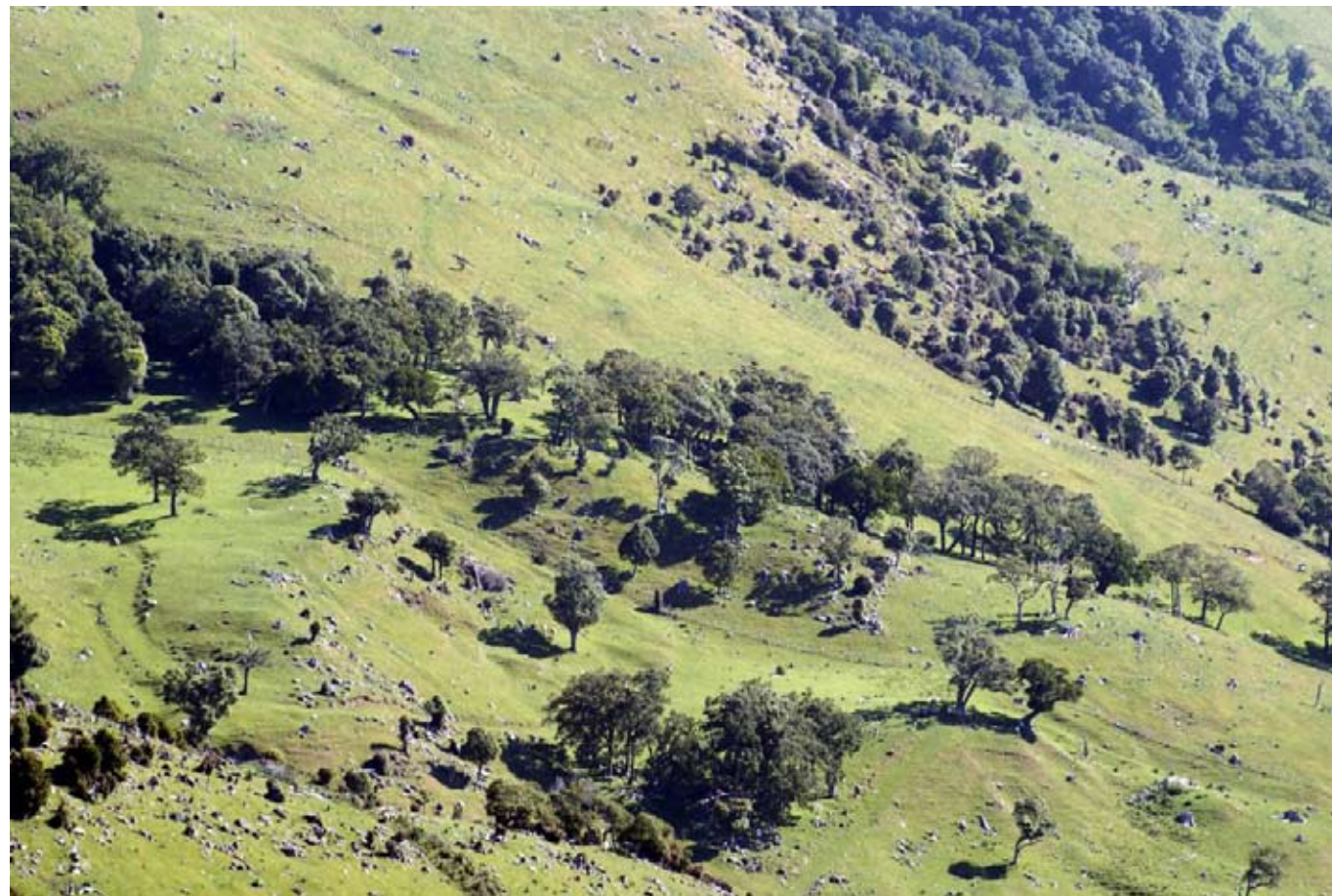
01 Process of strategy development

A draft Biodiversity Strategy for Christchurch was released for public comment in 2004. Strategy preparation involved widespread community consultation and comment on the Strategy. This was incorporated in an updated Strategy completed with an amended budget towards the end of 2005.

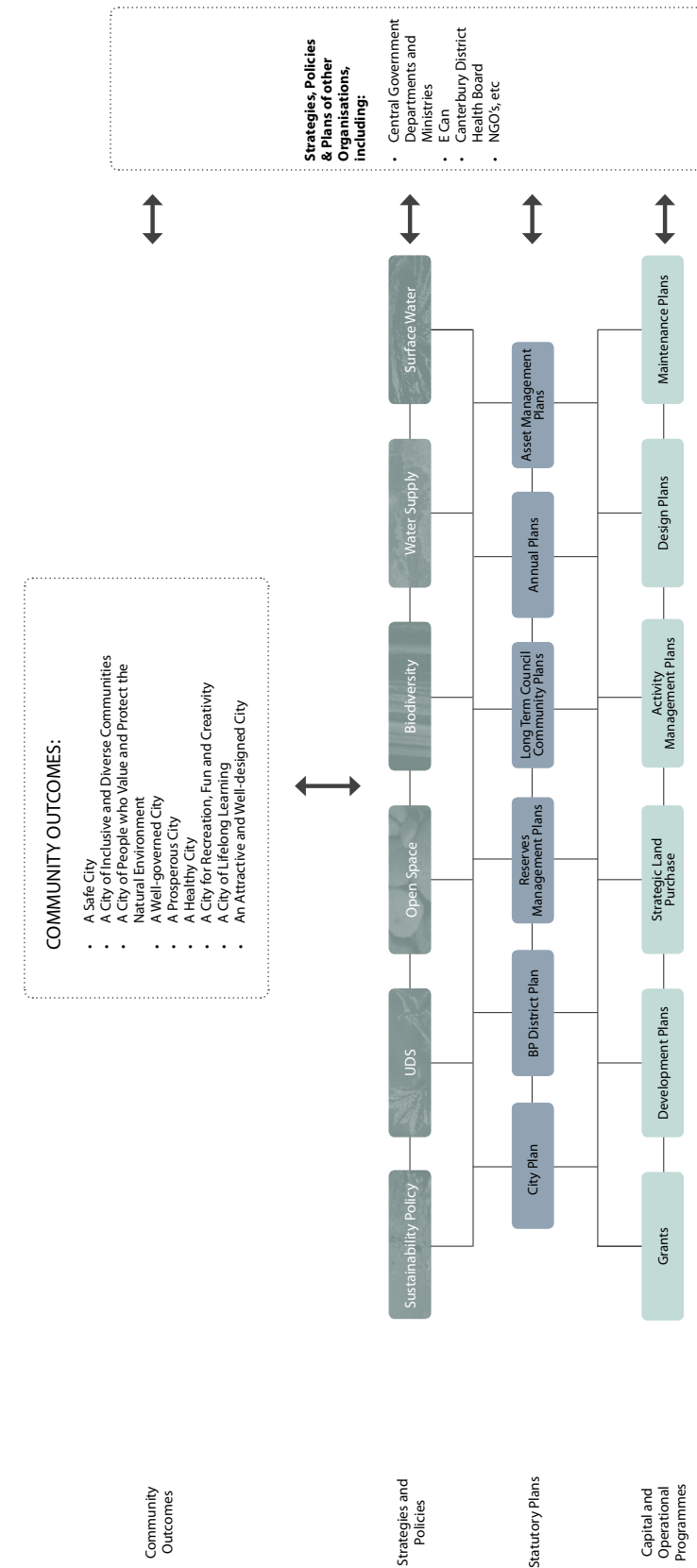
Amalgamation with Banks Peninsula required an updating of the Christchurch draft Strategy to incorporate the biodiversity imperatives and opportunities of Banks Peninsula.

The current Biodiversity Strategy provides an overview of the entire territory administered by the Christchurch City Council.

PHOTO: BANKS PENINSULA INDIGENOUS TREELAND IN GRAZED PASTURE. MUCH OF THIS VEGETATION HAS DEVELOPED SINCE 1920.



Christchurch City Council's Strategy, Policy and Planning Framework for Key Healthy Environment Strategies



NATIONAL AND REGIONAL POLICY INFLUENCING BIODIVERSITY



Local Government Act 2002 and Resource Management Act 1991



National Biodiversity Policy Statement 2007



New Zealand Biodiversity Strategy 2000



Canterbury Regional Biodiversity Strategy

02 Biodiversity overview

The biodiversity of Christchurch and Banks Peninsula has been considerably modified and some areas are still suffering the consequences of actions that occurred over the last 150 years such as the continued accelerated infilling of Te Roto o Te Roto o Wairewa/ Lake Forsyth.

The majority of the district will never return to its pre-human state and much of the biodiversity present has to survive in the current modified environment. People are now part of the biodiversity management equation and essential to long term biodiversity survival. Overall within Christchurch and Banks Peninsula some aspects of biodiversity have greatly improved since last century and there is cause for optimism. Other aspects however require better management, legal protection and more financial resources.

Sites of outstanding biodiversity value within Christchurch and Banks Peninsula

Christchurch and Banks Peninsula have a wide range of outstanding natural areas, special habitats and species. Some of the most important areas that Council, other organisations and the community have responsibility for are listed below and referred to in Part 2, the technical section of the strategy:

- » Kaitorete Spit - nationally important dune and dryland system with rare plants.
- » Te Waihora/Lake Ellesmere - internationally important for water birds.
- » Te Roto o Wairewa/Lake Forsyth - endangered crested grebe wintering area.
- » Avon Heathcote Estuary/Ihutai, Linwood Paddocks, important for water birds.
- » Pūtarangamotu/Riccarton Bush and Banks Peninsula 'old growth' forest

remnants. The last of the original ancient forest.

- » McLeans Island grassland savannah remnants - a nationally rare dry grassland ecosystem.
- » Plains wetland systems (Travis Wetland, Styx Mill Basin, Styx River Mouth etc) - wetlands are now nationally uncommon.
- » Lower Waimakariri River - important braided river habitat with endangered species.
- » Flea Bay penguin nesting area - largest penguin colony in Christchurch City and second largest white-flipped penguin colony in New Zealand.
- » Upwards of 100,000 wetland and coastal birds occur at peak times in the Christchurch-Te Waihora/Lake Ellesmere-Banks Peninsula area, with many species occurring in nationally and internationally significant concentrations. The high proportion and importance of the wetland and coastal bird species makes the Christchurch City area the "wetland bird capital of New Zealand".
- » The coastline of Banks Peninsula is important for marine mammals, penguins, other coastal birds and inter tidal marine life.

Biodiversity celebration points

- » Rescue of species that would have disappeared without intervention, such as *Gunnera arenaria*. Avian biodiversity and the populations of at least 28 indigenous birds have increased with New Zealand scaup/pāpango a notable example.
- » Kōparapara/bellbird numbers appear to be increasing in the Christchurch City urban area.
- » Christchurch and Banks Peninsula has higher bird species richness than almost anywhere of comparable size in New Zealand. The area is especially rich in water bird species.
- » Indigenous woody cover area on

Banks Peninsula has increased since early last century.

- » Covenanting of private land for conservation purposes is increasing on Banks Peninsula.
- » Implementation of Banks Peninsula wide possum and goat control programmes.
- » Most of the remaining original old growth forest and wetland patches have been protected.
- » 22 per cent of the Port Hills is now managed with conservation as a primary objective.
- » Christchurch's highest aquatic plant biodiversity site is in the central city Avon River/Ōtakaro.
- » New Zealand fur seal numbers around the Banks Peninsula coast have increased significantly in number since the 1980s and penguins in the protected colonies are doing well.

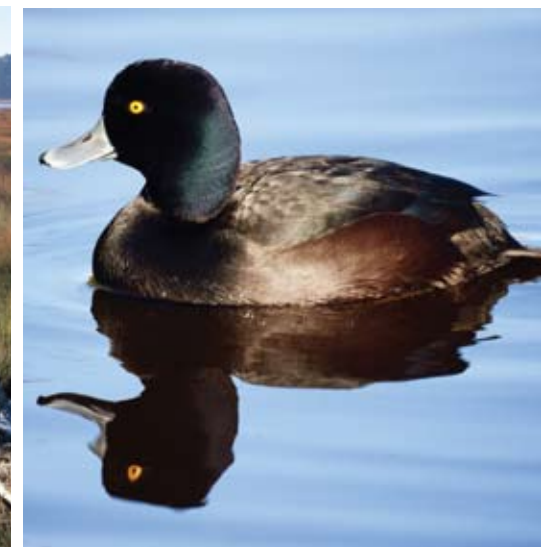
Biodiversity challenges

- » Fifteen bird species on the Department of Conservation (DoC) threatened bird list (categories 1-4) breed locally, occur annually or pass through Christchurch and Banks Peninsula district on migration.
- » Thirty three species within the city and peninsula are on the DoC threatened plant list.
- » Protection of indigenous herbaceous plants in highly modified environments is problematic.
- » Some species such as the native cedar are very limited in number and vulnerable to pests or catastrophic events such as fire. Naturally occurring rimu is down to one remaining tree on the peninsula.
- » Some nationally important areas of land under Council control need better legal protection and management policy in place for their biodiversity and are potentially at risk from management or land use changes.
- » Water quality in urban areas is poor and difficult to manage in a cost effective way to bring about improvement in biodiversity.
- » There is a lack of targeted systematic biodiversity monitoring and management programmes.
- » Pests continue to pose a high risk to biodiversity especially those species

that can establish and dominate in core indigenous habitat areas.

- » Biosecurity pests such as Argentine ants pose a continuing potential risk to indigenous biodiversity.
- » Restoration efforts in areas with remnant biodiversity need to proceed with caution as high potential exists to destroy remnant biodiversity values.
- » Rare systems such as fens and dryland ecosystems are still under threat.
- » Fragmentation of habitat needs to be controlled to avoid creation of unsustainable islands of biodiversity. This is especially important for invertebrates and lizards.
- » Biodiversity needs to be integral to Council planning and operational activities.
- » Economic and social change detrimentally affecting biodiversity on private land is one of the most important yet challenging potential risks to continued biodiversity.

PHOTO: PIED STILT (POAKA), SALTMARSH, NEW ZEALAND SCAUP (PĀPANGO).



03

Vision

THE BIODIVERSITY OF CHRISTCHURCH AND BANKS PENINSULA IS VALUED, PROMOTED, PROTECTED AND ENHANCED.

LOCAL COMMUNITIES, IWI AND THE COUNCIL WORK TOGETHER TO SUSTAIN THE FULL RANGE OF SPECIES AND HABITATS WHICH ARE SPECIAL TO THE HILLS, VALLEYS, COAST, LAKES, WATERWAYS AND PLAINS OF BANKS PENINSULA AND CHRISTCHURCH.



04

Guiding principles

1. The Council's indigenous biodiversity priorities are to protect existing biodiversity in threatened land environments and to protect existing habitats for indigenous biodiversity and nationally and locally threatened species.
2. The Council has a leadership responsibility in the protection and enhancement of indigenous biodiversity in Christchurch and Banks Peninsula.
3. The Council is committed to a partnership approach with iwi, government, agencies, landowners, business and the community in achieving biodiversity outcomes.
4. The Council acknowledges the important biodiversity protection role of rural landowners and recognises that implementation of this strategy will be more effective where biodiversity initiatives are integrated with rural land management requirements and landowner goodwill is maintained.
5. The Council is committed to a well-being (social, economic, cultural and environmental) approach to biodiversity protection and enhancement.
6. In achieving Biodiversity Strategy outcomes, the Council recognises the importance of urban Christchurch's strong Garden City heritage featuring a diversity of globally sourced plant species and the important contribution of many exotic plants to the protection of indigenous biodiversity.

PHOTO: A MIX OF INDIGENOUS AND EXOTIC SPECIES LINE THE BANKS OF CHRISTCHURCH WATERWAYS.



05

Goals and objectives

Achieving the strategy vision will require leadership from the Council, as well as input from and the development of partnerships with, local communities, iwi and other agencies.

GOAL 1: CONSERVE AND RESTORE CHRISTCHURCH'S AND BANKS PENINSULA'S INDIGENOUS BIODIVERSITY.

Objectives

- » Priority internationally, nationally and locally threatened species are protected and restored.
- » Ecosystems, sites and habitats supporting biodiversity are protected and restored.
- » Species and habitats important to Ngāi Tahu are protected, and where appropriate, restored.
- » Plant and animal pests are managed to minimise their impact on biodiversity.
- » New Council policy will take account of, and be aligned with, the goals and objectives of the Biodiversity Strategy.

GOAL 2: RAISE AWARENESS AND UNDERSTANDING OF INDIGENOUS BIODIVERSITY.

Objectives

- » Information on local biodiversity is collated and readily available to Council staff and the community.
- » Opportunities and information are promoted to enhance community understanding of biodiversity values, issues and management.
- » The community understands Ngāi Tahu values and roles in biodiversity management.

GOAL 3: ENCOURAGE WIDESPREAD PARTICIPATION IN SUPPORT OF INDIGENOUS BIODIVERSITY CONSERVATION.

Objectives

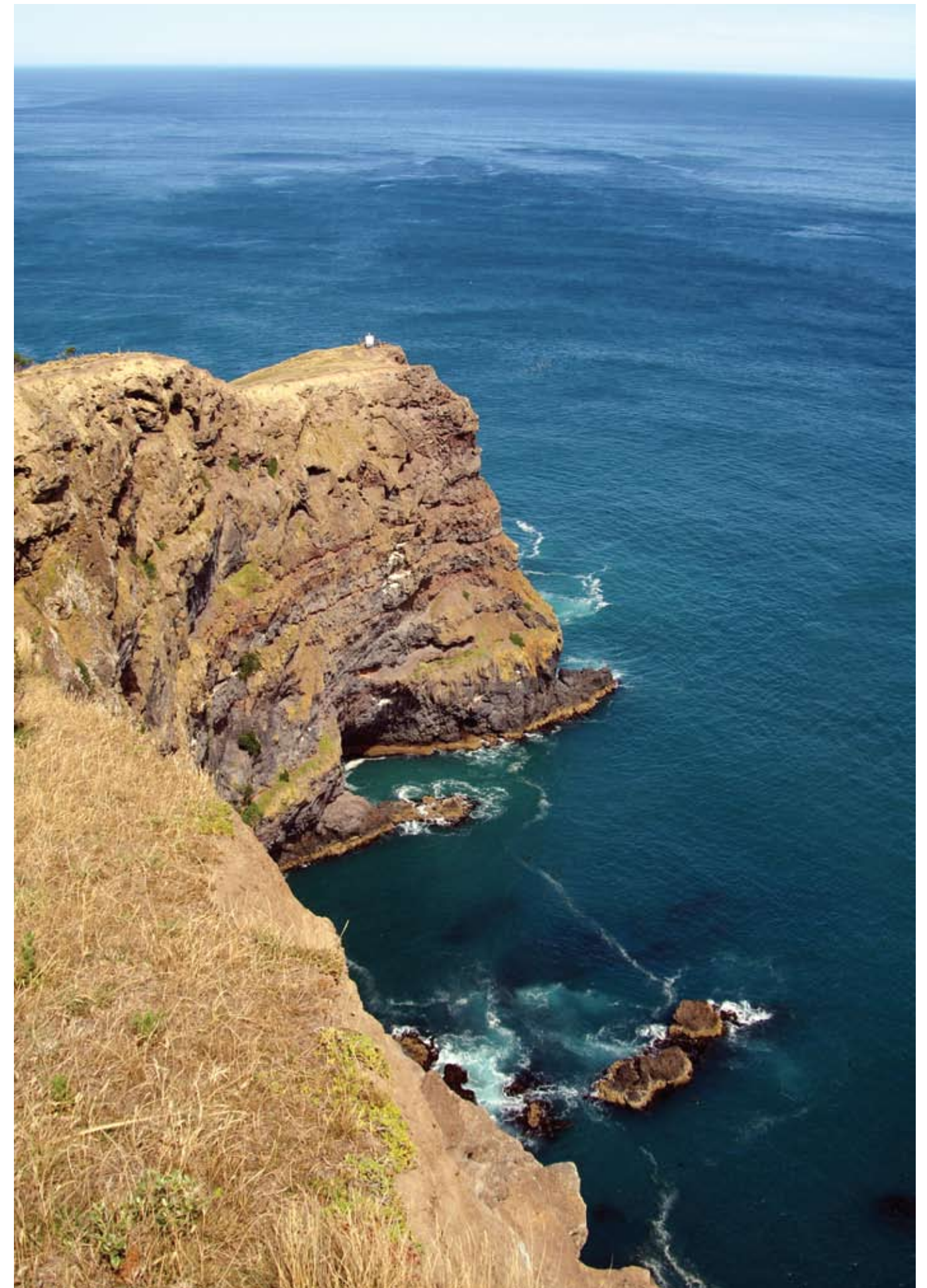
- » Strategic partnerships are developed and maintained by the Council with Ngāi Tahu, agencies, organisations and others with an interest in, or responsibility for, biodiversity including other Canterbury local authorities.
- » Ecologically sustainable cultural use of indigenous biodiversity by Ngāi Tahu is supported.
- » Community and private initiatives to protect and enhance biodiversity, including on private land are supported.

GOAL 4: IMPROVE AND FACILITATE RESEARCH AND MONITORING OF INDIGENOUS BIODIVERSITY.

Objectives

- » Monitoring programmes for the biodiversity of Christchurch and Banks Peninsula are established, coordinated and maintained.
- » Biodiversity research is supported, coordinated and managed to enable sustainable management of biodiversity.
- » The community is involved in biodiversity research and monitoring.
- » Community attitudes to biodiversity are monitored.

PHOTO: BANKS PENINSULA COASTAL CLIFFS PROVIDE HABITAT FOR LARGE NUMBERS OF SEABIRDS AND THREATENED PLANTS.



06

Strategic vision concept plans

The following two concept plans have been split along the boundary of the two ecological regions that are wholly or partially found within the Christchurch City Council District with an overlap along the Port Hills. Ecological regions are aggregates of ecological districts with similar topography, climate, soils and biological features.

The system is mirrored in more detail by the recently developed land environments of New Zealand classification system from which the threatened environments found in Section 11.4.2 are derived. The Council has responsibility for part or all of five ecological districts found in Christchurch and Banks Peninsula out of 260 districts nationwide. The biogeographical variety of the districts is reflected in the variety and range of Christchurch and Banks Peninsula's biodiversity, and thus the need to protect a representative range of each area's biodiversity.

CONCEPT PLAN STATUS

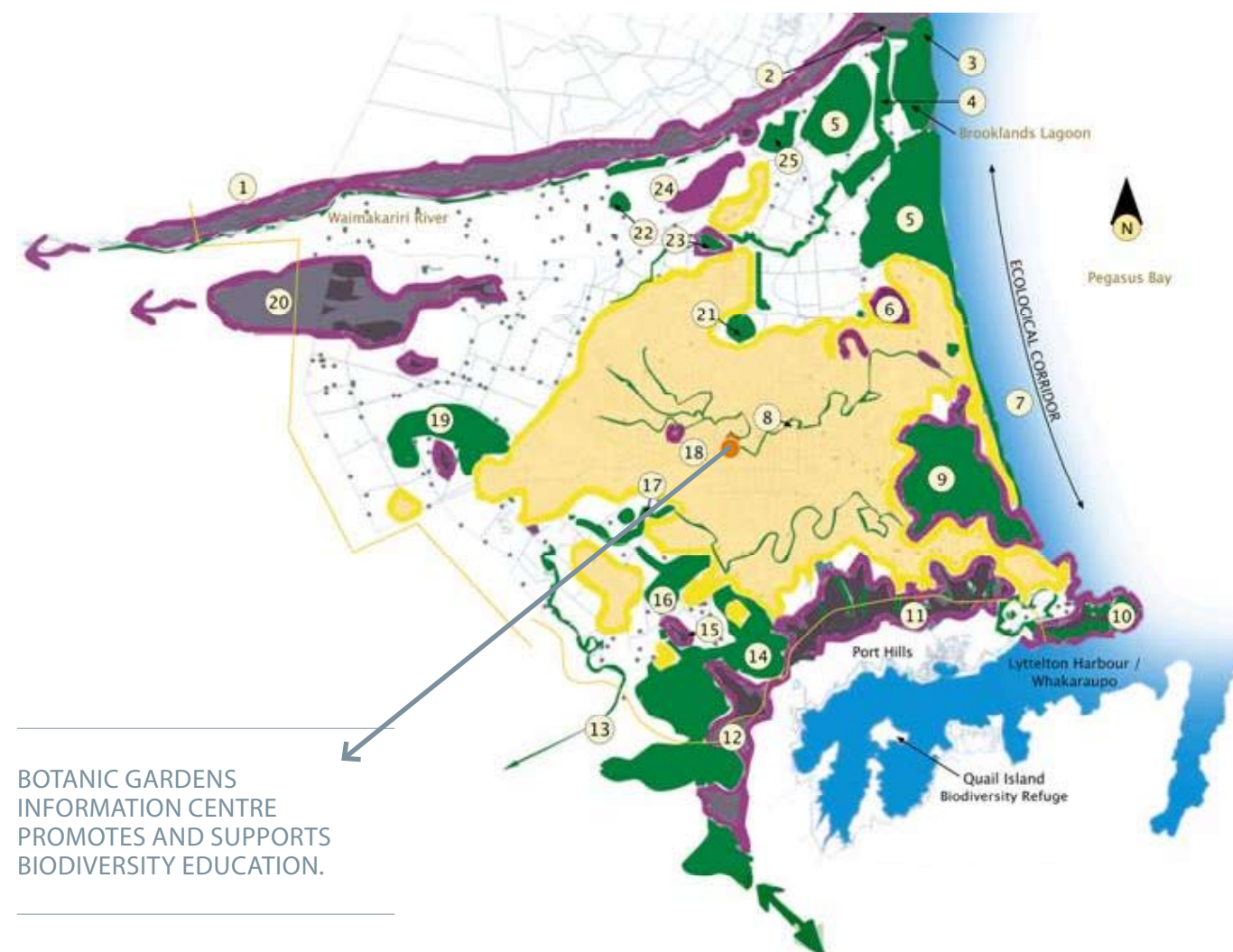
The biodiversity strategy concept plans are conceptual, indicative and non regulatory. They are intended to provide a framework for positive voluntary biodiversity action and provide residents and Council with a vision to guide overall direction. Council initiatives or proposals will be subject to the policy and budget overview provided by the LTCCP and undertaken in consultation with landowners where this directly affects private land.

6.1 Christchurch Biodiversity Concept Plan

Christchurch is a biodiversity hotspot within the plains' ecological region and contains several important biodiversity sites, some of which are of national importance. Despite its urban nature Christchurch contains a range of lowland species, most of which exist in mixed exotic/ indigenous dominated ecosystems.

The City is especially rich in waterbirds and wetlands and contains important dryland ecosystems. A key to maintaining and enhancing the City's avian biodiversity is the continued biological productivity of adjoining ecosystems such as the head of Lyttelton Harbour/ Whakaraupō, Te Waihora/Lake Ellesmere, and the Kaiapoi oxidation ponds. Other major linking elements are the coastal system, the Waimakariri River, the Ōtukaikino, Styx, Avon, Heathcote and Halswell rivers and the Port Hills.

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CHRISTCHURCH URBAN FOREST WITH INDIGENOUS AND EXOTIC COMPONENTS THAT FOSTER AND ENCOURAGE THE WELL BEING OF INDIGENOUS BIODIVERSITY AND THE GARDEN CITY IMAGE. AN EXAMPLE OF PLANNING THAT SUPPORTS THE OBJECTIVES OF THE BIODIVERSITY STRATEGY WHILST INTEGRATING THEM WITH OTHER VALUES IS THE AVON RIVER/ ŌTAKARO (CENTRAL CITY) MASTER PLAN, 2007.

CHRISTCHURCH BIODIVERSITY CONCEPT PLAN

1. Waimakariri Corridor - mountains to the sea	The Waimakariri braided river system is an example of an internationally rare ecosystem. It is an important wildlife corridor connecting the Southern Alps/ Kā Tiritiri o te Moana to the coast. Threatened species and braided river wildlife need to be conserved. A multi-value approach to river and riparian areas in the immediate vicinity of Christchurch is required. Native riparian restoration should be encouraged. Cooperation is needed with Ngāi Tahu, Environment Canterbury, Waimakariri and Selwyn District councils, Department of Conservation (DoC) and community groups such as Te Ara Kākāriki (Greenway Canterbury Trust) to formulate a long-term overview of issues and extend the concept to the mountains and along the coast.
2. Styx River and Waimakariri River Mouth wetlands	An outstanding example of riparian and estuarine wetlands with high potential for re-establishment of native wetland birds and increased protection of existing species such as bittern and marsh crake. Partnerships with Ngāi Tahu, Environment Canterbury, DoC and local community groups are essential.
3. Brooklands Lagoon and Spit	Has an important large salt marsh area and high potential for re-establishment of nesting/roosting areas for coastal birds such as white fronted terns and variable oystercatchers.
4. Styx River	Opportunity exists to achieve a healthy, fully functioning river ecosystem which supports a range of native species. Riparian restoration within a multi-use framework in consultation with Ngāi Tahu is needed.
5. Bottle Lake Forest Park and Chaney's Plantation	Covering well over 1000 ha, these exotic conifer plantations have the potential to be partially modified to accommodate a wider range of trees and shrubs to enhance birdlife. The introduction of birds such as tomtits and weka is possible with appropriate predator protection. Bellbird numbers in Bottle Lake have increased recently, probably in response to the removal of magpies. Partnership with Selwyn Plantation Board.
6. Travis Wetland	Potential exists to enhance the botanical, invertebrate and bird values of the site. Conservation of open wetland for pūkeko and other lowland wet grassland bird species is a major goal. Partnership with Travis Wetland Trust.
7. Coastal Dune Complex	Protection of existing invertebrate biodiversity is the highest priority. However, opportunities can be investigated for planting more coastal forest and creating shallow dune lakes and wet areas behind the foredune to enhance the coastal ecological corridor. This would create a wider range of habitats for coastal dune plants and coastal wildlife, especially wading birds such as pied stilts. Partnership with DoC, Environment Canterbury, Ngāi Tahu.
8. Avon River/ Ōtakaro	Protection of indigenous aquatic macrophytes and native riparian vegetation, improved habitat for fish and invertebrates, management of sediment and silt, enhancement of water quality and protection of water quantity are key objectives for the Avon River/Ōtakaro and its tributaries within the overall mixed exotic/ indigenous Garden City character of the river banks.

CHRISTCHURCH BIODIVERSITY CONCEPT PLAN

9. Estuary of the Heathcote and Avon rivers/ Ihutai	Continued protection of the nationally important wildlife values of the oxidation ponds, salt marsh and estuarine mudflats is a high priority for this area. Protection of the Linwood Paddocks on the estuary's western margin is important to protect and restore breeding populations of coastal birds and provide high tide feeding and roosting habitat. Partnership with Avon-Heathcote Estuary Ihutai Trust, Environment Canterbury, DoC, Ngāi Tahu, Christchurch Estuary Association.
10. Awaroa (Godley Head) Coastal Park	Options exist to facilitate the recovery and reintroduction of sea/coastal birds and coastal bush on parts of Godley Head in addition to enhancing historical and recreation values. Species needing assistance include the white-flipped penguin colony at Harris Bay. The park is a joint City Council / DoC initiative.
11. Port Hills Tussock Grassland	Protection of rare rock outcrop plants such as <i>Carex inopinata</i> and the continued protection of tussock grasslands of the eastern Port Hills from exotic shrub weeds is required. Restoration and enhancement of hill waterways are also important aims. Further research is required on the viability of native shrublands and invertebrates.
12. Port Hills forests	Management of the south-west Port Hills will encourage the continued expansion of native forest on the wetter part of the Port Hills. This is a significant area for bush birds that visit the city. An eventual forest area of approximately 2000 ha is possible. Continued predator control to encourage increased numbers of existing bush birds such as bellbird/kōparapara, kererū, tomtit and morepork (ruru koukou) is important. Options for reintroduction of some indigenous bird species and a larger predator management area in the medium to long term can be investigated.
13. Halswell River from the City to Lake Ellesmere/Te Waihora	The natural values of the upper catchment including the headwater springs need to be protected and restored. Cooperation is needed with Selwyn District Council, Ngāi Tahu, Environment Canterbury, DoC and Waihora/Ellesmere Trust towards enhancing natural values.
14. McVicar's Pine Plantation	Currently privately owned, this area has high potential for a range of recreational use and ecological restoration including possible introduction of weka. The existing tall trees provide the structure important for nesting of birds like kererū.
15. Halswell Quarry Park and Westmorland west-facing slopes	Protection of the shrub communities and stand of kōwhai is needed. These are some of the last remaining stands of Port Hills native shrubland found at low altitude within the city. Further west, Halswell Quarry Park is a core area for biodiversity enhancement with wetland and forest plantings.
16. Cashmere and Hendersons Ponding Basin	Opportunities for major wetland and native forest habitat creation exist (complementing Pūtarangamotu/Riccarton Bush) as part of sustainable urban development of south-west Christchurch. This area is situated on the Te Waihora/Lake Ellesmere to Avon Heathcote Estuary/ Ihutai bird flyway. Wetland habitat creation in this area will attract wildlife.
17. Heathcote River/ Ōpawaho	Water quality improvement and reduced sediment loads in the river system are highly desirable as well as protection and enhancement of riparian vegetation, fish and invertebrate habitats. The wooded portions of the upper Heathcote and Canterbury Park are important as native bird corridors and habitat areas. New native forest patches in this area would complement the existing river corridor. Any bank planting will fit within the city's overall Garden City landscape character which includes planting of appropriate exotic trees.

CHRISTCHURCH BIODIVERSITY CONCEPT PLAN

18. Pūtarīngamotu/ Riccarton Bush	Assist and cooperate with the Pūtarīngamotu/Riccarton Bush Trust as they manage their predator proof sanctuary as a showpiece and biodiversity education tool.
19. Templeton Quarry Area	The quarries in this area may provide future biodiversity options for establishment of plains dryland vegetation . Some wildlife options are possible but care is required to avoid species that could pose a bird strike risk near the airport.
20. McLeans Island Grasslands	A nationally important site for its rare dryland savannah ecosystem, threatened species and important for invertebrates. The dryland system extends along the Waimakariri into Selwyn District, with important remnants occurring on a mix of council (Environment Canterbury and Christchurch City Council), and private land. Partnership between the City, ECan, lessees, landowners and Selwyn District Council is important.
21. Cranford Flood Basin and Peat Deposits	Opportunities for wetland and native forest habitat creation exist (substituting for the role of the lost Papanui Bush) as part of the planning for sustainable urban development initiatives.
22. Upper Ōtukaikino Catchment Area	Options for greater wetland protection and native forest restoration are possible in partnership with landowners and Environment Canterbury.
23. Styx Mill Reserve	Protection of existing rare plants, wetland bird and invertebrate biodiversity is a priority. Enhancement options include better control of predators. The reserve will eventually have a predator exclusion fence.
24. Groynes	This is a multi-value recreation and conservation park. Protection and enhancement of emerging native forest, wetland wildlife and rare plant species is required.
25. Dickeys Road Wetland and old Waimakariri Channel	This includes a wetland and former river channel with plant, birdlife, and native fish values. Landowners, DoC and ECan are involved in managing this area.
26. Urban & Rural Residential Area	Mixed species urban woodland/ shrubland that provides habitat for indigenous biodiversity. Greening of the urban area (including continued use of exotic species) provides overall environmental benefits. High potential for biodiversity friendly rural residential areas with exotic and indigenous species.

6.2 Banks Peninsula Biodiversity Concept Plan

This concept provides a vision for an integrated and interconnected indigenous landscape pattern on the Peninsula. Realisation of the vision will be dependent on property owners, Council, Ngāi Tahu and other parties choosing to work together.

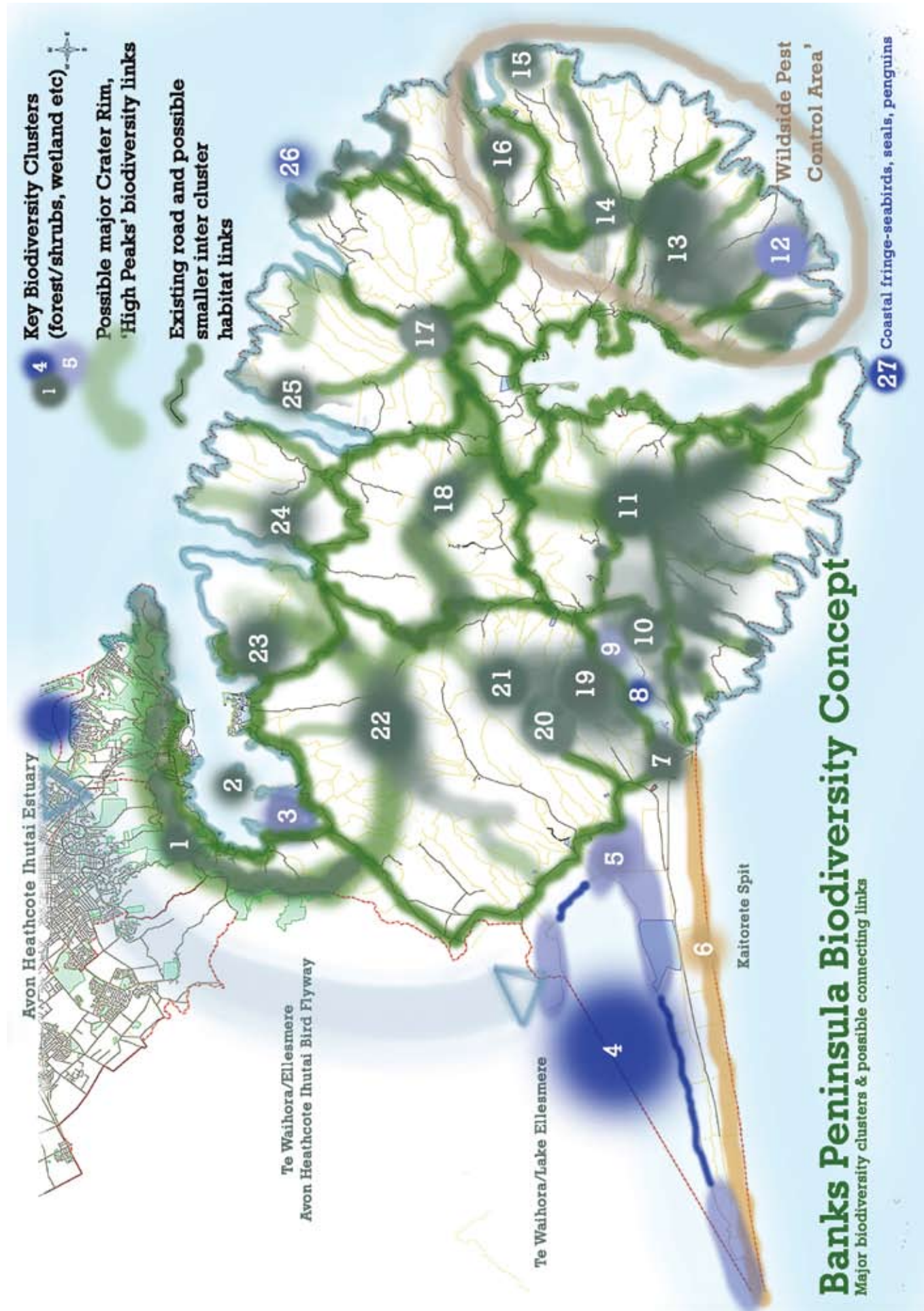
The concept recognises the existence of strategically located clusters of remnant or second growth vegetation that provide core habitat for indigenous invertebrates, birds and lizards and the potential to create greater habitat links between these remnants, especially for organisms that are unable to move across large expanses of highly modified landscape.

It also recognises the importance of roads as key biodiversity corridors. The concept indicates possibilities.

Exactly how and where corridors are created and which areas are protected (aside from the requirements of the District Plan) will be dependent on the layout and values inherent on each individual property, the aspirations of the property owner and support from conservation trusts, agencies, the Council and the community.

PHOTO: AKAROA HARBOUR MUDFLATS AND FOREST PATCHES CONTRIBUTE TO BIODIVERSITY.





BANKS PENINSULA BIODIVERSITY CONCEPT PLAN

1. Port Hills (Southern Aspect)	Large parts of the harbour basin side of the Port Hills now have regenerating bush. A highlight is an old growth forest remnant containing mature tōtara and matai near Rāpaki. Large areas at the head of the harbour and above Lyttelton are managed for conservation purposes. Almost complete cover of the upper parts of the crater rim with bush is feasible.
2. Ōtamahua/Quail Island	Ōtamahua/ Quail Island is a place rich in history and culture. The Ōtamahua/Quail Island Ecological Restoration Trust and DoC have removed pests, are revegetating the island and have reintroduced native wildlife.
3. Head of Lyttelton Harbour/ Whakaraupō Wetlands	The upper harbour together with the Avon Heathcote Estuary/Ihutai Oxidation Ponds complex, and the Brooklands- Kaiapo Oxidation Ponds complex, support nationally/ internationally significant concentrations of many bird species. The wetlands and salt marshes need to be protected from filling and adverse land uses.
4. and 5. Te Waihora/ Ellesmere	One of the most important biodiversity sites that the Council has responsibility for (in partnership with Ngāi Tahu, DoC, Environment Canterbury and Selwyn District Council). Mudflats at Kaituna Lagoon and at the Taumutu end of the Kaitōrete Spit are among the first landing sites in New Zealand for migratory wading birds. Management of the lake, its edge wetlands and mudflats is subject to ongoing research. The Council has direct management responsibility for high quality biodiversity sites on its 412 ha lakeshore property. Better management of hill streams entering the lake is a desirable objective.
6. Kaitōrete	The dune and dryland ecosystems of the Kaitōrete boulder bank are nationally unique. The area is a major stronghold for rare plants such as <i>Muehlenbeckia astonii</i> (tororaro) and the area has a wide diversity of invertebrates. Threats include fire, vandalism and damage to the dunes from off road vehicles. Much of the land is in Environment Canterbury, DoC, Ngāi Tahu and to a lesser extent City Council ownership.
7. Birdlings Flat	This area contains one of the largest remaining coastal shrubland communities of its ecological type in Canterbury. The shrubland is especially important for lizards. Council owns a large proportion of this shrubland community.
8. and 9. Te Roto o Wairewa/Lake Forsyth	Among the top 10-15 wading bird sites in New Zealand for migratory birds and the main wintering site for the endangered crested grebe. Control of lake levels is important to allow exposure of the head of the lake mud flats at key times and to prevent long term inundation of the endangered sea holly population on the lake shore. Catchment-wide management of sediment and nutrients entering the lake is desirable to achieve better water quality. A sound working relationship between the Council, Te Roto o Wairewa Rūnanga, landowners, DoC and the community is necessary.
10. Te Oka Peak area, Southern Bays, Oashore to Te Oka Bay	The few forest patches hidden in mid elevation coastal gullies between Birdlings Flat and Te Oka Bay are among the most uncommon remnant habitats of their type on the Peninsula. North-west facing slopes above Te Roto o Wairewa/Lake Forsyth are notable for their shrubland, regenerating forest patches, and kānuka. There are several conservation covenants and a reserve in the area and landowner support for conservation objectives. Nikau palm reaches its most westerly extent on the Peninsula at this point and an important pingao remnant occurs on dunes at Te Kaio / Tumbledown Bay.
11. Southern Bays, Peraki to Long Bay, Saddle Hill and Bossu Road Corridor	Vegetation in this area is of good quality featuring snow tussock grasslands, shrubland, montane podocarp remnants and large areas of second growth forest and kānuka in upper valley heads. Most of the old growth forest remnants are protected by DoC reserves. Bossu Road features a relatively continuous ribbon of indigenous vegetation along its length which acts as an important habitat corridor between Wainui / harbour basin to the Head of Te Roto o Wairewa/ Lake Forsyth via Kinloch Road. Links to the wooded valleys in area 10 are important as well as links into forest remnants in Ōkuti Valley.

BANKS PENINSULA BIODIVERSITY CONCEPT PLAN

<p>12, 13, 14, 15, 16. 'The Wildside Initiative'</p>	<p>The eastern side of the Peninsula between Akaroa Heads and Le Bons Bay has been labelled the Wildside and contains large areas of conservation land including Hinewai, Armstrong Reserve, Misty Peaks (13), Ellangowan (14) and several covenants such as Ten Hove (15) which protects a rare coastal bush patch. The multi agency and landowner conservation effort that is occurring in this area is especially evident in pest control. Penguins and seals are a feature of the area with white-flipped penguin colonies and a marine reserve at Flea Bay (No 12) and the last Banks Peninsula mainland sooty shearwater colony near Stony Bay providing a critical refuge for survival of these species on Banks Peninsula. Forest habitat corridors linking Akaroa Basin with the crater rim and the peninsula's coastal edge are feasible in this area (for example 14 and 16).</p>
<p>17. Pearce Peak Area</p>	<p>An extensive area of regenerating indigenous forest with potential forest habitat links north to Little Akaloa and south to Akaroa Harbour. Other potential links via the harbour side of Duvauchelle Peak along the ridge to West Peak to Okains Bay may be possible.</p>
<p>18. High Peaks Biodiversity Corridor</p>	<p>The unformed legal road linking the Mt Herbert area with Hilltop adjoins DoC reserves adjoining Western Valley Road, Mt Fitzgerald, Mt Sinclair and Montgomery Park near Hilltop. There are some excellent old growth forest remnants and areas of regenerating forest along this corridor interspersed with pasture.</p>
<p>19, 20, 21. Te Roto o Wairewa, Prices Valley Cluster</p>	<p>Extensive regenerating shrubland and forest with high quality tussock grasslands dominate this area. The lower Prices Valley QE II Covenant area contains a notable lowland forest in good condition. The area's proximity to Te Waihora/Lakes Ellesmere and Te Roto o Wairewa/Forsyth increase its collective biodiversity value.</p>
<p>22. Mt Herbert/ Te Ahu Pātiki</p>	<p>There are large areas with high value around the DoC reserves. Biodiversity in the Mt Herbert/Te Ahu Pātiki- Mt Bradley area is nationally under represented.</p>
<p>23. Mt Evans Dryland Habitats</p>	<p>Dry shrublands and small forest remnants on the slopes and rock outcrops below Mt Evans have been highly rated in botanical surveys. This is a prime area for greater biodiversity protection. There are also extensive areas of silver tussock grassland on exposed spurs between Port Levy (Potiriwi)/Koukourārata and Lyttelton Harbour/Whakaraupō.</p>
<p>24. Port Levy (Potiriwi)/ Koukourārata Dry Forest</p>	<p>According to Hugh Wilson, a Peninsula botanist, the upper valley contains 'the best example of steep, semi arid shrubland, grassland bluffs and dry forest on Banks Peninsula'. Te Rūnanga o Koukourārata has a strategic plan which incorporates this dry forest area. A consultative and partnership approach is possible to provide greater protection for the forest area.</p>
<p>25. Pigeon Bay Coastal Drylands</p>	<p>The northwest slopes above Pigeon Bay contain extensive areas of steep semi arid shrubland and grassland that represents a land/ vegetation type that has become uncommon on Banks Peninsula's outer coastal headlands.</p>
<p>26. Long Lookout Point to Okains Bay</p>	<p>Small forest patches along the coast and near the road are rare representatives of once extensive coastal forest. The presence of karaka is of historical interest and probably linked to early plantings by Māori. Linkages to other forest remnants via second growth forest and shrubland further upslope are feasible. There is a dune restoration project at Okains Bay.</p>
<p>27. The Coastline of Banks Peninsula</p>	<p>Banks Peninsula's location, extending some 30+ kilometres into the ocean from the Canterbury Coast, influences its ecology and biodiversity. The coastline of Banks Peninsula and north along Pegasus Bay provides an important habitat for coastal birds and inter tidal marine life. Rock shelves and beaches protected by high cliffs around the Banks Peninsula coast provide habitat for large numbers of fur seals, and other marine mammals. Penguins use the coastal hinterland for nesting, but need protection from predators.</p>

PHOTO: MATURE TOTARA FRINGE A LOWLAND BANKS PENINSULA STREAM.

