

Future Directions for Cardinia Creek Parklands

Please find enclosed a copy of the *Cardinia Creek Parklands Future Directions Plan*.

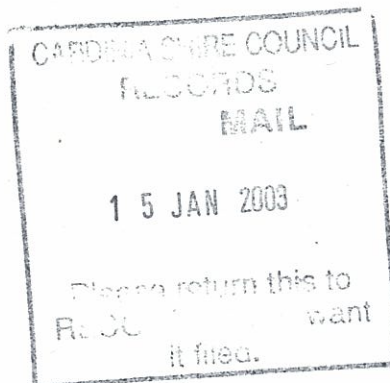
The role of this Future Directions Plan is to provide a strategic framework and clear direction for the management of Cardinia Creek Parklands over the next ten to fifteen years. The plan contains strategic directions and actions pertaining to the management of environmental, cultural heritage and landscape values, recreation, future regional linkages and management partnerships.

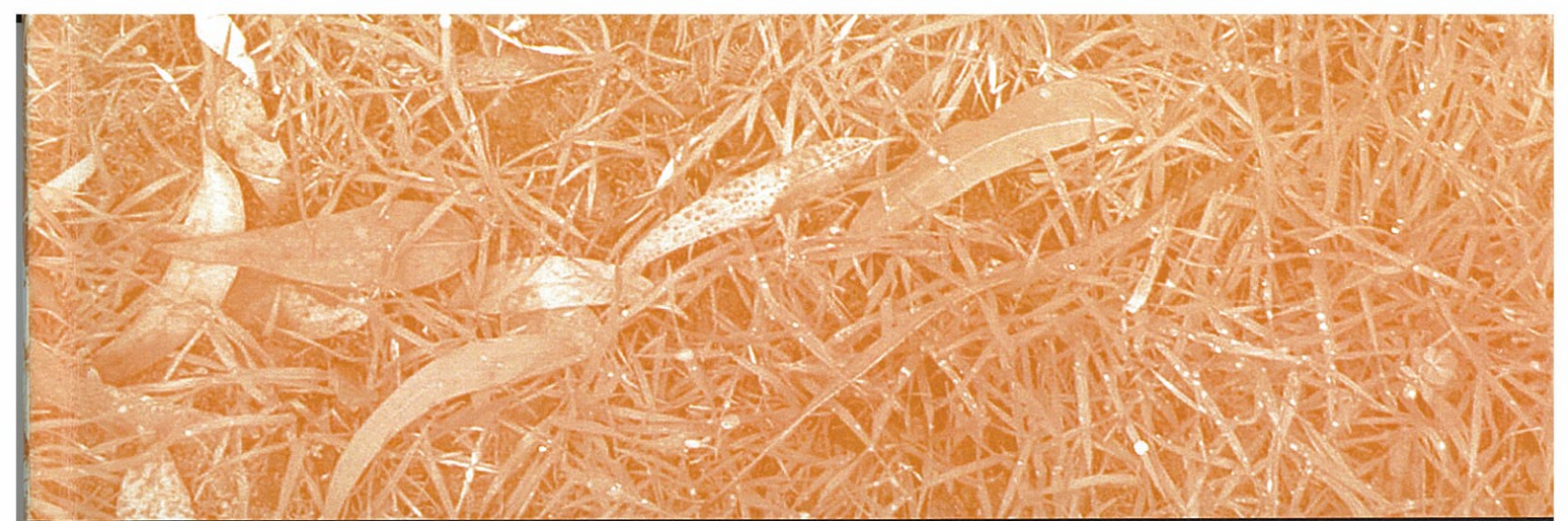
In preparing this Plan, Parks Victoria has considered all submissions received last year in response to the Cardinia Creek Parklands Discussion Paper and the draft Plan. This Future Directions Plan balances current community expectations and future visitor needs and state government policies, with the need to preserve significant natural, cultural and landscape values, and highlights the crucial role of cooperative management partnerships.

The Future Directions Plan has been jointly endorsed by Parks Victoria, NRE and Melbourne Water as the three main agencies that manage public land within the Parklands' boundary.

If you require additional copies of the Plan or have any questions about the Parklands, please contact the Parks Victoria Information Centre on 131963.

The document is also available on the Parks Victoria Web site at www.parkweb.vic.gov.au





Cardinia Creek Parklands



Future Directions Plan December 2002

The Cardinia Creek Future Directions Plan is approved for implementation. Its purpose is to direct management and development of the Parklands until the plan is reviewed. A draft Future Directions Plan for the Parklands was published in May 2002. The submissions received have been considered in developing this approved Plan.

Copies

This Plan may be downloaded from the Park Victoria website 'www.parkweb.vic.gov.au'.

Copies of the Plan can be obtained from:

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Information

For further information on this Plan please contact:

Parks Victoria Information Centre
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CARDINIA CREEK PARKLANDS
FUTURE DIRECTIONS PLAN



December 2002

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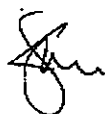
FOREWORD

Cardinia Creek Parklands provides important passive recreational open space for the rapidly growing south east metropolitan corridor. It will contribute to the health and well being of the community as well as protection and enhancement of the important environmental, landscape and cultural heritage values.

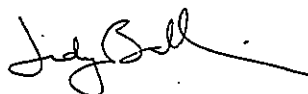
This Future Directions Plan provides strategic management directions for Cardinia Creek Parklands for the next 10 to 15 years. Focus over this time will be on ensuring ongoing purchase of land within the park boundary, protection and enhancement of the Cardinia catchment and its significant flora and fauna values, and the progressive development of trail connections and provision of visitor facilities for public enjoyment.

The plan will be implemented by Parks Victoria, Melbourne Water and Department of Natural Resources and Environment (NRE) as the key public land managers in partnership with local government, community groups and adjoining landowners.

The valuable contribution of the community during the planning process and advice provided by staff within Parks Victoria, Melbourne Water and NRE is recognised.



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EXECUTIVE SUMMARY

Cardinia Creek Parklands are located in the southeast growth corridor of metropolitan Melbourne and extend from the Harkaway foothills to the open plains south of Beaconsfield. When fully developed, the regional Parklands will be a series of linked parks that stretch for approximately 10 kilometres along Cardinia Creek.

Cardinia Creek Parklands was reserved for future public open space in 1994 after a comprehensive planning process, in response to significant population growth, increasing residential development and the subsequent demand for more public open space. The proposed Parklands currently comprise of land managed by Parks Victoria, Department of Natural Resources and Environment, Melbourne Water, local government and private landowners. Cooperative management partnerships between public land managers, private landowners and community and user groups will be integral to the future management and development of the parklands.

The role of this Future Directions Plan is to provide a ten to fifteen year strategic framework and clear direction for management of Cardinia Creek Parklands. More detailed planning for development of key visitor nodes and trails will be progressively undertaken as parkland becomes available, visitor demand increases, and funding is subsequently allocated.

Cardinia Creek Parklands will provide regional open space to address the under-supply of passive recreation opportunities within the Berwick / Beaconsfield area. The Parklands will also help reduce the impact of increasing visitor pressures on natural values in other regional parks in the southeast.

The linear nature of the parklands provides an opportunity for a lengthy north-south shared pedestrian / cycle trail within the Parklands, which maximises opportunities for trail

connections to the surrounding community and regional trail linkages.

Key Values

The key values of Cardinia Creek Parklands include:

- The range of natural and semi-natural environments supporting remnant vegetation with high conservation value for flora and fauna, and opportunities for significant wildlife corridor linkages.
- Diverse vegetation types which include several Ecological Vegetation Communities (EVCs) considered to be threatened within the Gippsland Plains bioregion and statewide, including Swampy Riparian Woodland, Swamp Scrub and Riparian Forest.
- A diversity of indigenous plant species, including at least two species of State significance and many of Regional significance.
- The presence of forest and woodland habitats, along with significant remnant swamp and aquatic habitats, that support a diverse range of fauna species, including at least three species of National significance, one species of State significance, and many species of Regional significance.
- The series of billabongs and wetlands along the creek system that create a natural filtration system and assists flood mitigation.
- Archaeological significance and cultural heritage values associated with the Bunurong and Wurundjeri tribes who used Cardinia Creek and its tributaries as a trading route and food source.
- A variety of settings ranging from open pasture and panoramic views to secluded bush retreats and bubbling streams, providing opportunities for a diverse range of passive recreation experiences such as picnicking, socialising, nature appreciation, walking, cycling and horse trail riding.

- Significant landscape values that reflect the semi-rural character and pastoral history.
- Its contribution to the urban fabric, providing a green open space and transition area between urban developments.

Role of the Parklands

At present, Cardinia Creek Parklands provides only limited visitor infrastructure to facilitate public use. Visitor facilities and trails will be progressively developed to cater for the growing open space and passive recreation needs of the southeast area.

The vision for Cardinia Creek Parklands' future helps to articulate its role within the region, its contribution to urban amenity and public health, and its value to the community.

Cardinia Creek Parklands: a series of linked but distinct parks in which visitors can recreate in an open rural setting and enjoy a quality natural environment, while conserving the natural and cultural heritage values of the region for future generations.

Management Framework

The management of the Parklands will be underpinned by a number of guiding principles, which link broadly to Melbourne's Open Space Strategy, and strategic directions that are specific to Cardinia Creek Parklands. The land within Cardinia Creek Parklands boundary has been divided into seven management zones.

These management zones reinforce the identity of particular areas within the parklands, and provide a framework to direct decision-making and to determine how Parks Victoria and other public agencies will manage the land, as well as providing direction for the future management of private land when acquired.

Priorities and Staging

Some of the key initiatives for the Parklands in this fifteen-year timeframe include:

- Implementation of a co-ordinated Urban Biolinks restoration and revegetation program focused on strategic habitat gaps along the Cardinia Creek corridor and its primary drainage lines. Programs will focus on depleted EVCs (Swamp Scrub, Swampy Riparian Woodland and Riparian Forest) and connecting existing patches of remnant vegetation.
- Implementation of environmental programs focused on the protection and enhancement of habitats for known national, state and regionally threatened species, as well as JAMBA / CAMBA species.
- Development of coordinated pest plant and animal control programs and vegetation restoration strategies in conjunction with other agencies and adjoining landowners.
- Investigation of archaeological and cultural heritage significance of land managed by Parks Victoria.
- Commencement of progressive, detailed planning for visitor nodes and provision of facilities, beginning with the development of a recreation node south of Inglis Road.
- Creation of a shared pedestrian / cycle trail within the Parklands north of the Retarding Basin.
- Creation of equestrian connections between Akoonah Park and existing trails in the north, subject to land acquisition, funding and negotiations with Melbourne Water and adjoining landowners.

Other actions within the Future Directions Plan will be undertaken incrementally, as the need arises and support and resourcing become available. It is not envisioned that actions earmarked for the Parklands area south of the proposed Freeway extension will occur within the next ten to fifteen years.

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1 INTRODUCTION

1.1 Background

The role of this Future Directions Plan is to provide a ten to fifteen year strategic framework and clear direction for management of Cardinia Creek Parklands. This plan builds on the outcomes of previous planning which established the boundary of the Parklands.

Cardinia Creek Parklands (405 ha) was reserved for future public open space in 1994 after a comprehensive planning process. The proposed Parklands currently comprise of land managed by Parks Victoria, Department of Natural Resources and Environment, Melbourne Water, local government and private landowners.

Parks Victoria aims to work with all land managers to co-ordinate establishment of the Parklands. This Plan will provide direction to both public land managers and private landowners involved in the planning, development and management of land within the designated Parklands boundary.

The area surrounding Cardinia Creek Parklands has experienced significant population growth over the last two decades, with the opening up of new areas for residential development, and subsequent demand for more public open space. Additional land within the parkland boundary has been acquired, and came under Parks Victoria's management, in 2000. These factors have generated the need to determine a management framework for the Parklands. The Future Directions Plan will ensure that visitor and recreation opportunities are managed to protect the Parkland's significant natural and cultural heritage values.

The main objectives of the Cardinia Creek Parklands Future Directions Plan are to:

- Set strategic management directions;
- Identify management zones to guide decision making regarding appropriate current and future use; and
- Outline key actions.

1.2 Location

Cardinia Creek Parklands are located in the southeast growth corridor of metropolitan Melbourne and extend from the Harkaway foothills to the open plains south of Beaconsfield. When fully developed, the Parklands will be a series of linked parks that stretch for approximately 10 kilometres along Cardinia Creek (Figure 1).

Cardinia Creek Parklands will be progressively developed as a major regional park. The Parklands will cater for increasing visitation through the provision of high use passive recreation areas for informal activities and complementary low-key areas. Management directions will ensure an emphasis on conservation and provision of facilities to enhance visitor access to, and enjoyment, of the environmental and cultural values of the Parklands.

The Parklands provide an important conservation area within a wildlife corridor that extends from the Dandenong Ranges through to Western Port. It is also an important link in the future open space network between Cranbourne and Pakenham.

1.3 Regional Context

During the next twenty years the majority of Melbourne's population growth is predicted to occur in the outer suburbs in the southeast, west and north. Cardinia Creek is located in Melbourne's southeast growth corridor and forms part of the municipal boundary between the City of Casey and the Shire of Cardinia. Urban development in the areas surrounding the Parklands is proceeding at a rapid pace.

The City of Casey is the third fastest growing municipality in Australia with a population increase of 58.3% predicted over the next 20 years¹, compared to a forecasted 0.7% for Victoria in the same period. The City of Casey's population will be at least 258,000 by 2021.

The Shire of Cardinia will also experience significant population growth over the next two decades. The Shire's current population of 44,137 is expected to increase to 70,769 by 2021, making it the third fastest growing municipality in Melbourne. Growth rates in the Shire are expected to rise as land for residential development in the City of Casey becomes more constrained.

As residential development continues to expand and extend towards Pakenham, open space in the region will be at a premium and will increasingly become more important to community health and wellbeing. The Parklands will continue to be a vital part of the urban fabric, providing a green open space and transition area between urban developments, which functions as a bio-link, and contributes to clean air, flood control and water filtration.

The nearest regional parks to Cardinia Creek Parklands are Jells Park, Cardinia Reservoir, Lysterfield Lake, Police Paddocks, Cranbourne Botanic Gardens, Bunyip State Park and Churchill and Dandenong Ranges National Parks. Most of these parks are more than 15 km away from the Berwick and Beaconsfield area.

With studies showing that most visitors (67%) to a regional park live within 15 minutes travel, Cardinia Creek Parklands will provide much needed regional open space for the residents of the area. It will also complement existing areas of local open space provided at Edwin Flack Reserve, Wilson Botanic Park, Critchley Parker Junior Reserve, and Kurll Park.

The Parklands will also create an important link in the Melbourne Metropolitan Trail Network for pedestrians and cyclists. In the long term, it is proposed to establish a trail link between Cardinia Creek and the Cranbourne Botanic Gardens and the future Cranbourne Regional Park, as proposed within Melbourne's Open Space Strategy.²

1.4 Planning Process

Planning for the creation of Cardinia Creek Parklands began in 1993 when Melbourne Parks and Waterways (now Parks Victoria) produced two Discussion Papers. The papers identified the need for future regional open space within the southeast growth corridor and recognised the important environmental, cultural and landscape values along Cardinia Creek. After extensive community consultation the proposed boundary of the Parklands was confirmed in 1994 and a statutory planning amendment was incorporated in the former Berwick and Pakenham Planning Schemes.

This Future Directions Plan is the next stage of planning for the future of the Parklands. It has been developed through a collaborative partnership between Parks Victoria, Department of Natural Resources and Environment (NRE) and Melbourne Water.

The process for developing the Future Directions Plan has involved five stages:

- Research and analysis, including a review of previous reports and plans;
- Preparation and distribution of a Discussion Paper to facilitate community consultation;

- Defining guiding principles and strategic directions;
- Developing management zones and actions; and
- Preparation and distribution of a draft Future Directions Plan for public comment.

Consultation with local government, other land managers, stakeholders and the wider community has been integral to the planning process. Initially a Discussion Paper was circulated for public comment. Fifty-nine groups and individuals made submissions about park values and their visions for the Parklands. The issues raised in the submissions were considered in the preparation of the draft Future Directions Plan, which was on public exhibition for a period of eight weeks. Thirty submissions were received.

The main issues raised in submissions to the draft plan related to minor errors, the next stage of detailed planning, or were advocating particular recreation activities. The key points were in relation to:

- Protection of the environmental values of Cardinia Creek and its environs;
- Shortage of active recreation facilities within the Beaconsfield area;
- Access for equestrian use;
- Creation of additional trails and links to other areas of open space and nearby trails beyond the park boundary;
- Consultation and involvement of the community in the planning, development and management of the Parklands;
- Responsibility for maintenance of facilities and the environment; and
- Ongoing park management issues including the management of user conflicts and inappropriate behaviour.

Public submissions to the draft plan were considered, along with the policy frameworks and priorities of the relevant agencies and state government, and the draft was revised

accordingly before the final plan was endorsed by a steering committee comprising Parks Victoria, NRE and Melbourne Water.

This Future Directions Plan provides an important decision making framework for determining appropriate use of the Parklands. More detailed planning for development of key visitor nodes and trails will be progressively undertaken as parkland becomes available, visitor demand increases, and funding is subsequently allocated.

2 CURRENT STATUS OF THE PARKLANDS

2.1 Regional Open Space and Linkages

The Parklands are a significant area of open space, which will provide a diverse range of passive recreation opportunities for local and regional visitors, as well as protecting regionally significant landscape, environmental and cultural values.

Cardinia Creek Parklands will provide regional open space to address the undersupply of passive recreation opportunities within the Berwick / Beaconsfield area. The Parklands will also help reduce the impact of increasing visitor pressures on natural values in other regional parks in the southeast.

The Parklands will complement existing areas of local open space such as Edwin Flack Reserve, which is adjacent to the Parklands area, providing opportunities for informal recreation and enhancing the local green open space network.

At present Cardinia Creek Parklands are disjointed with no shared pedestrian / cycle trail linkages between areas within the park. The Parklands is also isolated from other regional or local parks. However, the linear nature provides an opportunity for a lengthy north-south shared pedestrian / cycle trail within the Parklands, which maximises opportunities for trail connections from either the east or west. (Figure 2)

The close proximity to Berwick and Beaconsfield provide opportunities for local pedestrian, cycle or riding access. Although some public transport is available via rail and bus most regional visitors will travel by car. Park entrances will need to be designed to ensure safe access from the surrounding road and trail network.

Although the major east-west transport routes provide access to the Parklands from Cranbourne and Pakenham, they also create barriers to north-south movement within the Parklands along the shared pedestrian / cycle trail, and to local pedestrian links in the south.

2.2 Park Identity

Cardinia Creek Parklands extend down the Cardinia Valley from Harkaway to Clyde. The area has significant landscape values reflecting the semi-rural character and pastoral history. The Parklands offer extensive views in the north across open pasture towards the undulating hills that form the Dandenong Ranges and south over the lowland plains of the former Koo-Wee-Rup Swamp to Western Port.

The green open space provides a visual transition and contrast to the housing development on either side. The adjoining Montuna Golf Course, Haileybury College Sports Grounds, and farmland complements the green open space created by the Parklands. This sense of space is an important value and is a key factor in the attractiveness and liveability of the surrounding area.

The Parklands are situated within two bioregions. The northern section of the Parklands encompasses the transition area of the Cardinia Valley between the Highlands Southern Fall bioregion and the Gippsland Plains bioregion.

The encircling ridges of the foothills create a natural amphitheatre that provides panoramic views both within the Parklands and to the surrounding region. The Downs Hill is a key point from which to view the high landscape values. Remnant bushland located along the creek and south of Montuna Golf Course, and

the Grasmere Wetlands, provide key natural features. The existing high voltage transmission lines create a visual intrusion into the landscape.

The central section of the Parklands, between Inglis Road and Pakenham railway line, is the main link between the urban areas and the large open spaces. The area provides a unique bushland and open space area with the townships of Berwick and Beaconsfield located on either side. Grasmere Creek runs through the large open space on the corner of Manuka and Inglis Roads and joins Cardinia Creek. The low lying areas along this drainage line are flood prone; the topography then levels out and rises towards a key lookout point. The Parklands become quite narrow between the Manuka Road properties and the Beaconsfield Flora & Fauna Reserve, and between Wood Street and Haileybury College.

The section south of the railway line consists of open floodplains and riparian vegetation. The surrounding paddocks, criss-crossed by cypress windbreaks, open out onto lowland plains. The major east-west transport routes created by the railway line, Princes Freeway and the proposed Freeway extension impact upon the connectivity of the Parklands.

The riparian vegetation along Grasmere and Cardinia Creeks, and pockets of remnant vegetation and wetlands, are key features within the broad open space. Together they represent the only visual link throughout the length of the Parklands.

2.3 Environment Values

Cardinia Creek Parklands contain a range of natural and semi-natural environments supporting patches of remnant vegetation with variable levels of intactness. Vegetation types include riparian and grassy forests; swampy woodlands and scrubs; wet heathland; floodplain wetlands; and extensive areas of open pasture. Environmental strategies and priorities need to reflect the varied values of these specific areas.

The Parklands are characterised by a discontinuous strip (average width of 150m) of Riparian Forest and Swampy Riparian Woodland Ecological Vegetation Classes (EVCs) along Cardinia Creek to the Princes Highway and from the Retarding Basin to Grices Road. These areas are dominated variously by Manna Gum (*Eucalyptus viminalis*), Swamp Gum (*E. ovata*), Wattles (*Acacia dealbata*, *A. melanoxylon*) and Paperbarks (*Melaleuca. ericifolia*, *M. squarrosa*). Indigenous vegetation along Grasmere, Brisbane and O'Neill's Creeks and other tributaries is generally highly modified or absent.

The adjoining floodplain supports permanent and seasonal wetlands. These are dominated by a range of amphibious and aquatic herbaceous vegetation, and sometimes fringed by patches of Swamp Scrub (dominated by Swamp Paperbark *Melaleuca ericifolia*).

Small pockets of Wet Heathland are found in the low-lying areas near Inglis Road and south of the Princes Freeway.

More elevated areas of the Parklands support patches of Lowland Forest and Grassy Forest, particularly on the west side of Cardinia Creek between Hilden and Inglis Roads. These forest patches include Messmate (*Eucalyptus obliqua*), Narrow-leaf Peppermint (*E. radiata*), Mountain Grey-gum (*E. cypellocarpa*) and Green Scentbark (*E. fulgens*) and contain a diverse shrubby and grassy understorey.

The Parklands are within the Cardinia Creek Catchment, which flows from the Dandenong Ranges to the environmentally significant Western Port. Western Port is a Ramsar site of significance. The water quality in Cardinia Creek deteriorates as it flows southwards from the foothills to the sea. Clearly, activities that occur upstream directly affect the quality of water entering the Western Port Ramsar site. The billabongs and wetlands along the creek system provide a natural filtration system, as well as creating significant habitat for aquatic species.

The riparian area along Cardinia Creek also provides a refuge for wildlife. This is becoming increasingly important as nearby land is converted to urban uses. Such corridors facilitate movement and dispersal of fauna across areas that may otherwise be isolated, therefore helping to retain genetic diversity within species.

While the Parklands are highly variable in terms of levels of disturbance and intactness, it supports areas of high conservation value for flora and fauna, including sites of State and National Significance.

The botanical values of the Parklands include:

- The presence of a diverse sequence of vegetation types including moderate to good examples of several EVCs considered to be threatened within the Gippsland Plains bioregion and statewide, including Swampy Riparian Woodland, Swamp Scrub and Riparian Forest;
- A diverse assemblage of indigenous plant species diversity, including at least two species of state significance (one of which is a locally dominant) and many species of regional significance³; and
- The state significant Beaconsfield Flora & Fauna Reserve, which contains high quality examples of threatened EVCs such as Swampy Riparian Woodland and Riparian Forest in an intact sequence.

The fauna values of the Parklands include:

- A relatively high diversity of vertebrate fauna, including at least 17 species of reptiles and amphibians.⁴
- The presence of forest and woodland habitats which provide important resources for at least one species of National significance, the Powerful Owl (*Ninox strenua*), and support several mammal and bird species of regional significance;⁵
- The aquatic habitats of the Cardinia Creek and its associated floodplain wetlands, which are in good condition and support two Nationally significant fish, the Australian Grayling (*Prototroctes maraena*) and Dwarf Galaxias (*Galaxias*

pusilla), as well as regionally significant fish and crustaceans⁶;

- Remnant swamp habitats which may support the state significant Swamp Skink (*Egernia conventryi*); and
- Its significance as a wildlife corridor, created in part by the series of linked parks along Cardinia Creek.

It is also noteworthy that the northern section of the Parklands (north of Inglis Road) is located within a site listed on the National Estate Register for the Helmeted Honeyeater (*Lichenostomus melanops cassidix*)⁷, which is endangered in Australia and the State fauna emblem of Victoria. The Helmeted Honeyeater formerly inhabited the area, but has not been recorded since the 1983 Ash Wednesday bushfires.

There are a number of threats to environmental values including weed invasion, pest animals, inappropriate grazing, loss of mature trees, drainage and erosion. Ongoing cooperative management between land managers will be required to reduce these threats and to ensure the ongoing protection and enhancement of the Parklands.

2.4 Cultural Heritage Values

Prior to European settlement Cardinia Creek and its tributaries provided food, materials and a travel route for the Bunurong and Wurundjeri tribes. The Bunurong lived primarily in the south on the lowland plains, but are known to have had close links with the Wurundjeri of the northern foothills, using the creek as a path into the hills, or through the tea tree and swamps of the south to Western Port. It is likely that trade between the two tribes occurred along this route.⁸

The Cardinia Valley has high archaeological significance. Twenty-six sites of archaeological significance have been found along Cardinia Creek. Most of these sites were found within 50 metres of the creek itself. Early settlers reported aborigines spearing eels in the waterways of the district and noted

popular campsites at places such as Akoonah Park. Camp-sites would often be located along creek lines which provided abundant food and water sources.

In the late 1830s and early 1840s, McMillan and Strezlecki alerted settlers to the opportunities of Gippsland, and soon people were moving through or into the area of Cardinia Creek. After European settlement the Cardinia Valley became a pastoral area for grazing cattle with the dairying industry establishing and strengthening through the 1850s and 1860s. Timber and quarrying also assumed importance in the region. Sand extraction occurred south of the current Princes Highway along creek and drainage lines.

The east-west transport corridor increased in importance when the railway was put through in 1879. Small towns such as Berwick and Beaconsfield developed along the line to service the Gippsland markets. Rural pursuits dominated until the 1950s when motorised transport made it easier for people to commute between home and work.⁹

The landscape character of open pasture with scattered trees in the northern section of the Parklands reflects the history of grazing and dairy farming within the region. The use of horses within the region for farming and recreation is also significant and the Berwick Show held at Akoonah Park is the oldest agricultural show in Victoria.

Properties of local significance located within or adjacent to the Parklands that reflect the important pastoral heritage include Grasmere, Clover Cottage, and The Downs.¹⁰

2.5 Visitor and Recreation Values

Much of the Parklands is, or until recently has been, in private ownership. However, the community has been able to use several existing recreation nodes. Akoonah Park and the Beaconsfield Reserve are located between the Berwick and Beaconsfield townships and

provide a focus for active recreation, including dressage, show jumping, tennis, netball, football and cricket, and community events such as the agricultural show and markets. The Manna Gum Picnic Grounds, Allan Street Playground and Bob Burgess Park also provide local visitor areas for passive recreation. The community also has access to the Beaconsfield Flora & Fauna Reserve to enjoy nature.

The recreational open space strategies for the City of Casey and Shire of Cardinia both identify the need for more passive recreation opportunities within the Berwick / Beaconsfield area and identify Cardinia Creek Parklands as a preferred location.

The principal visitor value of Cardinia Creek Parklands lies in the combination of open rural land and bushland, and linkages to existing community and sporting facilities. The Parklands offer a variety of settings: open pasture, hills with views, access to a riparian environment, secluded bush retreats, continuous linkage along valley, and access to the townships. These settings provide for a diverse range of passive recreational experiences such as walking, jogging, cycling, horse trail riding, bird watching, nature appreciation, picnicking and socialising.

However, management of the Parklands must ensure that the provision of passive recreation opportunities does not adversely affect the environmental and cultural values of the Parklands.

Park management also needs to minimise conflict between different recreational activities while providing opportunities for a diversity of visitor needs.

2.6 Land Management

The proposed Parklands comprise both public and privately owned land (Figure 2). The public land is managed by various agencies: Parks Victoria, Melbourne Water, City of Casey, Shire of Cardinia, the Department of Natural Resources and Environment (NRE)

and Committees of Management. Several landowners manage the private land.

NRE is responsible for the management, or delegation of management to a Committee of Management, and licensing of all Crown land. Crown land within Cardinia Creek Parklands currently includes:

- Sections of land along Cardinia Creek reserved for Stream Control, which are licensed to the adjoining landowners for grazing;¹¹
- Beaconsfield Flora and Fauna Reserve reserved for conservation purposes and managed by Shire of Cardinia as a Committee of Management;
- Akoonah Park and Showgrounds managed by the Akoonah Park Committee of Management Inc.;
- Beaconsfield Recreation and Picnic Ground managed by the Beaconsfield Recreation Reserve Committee of Management Inc.; and
- Allan Street Playground (Public Recreation and Swimming Pool Reserve) managed by City of Casey as a Committee of Management.

The land managed by Parks Victoria is Crown Land reserved for conservation, recreation, leisure, and tourism purposes.¹²

Melbourne Water owns a large section of land between the Pakenham railway line and Princes Freeway for Flood Retarding purposes.¹³ It also manages sections along Grasmere and Cardinia Creeks for drainage and flood mitigation including a drop structure near Thompsons Road, which reduces sediment flows to Western Port. The pipe track easement that supplies water from Cardinia Reservoir to the Mornington Peninsula dissects the Parklands from the northern boundary to Allan Street.

The Shire of Cardinia manages the land behind the Beaconsfield Shopping Centre, which is known as Bob Burgess Park, while the City of Casey manages some small parcels of open space adjoining the Retarding Basin.

Under-ground gas and overhead power utilities traverse the Parklands from Buchanan Road to Emerald-Beaconsfield Road.

Private land within the proposed Parklands boundary is covered by a Public Acquisition Overlay (PAO) to indicate the intention for its future incorporation into the Parklands.¹⁴ NRE is the acquiring authority for this land. Purchase of the land will only be negotiated once the landowners wish to sell. Therefore, it may be many years before a continuous strip of public parkland can be achieved along Cardinia Creek.

Cooperative partnerships between public land managers and private landowners, and land management practises that protect and enhance the area's environmental and cultural values will be encouraged. Land management issues include:

- Wildfire prevention and management, as the Cardinia Valley is vulnerable to spotting from fires in the Dandenong Ranges to the north;
- Flood mitigation, as the valley south of Montuna Golf Course is low-lying and opens out to the plains;
- Water quality management, as erosion and drainage into Cardinia Creek along the length of the valley impacts upon the water flowing into Western Port;
- Collaborative pest plant and animal control.
- Provision of complementary passive recreation opportunities; and
- Establishment and management of trail links that traverse different management zones.

3 FUTURE DIRECTIONS

3.1 Vision

Cardinia Creek Parklands: a series of linked but distinct parks in which visitors can recreate in an open rural setting and enjoy a quality natural environment, while conserving the natural and cultural heritage values of the region for future generations.

Cardinia Creek, its associated aquatic habitats and wetlands provide an example of a dynamic functioning natural world providing a wildlife corridor to ensure regional biodiversity. Interpretation of indigenous cultural heritage and pastoral land-use provides an appreciation of the past and varying cultural responses to the landscape.

3.2 The Role of the Parklands

At present, Cardinia Creek Parklands provides only limited visitor infrastructure. Visitor facilities and trails will be progressively developed to cater for the growing open space and passive recreation needs of the southeast area, as land is acquired.

Parks Victoria will undertake environmental and cultural heritage protection measures on land it manages, and will encourage and support complementary management with other land managers to ensure that the Parkland's landscape, habitat, recreation and cultural values are protected in line with this vision and the Future Directions Plan.

A vision for the Parklands future helps to articulate its role within the region, its contribution to urban amenity, and its value to the community.

Cardinia Creek Parklands contains natural bush, open farmland and urban parkland that will enrich the lives and health of people of the region. The Parklands offer large open spaces where people can see the horizon, feel the landscape and enjoy being under the sky away from buildings and crowds. It protects the diminishing natural and rural landscape and provides an edge to urbanisation and a break between settlements to give a sense of place and identity to the suburban area.

The scale of the Parklands enables settings for individuals to engage in absorbing experiences such as long walks or quiet reflection and areas with facilities for group activities and informal pursuits. It also provides connectivity to other areas of interest through a series of trail links.

3.3 Guiding Principles and Strategic Directions

Parks Victoria's management of Cardinia Creek Parklands will be underpinned by a number of guiding principles, which link broadly to Melbourne's Open Space Strategy and strategic directions that are specific to the Parklands. Together, these provide the framework and rationale for the park-wide and specific management zone actions for the Parklands.

3.3.1 Regional Context and Linkages

Recognise and promote the distinct role of Cardinia Creek Parklands in the regional open space network.

- Provide regional open space to meet the growing demand for passive recreation in Melbourne's southeast growth corridor.
- Increase community awareness of Cardinia Creek Parklands and its values.

Provide linkages to other open space areas, trails, activity centres and the community.

- Facilitate trail linkages to surrounding open space such as Cardinia Reservoir, Western Port, the new Cranbourne Regional Park, Cranbourne Botanic Gardens and the Toomuc Valley.
- Create pedestrian/cycle trail linkages within the Parklands.
- Create equestrian trail linkages within the northern section of the Parklands.
- Encourage access to the Parklands from surrounding residential areas.

3.3.2 Parklands Character

The distinctive character of Cardinia Creek Parklands will be protected and enhanced through appropriate siting and sensitive design of infrastructure and landscaping.

- Preserve the bushland, open areas and semi-rural character found within the Parklands.
- Maintain a green buffer to surrounding urban areas whilst linking the Berwick and Beaconsfield villages and protecting and enhancing the semi-rural landscape.
- Complement the character of each management zone through careful design of infrastructure, signage and structural elements in line with Parks Victoria's Facilities Design Manual.

3.3.3 Natural Environment

The natural environment will be protected, maintained and enhanced commensurate with the environmental values of individual areas.

- Manage the Parklands in accordance with the identified values and conservation objectives for each management zone.
- Protect and restore significant vegetation communities and habitat for species of national, state and regional significance.

The natural environment will be protected and enhanced to fulfil its role as part of the Cardinia Creek catchment and habitat corridor and as part of the broader catchment for Western Port.

- Promote holistic and sustainable management of the riparian corridor.
- Protect and enhance existing remnant vegetation along Cardinia Creek, its tributaries and wetlands and revegetate gaps to create a continuous habitat corridor and bio-link.
- Manage the impact of urbanisation on stormwater run-off and encourage suitable drainage treatments to protect the natural waterway function.
- Recognise and maintain the hydraulic function and capacity of the Cardinia Creek Floodplain.

The bio-diversity and range of natural features will be identified and managed through environmental programs based on sound ecological principles.

- Restore and maintain the biodiversity and ecological processes of remnant vegetation communities and associated ecosystems.
- Manage pest plants and animals to protect significant flora and fauna values.

Natural history, environmental processes and management practises will be promoted to the community through interpretation and information, where appropriate.

- Provide information about the catchment, geomorphology, local flora and fauna, and park management objectives to park visitors.

3.3.4 Cultural Heritage

The cultural heritage values and archaeological sites will be protected in accordance with relevant legislation, Parks Victoria's Indigenous Guidelines and through an agreed process of consultation with the local aboriginal community and Aboriginal Affairs Victoria (AAV).

- Identification, management and interpretation of local indigenous cultural heritage will be undertaken in partnership with Kulin Nations Cultural Heritage Organisation, the Wurundjeri Tribal Land and Compensation Cultural Heritage Council Inc. and the Bunurong community.

Community awareness about the importance of Aboriginal and post-European contact heritage will be achieved through interpretation, information and promotion, where appropriate.

- Recognise the historical and cultural significance of the Parklands area through visitor information and interpretation.

3.3.5 Park Visitors

Cardinia Creek Parklands will offer a range of passive recreational experiences and facilities that respect the park values and character.

- Provide visitor facilities that are consistent with the values and role of the management zone.
- Design visitor areas and facilities to provide for diverse passive recreational opportunities and needs.
- Utilise visitor information and signage to educate visitors about appropriate park activities and behaviour. The use of interpretative materials will also enhance visitor experience by expanding their understanding and appreciation of the landscape, its meaning and values.

Visitation will be managed on an environmentally sustainable basis through the encouragement of appropriate park use and visitor behaviour.

- Develop visitor areas progressively as demand increases.
- Ensure recreation opportunities and facilities are subject to feasibility studies and assessment of potential environmental impact.
- Locate visitor nodes in appropriate areas to protect sensitive environmental and/or cultural values.
- Site and design visitor access and facilities to maximise the safety and security of visitors.
- Design and build facilities according to 'best practice' principles and Australian Standards.

3.3.6 Management Partnerships

Partnerships with other agencies, local government, community groups and other landowners will be encouraged to achieve the park management objectives.

- Manage the Parklands in partnership with relevant public land managers.
- Recognise, encourage and support the role of Friends Groups, user groups and the wider community in managing the Parklands and Cardinia Catchment Area.
- Raise awareness and encourage joint involvement with landowners in the environmental management of Cardinia Creek.
- Develop fire management strategies in accordance with the NRE Port Phillip East Fire Protection Plan and Municipal Fire Plans.

4 MANAGEMENT ZONE FRAMEWORK AND ACTIONS

Specific actions have been developed to implement the Guiding Principles and Strategic Directions. These actions either apply to the Parklands as a whole or to a particular Management Zone.

Management zones have been defined to reflect the primary purpose and values of each area. The land within the Cardinia Creek Parklands boundary has been divided into seven management zones:

- Conservation.
- Conservation and Recreation.
- Landscape.
- Recreation.
- Sport and Community Events.
- Special Use Zone A (Retarding Basin).
- Special Use Zone B (Pipe Track Easement).

The management zones provide a framework for directing decision-making and to determine how Parks Victoria and other public agencies will manage the land, as well as providing direction for the future management of private land when acquired.

Table 1 specifies the management zones and Figure 3 shows their location.

4.1 Park Wide Actions

4.1.1 Regional Open Space and Linkages (Refer to Figure 4)

- Complete the Regional Parklands by acquiring land when it becomes available.
- Investigate safe trail options to create future links between the Parklands and:
 - Upper Beaconsfield and Cardinia Reservoir.

- Western Port.
- New Cranbourne Regional Park, Cranbourne Botanic Gardens, and the Hallam Main Drain.
- Beaconsfield Reservoir, the Bunyip Main Race and the Toomuc Valley.
- Liaise with VicRoads to create a bicycle link connecting the Parklands to Berwick and Beaconsfield.
- Work with the City of Casey and Shire of Cardinia to develop appropriate links between the Parklands and local open space areas and trails, and community facilities.
- Establish the alignment for the main shared pedestrian/cycle trail within the Parklands from the northern boundary to the Retarding Basin. The trail alignment should consider flooding, fire risk, management vehicle access, and the conduct of users. Links to visitor nodes, pedestrian paths, viewing opportunities, public transport, community facilities and external trails should also be investigated.
- Investigate, in conjunction with local equestrian groups, local government and Melbourne Water, an appropriate alignment for an equestrian trail to connect Akoonah Park with existing trails at Buchanan Road, and Farm Lane / Hilden Drive. This should also consider:
 - An suitable east link from Beaconsfield-Emerald Road to Akoonah Park.
 - Safe roadside connections.
 - Management and emergency vehicle access.
 - Environmental impacts.
 - Seasonal access.
 - Minimising conflict with other users.
 - Signage, surface, fence and gate requirements.
 - Code of behaviour.

- Work with local government and VicRoads to address traffic management along feeder roads to the main park entrances, including:
 - Directional signage along main traffic routes such as Beaconsfield-Emerald Road and Inglis Road.
 - Road safety and traffic control.
 - Safe crossing points.
 - Protection of roadside environmental values.
- Investigate ways to involve equestrian groups and other trail user groups in the maintenance of trail components and the environment under the direction of Parks Victoria and Melbourne Water.

4.1.2 Parkland's Character

- Ensure the location and design of infrastructure reinforces the character of different park zones.
- Ensure that no further easements or utility provisions impact on park views, environmental or cultural values or the visitor experience.
- Work with local government to minimise the impact of adjoining land uses / developments on the amenity of the Parklands.
- Use sensitive landscaping along major roads that balances the need for views into the Parklands with buffer screening for park users within.

4.1.3 Natural Environment

- Protect, restore and improve the condition of existing remnant vegetation, particularly connections along the Cardinia Creek corridor and its primary drainage lines, and links to selected patches of indigenous vegetation through the implementation of a co-ordinated Urban Biolinks program.
- Protect and enhance habitats for known national, state and regionally threatened species, as well as JAMBA / CAMBA

species utilising wetlands within the Parklands.

- Maintain and protect sites of geomorphological significance, in particular billabongs and other features, associated with the Cardinia Creek system.
- Utilise Parks Victoria Conservation Objectives to develop work priorities for the Parklands, relating to:
 - Mapping the extent and quality of vegetation communities and habitat condition.
 - Surveying fauna.
 - Controlling pest plants and animals.
 - Targeted management of significant flora and fauna species and vegetation communities, including research and ongoing monitoring.
- Utilise cattle grazing as an interim management tool to reduce fuel loads in areas with low conservation values.
- Work in partnership with public and private land managers within the Parklands to define, promote and achieve environmental management outcomes.
- Encourage participation of adjoining landowners and the community in undertaking environmental management programs within the Parklands.
- Work in collaboration with NRE, Melbourne Water, local government adjoining landowners and the community to achieve integrated stream management along Cardinia Creek, in particular weed eradication, pest animal control, indigenous revegetation, fencing of remnant vegetation, minimising impact of domestic stock and erosion control.
- Work with Melbourne Water, City of Casey and Shire of Cardinia to ensure that stormwater is appropriately treated in line with *The Urban Stormwater Best Practice Environmental Management Guidelines* (CSIRO 1999) before discharge into Cardinia Creek and its tributaries.
- Use interpretative information to inform visitors, adjoining landowners and the local community about natural values including flora and fauna, geology and

catchment hydrology, water quality and environmental management.

4.1.4 Cultural Heritage

- Ensure park management actions are undertaken in line with Parks Victoria's Indigenous Guidelines.
- Undertake an archaeological survey of the land managed by Parks Victoria in conjunction with local indigenous communities and AAV.
- Undertake a detailed archaeological survey prior to site works that involve significant soil disturbance in conjunction with Kulin Nations Cultural Heritage Organisation, local indigenous communities and AAV.
- Identify the Native Title status of land prior to development of any public works and ensure that notification of Native Title Claimants occurs where appropriate.
- Develop suitable interpretation material and information about the indigenous cultural heritage values in consultation with Kulin Nations Cultural Heritage Organisation and local indigenous communities.
- Consult with local historical and community groups to develop interpretative information about the post-contact history of the Parklands area.
- Compile a list of names that reinforce the local cultural heritage in conjunction with the community for use when naming tracks and picnic grounds.

4.1.5 Park Visitors

- Promote the Parklands to visitors through directional and entrance signage, park notes and regional trail brochures.
- Develop suitable access points, roads, trails and paths to cater for visitor vehicles, management and emergency vehicles, cyclists, pedestrians, people with disabilities and horse riders.
- Plan and develop, as demand requires, main visitor nodes to provide for passive recreational use, and minor visitor nodes to

provide for the dispersal of complementary low-key activities.

- Provide visitor information at designated recreation nodes to inform visitors about the location of trails and amenities, and to promote appropriate visitor behaviour and safety.
- Allow dogs on lead within the Parklands, with the exception of the Conservation Zone where dogs will be excluded.

4.1.6 Management Partnerships

- Develop a Fire Management Plan in conjunction with the Country Fire Authority (CFA), NRE and local government. This plan should cover:
 - Fire control buffers.
 - Fuel load reduction.
 - Water access points.
 - Emergency vehicle access.
 - Design and location of facilities and trails.
- Develop integrated Emergency Response procedures in conjunction with relevant public agencies. These procedures should incorporate:
 - Fire Management.
 - Flood Management.
 - Evacuation procedures.
- Encourage partnerships with management agencies, adjoining landowners, and community and user groups to facilitate complementary park management and detailed planning in line with this Future Directions Plan.
- Encourage and provide opportunities for wider community involvement in the ongoing protection and enhancement of the Parklands through local Landcare Groups and Friends Groups.
- Ensure that any existing or future public utilities on land managed by Parks Victoria are covered by an appropriate lease, licence or consent and that any such agreements contain clauses for protection of park values.

4.2 Management Zone Actions

4.2.1 Conservation

Purpose

Protection, maintenance and enhancement of natural bushland with significant habitat and environmental values.

Description

The conservation zone applies to areas of remnant indigenous bushland with significant environmental values and extensions to these habitat corridors north of the Princes Hwy. This zone encompasses most of Grasmere Creek and the Grasmere Wetlands, Brisbane Creek, Beaconsfield Flora and Fauna Reserve and the riparian area, remnant bushland south of the Montuna Golf Course, and a section of existing vegetation between the pipe track and the Golf Club.

The zone includes areas with modified drainage lines that have historically been used for cattle grazing. Sections of both Cardinia Creek and Grasmere Creek have been degraded by erosion and vegetation removal.

Role

- To conserve remaining areas of bushland to ensure regional biodiversity and protect the natural landscape for current and future generations.
- To protect and manage remnant vegetation communities and fauna habitats along the Cardinia Creek valley, particularly those with significant values.
- To protect and enhance the significant aquatic habitats of Cardinia Creek and associated wetlands.
- To recognise and protect archaeologically sensitive areas.
- To promote enjoyment of the bushland by providing opportunities for visitors to appreciate nature, learn about natural values and processes and experience tranquillity.

The recreational activities in this zone could include walking, contemplation, bird watching, and appreciating nature.

Actions

- Actively manage sites with high conservation values, including those supporting threatened flora or fauna species and their habitats, and priority vegetation communities (EVCs).
- Protect, enhance and extend remnant vegetation along Cardinia Creek and its tributaries, the areas west and south of Montuna Golf Course and the Beaconsfield Flora and Fauna Reserve.
- Enhance and extend the habitat of Grasmere Creek and natural drainage lines.
- Investigate in conjunction with Melbourne Water options for developing additional wetlands along Grasmere Creek and drainage lines north of Inglis Road to protect and enhance the Grasmere Wetlands.
- Consult with NRE about the potential for extending and managing suitable habitat for threatened species, including the Helmeted Honeyeater.
- Manage public access and provide designated access or viewing points to ensure significant vegetation and environmental values are protected.
- Provide suitable creek crossings for the east-west link to both the shared pedestrian / cycle trail and the equestrian trail. This will need to formalise the existing crossing points and use protective measures such as fencing to minimise disturbance. Impacts of trail links and need for access will be monitored and regularly reviewed by the Committee of Management for the Flora and Fauna Reserve (Shire of Cardinia).
- Work with the Committee of Management (Shire of Cardinia) to monitor and control access and designate suitable paths and a creek crossing.
- Liaise with the Committee of Management (Shire of Cardinia) to support their environmental management work and protect the values of the Reserve.
- Prepare a management agreement to address management activities along the power line easement to prevent damage to vegetation and water quality.

- Exclude dogs, cats, horses and other introduced animals to protect flora and fauna values.

4.2.2 Conservation and Recreation

Purpose

Protection, maintenance and enhancement of areas with environmental values while providing suitable low intensity passive recreation opportunities.

Description

The conservation and recreation zone covers the riparian area surrounding Cardinia Creek between the Princes Highway and the Retarding Basin, and between the Princes Freeway and Thompsons Road. Land within this zone is subject to flood inundation.

The area is highly valued as part of the wildlife corridor and for the significant in-stream and floodplain aquatic habitats which have very high fauna values.

This zone contains some areas of remnant vegetation, however, these patches are isolated. The riparian strip through Beaconsfield is highly modified by the impacts of urbanisation and areas south of the Princes Freeway have historically been used for grazing and sand extraction.

Role

- To protect and manage the important riparian values of Cardinia Creek while providing opportunities for visitors to enjoy the creek environs, learn about natural values and catchment processes and experience views across the open landscape.
- To protect and manage remnant vegetation communities and fauna habitats along the Cardinia Creek valley, particularly those with significant values.
- To protect and enhance the significant aquatic habitats of Cardinia Creek and associated wetlands.
- To enhance and extend remnant vegetation communities providing a habitat link for

wildlife along Cardinia Creek to Western Port.

- To minimise headward erosion and facilitate filtration of waterborne pollutants prior to the creek reaching Western Port.
- To facilitate future pedestrian and cycle access between Berwick / Beaconsfield and Clyde North without conflicting with stream / flood management or environmental values.
- To recognise and protect archaeologically sensitive areas along the riparian corridor.

Recreational activities that may be suited to this zone include walking, jogging, cycling, appreciating nature, and small group picnics.

Actions

- Actively manage sites with high conservation values, including those supporting threatened flora or fauna species, aquatic habitats, and priority vegetation communities (EVCs).
- Create the shared pedestrian/cycle trail link from the Princes Highway to the Retarding Basin. This will involve:
 - Working with VicRoads and local government to identify an appropriate crossing point across the Highway.
 - Working with the Shire of Cardinia to create an alignment along Cardinia Creek between Haileybury College and Wood Street that is integrated with the Beaconsfield landscape objectives and linked to the railway station.
 - Working with the railway authority, Melbourne Water and local government to establish crossing point/s across the railway line to Soldiers Road and the Retarding Basin.
- Investigate options for a future shared pedestrian / cycle trail connection between the Retarding Basin and Thompsons Road. This will involve:
 - Working with the Shire of Cardinia to provide a link along Kenilworth Road, beneath the Freeway Underpass, to Thomas Street.

- Liaising with VicRoads to ensure that the proposed Freeway extension is designed to maximise riparian habitat connectivity and aquatic values, minimise impact on cultural heritage and landscape values, and provides for a future trail link.
- Investigating in conjunction with Melbourne Water options for a trail alignment between the proposed Freeway extension and Thompsons Road.
- Develop suitable signage and low-key visitor facilities, such as seating or viewing platforms, at suitable locations along the shared pedestrian / cycle trail.
- Work with Melbourne Water and NRE to re-establish riparian vegetation along Cardinia Creek south of the Princes Freeway.
- Liaise with Melbourne Water to provide assistance in the preparation of management principles for the Drop Structure and the surrounding floodplain.
- Liaise with NRE to ensure that grazing and other licences on Crown land do not impact upon areas containing significant environmental values.
- Exclude horses and other introduced animals to protect riparian values.

4.2.3 Landscape

Purpose

Maintain, protect and enhance areas with significant natural or rural landscape values, views and geographic features, while providing low-key passive recreation opportunities.

Description

The landscape zone is located in the northern section of the Parklands. The topography of this area provides magnificent views in all directions, across open farmland to the wooded foothills and beyond the township area to distant Western Port.

Land within this zone is open undulating pasture reflecting the grazing history of the area. The openness of this zone contributes to the semi-rural landscape character.

Role

- To maintain the semi-rural character of the area and to provide a visual reference to the area's grazing history.
- To enable visitors to experience the extensive panoramic views and appreciate the diverse landscape.
- To provide opportunities for visitors to experience areas of large open space and undertake passive recreation activities.

Suitable recreation activities that could occur within this zone include walking, jogging, cycling, horse trail riding, informal ball games, informal picnics, kite flying, and appreciating the views.

Actions

- Limit built infrastructure to protect views and zone character.
- Use selected plantings and mounding to screen residential areas and built infrastructure without interrupting the views to the wooded foothills in the north.
- Reinforce semi-rural character by maintaining limited cattle grazing in areas with low conservation value.
- Provide access from the shared pedestrian / cycle trail to the highest point to enable visitors to enjoy the panoramic view.
- Plan for equestrian links, and an informal riding area in a defined area of no more than 20 hectares, between the pipe track easement and existing trails at Buchanan Road and Farm Lane / Hilden Drive. The informal riding area will have no infrastructure or public vehicle access. Issues such as environmental impact, seasonal access and code of behaviour will need to be considered.
- Ensure that visitor facilities and landscaping are designed and managed in an environmentally sustainable manner.

4.2.4 Recreation

Purpose

Provision of a wide range of passive recreation opportunities catering for a relatively large number of visitors in a pleasant, semi-natural or developed parkland setting.

Description

The recreation zone includes a large semi-rural area north of Inglis Road, the land at the corner of Manuka and Inglis Road and existing semi-natural recreation nodes at the Manna Gum Picnic Ground and Allan Street Playground.

Within this zone the two large areas north and south of Inglis Road have been modified by rural land use and do not contain significant environmental values. Part of this land is low lying and prone to flooding.

Role

- To provide an attractive park setting and amenities to enable visitors to enjoy the outdoors and engage in passive recreation activities.
- To provide open areas for well serviced visitor nodes catering for large groups and more intense visitation.
- To provide recreation nodes with low-key visitor facilities for local residents and small groups.

Activities that may be suitable in this zone include picnicking and BBQs, group socialising, occasional events, playing, informal games, walking, jogging, cycling, and horse trail riding.

Actions

- Develop the main park entrance to both the northern and southern visitor nodes from Inglis Road and combine with a safe crossing point for both pedestrian / cycle and equestrian trails.
- Limit vehicle access to the Parklands from Beaumont and Buchanan Roads and from Manuka and Beaconsfield-Emerald Roads

and Allan Street to management and emergency vehicles.

- Investigate alignment of an equestrian trail link between the existing trail at Buchanan Road and the trail at Farm Lane / Hilden Drive.
- Manage the potential user conflict arising from the proposed creation of a shared pedestrian / cycle trail and equestrian trail between Akoonah Park and the Pipe Track at the rear of the Manuka Road properties. This may involve design solutions such as a parallel trail to safely accommodate both equestrian users and pedestrian /cyclists, and fencing to protect the Allan Street play area.
- Develop a detailed Master Plan for a passive recreation node south of Inglis Road. The plan will consider the type, scale and location of visitor facilities, as well as viewing opportunities along the creek and from Birk Hill. The plan must be integrated with the conservation objectives of the adjacent Flora and Fauna Reserve and values of natural drainage lines.
- Plan for an additional passive recreation node north of Inglis Road as visitor demand increases and land becomes available.
- Plant trees at an early stage to provide shade at the future visitor nodes.
- Ensure that visitor facilities and landscaping are designed in a sustainable manner, enhancing conservation objectives and stormwater management along Cardinia and Grasmere Creeks.
- Maintain pedestrian and visual linkages between the Parklands and the Edwin Flack Reserve.
- Use suitable plantings and mounding to reduce visual impact of overhead powerlines and residential development.
- Liaise with the City of Casey (COM) to maintain local low-key recreation and playground opportunities at Allan Street.

- Maintain the Manna Gum Picnic Area and enhance the visitor experience through provision of paths and interpretative information.

4.2.5 Sports and Community Events

Purpose

Provision of space and / or facilities to cater for organised sporting and group recreational activities and community events.

Description

The Sport and Community Events Zone consists of Akoonah Park and the Beaconsfield Recreation Reserve. These areas currently provide facilities for equestrian use, football/cricket, tennis, netball, the agricultural show, local markets and passive recreation.

This zone is within an urbanised area, adjoining and providing a link between the Berwick and Beaconsfield townships.

The development of any facilities or any works carried out within this zone requires the approval of NRE.

Role

- To provide facilities for active recreation and sport for the local community.
- To provide a community focus and an events precinct for the Berwick / Beaconsfield area.
- To provide for equestrian activities.

The types of recreation activities that are considered appropriate for this zone include community events, sport and equestrian activities, picnicking and playing.

Actions

- Maintain the zone as the sport and community activities site within the Parklands.

- Formalise the alignment of the shared pedestrian / cycle trail to provide a connection between Beaconsfield and the Allan Street Play Area.
- Liaise with NRE and the Akoonah Park and Beaconsfield Reserve Committees of Management to ensure complementary management.
- Work with NRE and the Akoonah Park and Beaconsfield Reserve Committees of Management to protect the environmental and cultural heritage values along Cardinia Creek by undertaking measures such as fencing, revegetation and weed control.

4.2.6 Special Use Zone A (Retarding Basin)

Purpose

An area designed to slow the passage of stormwater to prevent down-stream flooding and erosion, and to improve the quality of water through natural filtration.

Description

This Special Use Zone covers the Retarding Basin between Manna Gum Picnic Area and the Princes Freeway. The floodplain has nationally significant environmental values and is regularly inundated. The volume and velocity of the storm water flows is very high. An area of high ground with access from Kenilworth Road is leased to the local pistol club.

Any facilities developed within the Retarding Basin will require the approval of Melbourne Water.

Role

- To mitigate flooding and to slow the velocity of stormwater flow.
- To protect the environmental, habitat and cultural heritage values of the Cardinia Creek Catchment.
- To protect and enhance the significant aquatic habitats of the floodplain wetlands and Cardinia and O'Neill's Creeks.

- To provide suitable passive recreation opportunities and trail links without conflicting with the purpose of the Retarding Basin.

The types of recreation activities that may be appropriate for this zone include walking, cycling, contemplation and nature appreciation.

Actions

- In partnership with Melbourne Water, ensure protection and management of the significant environmental values within the Retarding Basin and along Cardinia and O'Neill's Creeks.
- Work with Melbourne Water to determine the alignment for a shared pedestrian / cycle trail connection and minor pedestrian paths. The alignment needs to consider: viewing opportunities, conflict with the Pistol Club, avoiding areas with high flood velocity flows, and access to Kenilworth Road.
- Provide interpretation about the Cardinia Creek Catchment and the role of the Retarding Basin.
- Use suitable plantings and mounding to reduce visual impact of the Princes Freeway and residential development.

4.2.7 Special Use Zone B (Pipe Track Easement)

Purpose

Provision of pipe easement to transport water from the catchment reservoir to local storage.

Description

The Cardinia Reservoir to Mornington Peninsula pipe track easement runs north to south dissecting Cardinia Creek Parklands from the northern boundary to Allan Street. The easement transverses several private properties.

Any facilities that are provided along the pipe track will require the approval of Melbourne

Water and a licence agreement for the use of the pipe track.

Role

- To facilitate the provision and protection of water supply from Cardinia Reservoir to the Mornington Peninsula.
- To facilitate trail links within the Parklands for horse riders and / or walkers and cyclists.

The types of recreation activities that may be appropriate for this zone include walking, cycling and horse trail riding.

Actions

- Negotiate with Melbourne Water for shared pedestrian/cycle trail and/or equestrian access along the pipe track easement between Allan Street and Hilden Drive. This process needs to:
 - Investigate the need for a parallel trail at the rear of the Manuka Road properties to accommodate both the equestrian trail and the shared pedestrian / cycle trail.
 - Negotiate with private landowners where their property borders, or is transected by the proposed trail. Trail development along the pipetrack may be subject to the acquisition of adjoining land covered by a Public Acquisition Overlay.
- Investigate with Melbourne Water and the City of Casey the alignment of a shared pedestrian / cycle trail along the pipe track easement that borders Haileybury College and provides a connection to the Retarding Basin.

5 IMPLEMENTATION

This Plan provides the framework for management of Cardinia Creek Parklands over the next 10 to 15 years. Implementation of the actions within this Future Directions Plan will be dependent on the timing of land acquisition, increasing population and visitor demand, funding and agreement with other agencies.

5.1 Priorities and Staging

A number of key issues need to be addressed if the vision for Cardinia Creek Parklands is to be realised and the Parklands are to be recognised more widely as a valued community asset. These issues are:

- Protection and enhancement of landscape, cultural heritage and environmental values.
- Co-ordination of public land management.
- Provision of linkages between open spaces and the community.
- Creation of visitor areas that provide settings for diverse, passive recreational experiences.
- Promotion of the park values and opportunities to enhance community awareness and create a sense of ownership.

The following actions are a priority, and envisioned to be commenced within the next five years. However, the implementation of some of these priority actions will depend upon the availability of land, land manager support and funding.

- Develop a set of base data on the current condition of public land.
- Undertake an archaeological heritage survey of land managed by Parks Victoria.
- Implement restoration and revegetation programs focused on strategic habitat gaps along the Cardinia Creek corridor and its primary drainage lines. Programs will focus on depleted EVCs (Swamp Scrub, Swampy Riparian Woodland and Riparian

Forest) and connecting existing patches of remnant vegetation.

- Implement environmental programs focused on the protection and enhancement of habitats for known national, state and regionally threatened species, as well as JAMBA / CAMBA species.
- Develop coordinated pest plant and animal control programs and vegetation restoration strategies in conjunction with other agencies and adjoining landowners.
- Progressive, detailed planning for visitor nodes and provision of facilities, commencing with the development of a recreation node south of Inglis Road.
- Create a shared pedestrian / cycle trail north of the Retarding Basin.
- Subject to land acquisition and negotiations with Melbourne Water and adjoining landowners, create approximately four kilometres of equestrian trail connections between Acoonah Park and existing trails in the north.
- Provide support to equestrian groups, the City of Casey and the Shire of Cardinia in joint submissions for Sport and Recreation funding for the development of the equestrian trail connections.
- Prepare an integrated Fire Management Plan and Emergency Response Procedures.

Other actions within the Future Directions Plan will be undertaken incrementally, as the need arises and support and resourcing become available. It is not envisioned that actions earmarked for the Parklands area south of the proposed Freeway extension will occur within the next ten to fifteen years.

5.2 Management Resources

The complexity of the current status of land ownership and management of Cardinia Creek Parklands means that the Parklands will evolve over time and involve pro-active management by a number of land managers. The resourcing and implementation of actions in this Plan therefore requires collaborative partnerships between all management agencies, as well as adjoining landowners, and community and user groups. Avenues of funding or assistance to achieve the actions within this plan may include:

- Individual management agency funding.
- State and Federal Landcare and Heritage grants.
- Environmental and community grant programs.
- Sport and Recreation Funding.
- Volunteer and community involvement such as Friends Groups, User Groups and Landcare.

5.3 Performance Measures

There is limited environmental, cultural heritage and recreation data available for Cardinia Creek Parklands. Therefore, there is a need to establish indicators, targets and initiate data collection to establish base levels against which performance can be measured in the future. The following provide some criteria to measure performance by:

- Implementation of priority actions in this Future Directions Plan.
- Park awareness levels.
- Visitation numbers as sections of the Parklands are incrementally opened for public use.
- Visitor satisfaction levels as recreation nodes and trails are progressively established.
- Environmental performance measures that monitor vegetation and habitat condition against conservation objectives.
- Water quality samples.

5.4 Monitoring and Review

Ongoing monitoring and review of this plan is required to ensure that strategic directions and actions remain relevant, and meet the management objectives of the Parklands and its visitors.

To ensure the continuing relevance of this Future Directions Plan, an annual assessment of outcomes against resourcing, work priorities and actions will be required. Once visitor nodes are established, the monitoring of visitor numbers and visitor satisfaction will provide information to determine appropriate levels of service provision.

The dynamic nature of Cardinia Creek Parklands management, creation and development will necessitate a review of this Future Directions Plan within 10 to 15 years.

6 ENDNOTES

¹ Between 2001 and 2021, the population of Casey is projected to increase from 172,754 to 258,190. Source: Department of Infrastructure (December 1999) *Victoria in Future 1999-2021*.

² Parks Victoria's Metropolitan Open Space Strategy, *Linking People and Spaces* (2002).

³ Paget A.N. (July 1999) *Botanical Survey of Beaconsfield Flora and Fauna Reserve*.

⁴ Melbourne Parks and Waterways (March 1993) *Cardinia Creek Proposed Regional Park Discussion Paper* and McNabb E. et al (2001) *Terrestrial and Aquatic Fauna Values of Beaconsfield Flora and Fauna Reserve*.

⁵ McNabb E. et al (2001).

⁶ Both species listed as threatened under the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) and the *Victorian Flora and Fauna Guarantee Act 1988* (FFG). Sources: McNabb E. et al. (2001) and McGuckin J. (2001) *Investigative fish, crayfish and aquatic fauna values of Cardinia Creek and associated wetlands*.

⁷ The National Estate Registration covers Cardinia Creek and the bank area to 40m.

⁸ Smith Laurajane (1989) *The Berwick-Pakenham Corridor: The Archaeological Survey of Aboriginal Sites*.

⁹ Melbourne Parks and Waterways (March 1993) *Cardinia Creek Proposed Regional Park Discussion Paper*.

¹⁰ Melbourne Parks and Waterways (March 1993).

¹¹ Land 30m either side of creek that was not in private ownership by 1875 was reserved by the Crown.

¹² *Crown Land (Reserves) Act 1978 - (Extension) Regulations 2001*.

¹³ Parks Victoria manages Manna Gum Picnic Area within the Retarding Basin.

¹⁴ City of Casey and Shire of Cardinia Statutory Planning Schemes.

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8 APPENDICES

TABLE 1 MANAGEMENT ZONES

ZONE	ROLE	AREA (HECTARES)	PERCENTAGE OF PARKLANDS
Conservation	<p>To conserve remaining areas of the bushland to ensure regional biodiversity and protect the natural landscape for current and future generations.</p> <p>To protect and manage remnant vegetation communities and fauna habitats along the Cardinia Creek valley, particularly those with significant values.</p> <p>To protect and enhance the significant aquatic habitats of Cardinia Creek and associated wetlands.</p> <p>To recognise and protect archaeologically sensitive areas.</p> <p>To promote enjoyment of the bushland by providing opportunities for visitors to appreciate nature, learn about natural values and processes and experience tranquillity.</p>	158.0	39.0
Conservation & Recreation	<p>To protect and manage the important riparian values of Cardinia Creek while providing opportunities for visitors to enjoy the creek environs, learn about natural values and catchment processes and experience views across the open landscape.</p> <p>To protect and manage remnant vegetation communities and fauna habitats along the Cardinia Creek valley, particularly those with significant values.</p> <p>To protect and enhance the significant aquatic habitats of Cardinia Creek and associated wetlands.</p> <p>To enhance and extend remnant vegetation communities providing a habitat link for wildlife along Cardinia Creek to Western Port.</p> <p>To minimise headward erosion and facilitate filtration of waterborne pollutants prior to the creek reaching Western Port.</p> <p>To facilitate future pedestrian and cycle access between Berwick / Beaconsfield and Clyde North without conflicting with stream / flood management or environmental values.</p> <p>To recognise and protect archaeologically sensitive areas along the riparian corridor.</p>	67.2	16.6
Landscape	<p>To maintain the semi-rural character of the area and to provide a visual reference to the area's grazing history.</p> <p>To enable visitors to experience the extensive panoramic views and appreciate the diverse landscape.</p> <p>To provide opportunities for visitors to experience areas of large open space and undertake passive recreation activities.</p>	56.1	13.8
Recreation	To provide an attractive park setting and amenities to enable visitors to enjoy the outdoors and	56.5	14.0

	<p>engage in passive recreation activities.</p> <p>To provide recreation nodes with low-key visitor facilities for local residents and small groups.</p> <p>To provide open areas for well serviced visitor nodes catering for large groups and more intense visitation.</p>		
Sports & Community Events	<p>To provide facilities for active recreation and sport for the local community.</p> <p>To provide a community focus and an events precinct for the Berwick / Beaconsfield area.</p> <p>To provide for equestrian activities.</p>	16.2	4.0
Special Use Zones A (Retarding Basin)	<p>To mitigate flooding and to slow the velocity of stormwater flow.</p> <p>To protect the environmental, habitat and cultural heritage values of the Cardinia Creek Catchment.</p> <p>To protect and enhance the significant aquatic habitats of the floodplain wetlands and Cardinia and O'Neill's Creeks.</p> <p>To provide appropriate passive recreation opportunities and trail links without conflicting with the purpose of the Retarding Basin.</p>	43.0	10.6
Special Use Zones B (Pipe Track Easement)	<p>To facilitate the provision and protection of water supply from Cardinia Reservoir to the Mornington Peninsula.</p> <p>To facilitate trail links within the Parklands for horse riders and / or walkers and cyclists.</p>	8.0	2.0

FIGURE 1 – LOCATION PLAN

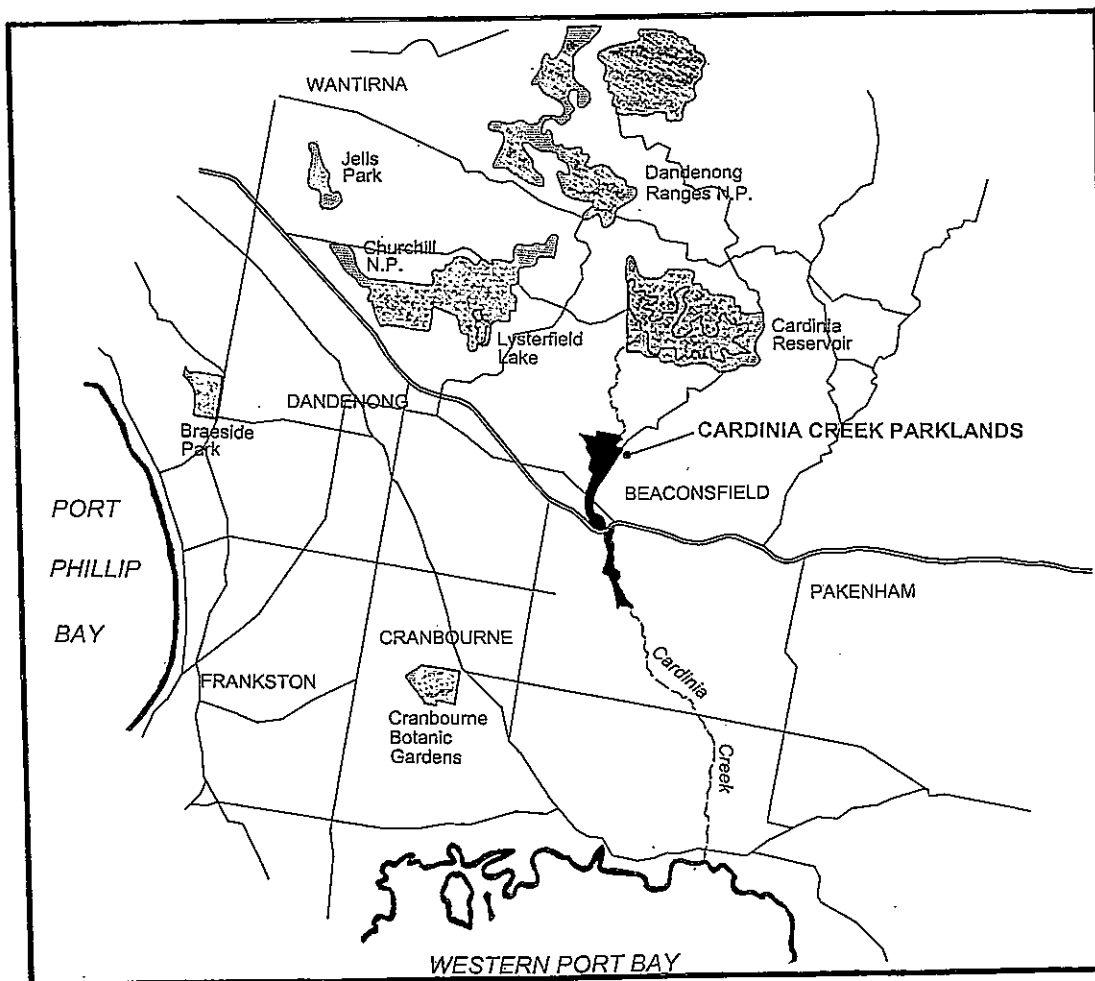
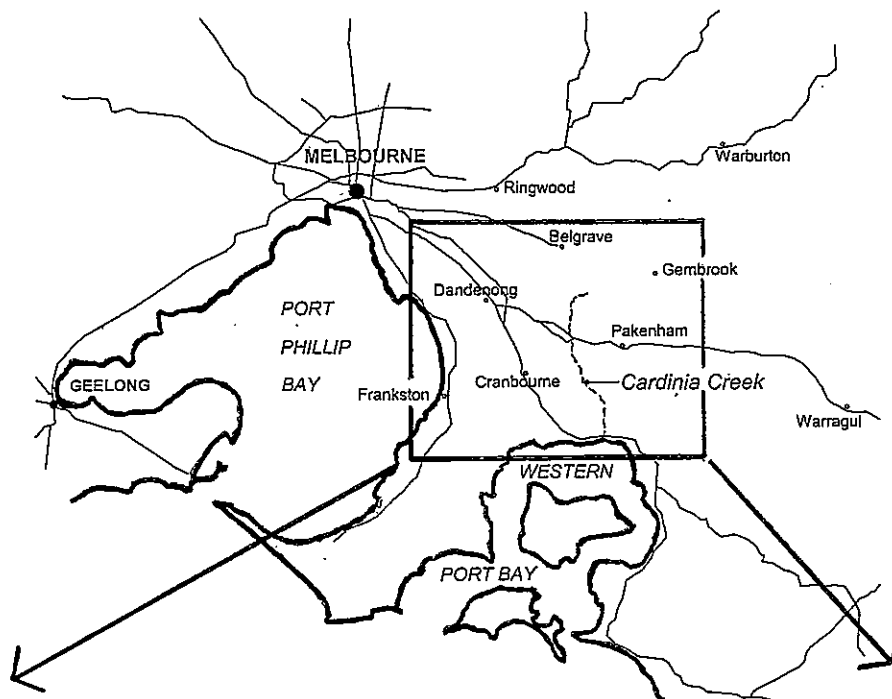
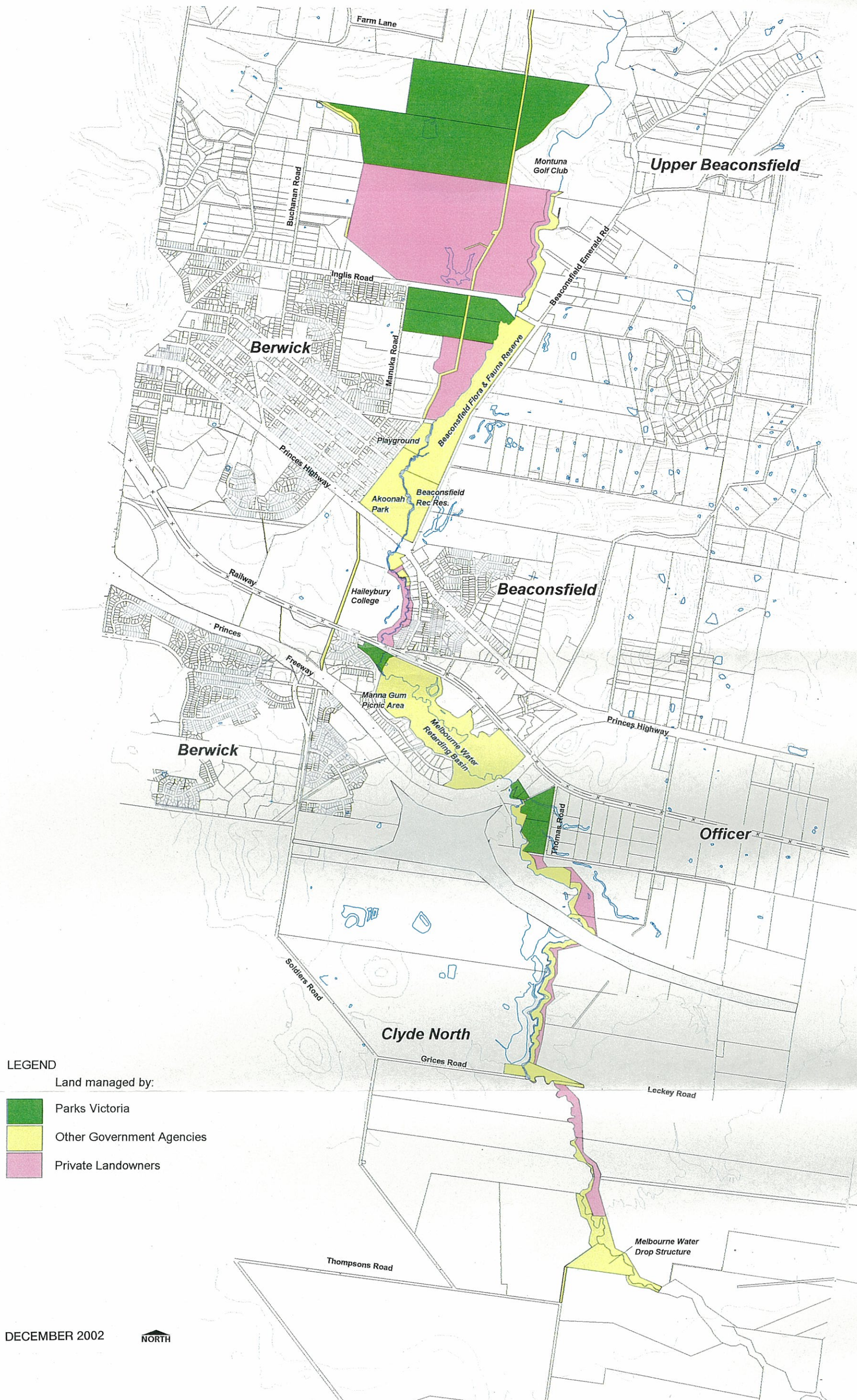


FIGURE 2 - LAND STATUS



DECEMBER 2002



FIGURE 3 - MANAGEMENT ZONES



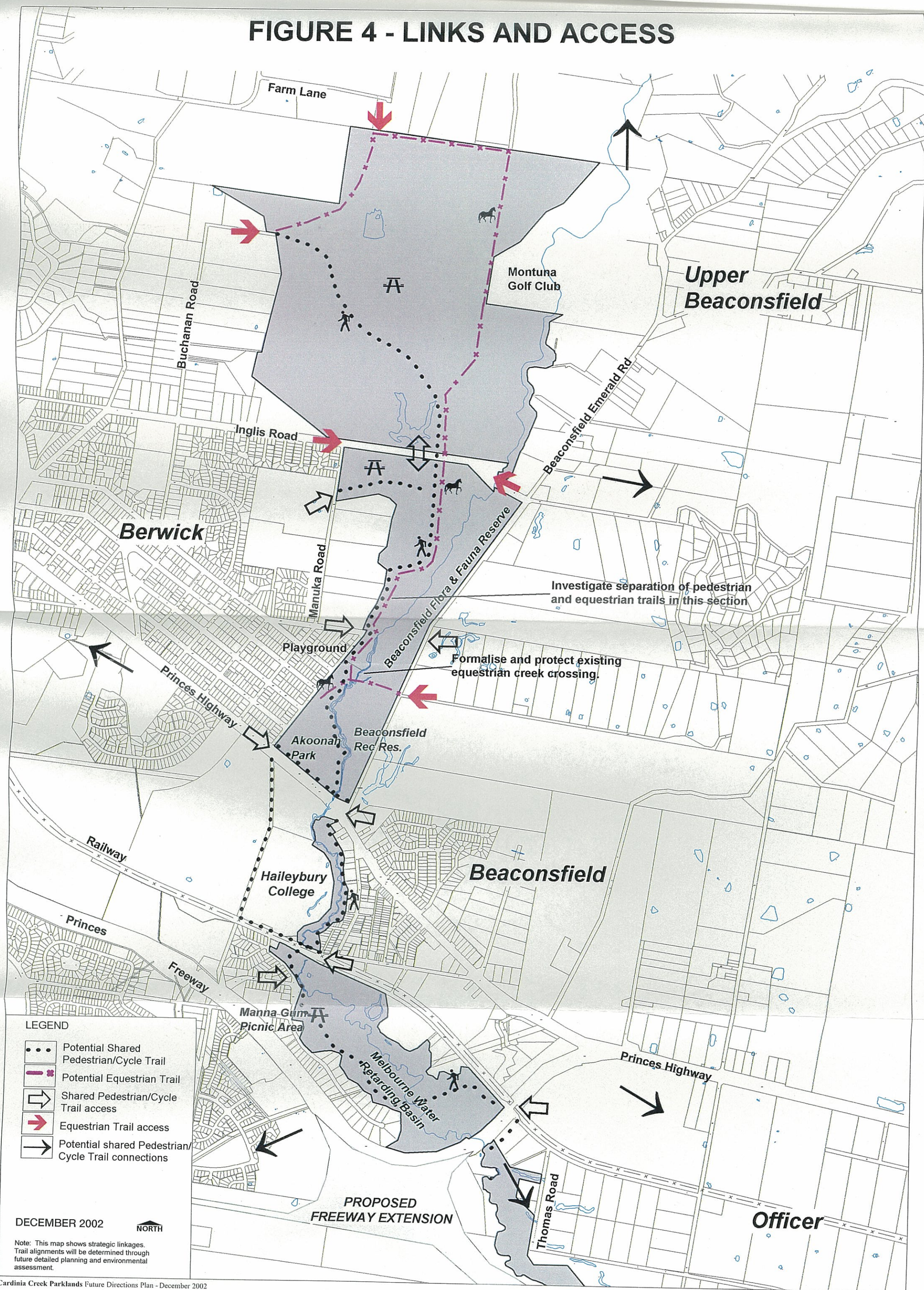
LEGEND

- Conservation
- Conservation & Recreation
- Landscape
- Recreation
- Sports & Community Events
- Special Use Zone A
- Special Use Zone B

DECEMBER 2002



FIGURE 4 - LINKS AND ACCESS





For more information contact the Parks Victoria Information Centre on 13 1963, or visit www.parkweb.vic.gov.au