

A photograph of a tractor with a yellow canopy driving through a field of young green plants in rows. The soil is dark brown and appears to be recently tilled. The sky is clear and blue. The tractor is positioned in the middle ground, moving away from the viewer.

WERRIBEE SOUTH GREEN WEDGE POLICY AND MANAGEMENT PLAN

Wyndham City Council
June 2017

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June 2017

Project Control

Document	Status	Date
WSGWP & MP, 2010	Adopted	October 2010
WSGWP & MP, 2016	Adopted for Public Exhibition	March 2016
WSGWP & MP, 2017	Adopted	June 2017



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Abbreviations & Glossary

Abbreviations

UGB	Urban Growth Boundary
WSGWP & MP	Werribee South Green Wedge Policy and Management Plan
GWMP	Green Wedge Management Plan
MSS	Municipal Strategic Statement
VCAT	Victorian Civil and Administrative Tribunal
WID	Werribee Irrigation District
CPI	Consumer Price Index
CHMP	Cultural Heritage Management Plan
PSP	Precinct Structure Plan
RAAF	Royal Australian Air Force
EPA	Environment Protection Authority
ESO	Environmental Significance Overlay
VPO	Vegetation Protection Overlay
IAP	Intensive Agricultural Precinct

Glossary

Green Wedge

Non-urban areas of metropolitan Melbourne which lie outside the Urban Growth Boundary and safeguard areas for agriculture, biodiversity, recreation, open space, natural resources, heritage and landscape conservation.

Green Wedge Management Plan

A strategy that identifies the vision, objectives and actions for the sustainable development and management of a Green Wedge. The Werribee South Management Plan informs local policy and is therefore formally called the “Werribee South Green Wedge Policy and Management Plan”.

Local Planning Policy Framework

Sets the local and regional strategic policy context for a municipality. It consists of the Municipal Strategic Statement and specific local planning policies.

Municipal Strategic Statement

Provides the overarching strategic vision, objectives and strategies for managing the use and development of land. It provides a strategic basis for local policies and other more detailed and locally-specific planning provisions.

Overlays

Apply to specific areas to provide controls or planning provisions that address a particular issue such as environmental, landscape heritage and flooding. These requirements operate in addition to those provided by the land's zoning.

Right to Farm

Allows landowners and farmers within the intensive agricultural precinct to undertake agricultural activities without being unreasonably constrained by adjoining non-agricultural land uses.

State Planning Policy Framework

Comprises general principles for land use and development in Victoria. It sets visions, objectives, strategies and decision guidelines that must be taken into consideration by local Councils when making a planning decision.

Urban Growth Boundary (UGB)

A boundary identified in the planning scheme within which future growth and development should be contained in order to reduce urban sprawl and encourage higher densities closer to key nodes and centres. The UGB is determined by the State Government and can only be amended with the approval of both houses of Victorian Parliament.

Werribee South Green Wedge

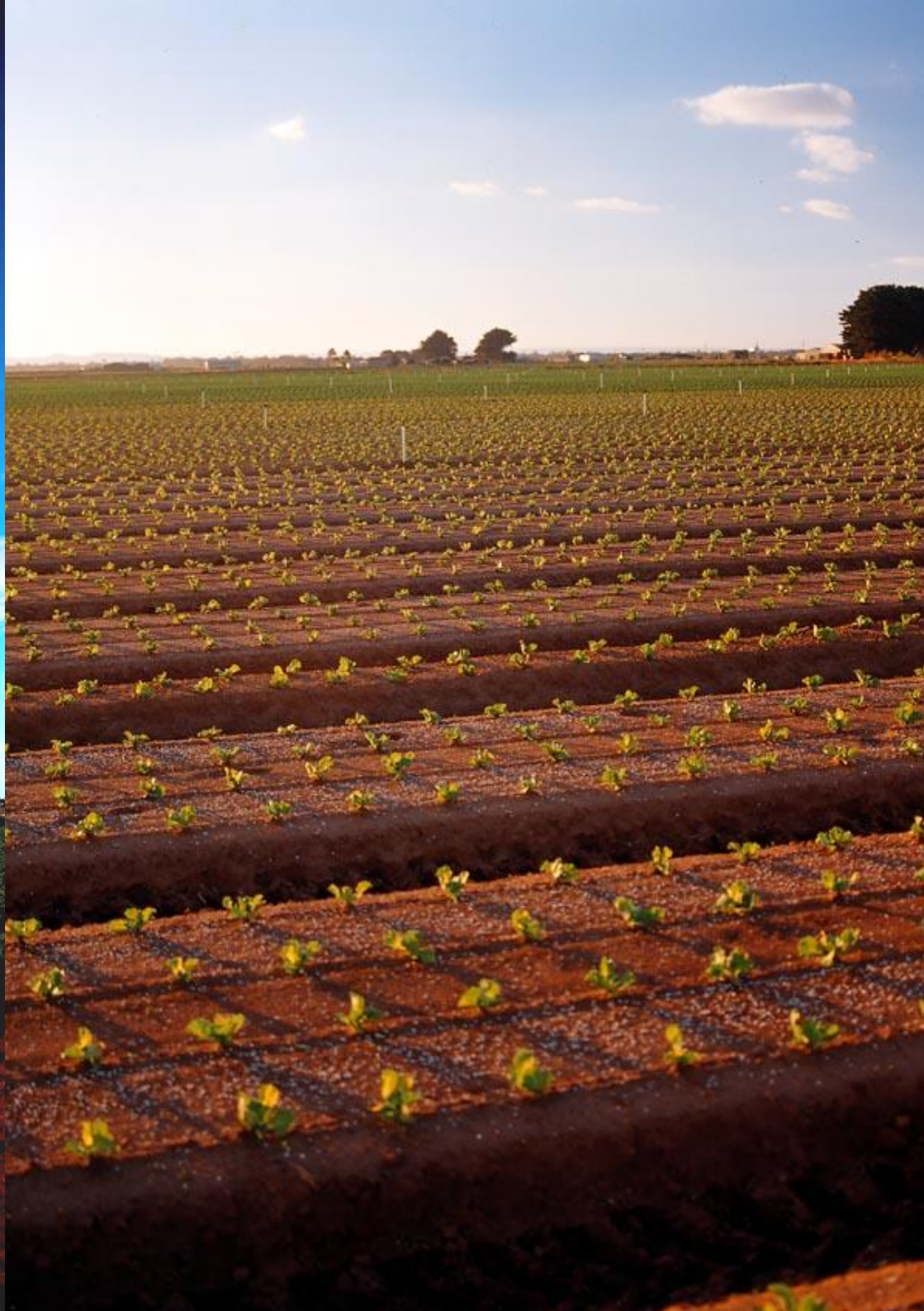
Study area for this project and located within Wyndham City Council and Hobsons Bay.

Wyndham City Council Planning Scheme

A legal document that sets out policies and provisions for the use, development and protection of land use in Wyndham City Council. It contains State and local planning policies, zones and overlays and other provisions that affect how land can be used and developed. It indicates if a planning permit is required to change the use of land, or to construct a building or make other changes to the land.

Zones

Planning scheme provision that controls land for particular uses, such as residential, industrial or business. Each zone has a purpose and a set of requirements.



EXECUTIVE SUMMARY

Wyndham City Council contains two green wedge areas within the municipal boundaries. These are the Western Plains South and Werribee South green wedges. The Werribee South Green Wedge Policy and Management Plan (WSGWP & MP) is Wyndham City Council's Strategy for the Werribee South Green Wedge area.

The Werribee South Green Wedge has a diversity of land uses which are separated into seven distinct precincts (see Figure 8). These are: Werribee South Township Precinct; Marina Precinct; Intensive Agriculture Precinct; Western Treatment Plant Precinct; Parks, Coast, Waterways and Wetlands Precinct; Tourism Precinct; and the Green Wedge buffer.

This Green Wedge Policy and Management Plan contains an overarching vision for the Werribee South Green Wedge, guiding principles, sustainability issues, further actions, as well as objectives for the diverse areas that exist within the green wedge.

VISION

The Werribee South Green Wedge will be an environmentally, socially and economically sustainable precinct where opportunities for agricultural innovation and diversification, biodiversity, conservation and investment in tourism, recreation and the community are realised.

GUIDING PRINCIPLES

Decisions on non-agricultural land use and development will ensure that agricultural production is not detrimentally impacted upon or unreasonably constrained.

Opportunities for new agricultural and rural land uses will be preserved and promoted.

Decisions on land use will ensure that adverse impacts upon the natural environment and cultural heritage assets are minimised or avoided.

Sites of environmental significance will be protected and enhanced on both public and private land, and their contribution to biological diversity recognised in decision making.

The economic and social benefits of existing and planned tourism and recreation assets will be protected by integrated, partnership based planning.

Infrastructure provision and resource use will be sensitive to the environment whilst ensuring the needs of the community are considered.

SUSTAINABILITY ISSUES

Reduction of water supply or water quality comparable to that which is available at the time of policy implementation

Changed soil conditions resulting from recycled water use

Significant changes to market demand for produce

Increased impacts from off-site non-agricultural uses

Loss of existing buffer areas

Significantly increased tourism numbers or recreational users beyond that which can be accommodated within this strategic framework

Infrastructure (water, electricity, telecommunications) failure

Significant changes to the transport network (including road upgrades)

Major State policy changes or new planning precedents

Objectives

Intensive Agriculture Precinct

To preserve agricultural areas within the Werribee South green wedge.

To protect agricultural land from incompatible land uses and promote the continuation of farming and its viability within the local economy.

To broaden the range of agricultural uses possible within the area and the conditions under which diversification may take place.

To separate agricultural land uses and activities from residential, commercial, and industrial development and facilities, and where necessary, provide buffer land uses.

To provide and advocate for the provision of infrastructure and services that are sufficient to support sustainable agriculture.

The Green Wedge Buffer

To ensure that the aviation-urban interface is well managed and that an adequate buffer is maintained between residential development, agricultural activities and the airport environs.

To encourage a broadening in the range of uses within the Green Wedge buffer area and promote flexibility of land use to improve the precinct's function as a buffer given its proximity to the Urban Growth Boundary.

To protect the Green Wedge buffer area from small incremental incursions which compromise the area's long term strategic role as the Green Wedge buffer.

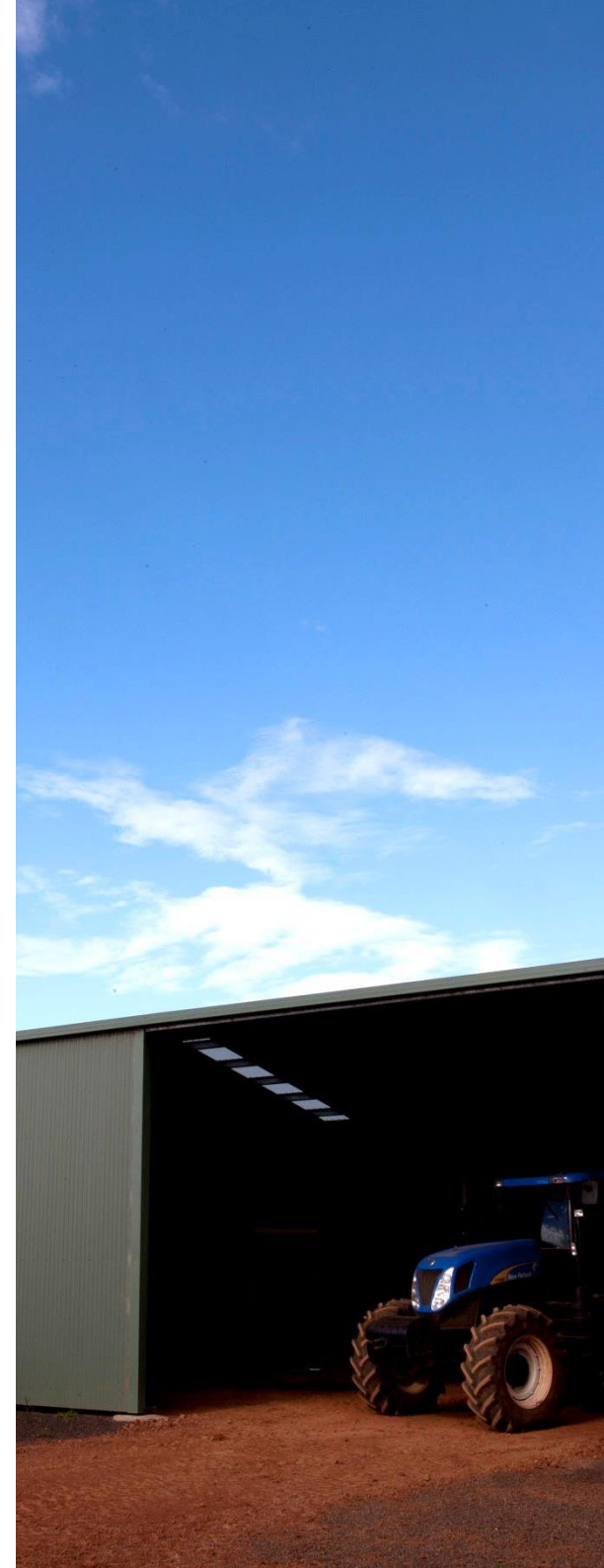
Recreation & Tourism Development

To recognise the social and local economic benefits of recreational and tourism activities in the Green Wedge and protect the viability of existing sites and enterprises.

To encourage the appropriate development of the defined tourism precinct and growth in tourism and recreational opportunities elsewhere in the Green Wedge, whilst ensuring that off-site impacts are minimised.

To manage the K Road interface between agricultural and tourism land uses in a manner that helps to secure the sustainability of both groups of activities.

To ensure that new tourism and recreational uses within the Green Wedge are responsive to the surrounding agricultural and natural environs, and to protect such key assets from inappropriate or overdevelopment.





Parks, Coast, Waterways and Wetlands

To manage the effects of peripheral urban development to ensure that significant environmental assets within the precinct are not detrimentally impacted upon.

To encourage an expansion of recreational and learning uses and opportunities within the precinct to meet the emerging needs of the community, without compromising the natural value, significance and integrity of natural areas.

To protect and enhance sites of environmental significance on public and private land within the Green Wedges.

Werribee South Coastline

To protect, manage and enhance the identified coastal values of the Werribee South coastline.

To provide for public access to the Werribee South coastline.

To protect private land and the right to farm along the Werribee South coastline.

To manage the interface and minimise conflicts between activity in public coastal areas and activity in adjoining private agricultural and domestic areas.

To protect and enhance the Werribee South coastline for environmental, recreational and tourism purposes.

Residential Development

To protect agricultural land from incompatible land uses and promote the continuation of farming and its viability within the local economy.

To conserve and enhance the cultural significance and character of the scenic rural landscape and open coastal spaces.

To separate agricultural land uses and activities from residential development through the protection of non-urban buffer areas.

Wyndham Harbour

To ensure development of Wyndham Harbour is socially and environmentally responsive to the surrounding agricultural environs.

To ensure that any proposed use and development within the Wyndham Harbour is generally consistent with the approved Wyndham Harbour Development Plan.

To encourage tourism and new transport initiatives within the Werribee South area through the Wyndham Harbour development.

Werribee South Township

To protect the township from inappropriate development and overdevelopment.

To ensure future development of the township does not detrimentally impact on surrounding agricultural activities.

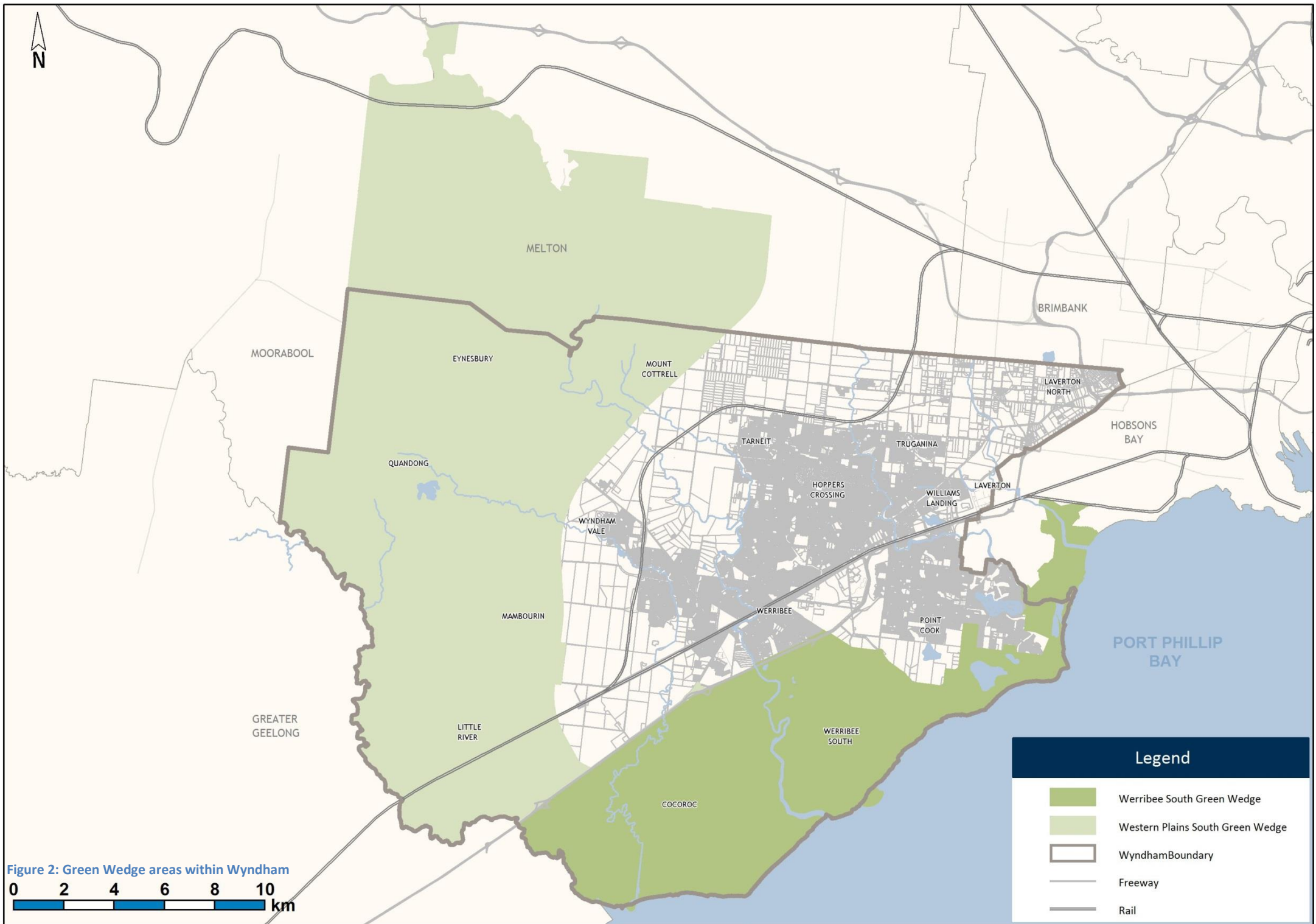
To ensure that the township can function as an economically and socially viable community.

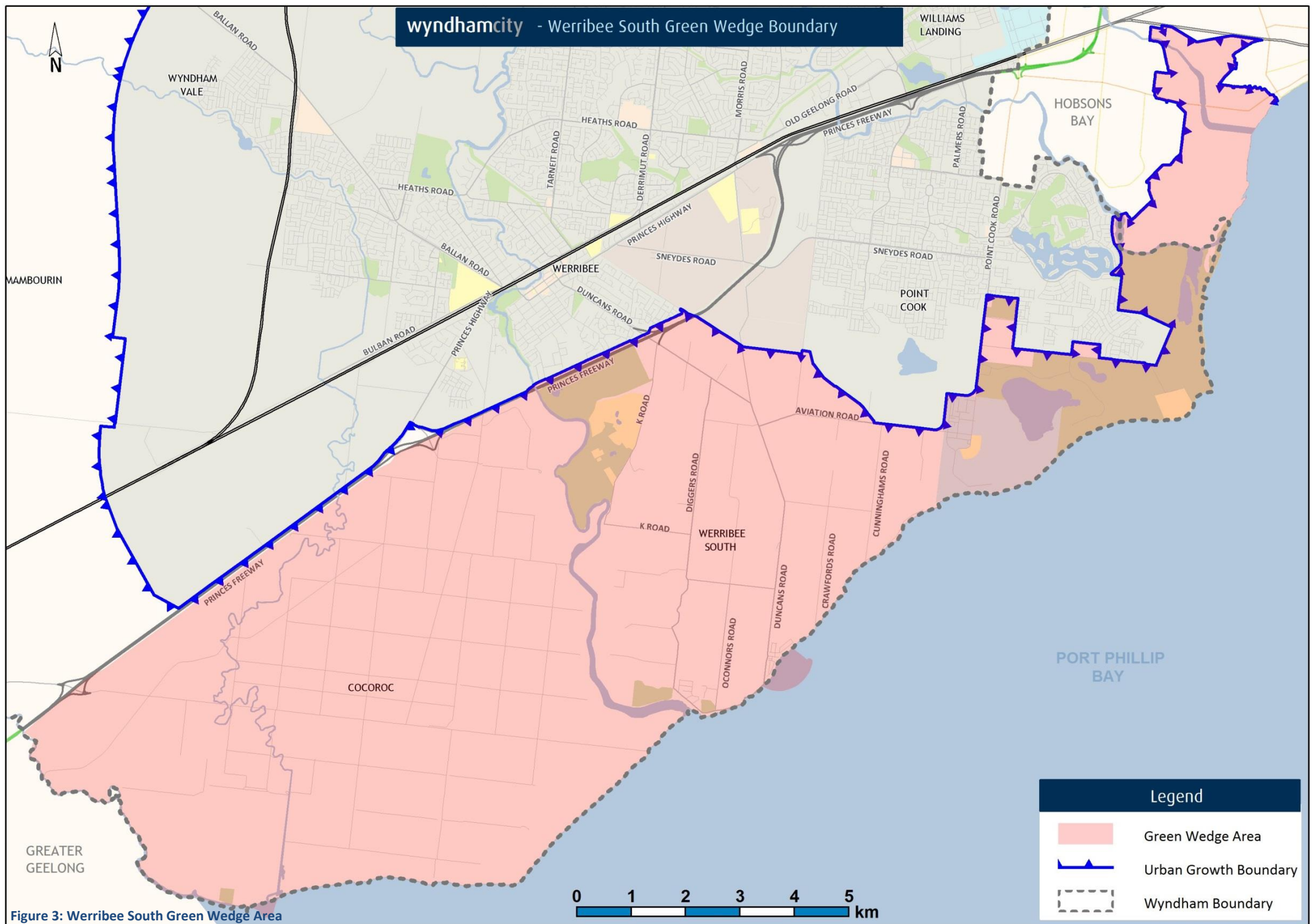
To prevent further expansion of the township into the surrounding rural precincts.





Figure 1: Werribee Park Mansion





CHAPTER 1 INTRODUCTION

1.1 What is a Green Wedge?

Definition

Green Wedges are defined as:

“Open landscapes around Melbourne’s outskirts, originally set aside in the 1970s to conserve rural activities and significant natural features from Melbourne’s outward growth. Green wedges are defined in the Planning and Environment Act 1987 as land outside the Urban Growth Boundary, as described in a metropolitan fringe local government planning scheme”

Plan Melbourne, 2014.

Purpose

The purpose of Green Wedges is to recognise, protect and conserve land that is adjacent to urban areas for a range of agricultural, environmental, historic and recreational purposes.

More specifically, these include:

Conservation features

Areas of flora and fauna significance, native vegetation cover, significant geographic features, archaeological and heritage areas

Natural resource features

Areas with potential for extractive industries, productive agricultural land, timber reserves and water supply catchments

Community value

Areas of recognised landscape value and areas suited for recreation

Safety features

Areas of flooding or drainage, areas of high fire hazard, and steep or coastal land subject to erosion

Major facility features

Locations used for or suited to airports and airfields, used for sewage treatment, waste disposal or used for prisons.

The State Government's vision for the green wedges is to encourage their proper management and to protect them for non-urban uses. The green wedges accommodate agricultural and recreational uses, as well as a variety of important functions that support Melbourne.

The Planning and Environment (Metropolitan Green Wedge Protection) Act 2003 provides further protection for Green Wedge areas through legislation that limits new urban development to sites within the Urban Growth Boundary.



1.2 Green Wedge Planning

Melbourne 2030

The green wedges concept has been part of Melbourne's planning history for over 40 years. Green Wedges were first formally introduced in the Victorian planning system through the State Government release of Melbourne 2030, a metropolitan planning strategy, in October 2002. Melbourne 2030 introduced the concept of limiting urban expansion through formalising the Urban Growth Boundary and introducing Green Wedge and Rural Conservation Zones.

Plan Melbourne 2014

In 2014, Melbourne 2030 was superseded by Plan Melbourne, a fifty year planning strategy for metropolitan Melbourne.

Plan Melbourne 2014 emphasises the need to deliver a permanent boundary to secure the future use of green wedges for agriculture and agribusiness, biodiversity, recreation and open space, tourism, heritage and landscape conservation. It specifies the importance of Victorian green wedge land as productive agricultural areas that are well-placed to take advantage of Melbourne's growing population.

The threat of competing land uses and urban encroachment within Green Wedge areas is addressed in Plan Melbourne 2014 through an initiative to protect and support the sustainability of high-quality agricultural land in and around Melbourne for food production. The initiative proposes a State Government investigation into a high-value agricultural food overlay for particular use in protecting high-value agricultural land.

Plan Melbourne 2017-2050

In late 2015, the new State Labour Government proceeded to revise Plan Melbourne (2014). A discussion paper of the proposed changes to Plan Melbourne was released in October 2015. The 'refreshed' Plan Melbourne placed greater emphasis on the importance of agriculture to regional economic productivity, tourism, and protecting agricultural land for the production of food in and around Melbourne.

Following the refresh discussion paper and community consultation, the release of Plan Melbourne 2017-2050 in March 2017 reaffirms the value and importance of Victorian green wedge areas. The strategy states that protecting green wedge and peri-urban areas will make the State's food supply more secure in the face of increasing climate pressures on food production (page 79). Furthermore, planning for agricultural land includes protection from non-compatible uses, maintain farm size, promote the continuation of farming and provide a secure long-term future for productive and sustainable agriculture. Werribee South is identified as a key agricultural area of Victoria (page 91).

Plan Melbourne 2017-2050 provides for a range of key policy directions with specific regard to green wedges and agricultural land including:

- Policy Direction 1.4 which seeks to support the productive use of agricultural land and resources in Melbourne's non-urban areas;
- Policy Direction 1.4.1 which seeks to protect agricultural land and support agricultural production;
- Policy Direction 2.1.1 which seeks to maintain a permanent urban growth boundary around Melbourne to create a more consolidated, sustainable city;
- Policy Direction 4.5 which seeks to plan for Melbourne's green wedges and peri-urban areas;
- Policy Direction 4.5.1 which seeks to strengthen protection and management of green wedge land.

1.3 What is a Green Wedge Management Plan?

Affected municipalities are required to prepare a Green Wedge Management Plan (GWMP) for each Green Wedge area. The GWMP is a Council adopted strategy that informs development assessment, guides decision making and provides land management direction.

Whilst Councils are not solely responsible for the management and conservation of private land, Green Wedge Councils have been directed to take the lead role in forming partnerships with the community, land management boards and agencies and State government departments to enable the integration of planning for private and public spheres for long-term sustainable outcomes.

The *Preparing a Green Wedge Management Plan: Planning Practice Note 31* (Victoria State Government, 2015) specifies that green wedge management plans provide a preferred direction for future change and improvements to a green wedge, and how this will be managed. The GWMP will provide clarity and greater certainty for all stakeholders, including landowners.

1.4 Existing Werribee South Policy

The current Municipal Strategic Statement (MSS) within the Wyndham Planning Scheme has various references to Werribee South, including the significance of the green wedge areas.

As stated in the Municipal Profile in Clause 21.01;

"Werribee South is one of the most significant market garden regions in the state".

The MSS further mentions the significance of the market gardens under key planning issues (Clause 21.01-3). This requires Council to address that the market gardens continue to be of State agricultural significance in the future, and rural areas beyond the UGB will help to protect and restore biodiversity and viable future rural land uses.

Further to the MSS, the schedule to the Green Wedge zone within the Wyndham Planning Scheme restricts subdivision in the Intensive Agriculture Precinct of Werribee South to a minimum of 15 hectares, except where two or more dwellings currently exist upon a lot. Such policy restricts further fragmentation of the land to ensure lot sizes enable agricultural viability and productivity.

1.5 Planning Process and Stakeholder Consultation

The original 2010 version of this GWMP was initially developed prior to the release of the State Government's *Preparing a Green Wedge Management Plan: Planning Practice Note 31* (2015), which outlines how to prepare a Green Wedge Plan. Although the process undertaken in preparation of this Plan differed slightly to that outlined in the practice note, it was completed in close consultation with the Department of Sustainability and Environment to ensure that the key elements had been addressed.

The planning process for this document originated in 2002 as a review of the then existing Werribee South Policy and the direct translation of the Werribee South Rural Zone to a Green Wedge Zone. The Steering Committee comprised landowners from the Werribee South market garden precinct, as well as representatives from the precincts within the Green Wedge area, whose input has helped determine the agricultural-based strategic directions of the Plan.

Following the formal identification and definition of the Werribee South Green Wedge, the scope of the project was expanded beyond an agricultural policy to incorporate planning for all precincts and environments within the Wedge. Representatives from other key stakeholders were informally engaged at various stages in the process:

- Parks Victoria
- Werribee Park Precinct Partners
- Werribee Open Range Zoo
- Port Phillip and Western Port Catchment Management Authority
- Department of Environment, Land, Water & Planning
- Western Region Environment Centre
- Hobsons Bay City Council
- Southern Rural Water
- Aboriginal Affairs Victoria
- Wyndham Harbour
- Werribee South Steering Committee

Public exhibition as part of the Planning Scheme amendment process allowed for further stakeholder and community input into the planning process.

Reviewing the Green Wedge Management Plan

The Plan has since been reviewed in 2015/2016 in accordance with the *Preparing a Green Wedge Management Plan Planning Practice Note*.



Figure 4: Preparing a Green Wedge Management Plan (Department of Transport, Planning and Local Infrastructure 2014)

Feedback from the Werribee South Steering Committee was sought throughout the process. The content of the plan was reviewed against existing policies and updated accordingly.

Werribee Irrigation District Community Engagement

On 28 October 2013, 43 Werribee South farmers and landowners presented a petition to Council which was then put to the Ordinary Council Meeting on 28 January 2014. The petition outlined major concerns that farmers and landowners within Werribee South had for the continued viability of agricultural production within the region.

As a result of the petition, in November 2014, Council sent a survey to landowners within the Werribee Irrigation District in Werribee South. The survey was conducted to collect data that will provide useful information to Council to better understand the advantages and challenges faced by farmers within the Werribee Irrigation District. In total, 365 surveys were sent out and 103 responses were received.

Participants of the survey were separated into groups determined by their farming status which are; never farmed; farmed in the past, but no longer farming; currently farming, and; comments only (for those that did not select a category). Follow-up interviews were conducted with 19 current farmers. The following themes were identified in both the surveys and interviews:

- Profitability;
- Land quality;
- Conflict with Wyndham Harbour;
- Traffic congestion;
- The quality, cost and volume of water.

A follow up workshop was conducted on 26 August 2015 where all those that had been interviewed and/or responded to the survey were invited, in addition to members of the Werribee South Steering Committee. The purpose of the workshop was to provide information and context to the local community on the issues of water, land use planning and potential

options that could support viability for farming in the region. It was not intended to provide definitive solutions but rather to provide clarity as to the framework within which decisions can be made and a process for mapping the way forward.

The scale and diverse nature of the challenges faced by growers is such that no single authority or organisation involved in the Werribee Irrigation District has the power to address them all. A coordinated approach is required that integrates the power and responsibilities of:

- Southern Rural Water – in relation to water security, pricing and the efficiency of the WID.
- Melbourne Water – in relation to the vision of recycled water and management of the catchment.
- Wyndham City Council – in relation to local land use planning, rating and provision of local infrastructure and services.
- Victorian Government – in relation to State planning, the provision of peri-urban infrastructure, the well-being of the food and agriculture sector, and employment.
- Werribee Irrigation District growers – in relation to the sustainable and profitable production of vegetables in the area.



Figure 5: Salt deposits on the sides of a dam in Werribee South

As the local government authority in the area, Wyndham City Council is well placed to facilitate the development of an effective integrated approach to addressing the problems faced by growers in the Werribee Irrigation District. Upon conclusion of the workshop it was collectively resolved to:

1. Meet with the Department of Planning (State Government) to determine the Victorian Government's willingness to address a range of planning matters related to the 'Green Wedge' at Werribee South.
2. Request Wyndham City Council, Southern Rural Water, Melbourne Water, and the Werribee South Growers, to jointly prepare an agreed Business Case to be presented to the Premier (through the Hon. Tim Pallas, MP, Member for Werribee and Treasurer of Victoria) for assistance to:
 - a. Enable WID farmers who are unviable to exit or relocate from the district;
 - b. Fast-track the modernisation of the WID;
 - c. Access new and better markets (domestic and international); and
 - d. Access additional and affordable water.
3. Encourage a Werribee South representative to apply to be part of next year's Rating Strategy Advisory Group that reviews rating differentials.
4. Request Southern Rural Water to review the current water pricing arrangements, especially where the water is not received on farm.

CHAPTER 2 DEFINING THE WEDGE

2.1 Location

The Werribee South Green Wedge is situated to the south west of Melbourne. It forms part of the ring of Green Wedges that surround the fringe of metropolitan Melbourne. (See Figure 6)



Figure 6: Melbourne's Green Wedges. Source: DTPLI, 2014

In December 2006 the Department of Sustainability and Environment advised that the definition of the Werribee South Green Wedge had changed to: the area of land bound by the Port Phillip Bay coastline to the south, the Urban Growth Boundary to the north-east, and the Princes Freeway to the north-west (See Figure 3)

This new definition was adopted following requests by Wyndham City Council to modify the boundary separating the Werribee South and Western Plains South Green Wedges from the Melbourne-Geelong railway line to the Princes Freeway. The Policy and Management Plan for the Werribee South Green Wedge was prepared using this definition, so the area of land addressed in the Policy and Management Plan aligns with the Victorian State Government's new definition of the Werribee South Green Wedge.

The northern-most section of the Werribee South Green Wedge lies outside of the Wyndham municipal area and within the municipality of Hobsons Bay. This land forms part of the 'Parks, Coast, Waterways and Wetlands' precinct. (See Section 5.5)

2.2 Attributes and Values

Plan Melbourne recognises that there are substantial differences in each Green Wedge across Melbourne. The nature of land uses is diverse, the number of landowners varies, and the quality of the natural resource base is wide ranging within and between Green Wedges.

It is important that a Green Wedge Plan clearly defines and reflects the individual circumstances and local attributes of the area. In Werribee South, it is the diversity of environmental, social and economic values that distinguishes it from other Green Wedge areas. *Melbourne 2030* identified attributes and values of the Werribee South Green Wedge area. These have been listed in Table 1. Further attributes identified within *Plan Melbourne* and through consultation, have been added.

The range of environments, resources and infrastructure present within the Werribee South Green Wedge demand that future planning protects its unique assets, whilst also ensuring that its distinguishing values and potential opportunities for sustainable use are not lost or unreasonably constrained.

The number of different Planning Zones present within the Werribee South Green Wedge illustrates its diversity (See Figure 7).

The Werribee South Green Wedge has been grouped into precinct areas due to the various environments and activities present (Figure 8). Land has been grouped into areas that have a commonality of activity, land-use, management or tenure, which form a distinctive planning unit. The strategic directions set out for each precinct are in addition to a set of policy principles that will guide planning and management across the entirety of the Green Wedge.

WERRIBEE SOUTH GREEN WEDGE ATTRIBUTES AND VALUES	
Attribute	Values
Highly valuable agricultural areas.	Economic
Recognised tourist attractions including Werribee Park and the Werribee open range zoo.	Economic, Social
Significant parkland and reserves including Point Cook Coastal Park, Cheetham Wetlands, and the Point Cooke Marine Sanctuary.	Environmental, Social
Gateways to major road, rail, air and sea cargo networks.	Economic
Recreational and tourism opportunities such as boat access to Port Phillip Bay and the Coastal Reserve, including the safe boat haven at Wyndham Harbour.	Economic, Social
An established residential township and a vibrant farming community.	Social
The internationally recognised Ramsar wetlands at Point Cook and the Western Treatment Plant.	Environmental, Social
Areas of high environmental and landscape quality including the Werribee River.	Environmental, Social
Point Cook airfield and related flight paths.	Economic, Social
Metropolitan infrastructure such as the Western Treatment Plant.	Economic, Social, Environmental
Port Phillip Bay (Western Shoreline) beaches.	Environmental, Social

Table 1: Werribee South Green Wedge Attributes and Values

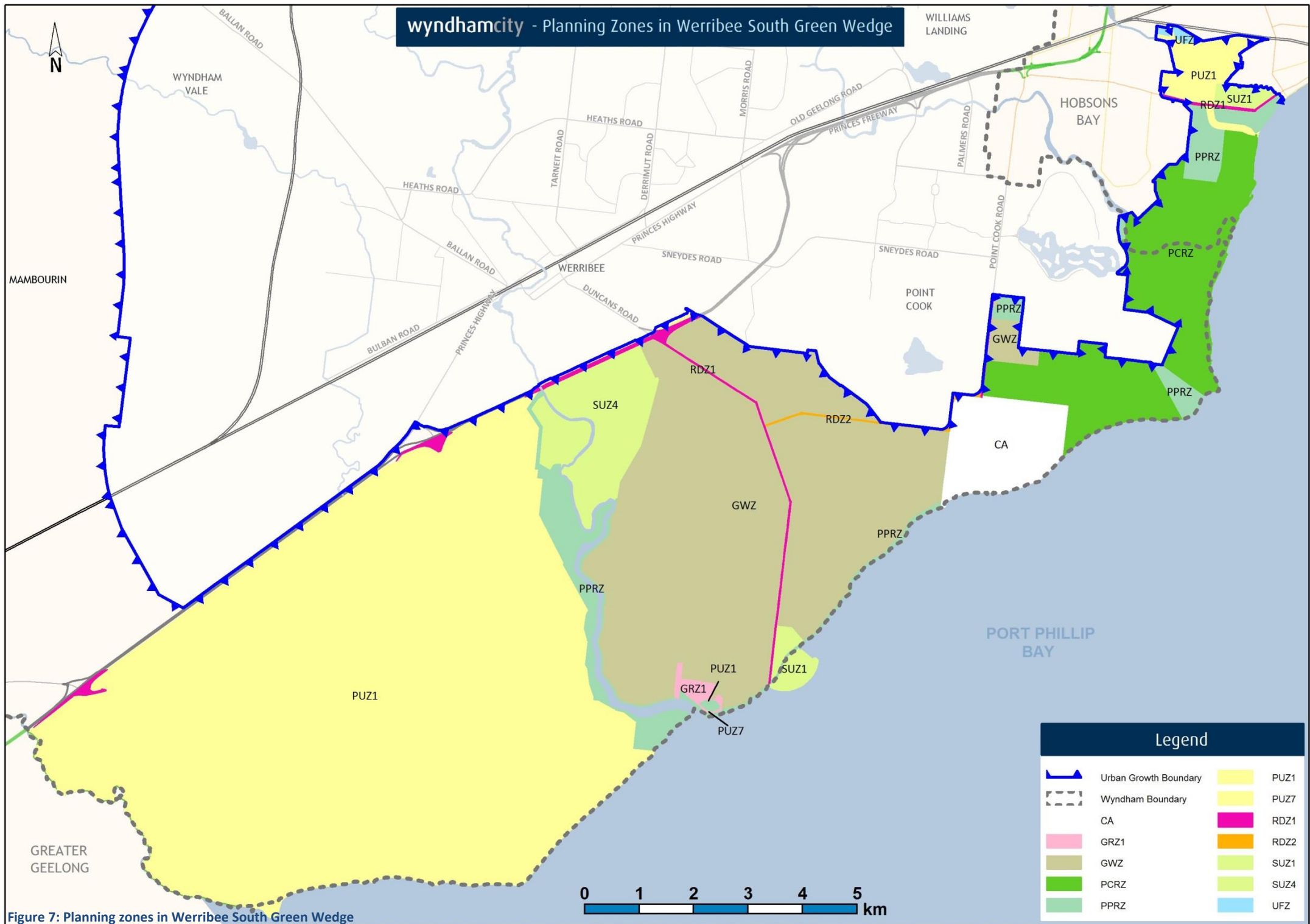
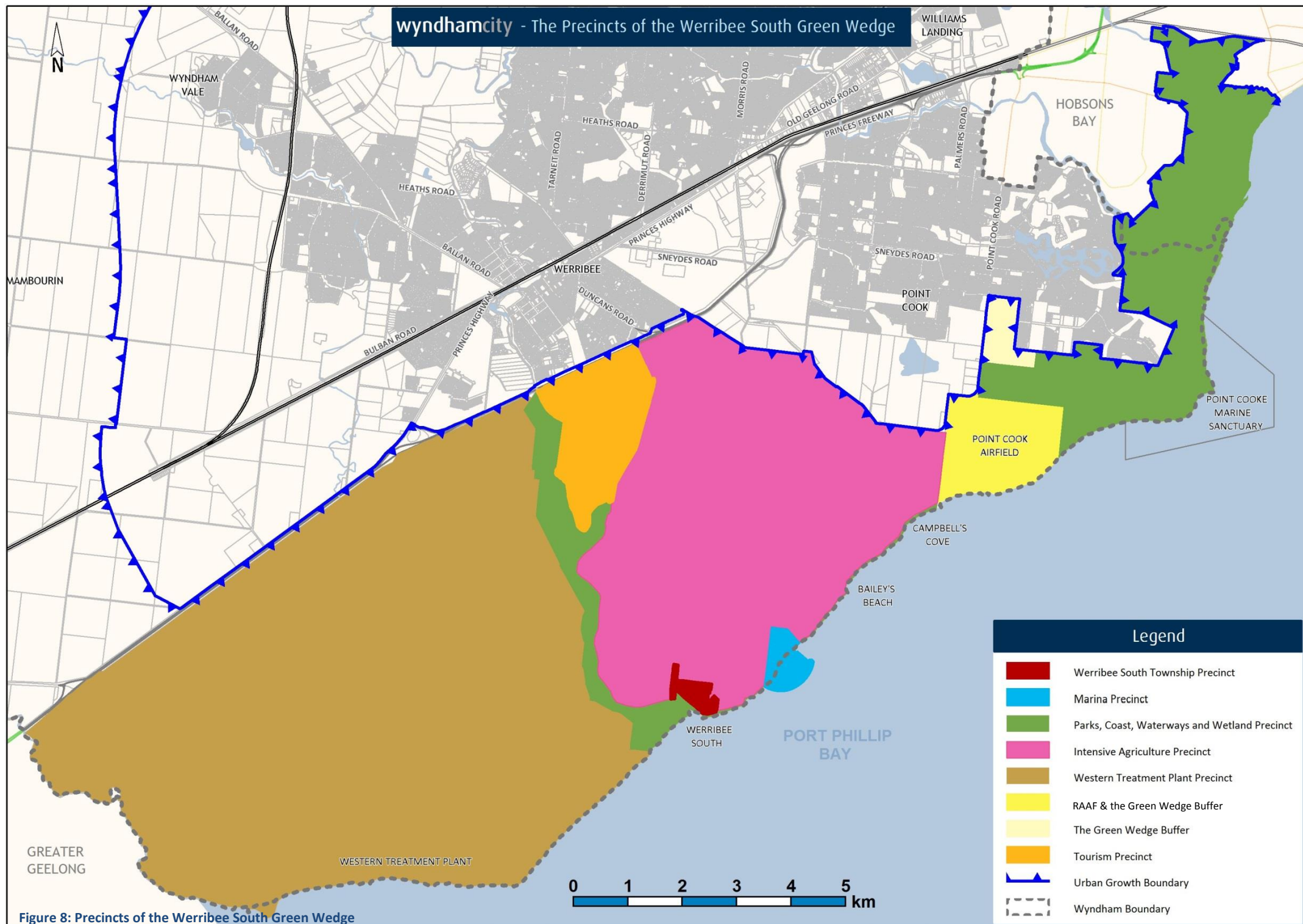


Figure 7: Planning zones in Werribee South Green Wedge



CHAPTER 3 PURPOSE AND VISION

3.1 Purpose of the Plan

The purpose of the Werribee South Green Wedge Policy and Management Plan is to bring together a consistent policy for the entire Green Wedge, ensuring that all elements within Werribee South are planned for and managed in an integrated and sustainable manner. By setting clear directions on future land use, this document is designed to provide a framework on which decision making for the area can be based. It provides greater certainty for landowners, developers and the community in planning matters involving the Green Wedge and agricultural land. It may also be used as a document to inform the broader community and those seeking information about the Werribee South Green Wedge.

This Policy and Management Plan has been developed in conjunction with State Government and local stakeholders. It has also been prepared in response to the directions set by *Melbourne 2030* and later reviewed against *Plan Melbourne*, and in line with the constraints set out within the State Planning Policy Framework.

3.2 Vision for the Werribee South Green Wedge

The vision for the Green Wedge is based upon the Australian Government's (Department of Environment and Heritage, 1992) definition of sustainability:

Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.

The following vision statement has been developed in consultation with the Werribee South Steering Committee, and is aligned with *Wyndham's 2040* vision as it seeks to respect, preserve and protect Wyndham's natural environment as well as build on the tourism capability of the Werribee South area:

The Werribee South Green Wedge will be an environmentally, socially and economically sustainable precinct where opportunities for agricultural innovation and diversification, biodiversity conservation and investment in tourism, recreation and the community are realised.

CHAPTER 4 BACKGROUND AND CONTEXT

4.1 History of Land Use

Prior to European settlement, the area now identified as the Werribee South Green Wedge supported a number of biologically diverse ecosystems, including grasslands, grassy woodlands and large areas of coastal salt marsh. European settlement, extensive clearing for agriculture, saltworks and urban development has meant that less than 1 per cent of native vegetation remains today (Wyndham City Council, 2004).

The Werribee River marks a tribal boundary between the traditional lands of the Wurundjeri and coastal Bunurong clans to the east, and the Wathaurung people to the west (Du Cros, 1991). Prior to European settlement, it is thought that each of these tribes comprised of groups of 100 and 200 people, with up to 400 people intermittently using the area in the vicinity of the Werribee River (Du Cros, 1991). Burial sites uncovered along the reaches of the river have been dated to 7,800 years old.

From 1835 onwards, the majority of the Green Wedge was used for grazing. Land south of the Werribee River was under the ownership of the Chirnside family, whose former landholdings include the Werribee Mansion. The Mansion at Werribee Park is a present-day tourist attraction, and reflects the social, economic, political and architectural history of colonial Victoria. The property is of State significance and is listed on the Victorian Heritage Register.

Part of the Chirnside family's sheep station was sold to the Melbourne Metropolitan Board of Works in the late 1880s, for the development of a sewage treatment facility. This facility grew significantly over the following century and is now one of the largest plants in the world.

In Werribee South, the commencement of irrigation in the 1920's transformed the landscape from sheep and dairy country to a patchwork of intensive agriculture. In 1932, land holdings were vast, with the region broken down into twelve properties. However, with the population nearly doubling over the next twenty years, smaller holdings developed and market gardens were established (Context, 1997). This remains the dominant farming activity in the area, with landholdings seldom larger than 15 hectares.

Werribee South has been a community of settlers, firstly under the Closer Settlement Scheme, then as a Soldier Settlement after World War 1, and finally with the influx of immigrants from central Europe during the 1920s.

The Wyndham City Council Heritage Study (1997) classifies the Werribee irrigation area as a place of regional significance as a cultural landscape, containing evidence of its transformation through settlement eras, and detailing the impact and importance of Italian migrant farmers.

The RAAF Base at Point Cook was established in 1914 as the Central Flying School for the Australian Flying Corp and in 1921 was the site of the formation of the Royal Australian Air Force and Australian Naval Air Service. It remains the oldest airfield in Australia and is home of the RAAF Museum. The Point Cook RAAF Base was recognised for its national significance and was included in the National Heritage Register on 29 August 2007.

4.2 Tourism and Recreational Land Uses

The Werribee South Green Wedge offers a range of recreational and tourism opportunities and attracts visitors from across Melbourne, interstate and internationally (Wyndham City Council, 2001). The network of parks and reserves plays an important role in the provision of open space to the expanding urban population in the Point Cook and Werribee growth corridors.

Existing Tourism and Recreation Sites

Werribee Open Range Zoo

Developed around the Werribee River, the zoo covers almost 200 hectares. Visitors undertake guided safaris to view animals from the grasslands of Australia, Asia and Africa living in environments designed to resemble those encountered in the wild.



Werribee Park Mansion

Werribee Park is a significant cultural and heritage attraction in Victoria's west. Built in the 1870's this Italianate Mansion was home to Thomas and Andrew Chirnside. The Park also contains ten hectares of formal gardens, a riverine area and



Mansion Hotel and Spa at Werribee Park

The hotel and spa is owned by the Lancemore Group and located within the Werribee Mansion complex offering guests a unique experience. The hotel features a day spa and restaurant.



Werribee Park Golf Course

Covering 57 hectares on the banks of the Werribee River, the 18-hole course serves both the local community and clientele from the Werribee Park Hotel. The golf course is irrigated using recycled water from the adjoining Western Treatment Plant.



State Rose Garden

Located in the grounds of Werribee Park, the State Rose Garden displays up to 4,000 climbing, bush and standard roses, laid out in the shape of a tudor rose. The garden is in bloom from November to May and is tended by a team of 100 volunteers.



National Equestrian Centre

The centre covers 27 hectares and includes a purpose built indoor area of 4,700 square metres. The facility caters for a full range of equestrian activities, including the major disciplines of show jumping, dressage and eventing.



Shadowfax Winery

Seven hectares of Shiraz and Pinot Noir vines planted in 1998 surround the Shadowfax winery complex adjoining the Werribee Park Mansion. The winery includes a café, cellar door and tasting rooms, and regularly hosts art exhibitions along with musical events.



Werribee River

The Werribee River features stands of River Red Gums, the Graham's Reserve estuary, the National Trust classified K Road Cliffs, and spectacular views across its flood plain to the You Yangs and Brisbane Ranges. The river is popular for fishing and picnicking. The 260ha



Point Cook Coastal Park and Cheetham Wetlands

The park was established in 1978 to protect the basalt plain grasslands, freshwater lakes and dune ecosystems. It covers 464 hectares and attracts 130,000 visitors a year with key attractions including the beach and foreshore, and bird watching facilities.



Point Cooke Marine Sanctuary

Established in 1982, the sanctuary adjoins the Point Cook Coastal Park, covering 290 hectares. It is one of the most prolific areas for marine organisms in Port Phillip Bay and protects intertidal and subtidal reef communities, an array of algae, benthic (bottom dwelling) fauna, invertebrates and fish.



Point Cook Homestead

Built in 1859, the Homestead and stables were the original residence of the Chirnside family prior to the completion of Werribee Mansion. Classified by the National Trust, the Homestead is operated as a private commercial enterprise.



Point Cook RAAF Base

Point Cook RAAF Base is one of the world's oldest operating airbase and the museum houses the largest collection of material relating to Australia's military aviation history. Institutional buildings and associated residences are also present on the site.



Werribee South Boating Facility

Werribee South is one of the most significant boating and recreational locations on the western side of Port Phillip Bay. It includes a multi-lane boat launch and a power-ski ramp, as well as barbeques, shelters and playground facilities.



Werribee South Coastal Reserve

Unique in Port Phillip Bay for its coastal-rural interface. Its features regionally significant cliffs at Campbell's Cove and Bailey's Beach, and 143 boatsheds predominantly constructed between 1930's and 1960's. It is planned that in future the Bay Trail will extend along the length of the reserve.



Western Treatment Plant

The Western Treatment Plant is one of the most popular sites for birdwatching in Victoria, with 284 species of birds recorded there. The plant's lagoons, grasslands and coastline provide an ideal and varied habitat for birds.

Image: Melbourne Water 2016



Truganina Coastal Parklands

The Truganina Coastal Parklands are being developed through the 'recycling' of over 300ha of former industrial land. The parklands include conservation areas, grassy fields, picnic and barbeque facilities, wildlife refuges and beachside recreation.



Wyndham Harbour

Wyndham Harbour is a new marina community located within Werribee South overlooking Port Phillip Bay. Once completed it will provide a marina and safe boat harbour facility on the western side of Port Phillip Bay. The harbour also includes two beaches, waterfront living and café/restaurant facilities.

Image: Wyndham Harbour 2016





Figure 9: Participants at the National Equestrian Centre in Werribee South

4.3 Flora, Fauna and Sites of Biological Significance

With the exception of areas under intensive agriculture and some nearby dryland farming buffer areas, much of the Werribee South Green Wedge is a biologically rich area which supports a number of rare and threatened species (see Table 2), and numerous sites of biological significance (see Table 3).

Most remnant native vegetation in the Green Wedge is considered to be endangered, including Floodplain Riparian Woodland adjacent to the Werribee River, Creekline Grassy Woodland in the riparian zone of Little River, Coastal Saltmarsh along the Werribee South Coastline and throughout the Point Cook Coastal Park and Cheetham Wetlands, and small areas of wetland vegetation south of the Point Cook growth front (Wyndham City Council, 2004).

RARE AND THREATENED FLORA		
COMMON NAME	SCIENTIFIC NAME	STATUS
Coast Saltwort	<i>Salsola tragus</i>	Rare (State)
Coast Wirilda	<i>Acacia retinodes</i>	Rare (State)
Marsh Saltbush	<i>Atriplex plaudosa</i>	Rare (State)
Pale Swamp Everlasting	<i>Helichrysum rutidolepis</i>	Vulnerable (State)
Plump Swamp Wallaby-grass	<i>Amphibromus pithogastrus</i>	Endangered (State)
River Swamp Wallaby-Grass	<i>Amphibromus fluitans</i>	Vulnerable (National)
Spiny Rice-Flower	<i>Pimelea spinescens</i>	Critically Endangered (National)
RARE AND THREATENED FAUNA		
Growling Grass Frog	<i>Litoria raniformis</i>	
Little Tern	<i>Sterna albifrons</i>	
Orange-bellied Parrot	<i>Neophema chrysogaster</i>	
Southern Giant Petrel	<i>Macronectes giganteus</i>	
Striped-legless Lizard	<i>Delmar impar</i>	
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	

Table 2: Rare and Endangered Species in the Werribee South Green Wedge (Wyndham City Council, 2004)

SITE OF BIOLOGICAL SIGNIFICANCE	LEVEL OF SIGNIFICANCE
Western Treatment Plant Sewage Treatment Lagoons	International
Cheetham Wetlands	International
Point Cooke Marine Sanctuary	International
Little River Estuary	International
Point Cook Coastal Park	International
Ryans Swamp and surrounding Dryland Grasslands	State
Werribee River – Middle and Lower	State
Western Treatment Plant Coastline	Regional
Cherry Tree Creek – Lower	Regional
Werribee River Weir	Regional
Grahams Reserve	Regional

Table 3: Sites of Biological Significance (Wyndham City Council, 2004)

In addition to the significant native vegetation found on Crown Land (within the Point Cook Coastal Park and Cheetham Wetlands, and the Western Treatment Plant), the main areas of biological significance within the Werribee South Green Wedge are: (1) the Werribee River environs and (2) the Werribee South coastline. These are circled in Figure 10 which also includes (3) the seasonal wetland systems. The seasonal wetlands area no longer considered to be within the Werribee South Green Wedge as the Urban Growth Boundary was shifted in 2011 to include this area, as part of the logical inclusions process (see Section 5.3). The wetlands are now located in land being planned for residential development, and will retain their biological significance within these developments.

Point Cooke Marine Sanctuary is an area of biological significance located off the coast of the Werribee South Green Wedge (see Figure 10). Covering 290 hectares, it is the largest marine sanctuary in Victoria. The Point Cooke Marine Sanctuary and the adjoining Point Cook Coastal Park and Cheetham Wetlands form part of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site and are part of the 'Point Cook Estate', listed on the Register of the National Estate for its diversity of wetlands combined with various coastal and terrestrial habitats.

The Point Cooke Marine Sanctuary contains a range of communities and habitats, including sandy beaches, sub-tidal soft sediments of sand and mud, and intertidal and sub-tidal reefs. These areas incorporate a diversity of microhabitats and marine life, including invertebrates, fish, seaweeds, seagrass and internationally significant bird habitat. Point Cooke itself is an important geomorphological formation protected within the sanctuary.

The Cheetham Wetlands system is artificially made and maintained, however, the ecological processes it creates are vital in sustaining internationally and nationally endangered species, recognised and protected by Ramsar¹, JAMBA² and CAMBA³ agreements. The wetlands support significant numbers of Black Swans and Chestnut Teals, whilst Spectacle and RAAF Lakes, along with other marsh systems within Point Cook Coastal Park and marine environs within Point Cooke Marine Sanctuary, are areas of international importance for numerous migratory birds. For some species, the area is home to greater than 1 per cent of the known world population (Department of Sustainability and Environment, 2003).

Along with its importance as faunal habitat, the Point Cook Coastal Park is a site of State botanical significance as the only reserve in the western region of Melbourne that contains four vegetation classes (dune vegetation, salt marsh, swamp and grassland) within close proximity to one another. The bracken-dominated sand dunes running south from Point Cook do not occur elsewhere on the western side of Port Phillip Bay and are of regional significance (Barlow, 1989).

The park contains several examples of Grey Glasswort, which more commonly occurs in north western Victoria (McDougall, 1987), whilst the presence of the vulnerable Striped-legless Lizard (see Figure 13) in the grasslands around Point Cook is also of note (Barlow, 1989).

¹ The Ramsar Convention on Wetlands is an international treaty designed to reduce negative environmental impacts on wetland areas. Australia is part of this treaty.

² The Japan-Australia Migratory Birds Agreement (JAMBA) is an agreement between the Government of Japan and the Government of Australia for the protection of migratory birds in danger of extinction and their environment.

³ The China-Australia Migratory Birds Agreement (CAMBA) is an agreement between the Government of Australia and the Government of the People's Republic of China for the protection of migratory birds and their environment.

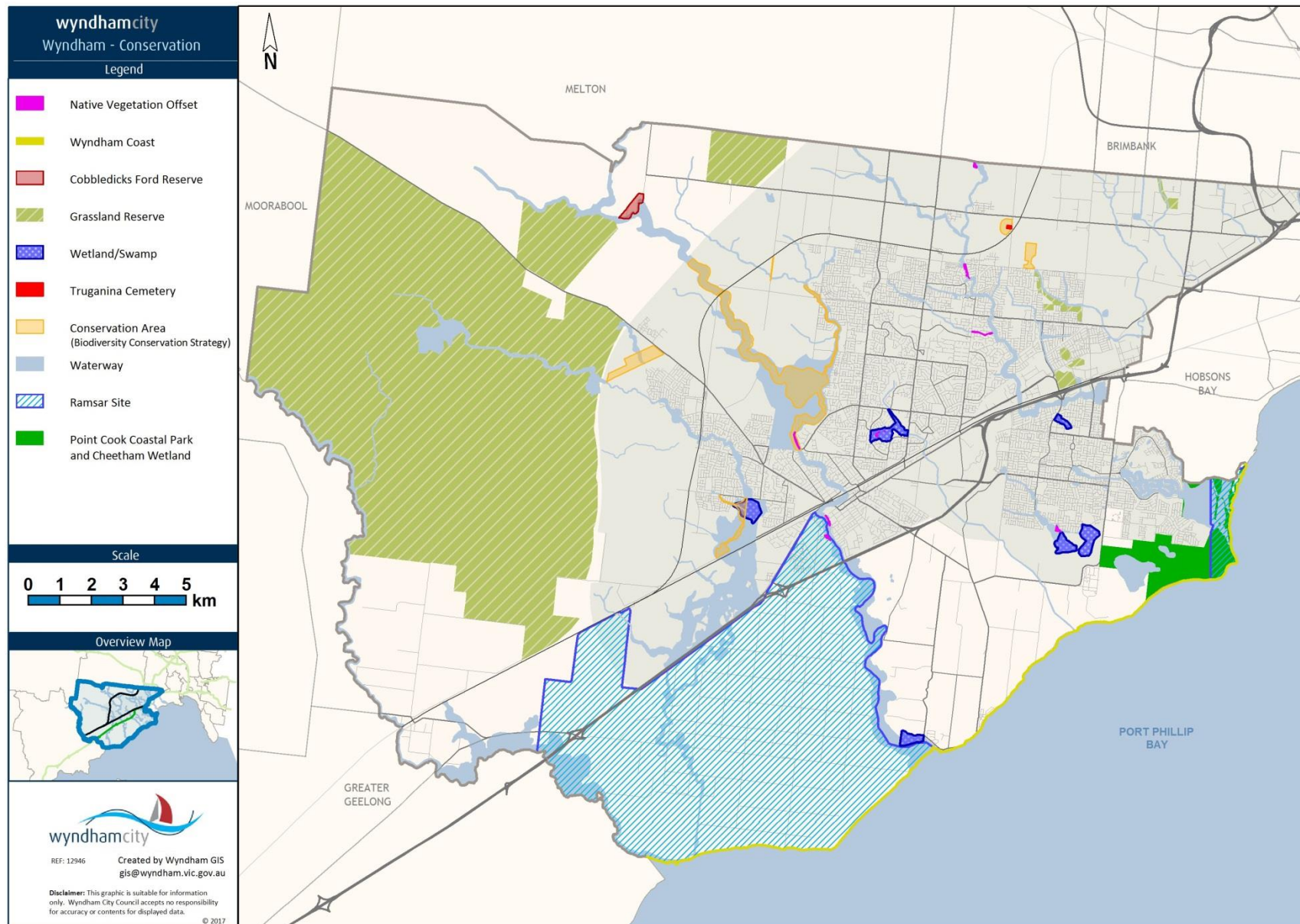


Figure 10: Conservation sites within Wyndham (Wyndham City Council 2017)



Figure 11: Orange-bellied parrot
(DPIPWE; Tasmanian Government 2014)



Figure 12: Swans at Spectacle Lake
(Parks Victoria 2015)



Figure 13: Striped Legless Lizard (Zoos
Victoria)

Small patches of vegetation identified as Berm Grassy Shrubland have been identified along the Green Wedge coastline. This vegetation class is considered to be endangered and therefore of high local significance (Envirologic, 2003).

Small areas of coastal Saltmarsh are also found on the coastline and in the Point Cook Coastal Park. Further inland, native flora and fauna is limited due to the intensity of agricultural planting.

The Western Treatment Plant is one of the most significant wetland areas on Port Phillip Bay in terms of both bird diversity and numbers (Department of Sustainability and Environment, 2003). Breeding colonies of Pied Cormorants nest here in the dead trees at Lake Borrie (Schulz et al, 1991) whilst the area is also known for its raptor populations including Peregrine Falcons (Barlow, 1989).

The Western Treatment Plant contains known wintering sites for the Orange-bellied Parrot (see Figure 11), one of the worlds rarest and most critically endangered birds. These parrots

winter in the Port Phillip Bay region after breeding in southwest Tasmania during summer (Department of Sustainability and Environment, 2003).

The long term threats and threatening processes that impact upon the biodiversity of the Wedge include:

- Land use change, including agriculture and incursion of urban-driven activities into the Wedge;
- Inappropriate fire management due to the proximity of urban development;
- Pest and animals and plants;
- Extensive water use and subsequent alterations to the area's natural hydrology;
- Climate change and potentially rising sea levels;
- Poor land management practices;
- Sediment and nutrient run-off into waterways, wetlands and the Bay, affecting water quality; and
- Coastal erosion.

4.4 Waterways, Wetlands & Irrigation

Natural Waterways

Five major natural waterways run through the Werribee South Green Wedge:

- Laverton Creek,
- Skeleton Creek,
- Lollypop Creek,
- Little River,
- Werribee River.

Laverton Creek runs along the northern boundary of the Green Wedge, and incorporates the Altona wetland system. Also in the north, Skeleton Creek flows through the Cheetham Wetlands to Port Phillip Bay. Lollypop Creek and the last reaches of the Little River flow through the Western Treatment Plant.

The Werribee River (see Figure 14) is the largest river in the Green Wedge and has major economic, cultural, environmental and recreational values. The delta section of the river is included in the Ramsar site associated with the Western Treatment Plant, whilst upstream the cliffs and remnant Red Gum stands alongside the K Road are classified by the National Trust.

Historically, this river has borne the primary responsibility for irrigation supply to the intensive agricultural precinct, with flows controlled from Melton Reservoir. The introduction and use of recycled water from the Western Treatment Plant for agricultural purposes is supplementary to river water and provides security to farmers during dry times.

Major threats to the waterways in the Werribee South Green Wedge include:

- Overgrazing and cultivation of crops in close proximity to waterways;
- Erosion and pollution including hard waste associated with nearby urban development;
- Unrestricted pedestrian and vehicle access;
- Pest plants and animals including predation of native fauna by cats and foxes;
- Clearing of native vegetation surrounding river systems and higher up the catchment (City of Wyndham, 2003);
- Sediment and nutrient runoff;
- Water quality and flows;
- Climate change impacts; and
- Disturbance from motorbike and 4WD vehicles.



Figure 14: Werribee River and K Road Cliffs

Following the expansion of Melbourne Water's boundaries in 2005 a comprehensive program of investigations was initiated to increase an understanding of the region's waterways. As well as initiation of an ongoing program of water quality and macro-invertebrate monitoring,

surveys have been undertaken of fish and frog populations and a report has been prepared regarding the geomorphological condition of the Werribee Catchment.

Irrigation Water Channels

An extensive network of (predominantly open) irrigation channels supplies water to the Werribee Irrigation District (WID), an area which includes the Intensive Agriculture Precinct and the Tourism Precinct. Irrigation water is sourced from Southern Rural Water's storages at Pykes Creek, Lake Merrimu and Melton Reservoir. These storages hold water from the Werribee and Lerderderg River systems.

Since 2004, 'Class A' recycled water⁴ from the Western Treatment Plant has also been available for irrigation. Melbourne Water supplies water to Southern Rural Water, which distributes it to customers within the Intensive Agriculture Precinct and Tourism Precinct who have signed agreements to purchase recycled water. In 2015, approximately 70% of farmers in the Intensive Agriculture Precinct are signed up for recycled water from the Western Treatment Plant with 20 year contracts (SRW).

The existing Southern Rural Water pipeline and open channel network that supplies the Werribee Irrigation District sustains losses due to seepage and evaporation in the order of 40 to 50% depending upon supply quantities. Southern Rural Water continues to develop a strategy to pipeline the whole of the irrigation district and is discussing these plans with government. This would save in the order of 5-6GL of water. Southern Rural Water has developed a business case based upon pipelining the irrigation district which has been submitted to the National Water Initiative to address this issue. Reductions in water losses as a result of pipelining should in effect increase the amount of water that would be available.

⁴ Class A recycled water is classified by the Department of Human Services as safe for use in irrigation for food crops – including those eaten raw. EPA Victoria also supports its use.

Statistics on irrigation in the Werribee South Green Wedge are shown in Table 4.

Werribee Irrigation District Statistics	
Total Water Right	9,961.3 ML
Total Water Right for Irrigation	9,454.6 ML
Domestic and Stock Water Right	506.7 ML
Number of Customers	161
Number of Outlets	366
Number of Irrigated Holdings	213
Length of Concrete Channels	49.6 km
Length of Pipelines	12.2 km
Length of Drains	60 km

Table 4: Statistics on Irrigation in the Werribee South Green Wedge (SRW 2010)

Pressures on the farming community in the Intensive Agriculture Precinct include the increasing cost of production, uncertainties of the security of water supply in changing climatic conditions and poor water quality.

Wetlands

The Wedge has a range of important wetlands, including the internationally significant Western Treatment Plant inter-tidal lagoons (see Figure 15), which are home to over 270 species of birds, and the Cheetham Wetlands system.

The Cheetham Wetlands and Western Treatment Plant form part of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site which is recognised as a wetland of international significance under Article 2 of the Ramsar Convention (Ramsar, Iran, 1971). The Convention on Wetlands of International Importance (the Ramsar convention) is an intergovernmental treaty that provides for international cooperation in the wise use and conservation of wetlands.



Figure 15: Lake Borrie lagoon at the Western Treatment Plant (Melbourne Water, 2016)

There are also a number of smaller seasonal wetlands on private properties throughout the Green Wedge, which contribute to the network of habitat pockets along the Western shoreline of Port Phillip Bay. These private wetlands have high ecological values as they support an array of aquatic natives adapted to withstand a variety of conditions. At present, there are no arrangements in place to manage wetlands on private properties, but given their significance they should be retained and managed.

4.5 Archaeology and Indigenous Cultural Sites

Areas of the Werribee River and the Wyndham coastline are considered to be archaeologically sensitive, especially where there has been minimal impact from agriculture or residential development (Du Cros, 1991). In 2015, Aboriginal Affairs Victoria had a recorded 34 registered Aboriginal heritage places within the locality of Werribee South. The registered heritage places include artefact scatters, scarred trees and shell middens.

Parts of the Werribee South Green Wedge are affected by areas of cultural heritage sensitivity as described in the Aboriginal Heritage Regulations 2007. Development proposals within such areas may be required to prepare a Cultural Heritage Management Plan (CHMP) if considered a high impact activity. A CHMP is a way of protecting and managing Aboriginal cultural heritage, with the involvement of Registered Aboriginal Parties and Aboriginal Affairs Victoria. It is a written report containing the results of an assessment of the potential impact of the proposed activity on Aboriginal cultural heritage.

A Cultural Heritage Management Plan is a written report, prepared by a Cultural Heritage Advisor, containing the results of an assessment of the potential impact of the proposed activity on Aboriginal cultural heritage. It outlines measures to be taken before, during and after an activity in order to manage and protect Aboriginal cultural heritage in the activity area.

4.6 Soils and Land Capability

Soils

The soils of the Werribee South Green Wedge are dominated by the two geographic features from which they have developed; namely basalt plains, and deltas and river terrace (See Figure 17).

Eroded sediments, incised from the basalt plains to the north, have been deposited in a delta system extending from Little River to Point Cook. Both Little River and Werribee River continue to carry these sediments, which include sand and silt. Aeolian deposits have modified surface soils across the Green Wedge, especially in areas east of the Werribee River where material has blown from the fertile delta.



Figure 17: Farm crops

Soil in the intensive agriculture area and the Western Treatment Plant has a surface texture varying from clay loam on the surface to silty clay subsurface. Soil is moderately well drained, with less salt and extractable boron than other areas.

Swamp deposits in the Coastal Park consist of deep grey clays. Like many swamps and poorly drained areas in close proximity to urban development, ditches have been dug to improve surface drainage so that the soils are not covered by water for long periods. However, their poor permeability means that they are particularly prone to water-logging (Wyndham City Council, 2004). (Notation for Figure 16: Refer to Figure 10 (page 27) for correct footprint of Cunningham Swamp).

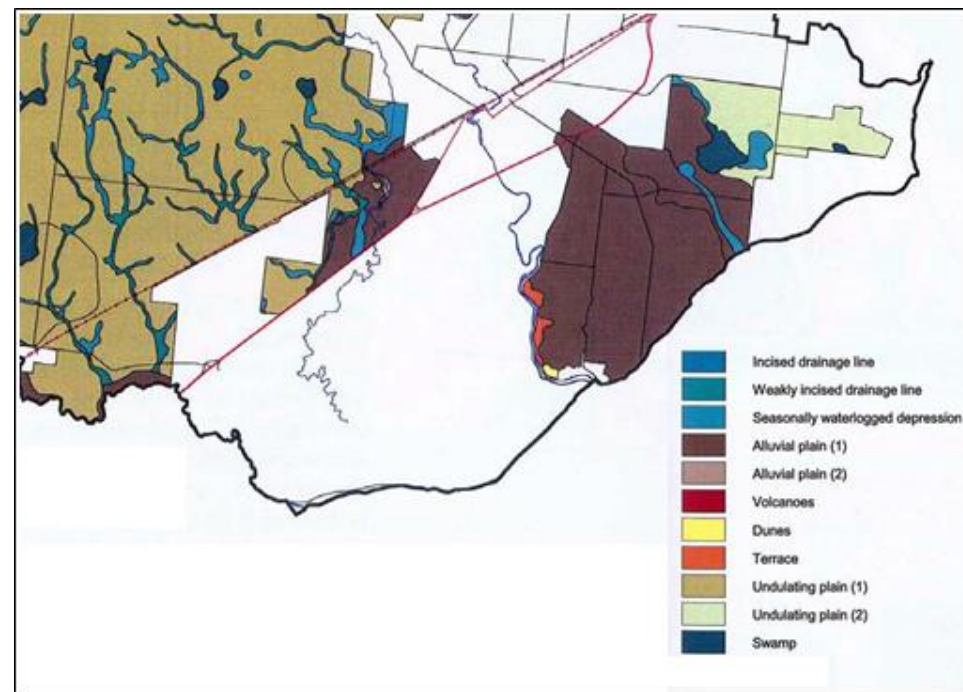


Figure 16: Geomorphology in the Werribee South Green Wedge (Wyndham City Council, 2004)

Salinity

Assessment of ground water salinity (Wyndham City Council, 2004) indicates that there are no areas that have low salinity (considered to have a conductivity of <290 µS/cm), and very few sites that have medium levels (290-830 µS/cm). Rather, most areas of the Green Wedge have significant groundwater salinity problems (Table 5).

Region	High (830-5830 µS/cm)	Extreme/ Critical (>10000 µS/cm)
Dryland farming region / Green Wedge Buffer		
Intensive agriculture precinct		
Point Cook Coastal Park		
Western Treatment Plant		

Table 5: Salinity Ratings (Wyndham City Council, 2004)

The ground water table across the Green Wedge is relatively close to the surface, which further increases the risk of salinity in the area (Wyndham City Council, 2004).

Land Suitability

The consistency of the irrigated water supply is an issue for agricultural production within the Werribee South Intensive Agriculture Precinct, but given adequate water supply, analysis suggests that it is the edaphic (soil) conditions of each area that is the determining factor in commodity suitability. (Detailed maps of land suitability can be found in 'Wyndham Environmental Planning Atlas' Wyndham City Council, 2004).

The agricultural land in the Werribee South Green Wedge has been analysed for its suitability for the production of various commodity types. (Wyndham City Council, 2004). This analysis was based upon the

inherent soil characteristics, climatic conditions and topology of the area. The results of the land suitability analysis are shown in Table 6.

'Brassica' crops are one of the commodity types highly suited to the soil characteristics, climatic conditions and topology of the Werribee South Intensive Agriculture Precinct, and they currently account for the majority of its agricultural production. Additional factors, however, such as property sizes, property ownership patterns and market forces also influence the suitability of commodities (such as Brassica) to the area. These contextual factors are not considered in Table 6, but need to be considered when assessing the suitability of new commodity-types to the Werribee South Green Wedge.

COMMODITY	SUITABILITY
Cool climate grapes (chardonnay, pinot noir, sauvignon blanc)	Generally high to very high , except in areas subject to flooding or waterlogging.
Brassica (broccoli, brussel sprouts, cauliflower, artichoke)	High suitability in the Werribee South intensive agricultural precinct, but restricted (unsuitable for commercial production) throughout the dryland buffer region.
Olives	High suitability in the Werribee South intensive agricultural precinct, but restricted (unsuitable for commercial production) in parts of the dryland buffer region due to poor soil conditions.
Pome fruit (pears, apples)	Moderate to high suitability in the Werribee South intensive agricultural precinct, but restricted (unsuitable for commercial production) throughout the dryland buffer region.
Turf grass	Generally high throughout the green wedge, except in areas subject to flooding.
Eucalypts (for foliage and oil)	High to very high in the Werribee South intensive agricultural precinct and moderate suitability in the dryland buffer region.
Barley	Moderate throughout the green wedge, regardless of water availability.
Native grass (grown for seed)	Moderate throughout the green wedge, though suitability increases slightly if water is not a limiting factor.

Table 6: Land Suitability for Selected Commodities (Wyndham City Council, 2004)

4.7 Weeds and Pests Animals

Weeds and pest animals are a major threat to public and private land throughout the Green Wedge. Serrated Tussock (see Figure 19) poses the most serious risk to dryland buffer areas due to its effects on pasture. However, in areas such as the intensive agriculture precinct and the Western Treatment Plant, they are not as susceptible due to thick irrigated groundcover. Paterson's Curse (see Figure 21) is present in the dryland buffer environs and throughout the Point Cook Coastal Park and Werribee South coastline, whilst Artichoke Thistle (see Figure 20) and Chilean Needle Grass (see Figure 18) is prevalent across many environments in the Wedge, except those areas already intensively farmed.

Boxthorn is a particular threat to the integrity of the coastal vegetation communities, though at present existing Boxthorn hedges do serve to buffer agricultural land from high-traffic areas of the coastal reserve. In the Western Treatment Plant, Spiny Rush has been identified as the significant threat to conservation values.

Pest animals pose an environmental challenge across the area, with rabbits responsible for serious erosion in parts of the Green Wedge, and foxes prying on native fauna. Fox populations are relatively high, especially within the Western Treatment Plant, which contributes to recurring mortality of waterbirds especially during moulting season when many ducks are flightless. Exotic fish in waterways and wetlands cause impacts to the natural environment, natural biodiversity and water quality.



Figure 18: Chilean Needle Grass



Figure 19: Serrated Tussock



Figure 20: Artichoke Thistle



Figure 21: Paterson's Curse

Other introduced pest animals known to be present in the Green Wedge include house mice, blackbirds, myna birds, rabbits, hares, feral cats and domestic dogs. Wandering domestic cats are an increasing threat to wetlands and parks in the north east of the Green Wedge where the residential growth front of Point Cook lies within close proximity.

Pest control programs with ongoing monitoring are undertaken by Melbourne Water, Parks Victoria and Council on public land, and are often coordinated between the agencies. Additionally, pest management of target species on private land is already encouraged through Council's Land Protection Grant Scheme. Pest plant and animal control is required by all landowners (including private land) under State legislation.



Figure 22: View of the You Yangs from the Werribee River estuary at Werribee South

CHAPTER 5 STRATEGIC FRAMEWORK AND FUTURE DIRECTIONS

5.1 Guiding Principles

The Werribee South Green Wedge contains a mix of assets that make it unique in the metropolitan context. The dynamic nature of agricultural activity and changing population pressures from the Point Cook and Werribee West communities requires that planning policy be flexible, adaptive, and sensitive to evolving conditions within the Green Wedge.

The Green Wedge is strategically well located in relation to the Melbourne, export points, the transport network, and urban services for its people. In an era where economic, environmental and community sustainability is widely recognised as a necessary goal, these are major benefits. The protection of these values provides the basis for the planning framework and strategic directions outlined in this Plan.

All planning decisions and management actions should be considered in light of the Green Wedge guiding principles listed below, along with the Metropolitan Green Wedges provisions contained in the Wyndham Planning Scheme.

GREEN WEDGE GUIDING PRINCIPLES

Decisions on non-agricultural land use and development will ensure that agricultural production is not detrimentally impacted upon or unreasonably constrained.

Opportunities for new agricultural and rural land uses will be preserved and promoted.

Decisions on land use will ensure that adverse impacts upon the natural environment and cultural heritage assets are minimised or avoided.

Sites of environmental significance will be protected and enhanced on both public and private land, and their contribution to biological diversity recognised in decision making.

The economic and social benefits of existing and planned tourism and recreation assets will be protected by integrated, partnership based planning.

Infrastructure provision and resource use will be sensitive to the environment whilst ensuring the needs of the community are considered.

5.2 Intensive Agricultural Precinct

OBJECTIVES

To preserve agricultural areas within the Werribee South green wedge.

To protect agricultural land from incompatible land uses and promote the continuation of farming and its viability within the local economy.

To broaden the range of agricultural uses possible within the area and the conditions under which diversification may take place.

To separate agricultural land uses and activities from residential, commercial, and industrial development and facilities, and where necessary, provide buffer land uses.

To provide and advocate for the provision of infrastructure and services that are sufficient to support sustainable agriculture.

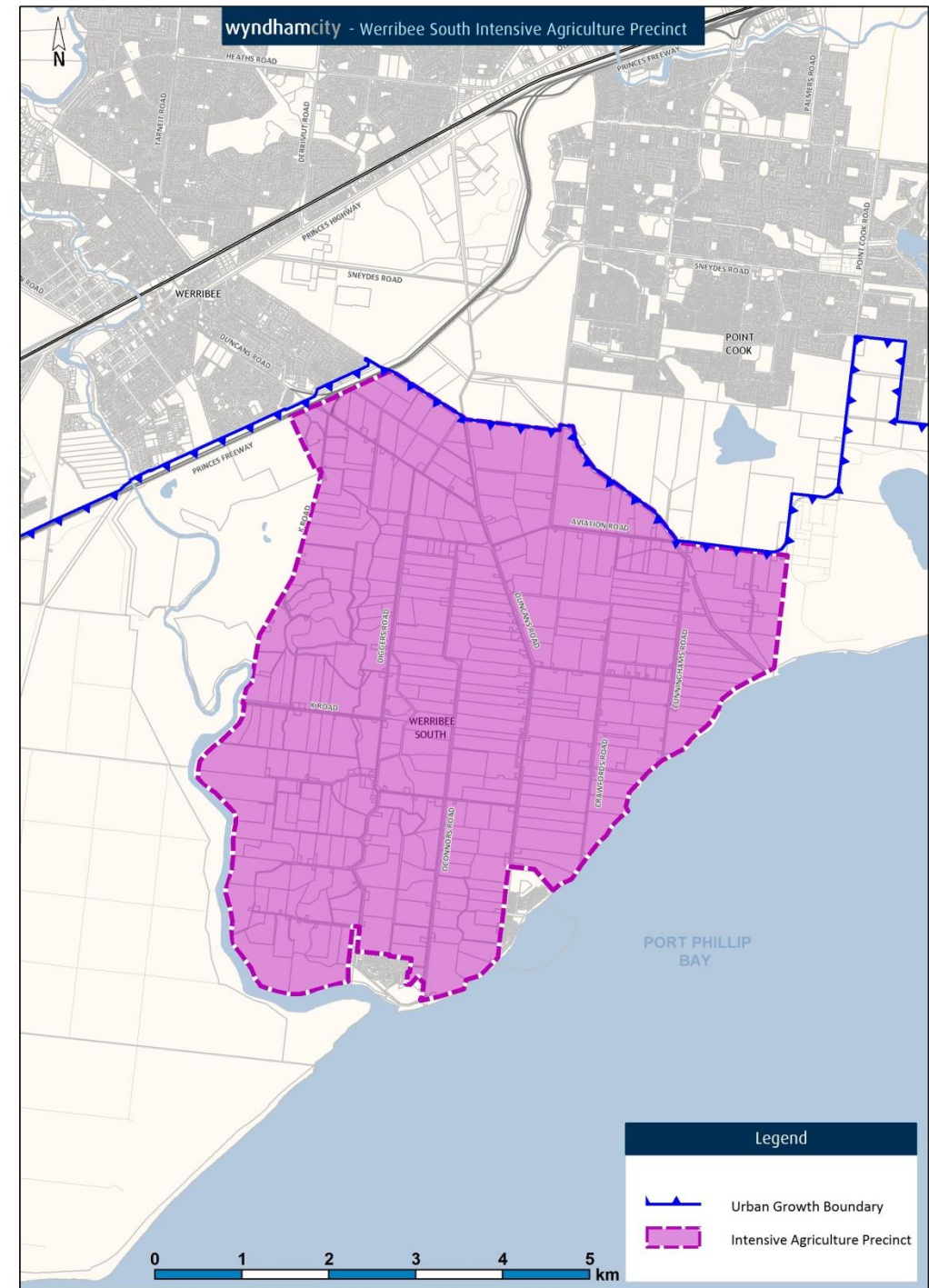


Figure 23: Intensive Agriculture Precinct

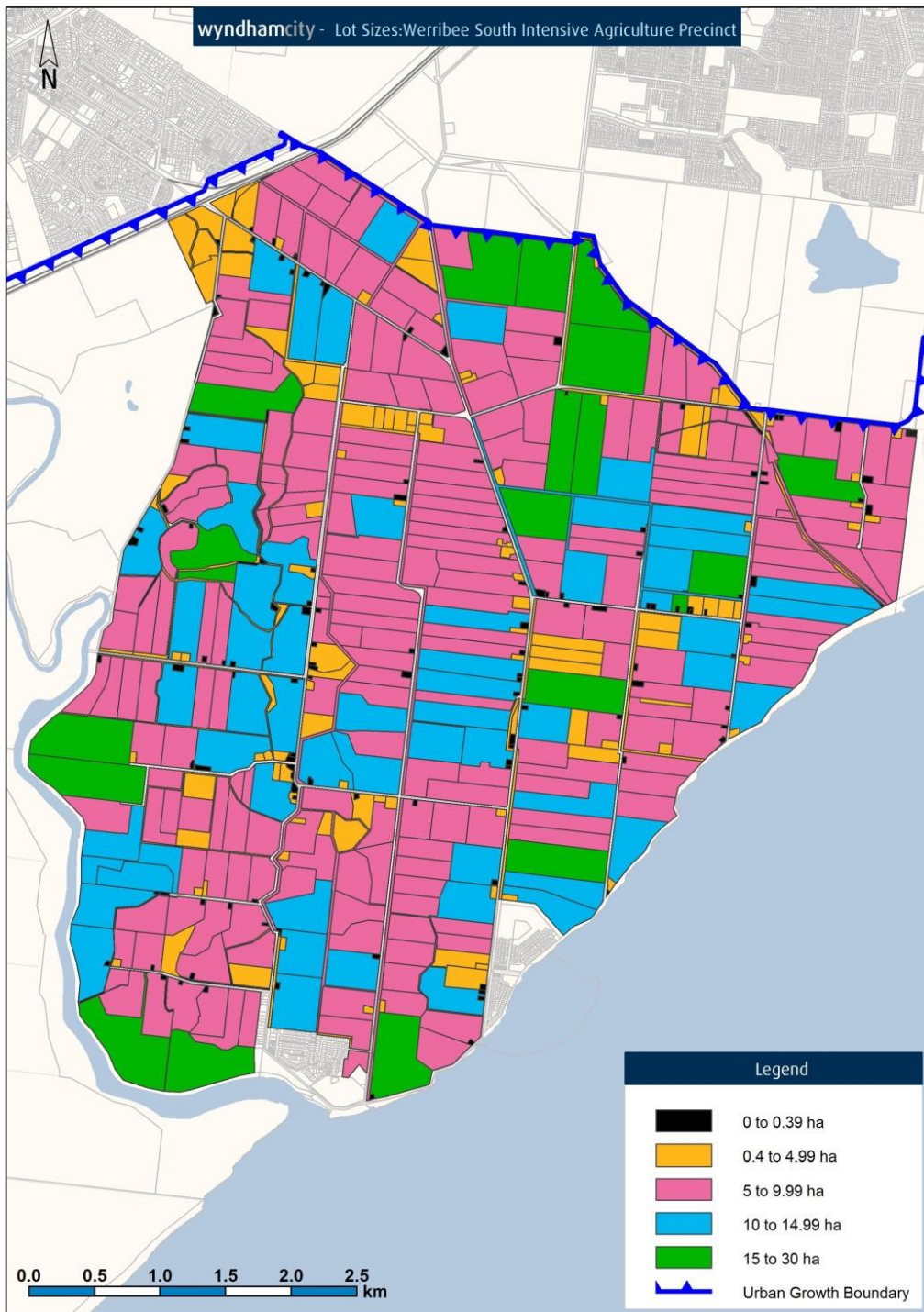


Figure 24: The distribution pattern of lot sizes within the Werribee South Intensive Agriculture Precinct

The Werribee South intensive agriculture precinct is an area of land approximately 3,000 hectares in size, bound by the Werribee River, the East Werribee Employment Precinct, Point Cook and Port Phillip Bay (see Figure 23). The annual production value within the precinct is estimated at \$200 million.

The Werribee South intensive agriculture precinct consists of 645 lots, all of which are zoned 'Green Wedge'. The variation in lot sizes within the precinct can be seen in Table 7 while Figure 24 illustrates the distribution pattern of lot sizes within the precinct. In January 2016 the number of lots in the IAP was 645. This has increased since January 2010 where investigation shows the total lots in the precinct was 614. The 2010 version of this management plan stated a differing figure of 592 lots however this has since been updated.

LOT SIZE (Ha)	NUMBER OF LOTS
0 – 0.39	190 (29.46%)
0.4 – 4.99	157 (24.34%)
5 – 9.99	216 (33.49%)
10 – 14.99	63 (9.77%)
15 - 30.00	19 (2.95%)
TOTAL	645 (100%)

Table 7: The number of lots of different sizes in the Werribee South Intensive Agriculture Precinct

The irrigated culture types within the Intensive Agriculture Precinct are shown in Table 8 below.

IRRIGATED CULTURE TYPE	Ha
Lucerne	34.1
Pasture – Annual	31.0
Pasture – Perennial	386
Orchard	4.4
Market Gardens	2384.4
Harvested Grain	0
Miscellaneous	82.1
Forage	0
Grapes	0
	2,891.0

Table 8: Irrigated Culture Types within the Werribee South Intensive Agriculture Precinct (Southern Rural Water 2010)

The Werribee South Intensive Agriculture Precinct is identified in the Wyndham Municipal Strategic Statement as an important asset to the state of Victoria, generating a large percentage of the total annual Victorian production of many vegetables including most of the state's cauliflower and broccoli. The quality of this area's soil, availability of fit-for-use water (if maintained), and access to local, national and international markets all contribute to its significance as an agricultural precinct. In addition to these strengths, the unique character of the Intensive Agriculture Precinct and its proximity to the neighbouring East Werribee Employment Precinct creates opportunities which have the potential to be capitalised upon to benefit agricultural production in future. The Municipal Strategic Statement supports agriculture as the predominant activity in Werribee South, with the area to remain non-urban for the foreseeable future.

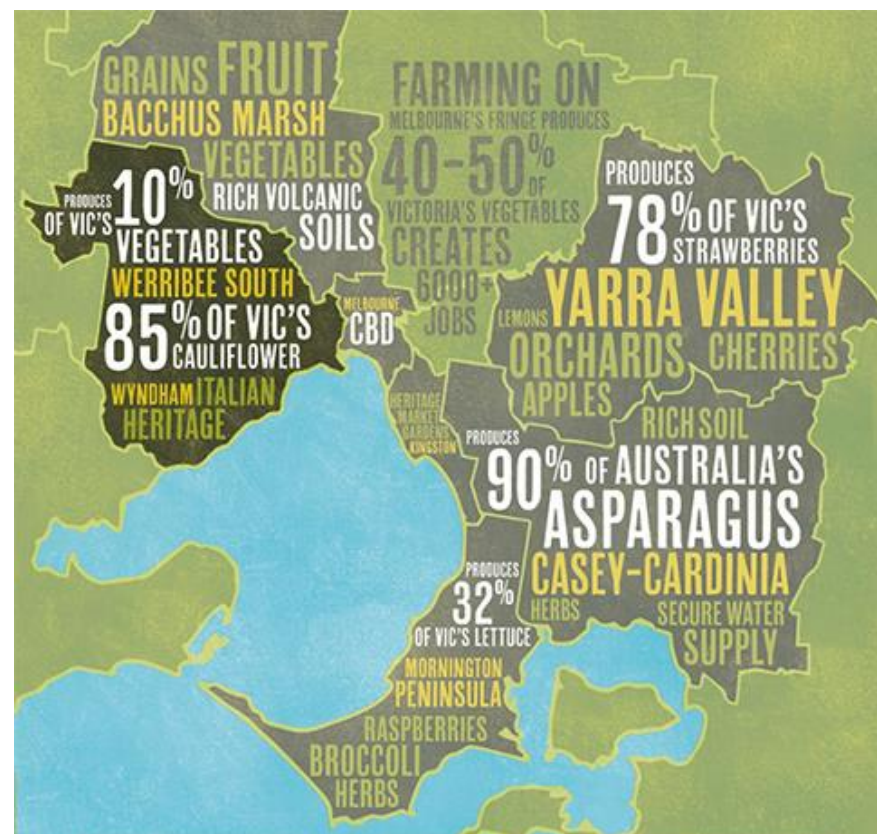


Figure 25: Food Production on Melbourne's Urban Fringe (Food Alliance 2015)

Despite the proximity of the area to non-agricultural areas, planning decisions made for land within or adjacent to the precinct should protect the viability of agricultural activity and not impact upon the right to farm. Landowners and farmers within the intensive agricultural precinct must be able to undertake agricultural activities without being unreasonably constrained by adjoining non-agricultural land uses.

The location of the Werribee South Intensive Agricultural Precinct in relation to major local and interstate transport networks, the proximity of the precinct to irrigation sources (Werribee River and the Western Treatment Plant) and the results of land suitability analysis suggest that the area could potentially support a range of rural activities beyond soil-based agriculture.

The three key attributes of the area (water, soil and transport infrastructure) should therefore all have an equal role to play in determining appropriate land uses in the area. Landowners must be able to capitalise on one or a combination of resources in response to changing market pressures and demand.

Diversification of agricultural activities in the area is considered a key to securing sustainability of the local economy. It is therefore appropriate to expect that activities occurring within the precinct extend beyond vegetable production to potentially include horticulture, aquaculture, hydroponics and other plant production.

The definition of agriculture must be applied flexibly so as to encompass and enable a wide range of primary production activities. However, whilst existing non- agricultural uses in the precinct are permitted to continue and expand, new broiler farms and intensive animal husbandry operations are discouraged.

Loss of agricultural land and impacts upon farming activities should be considered in the assessment of other discretionary uses including rural stores and cool rooms. As there is not presently a set of guidelines to help assess and control buildings and works, the establishment of localised conditions is considered necessary to ensure that no (zero) overshadowing of adjoining productive agricultural land occurs as a result of new use or development, and to provide protection from stormwater run-off as a result of increased hard surface ground cover.



WERRIBEE SOUTH GREEN WEDGE POLICY AND MANAGEMENT PLAN

The Werribee South Intensive Agriculture Precinct has specific service and infrastructure requirements relating to the area's agricultural activities and its farming community. Road and water infrastructure and services in particular are fundamental to supporting intensive agriculture within the precinct.

Due to the precinct's large land area and relatively small population size, the provision of infrastructure and services is a challenge. Changes to the demographic structure of the precinct have seen a number of existing local services such as schools close, while the precinct's current population size is not sufficient to support services that are common to residential areas. With the recent development of Wyndham Harbour which is still establishing, the community's demographics and service needs may further change. Planning for the precinct must take these social, physical and economic factors into account.

The cost of providing networked infrastructure and services (such as piped gas and reticulated sewerage) is apparently prohibitive to supply companies. Gas and sewage therefore have to be managed on site by property owners. In future there may be a case for the introduction of piped gas to areas of the Intensive Agriculture Precinct, to support agricultural activities such as the cold storage of produce. Council will continue to provide and (when appropriate) advocate for the provision of infrastructure and services that are sufficient to support sustainable agriculture.

Access to other precincts from and through the intensive agricultural precinct should be managed to limit detrimental impacts on agriculture. However, this should be balanced against the need to ensure that adequate service to existing and potential tourism and recreational areas is maintained and preserved.

FUTURE DIRECTIONS

The Werribee South intensive agricultural precinct will be retained as an agricultural area. Further subdivision of holdings is not permitted unless a minimum lot size of 15 hectares is retained.

Large land holdings for rural land uses should be maintained and subdivision or development which will reduce land sizes to unviable areas for agriculture be discouraged.

Agriculture should be viewed flexibly and a wide interpretation of the definition applied. Agriculture may include a range of primary production activities that utilise one or all of the key resources (water, soil and transport infrastructure) in the area.

All land use and development within the precinct must be compatible with agricultural activity. Existing agriculture and the protection of farm viability should take precedence over non-agricultural land uses in decision making. Well-managed agricultural activity will be promoted even where this may result in a loss of amenity to surrounding non-agricultural land users.

The sensitive nature of rural, natural and tourism interfaces and the need to buffer and protect existing agricultural activities must be considered in decision making.



Figure 27: Irrigation of crops at a farm in the Intensive Agricultural Precinct

5.3 The Green Wedge Buffer

OBJECTIVES

To ensure that the aviation-urban interface is well managed and that an adequate buffer is maintained between residential development, agricultural activities and the airport environs.

To encourage a broadening in the range of uses within the Green Wedge buffer area and promote flexibility of land use to improve its function as a buffer given its proximity to the Urban Growth Boundary.

To protect the Green Wedge buffer area from small incremental incursions which compromise the area's long term strategic role as the Green Wedge buffer.

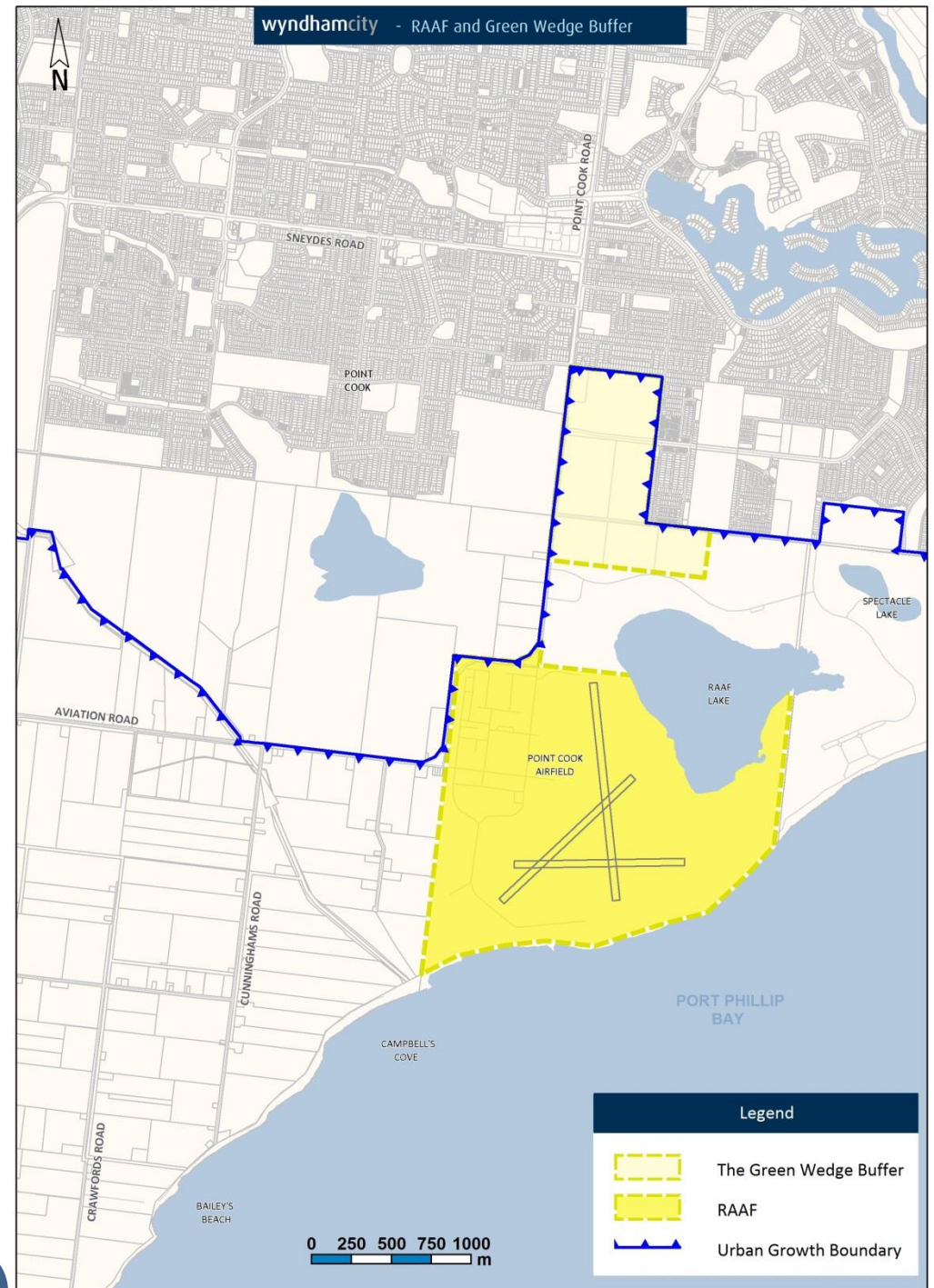


Figure 28: Areas within the Green Wedge Buffer

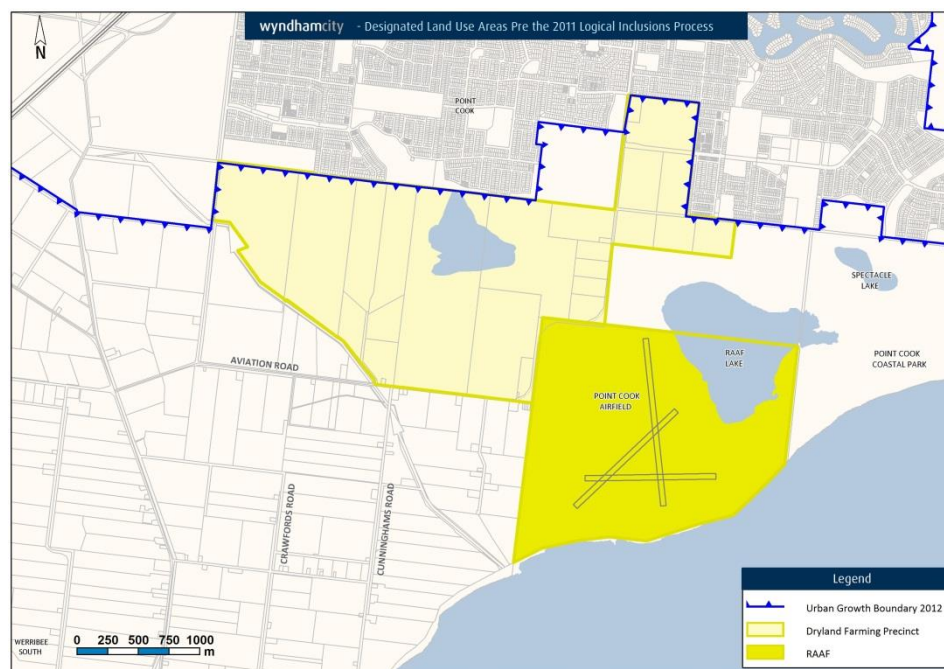


Figure 30 (above): The Dryland Farming Precinct as shown in the original management plan (2010)

In 2011, a logical inclusions process was announced following the urban growth boundary shift in 2009. The logical inclusions process aimed to address metropolitan land supply shortages and allow for a review of the previous boundary changes. The result was to include additional land within the UGB, as determined on merits.

The logical inclusion process resulted in the inclusion of most of the Dryland Farming precinct and the entire Rural Residential precinct, as previously identified in the Green Wedge Management Plan 2010, within the UGB. As a result the UGB extends as far south as Aviation Rd to include these areas. The sites adjoin the Point Cook RAAF Base which lies to the east and were previously used for grazing and cropping. These areas are therefore no longer within the Werribee South green wedge area. The remainder of the original Dryland Farming precinct is a small area of land that is north of the RAAF base, comprising of Council owned active open space, and rural residential lots.

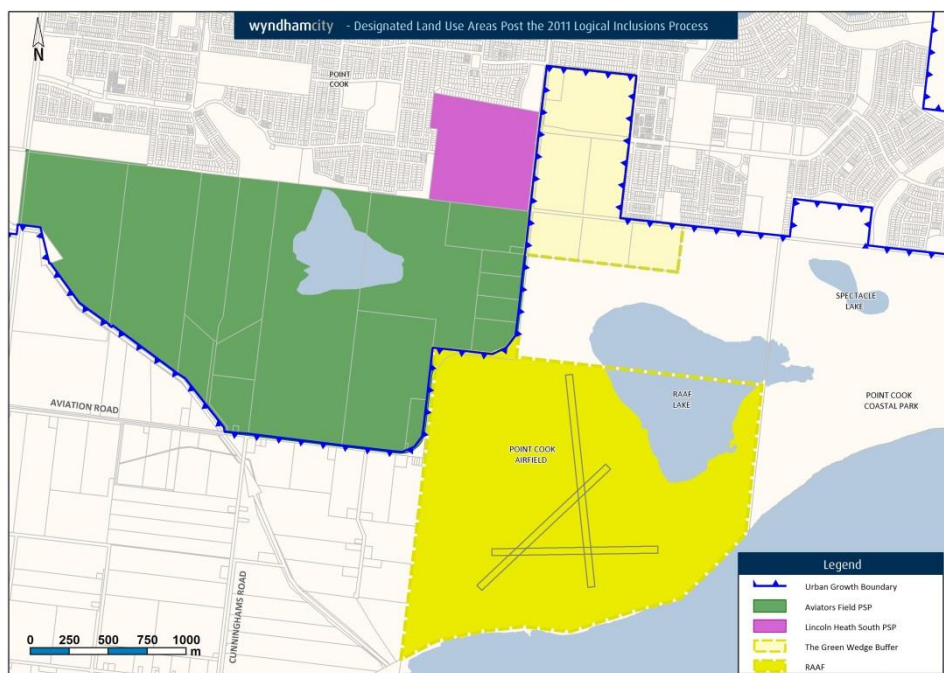


Figure 29 (above): Precinct Structure Plans located within the previously Dryland Farming Precinct

The land removed from the Dryland Farming precinct is now located within the UGB and has been temporarily rezoned to Farm zone from Green Wedge zone. The land within the Farm Zone is to be developed in future for residential purposes. The area is known as the future Aviators Field Precinct Structure Plan (PSP) site which, at the time of writing, is estimated to be completed in the year 2017.

Figure 30 shows the Dryland Buffer Precinct as shown in the original 2010 version of this management plan, before the Urban Growth Boundary was shifted as part of the logical inclusions process. Figure 29 shows most of the Dryland Buffer now rezoned for the purpose of residential development which will be planned as two areas; Aviators Field PSP and Lincoln Heath South PSP.

The land previously identified as the Rural Residential precinct has been rezoned to Urban Growth Zone from Green Wedge A Zone. The Precinct Structure Plan (PSP) for this area is named Lincoln Heath South PSP and was gazetted in late 2015.

Land within the precinct structure plan areas should be planned so that a functional buffer between residential and green wedge land, as well as the RAAF base, occurs. There is opportunity to determine such buffers in the planning stage of each precinct structure plan. Off-site impacts on adjoining intensive agricultural activities must be mitigated, and development should ideally achieve additional landscape and environmental benefits. This has further been specified in the *Logical Inclusions Advisory Committee Report No 4 (West Growth Area: November 2011)*, where the Committee considered it important that an enduring buffer be provided between future urban/residential uses and intensive farming operating on land to the south-west of the D1 drain. The Committee identified issues in the development of this land relating to air craft noise attenuation, drainage, biodiversity management, traffic, and the urban/rural interface management. However they were satisfied that these issues can be dealt with by future detailed investigations and planning processes.

The remaining part of the original dryland buffer area is relatively small and has salinity problems. It does not have the same access to water as is available in the irrigation district, and the size of the land holdings is restrictive for dryland farming. Despite this, the precinct is a valuable part of the Green Wedge, as it serves as a strategic buffer between the Point Cook RAAF base, land inside the Urban Growth Boundary and an established area of Point Cook to the north.

Diversification of land use is encouraged where this cements the buffer function of the area and where recreational, environmental and economic benefits can be demonstrated.

New rural activities should demonstrate special design adaptations and management provisions that reflect the peri-urban context and respond to the buffer role of the area.

Where the Planning Scheme requires discretionary uses to be ancillary to agriculture, the non-agricultural use should not comprise more than 20% of the total land use or of its building areas, and should not be considered unless it has been clearly demonstrated that the agricultural component of the development is sustainable and self-sufficient in its own right.

FUTURE DIRECTIONS

The economic, historical and cultural values associated with the Point Cook airfield should be protected and promoted.

An enduring buffer between urban development and the intensive agricultural precinct must be considered in decision-making.

Buffer activities that provide economic and recreational opportunities for adjoining urban or agricultural activities should be considered, provided that they provide a buffer role.

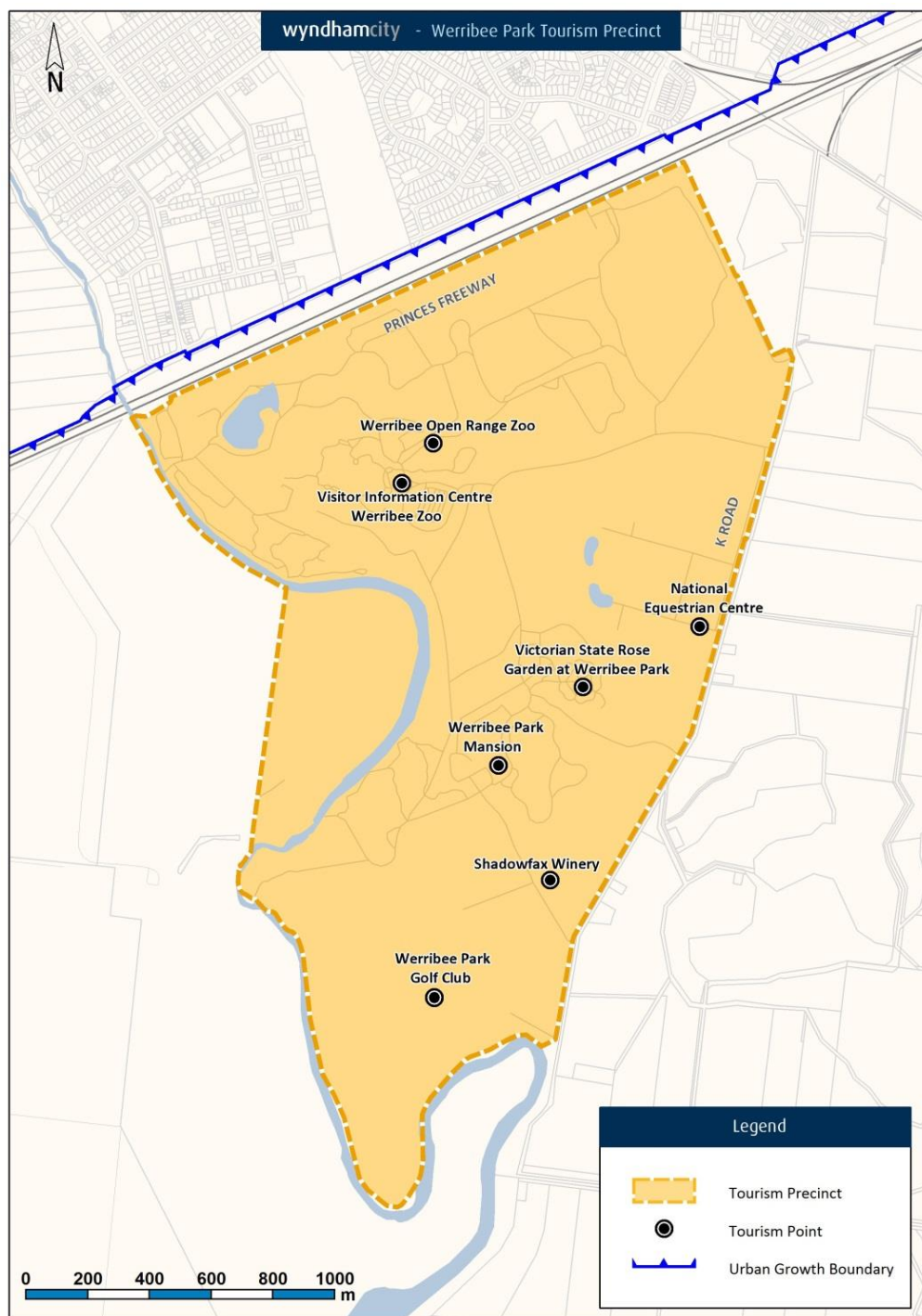


Figure 31: Werribee South Tourism Precinct

5.4 Recreation and Tourism Development

OBJECTIVES

To recognise the social and local economic benefits of recreational and tourism activities in the Green Wedge and protect the viability of existing sites and enterprises.

To encourage the appropriate development of the defined tourism precinct and growth in tourism and recreational opportunities elsewhere in the Green Wedge, whilst ensuring that off-site impacts are minimised.

To manage the K Road interface between agricultural and tourism land uses in a manner that helps to secure the sustainability of both groups of activities.

To ensure that new tourism and recreational uses within the Green Wedge are responsive to the surrounding agricultural and natural environs, and to protect such key assets from inappropriate or overdevelopment.

Tourism within the Green Wedge has expanded significantly over the last decade. The Werribee Park tourism precinct in particular has grown in significance and plays an important role in both the local Wyndham and broader State economy.

Many attractions within the main Werribee Park tourism precinct (see Figure 31) continue to increase their appeal through an expanded range of products and experiences and now generate substantial numbers of visitors. The growing popularity of Werribee's Open Range Zoo has widened the potential tourist market as well as heightening the image of the entire tourism precinct.

Over 1.4 million visitors currently access the precinct each year, and this is expected to grow with new additions to the zoo, and further development of the luxury niche market currently comprising the Mansion Hotel and Shadowfax winery and cellar door complex.

Council recognises that the promotion of tourism and recreation within the Green Wedge has the potential to create a number of key benefits in the areas of economic growth and employment, community health and wellbeing. Precincts of the Green Wedge such as the Werribee Park tourism precinct, Werribee South Township precinct, Wyndham Harbour and the Parks, Coast and Wetlands precinct will become increasingly critical in meeting urban-based recreational needs as the nearby residential community continues to expand over the next decade. However, the location of existing and planned tourism and recreation nodes within close proximity to the Intensive Agriculture Precinct and the Western Treatment Plant requires that development and use be planned and assessed with a full and sensitive understanding of the potential positive and negative impacts on agricultural production and environmental values. The intensive agriculture precinct itself offers some opportunity for farm-based tourism activities.

Whilst the Wyndham Municipal Strategic Statement encourages the expansion of tourism activities within the Werribee South Tourism and Harbour precincts, it also states to 'ensure that the siting of tourism operations minimises the potential for conflict with farming activities' (Clause 21.08-4). The expansion of existing tourism and recreational activities and planning for new enterprises must be considered in light of the impacts on agricultural production and the limitations of existing road and power infrastructure. New developments should be sited on roads that are capable of handling additional traffic and which safely link to the existing tourism precinct and key transport interchanges. Increasing traffic is frequently causing congestion and delays within the precinct particularly during major events as local roads have one lane in each direction. A partnership approach involving Council, Parks Victoria and private operators is encouraged to ensure that planning and management of recreational and tourism assets is integrated, equitable and responsive to the changing social and market needs.



Figure 32: Gorilla and Hippopotamus at Werribee Open Range Zoo

FUTURE DIRECTIONS

Planning for tourism and recreation should incorporate environmental gains through the rejuvenation and rehabilitation of natural assets including coastal and waterway environs.

New tourism developments should be responsive to the rural nature of the locality, and should be sited to minimise the potential for conflict with farming activities (including spraying, harvesting, lighting, operation of noisy machinery and transport).

The need to buffer adjoining land uses from off-site impacts associated with tourism activities should be incorporated into planning of new sites and activities.

Further development of tourism sites and facilities must be accompanied by appropriate levels of infrastructure, with the capacity of existing infrastructure considered in decision making.

Networking of recreational and tourism nodes and population centres is encouraged where this does not detrimentally impact upon agricultural production or compromise the buffer between residential and non-urban land uses.

Farm-based tourism activities which value-add to existing agricultural activities in the intensive agricultural precinct are supported where they meet the requirements of the Green Wedge Zone provisions and there is no detrimental impact on existing agricultural uses.

Examine options for land adjoining urban areas which may provide economic or recreational opportunities while reinforcing their buffer role.

5.5 Parks, Coast, Waterways and Wetlands

OBJECTIVES

To manage the effects of peripheral urban development to ensure that significant environmental assets within the precinct are not detrimentally impacted upon.

To encourage an expansion of recreational and learning uses and opportunities within the precinct to meet the emerging needs of the community, without compromising the natural value, significance and integrity of natural areas.

To protect and enhance sites of environmental significance on public and private land within the Green Wedges.



Figure 33: Werribee River and K Road Cliffs

Key assets of the Parks, Coast, Waterways and Wetlands precinct include:

- Internationally significant wetlands, designated Ramsar status in recognition of high value as habitat for waterbirds;
- Shorebirds of international importance;
- Diverse vegetation types including Coastal Woodland, Coastal Dune Scrub, Plains Grassy Wetlands, Berm Grassy Shrubland and Estuarine Flats Grassland;
- Lower section of Skeleton and Laverton Creeks and part of the former Cheetham saltworks, maintained for environmental and cultural values;
- Landscape values that reflect the rural character of the park and reinforce a sense of remoteness in an increasingly urbanised setting (Parks Victoria, 2005);
- The Werribee River and its environs;
- Grahams Wetland Reserve;
- Werribee South foreshore recreational facilities, which include a multi-lane boat launch and power-ski ramp, barbeques, shelters and playground facilities; and
- The Point Cook Coastal Park, Point Cooke Marine Sanctuary, Cheetham Wetlands and the Werribee River Park.
- Point Cook lignum and seasonal herbaceous wetlands.



Figure 34: Parks, Coast, Waterways Precinct – Eastern Section



Figure 35: Parks, Coast, Waterways and Wetlands Precinct - Western and Central Section

The Parks, Coast, Waterways and Wetlands precinct consists of three sections:

- i. An eastern section containing Point Cook Coastal Park, Point Cooke Marine Sanctuary, Cheetham Wetlands and recreational areas within Hobsons Bay (see Figure 34 and Figure 37)
- ii. A central section containing the Werribee South coastline (see Figure 35).
- iii. A western section covering the Werribee River environs and the Werribee River Park (see Figure 35).

The central section of the Parks, Coast, Waterways and Wetlands precinct which runs along the Werribee South coastline is discussed in the following section of the Management Plan (See Section 5.6).

The eastern section of the Parks, Coast, Waterways and Wetlands precinct, shown in Figure 34, is predominantly public land which is planned for and managed by City West Water, Hobsons Bay City Council and Parks Victoria. It is a significant conservation and recreation area, containing features such as:

- Point Cook Coastal Park,
- Point Cooke Marine Sanctuary,
- Port Phillip Bay (Western Shoreline),
- Bellarine Peninsula Ramsar Site,

- Cheetham Wetlands,
- Stretches of Laverton Creek and Skeleton Creek,
- Truganina Swamp,
- Truganina Explosives Reserve (now a conservation area),
- The Altona Treatment Plant (City West Water),
- H.D. Graham Reserve,
- Apex Park,
- Wyndham Harbour containing two new beaches and a marina;
- Koorringal Golf Club,
- Sections of the Bay Trail, and
- Recreational beaches.

The Point Cook Coastal Park, Point Cooke Marine Sanctuary, and Cheetham Wetlands, attract over 200,000 visitors a year. They provide a natural and highly scenic setting on Port Phillip Bay where visitors can enjoy a range of passive recreational experiences and appreciate marine and cultural heritage values within close proximity to Melbourne.

The Point Cook Coastal Park was created in 1978 to preserve the historic Point Cook Homestead precinct (original home of the Chirnside family and now considered to be of State significance) and the nearby Basalt Plains Grasslands, freshwater lakes and coastal dune ecosystems. The park supports a diverse range of habitats and cultural sites.

The Cheetham Wetlands are composed of a natural lagoon and a series of artificial lagoons over 420 hectares that provide habitat for migratory birds of international significance. The dual conservation and recreation role of these areas is a defining feature which is integral to the visitor experience.

Point Cooke Marine Sanctuary adjoins the Parks, Coast, Waterways and Wetlands precinct. Along with Point Cook Coastal Park, the sanctuary provides an important venue for educating the public about the marine environment and marine and coastal conservation.

The beaches of the sanctuary are popular with swimmers, divers and snorkelers as they are among the few accessible swimming beaches on the western coast of Port Phillip. The sanctuary's waters are popular for boating, and Point Cooke is an important landmark and a navigational reference for boat operators.

Rapid population and urban growth in Point Cook is expected to continue and in some areas residential development is planned to border the Point Cook Coastal Park along a substantial portion of its boundary. An environmental/rural landscape buffer will be required in sections.

Adjoining residential development presents a range of interface challenges, with potential issues including:

- Impacts from stormwater discharge on the marine environment and associated wetland processes;
- Visual intrusions along the precinct boundaries;
- Increased visitors and demand for new access;
- Increased disturbance to wildlife from domestic animals, noise and lighting; and
- Weed invasion (Parks Victoria, 2005).

Stormwater has the potential to affect the water quality of the sanctuary and, consequently, the natural values of Port Phillip by delivering excess freshwater and pollutants, including sediments and nutrients, micro-organisms, toxic organics, heavy metals, oils and surfactants, as well as litter and debris. Peripheral urban development should not impact detrimentally on the environmental values of the sanctuary, wetlands and coastal park.

The parkland needs to accommodate appropriate recreation demand without compromising its significant environmental assets or its strong 'urban refuge' identity.

The Parks Victoria 'Management Zone' Framework (see Figure 37) has been designed to ensure that the primary purpose and individual values of different areas within the precinct are reflected in decision making.

The western section of the Parks, Coast, Waterways and Wetlands Precinct covers the Werribee River environs; Grahams Wetland Reserve and the Werribee River Park.

The Werribee River and its environs are recognised as an area of environmental significance and are covered by an 'Environmental Significance Overlay'. The *Wyndham Waterways Strategy Plan 2003* provides the strategic framework and future directions for waterways in the City of Wyndham. Land use and development within the Werribee South Green Wedge must therefore be compatible with the aims of the Waterways Strategy as well as other key policies and strategies.

The Werribee River Park provides a range of recreation, tourism and leisure activities which complement those services offered within the Tourism Precinct.

The Werribee River Park and the proposed completion of the Wyndham Bay Trail will connect existing trails and in so doing provide a continuous link between Werribee, the Werribee River, Werribee South Township, the Werribee South coastal reserve, Point Cook and beyond around the Port Phillip Bay coastline (See Figure 39). This will further increase the day- to-day movement of urban residents into and around the tourism precinct and other areas of the Green Wedge.

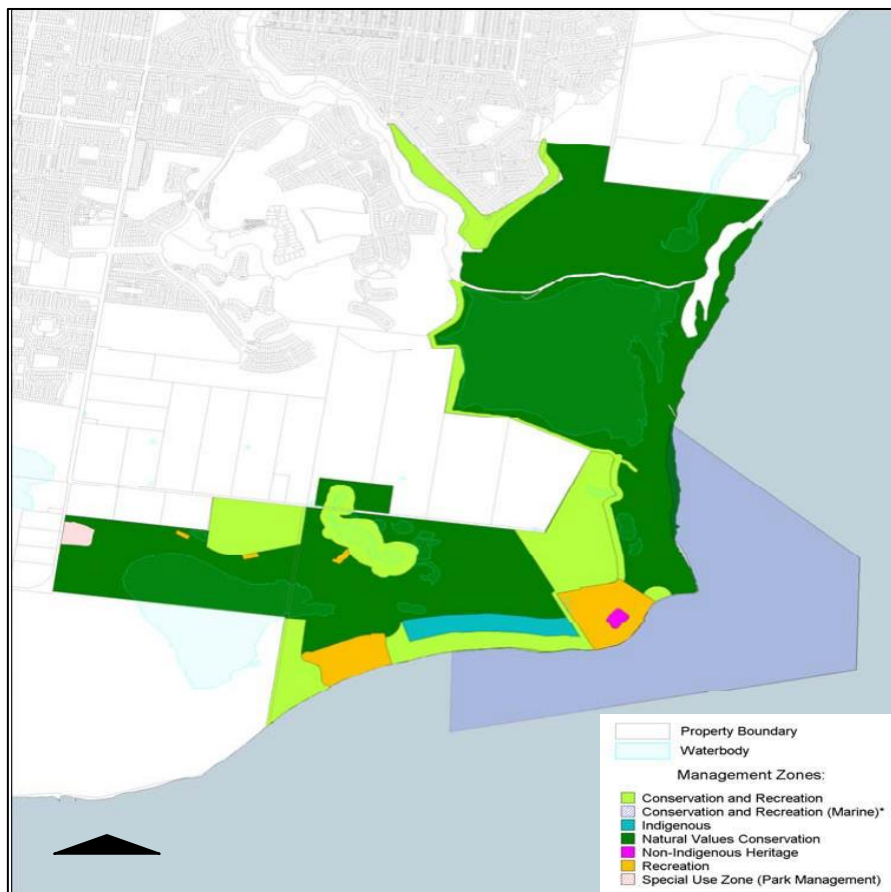
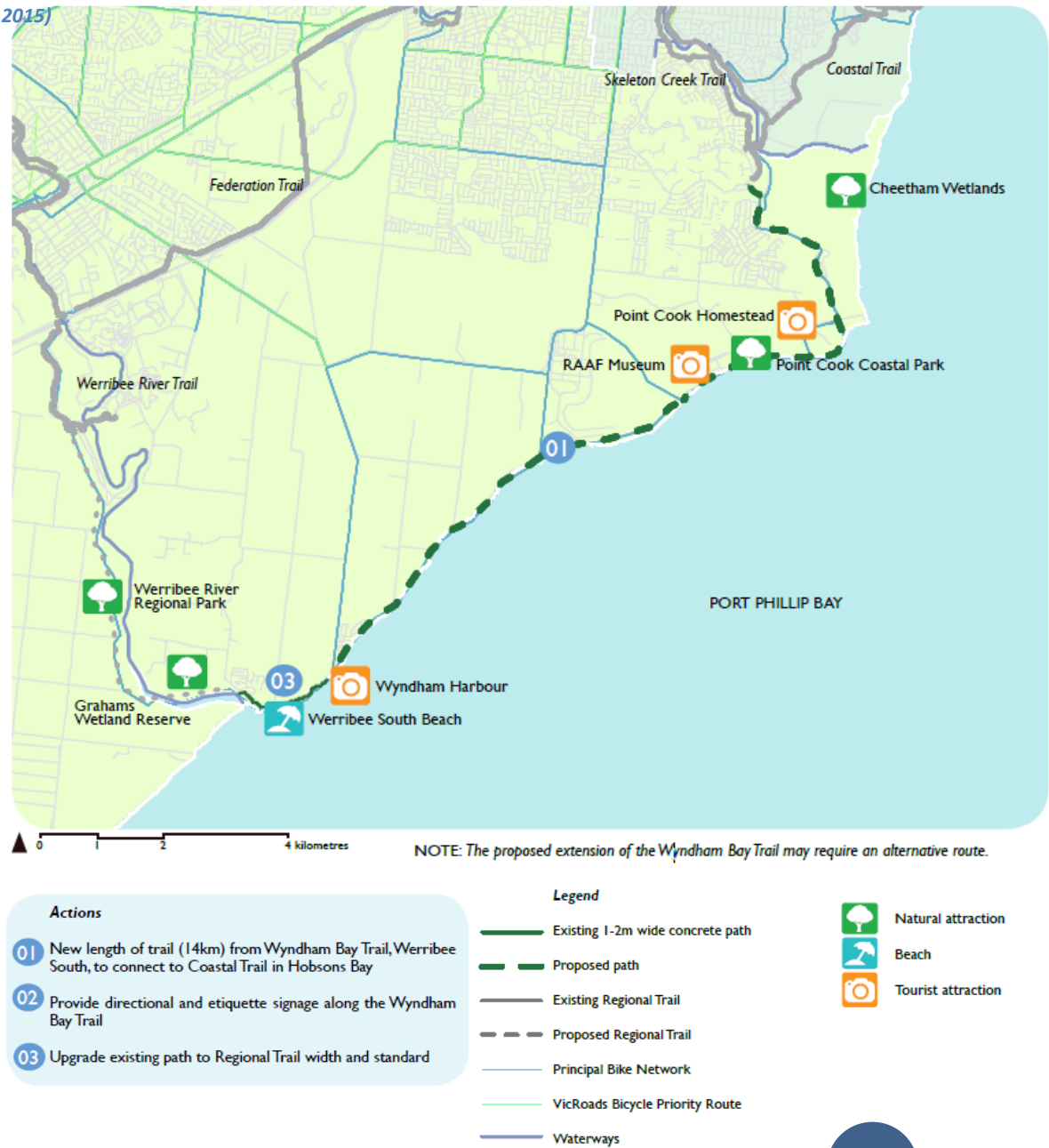


Figure 37: Management Framework for Point Cook and Cheetham Wetlands Coastal Park (Park Victoria 2005)



Figure 36: Kayaking along the Werribee River & view of the K Road Cliffs

Figure 39: Proposed Wyndham Bay Trail (West Trails: Western Metropolitan Region Trails Strategic Plan Draft - August 2015)



FUTURE DIRECTIONS

New residential development in Point Cook should respond to the environmental context of the adjoining precinct, with urban land uses to be buffered when located adjacent to the Park.

Council should work with the appropriate management agencies to inform their planning for the precinct, and support the development of educational and recreational facilities within the park's public spaces.

Increased bicycle and pedestrian access (including the Bay Trail) through adjoining residential developments to the precinct will be supported where there is demonstrated sensitivity to environmental constraints.



Figure 40: Beach on the coast of Werribee South

5.6 Werribee South Coastline

OBJECTIVES

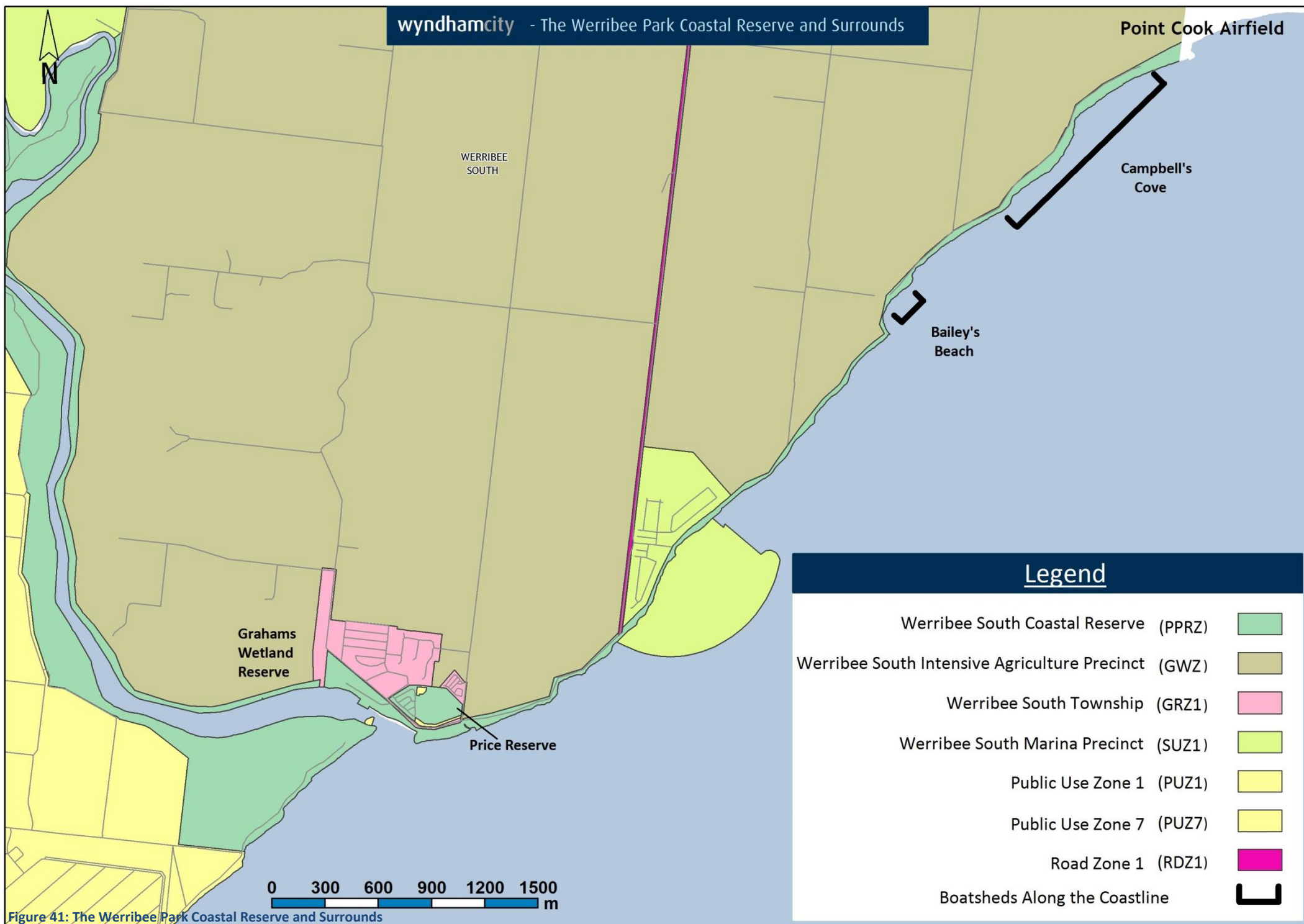
To protect, manage and enhance the identified coastal values of the Werribee South coastline.

To provide for public access to the Werribee South coastline.

To protect private land and the right to farm along the Werribee South coastline.

To manage the interface and minimise conflicts between activity in public coastal areas and activity in adjoining private agricultural and domestic areas.

To protect and enhance the Werribee South coastline for environmental, recreational and tourism purposes.



The Werribee South coastline is gently undulating and features pocket beaches, coastal cliffs (identified as being of regional significance), 143 boatsheds, and windbreaks consisting of stands of cypress trees and hedges of box thorn and various other introduced species. A coastal reserve runs along the Werribee South coastline from the Werribee River to the Point Cook Airfield, broken only by the Wyndham Harbour site. The coastal reserve is narrow in width, and at some points private land extends almost directly to the water's edge (See Figure 41).

The private land adjacent to the coastal reserve is used predominantly for intensive agriculture. As a result, the coastal – agricultural interface is a key element of this area. The existing windbreaks along the coastal reserve boundary provide the coastal agricultural areas with protection from bay winds and salt spray, and they also serve to provide privacy and deter intrusion. Planned coastal rehabilitation works were carried out, with weeds cleared and revegetation carried out along a section of coastline near Campbell's Cove. Where existing vegetation is removed as a part of such works, revegetation should aim to provide protection and privacy to the adjoining agricultural areas.

There are a small number of dwellings located close to the coastal reserve, and it is likely that their number will increase in future. Use of the coastal reserve by the public is also likely to increase as a result of the introduction of the proposed Bay Trail, continued population growth in nearby Point Cook and Wyndham overall, new residents within Wyndham Harbour, and the increasing popularity of Werribee South as a tourist destination. Wyndham Harbour is developing two new swimming beaches. Furthermore, Campbell's Cove beach had its clothing optional status revoked in 2015 of which it held since 1986. These areas will help serve the recreational needs of Wyndham's growing population.

The interface between activity in the public coastal areas and activity in the adjoining private agricultural and domestic coastal areas will

therefore require careful management to minimise conflict between activities and ensure that the coastal environment meets the needs of all users without adversely affecting adjacent agriculture. Existing views to the You Yangs and city skyline from the coastline are considered significant features of the Green Wedge and should be preserved.

Management of the interface could be assisted through the introduction of a planning control so that the interests of all users of the Werribee South coastline are considered in the planning process. Further work will be undertaken to determine the most suitable control, and affected landowners and the community will be engaged in this process.

Land acquisition is likely to be required at points along the coastline where the coastal reserve is very narrow, to:

- Provide enough land to accommodate the continuation of the Bay Trail (from Point Cook along the coastline to the Werribee River),
- Provide for and manage public access to the coastline,
- Protect private land and the right to farm,
- Protect and enhance the values of the Werribee South coastline through revegetation, erosion prevention, remediation, regular cleaning & maintenance, sand and other such works.

FUTURE DIRECTIONS

Urban-scale development is to be contained to within the existing Werribee South Township Precinct and the Wyndham Harbour Precinct.

The potential impacts on existing infrastructure, especially the road networks through the intensive agriculture precinct, must be considered in decision making.

The interface between activity in the public coastal areas and activity in the adjoining private agricultural and domestic coastal areas must be carefully managed to minimise conflict between activities and ensure that the coastal environment meets the needs of all users without adversely affecting adjacent agriculture



5.7 Residential Development

OBJECTIVES

To protect agricultural land from incompatible land uses and promote the continuation of farming and its viability within the local economy.

To conserve and enhance the cultural significance and character of the scenic rural landscape and open coastal spaces.

To separate agricultural land uses and activities from residential development through the protection of non-urban buffer areas.

Despite the fertile soils and established productivity in Werribee South, the pattern of small landholdings within the intensive agriculture precinct and across other privately held sectors of the Green Wedge means that maintaining economic viability is commonly a challenge. As a result, a belief has emerged amongst many landowners that urban development is a realistic alternative.

In response to these expectations, Wyndham City Council commissioned a range of investigations over 2001 and 2002 to examine the potential for a variety of land uses in the area. Studies included analysis of transport (Veitch Lister Consulting Pty Ltd, 2002), hydraulic infrastructure (Phillips Agribusiness, 2002), and community opinions (Spatial Vision, 2001). The land-use options considered were:

- Rural residential development
- Full residential development
- 150 hectares of residential development at standard densities (5% of the intensive agricultural precinct); and
- Diversification and intensification of agriculture in lieu of residential development.

Rural residential development would progressively fragment the land and undermine the viability of the farm operations that continue. It would also introduce a range of people who would not have farm backgrounds; a primary cause of conflict with farming, as outlined below.

Full residential development was most strongly favoured by those Werribee South landowners who supported a major change. However:

- It would create an urban community of close to 100,000 people. Such a large community would create major stress on the Princes

Freeway and the roads linking to it, especially in the Point Cook area.

- It would also range from 2.5 to over 10km from the nearest rail station, well over the target for all new residential communities to be within 3km of a station.
- Wyndham has current potential for an estimated 20 - 30 years growth at current rates. These designated growth areas are generally more easily serviced, especially by transport infrastructure.
- An area as large as Werribee South would take at least 15-30 years to develop, depending on future growth and the other options available at the time. This, combined with Werribee South's many small holdings, would result in fragmented development, and a protracted break-down of the agricultural area and its irrigation system.
- Melbourne would lose arguably its best nearby supply of fresh vegetables; a strong factor in Government policy since the 1960's.

Localised residential growth has very little support in the community or government agencies. The development of Wyndham Harbour is an exception where the project was first adopted in the 1980's and includes housing associated with the marina development. Traffic impacts and other effects on farm viability caused by the Harbour remain a concern for the farming community.

To focus on agriculture as the long term future of Werribee South builds on its existing strength and is consistent with Government policy.

However, there is a real need to:

- Ensure an on-going supply of suitable irrigation water,
- Reinforce the right of the farmer to farm,
- In particular, limit the scope for people without an interest in farming to achieve tighter controls on farmers' ability to adapt to change,
- Widen the focus from "soil based agriculture" to include all legitimate forms of agriculture,
- Where there are two or more dwellings on a lot, allow for the "surplus" dwellings to be excised,
- Buffer agriculture from conflicting land uses, and
- Otherwise restrict the impact of conflicting land uses by prohibiting them, containing them to locations where their impact would be minimal, or regulating their design and operation.

Residents have different priorities and expectations than farmers. In particular, they are normally concerned about the impacts of farm fertiliser odours, noise, spraying, dust, mud on roads and other factors. They can also introduce problems such as weeds, shady trees along boundaries and intrusions onto farms by people and pets. The introduction of residential activity therefore steadily undermines farm viability. It is on this basis, and in accordance with State Planning Policy, that further intensive residential development or subdivision for rural-residential development is precluded within the Werribee South Green Wedge (and green wedges generally).

Where multiple houses already exist, excision of the surplus houses onto separate lots is not considered to significantly impact upon agricultural production, although small numbers of non-farming residents may be introduced.

However, vacant house lot excisions, which by their nature increase the number of houses and absorb land previously available for production, are considered to compromise the agricultural-based objectives of the area, erode farm viability and limit opportunities for land consolidation. This position has been supported by VCAT:

“The Responsible Authority document and policy is quite clear and has been developed over a number of years in an endeavour to protect the Werribee South intensive vegetable farming area. The Tribunal understands their (Council’s) concern and agrees that small individual excisions will in time fragment the area. The Tribunal believes that subdivision should not occur in this rural zone....particular care must be taken (if) allowing these” (VCAT Determination 2000/6023).”

Vacant house lot excisions near the coastal reserve would, with the construction of dwellings, impact upon a visually open, rural coastal landscape which is considered a defining feature of the Wedge. Such excisions are therefore restricted by the planning scheme. Where there is an existing right to build a dwelling near the coast, it should remain, but subject to reasonable design provisions to protect the coastal landscape.

FUTURE DIRECTIONS

Further residential subdivision has been precluded within this Plan for the foreseeable future, including new rural residential living communities. This, however, should not negate the provision of additional infrastructure to meet the evolving needs of the existing Werribee South community.

House lot excisions are not permitted except where more than one dwelling exists on the lot and has existed prior to implementation of this policy initially in 2010. Any additional dwellings, above one, may be subdivided as excisions providing that one dwelling remains as part of the original farm lot, and the excised lot is a minimum of 0.4 hectares and a maximum of 0.5 hectares in area.

Siting of any new residences must minimise the potential for conflict with farming activities (including spraying, harvesting, lighting, operation of noisy machinery and transportation functions), and if adjacent to the Coastal Reserve, must comply with the existing siting guidelines.

Siting of any new residences should be sited and designed in accordance with the Victorian Coastal Council’s *Siting and Design Guidelines for Structures on the Victorian Coast*.

An enduring buffer be provided between future urban/residential uses (outside of the UGB) and the adjoining to intensive farming land.

5.8 Wyndham Harbour

OBJECTIVES

To ensure development of Wyndham Harbour is socially and environmentally responsive to the surrounding agricultural environs.

To ensure that any proposed use and development within the Wyndham Harbour is generally consistent with the approved Wyndham Harbour Development Plan.

To encourage tourism and new transport initiatives within the Werribee South area through the Wyndham Harbour development.

To ensure the use and development of the marina is compatible with existing uses in the vicinity.

To ensure that development is responsive to the adjoining agricultural environs and does not encroach into the Intensive Agriculture precinct.

To prevent further expansion into the surrounding rural precincts.



Figure 42: Palm tree at Wyndham Harbour (Wyndham Harbour 2015)

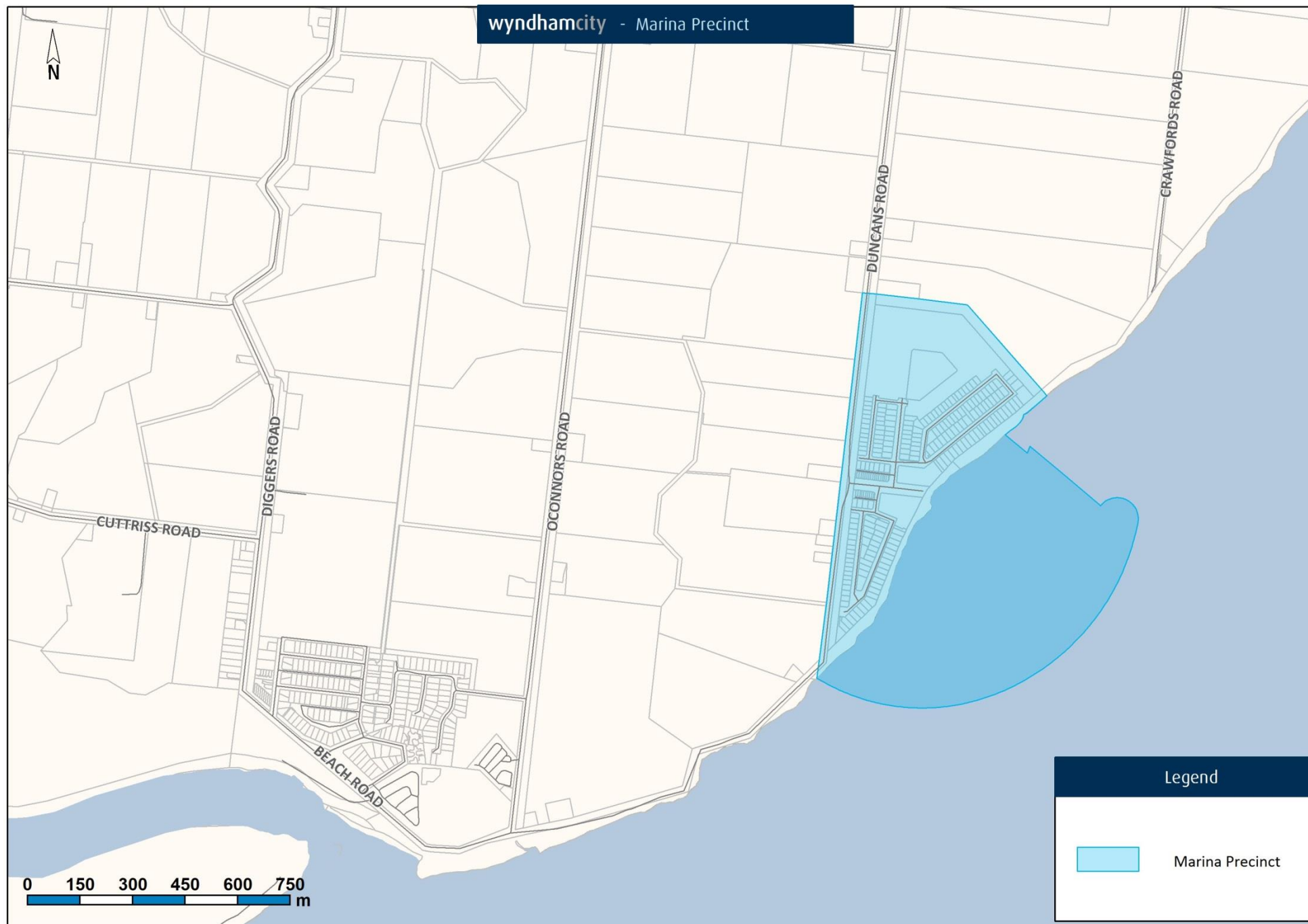


Figure 43: Wyndham Harbour Precinct

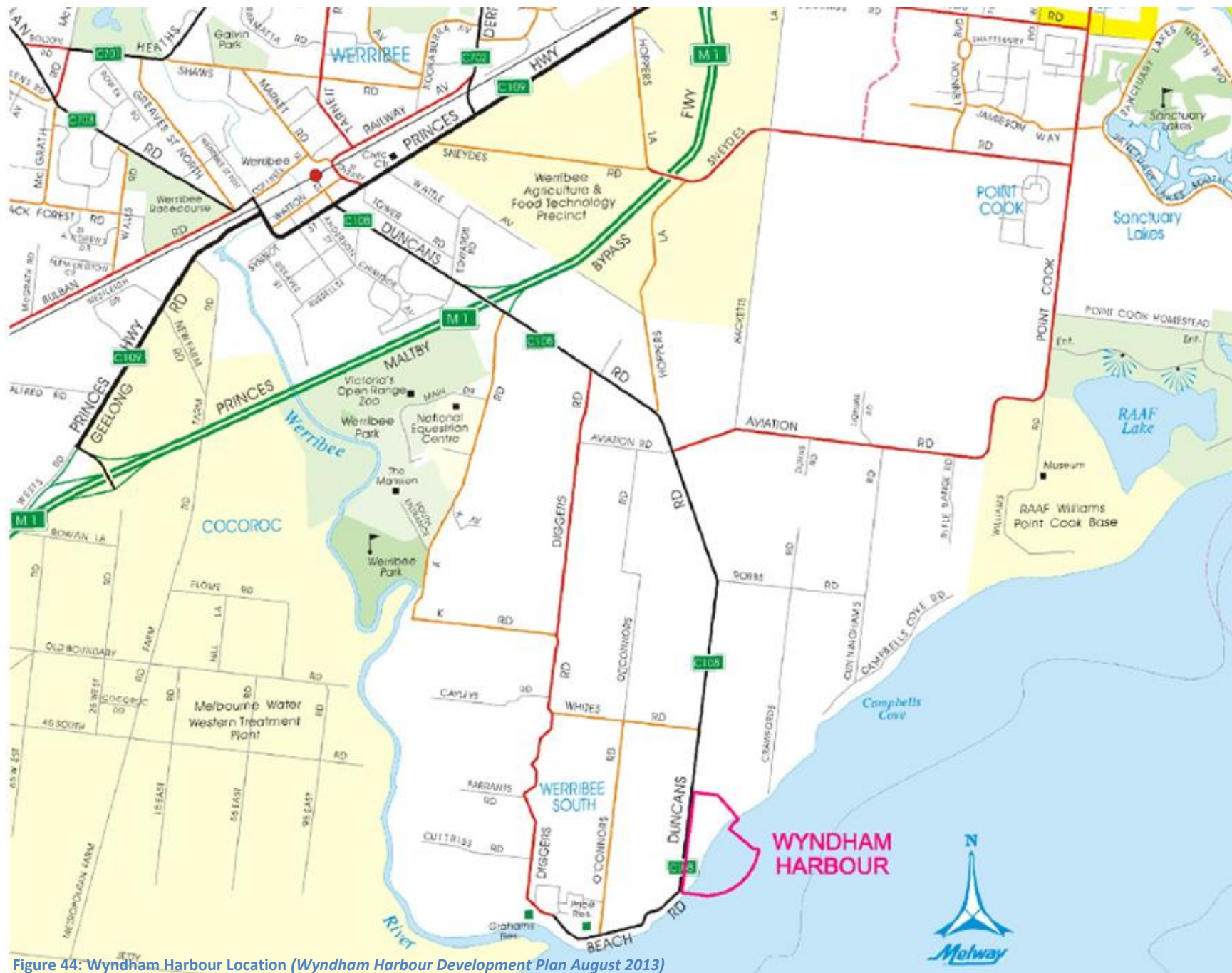


Figure 44: Wyndham Harbour Location (Wyndham Harbour Development Plan August 2013)

Wyndham Harbour comprises an establishing residential community, marina and safe boat harbour facility. The site has a total area of 72.11ha comprising of both land and seabed. The harbour will comprise of a breakwater, marine berths, boat storage, commercial uses, dwellings, car parking and public beaches. The harbour was initially proposed in the 1980's, and in the 1990's the zoning of the site was changed to its current zoning – "Special Use Zone - Schedule 1: Wyndham Harbour".

The harbour's first residents moved in, in 2013 and the first apartments were completed in 2014. The first stage of the Wyndham Harbour is anticipated to be operational in the summer of 2015-2016. Development of the site has been supported by the State Government with its continued designation of the location as a new Safe Harbour (Victorian Coastal Council, 2002).

The development of the marina will necessitate significant impact on the coastal landscape; however, this is not considered a precedent for further coastal development. Further expansion of the marina along the coastline or into the Intensive Agriculture Precinct is precluded.



Figure 45: Playground at Wyndham Harbour (Wyndham Harbour 2015)

The potential impacts of Wyndham Harbour have been addressed as part of the planning process. Landscaping buffers have been incorporated into the design as a measure to minimise its effects on adjacent agricultural land. Contributions were required from the harbour development towards:

- Mitigating works along and at intersections with Duncans Road (including Aviation Road, Hoppers Lane, Diggers Road and Beach Road),
- Sealing of the shoulders along Duncans Road,
- The construction of part of the Bay Trail,
- Improvement to and in the vicinity of the Werribee South Boat ramp.

Close monitoring and careful management will enable any additional impacts associated with the Wyndham Harbour development to be addressed as they arise. This Management Plan provides a framework for such actions.

FUTURE DIRECTIONS

To manage the development of Wyndham Harbour to protect the adjoining rural precincts from any detrimental impacts.

5.9 Werribee South Township

OBJECTIVES

To protect the township from inappropriate development and overdevelopment.

To ensure future development of the township does not detrimentally impact on surrounding agricultural activities.

To ensure that the township can function as an economically and socially viable community.

To prevent further expansion of the township into the surrounding rural precincts.

The Werribee South Township is located at the mouth of the Werribee River, south of the major intensive agricultural precinct (See Figure 46).

The Werribee South Township retains a distinctly coastal feel, with stands of Cyprus trees lining the Werribee South Coastal Reserve. Boat launching ramps at the river entrance are heavily utilised, though beach tourism is otherwise limited due to the narrow nature of the beach and deep water channels close to the shore which render swimming hazardous.

The township evolved from the 1920s with a significant period of development occurring in the 1970s. Dwellings of this era are located in the western half of the township, whilst the eastern half was created during the late 1980s. Dwellings and buildings are predominantly single story along Beach Road, with larger dwellings behind. Services to the township are basic, with the general store and petrol station serving the population of 500. Whilst buses from Werribee do service the town, it remains relatively isolated.

The proximity of the township to the intensive agricultural precinct results in a sensitive residential-rural interface that must be planned in a way that ensures agricultural land is protected, whilst also protecting the township and retaining the potential for future infill development and infrastructure upgrades.





Figure 46: Werribee South Township

FUTURE DIRECTIONS

As the township is surrounded by the intensive agricultural precinct, further residential expansion is not considered appropriate. However, the long term strategic direction of the township should be further evaluated as a separate planning exercise.

In the interim, development must not compromise or detrimentally impact on surrounding agricultural land uses, nor cause detrimental impacts on natural coastal processes or coastal view sheds.

The need to buffer rural land uses from residential development must be considered in development assessment. New dwellings within the township should be sited to minimise potential conflict with surrounding agricultural activities and where possible should not directly adjoin it.

The capacity of existing infrastructure systems should be considered in decision making.

Manage development of the township area to avoid overdevelopment.

5.10 Western Treatment Plant Precinct

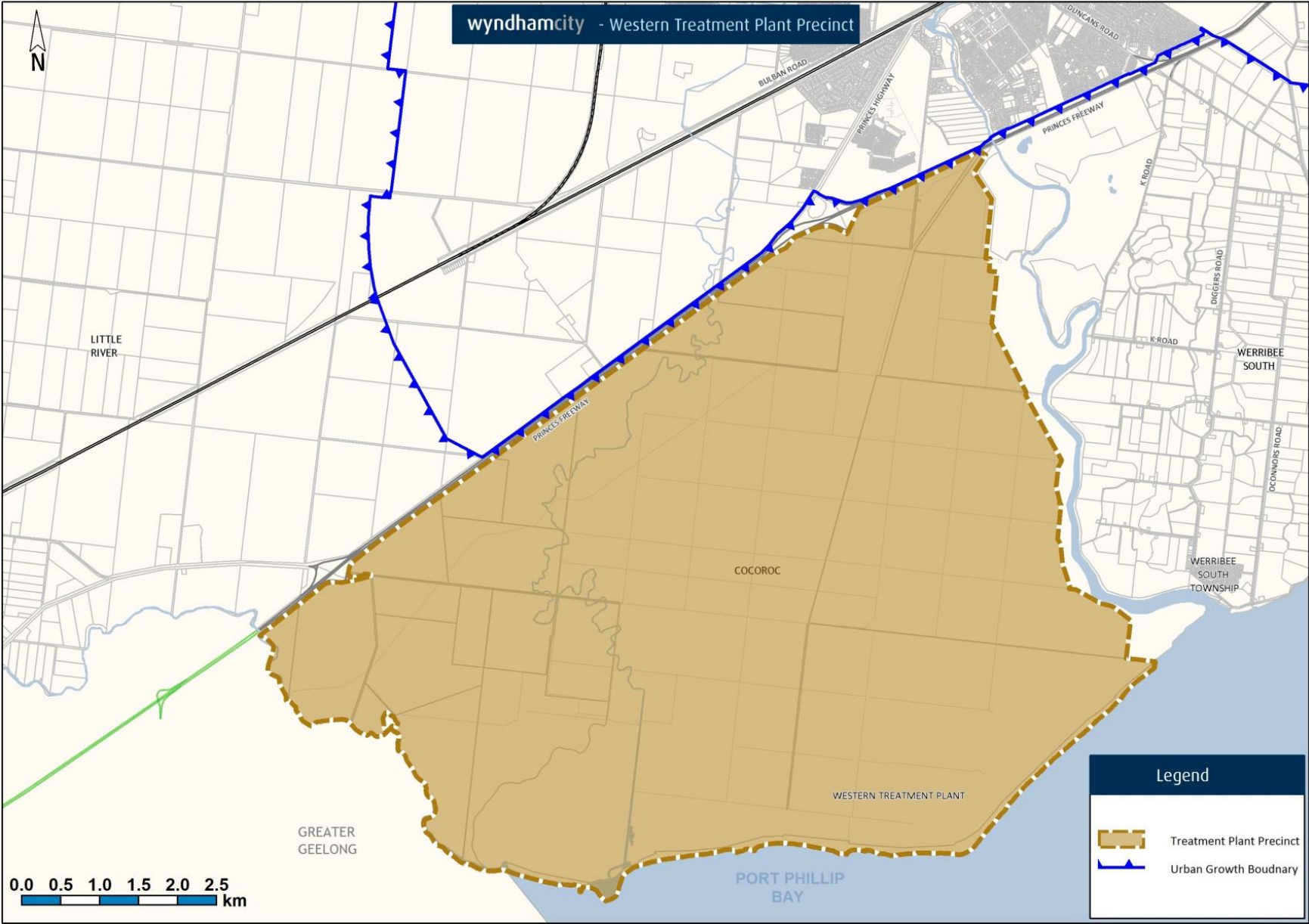


Figure 47: Western Treatment Plant Precinct

The Western Treatment Plant Precinct is shown in Figure 47. The Melbourne Water operated Western Treatment Plant is the major feature of the precinct.

The Western Treatment Plant is a significant public asset which treats 54% of Melbourne's sewage. It also produces recycled water, which is supplied to farmers in the Intensive Agriculture Precinct and other areas of Wyndham outside of the Werribee South Green Wedge, including the East Werribee Employment Precinct, recreational reserves and a number of new residential developments.

The plant operates under an accredited EPA licence and the *Environment Improvement Plan*. The Western Treatment Plant is listed as a wetland of international importance under the Ramsar convention. The Ramsar and *Conservation Management Plan*, the *Environment Improvement Plan* as well as internal plans ensure that biodiversity values are protected and additional guiding principles for this precinct are therefore not included in the strategic framework.

Melbourne Water has developed a *Land Use Strategy* which sets future directions for the land at the Western Treatment Plant and will continue to consult Council regarding future changes to land use at the Western Treatment Plant.

Melbourne Water is to give consideration to potential other uses within the Western Treatment Plant precinct including recreation and tourism.

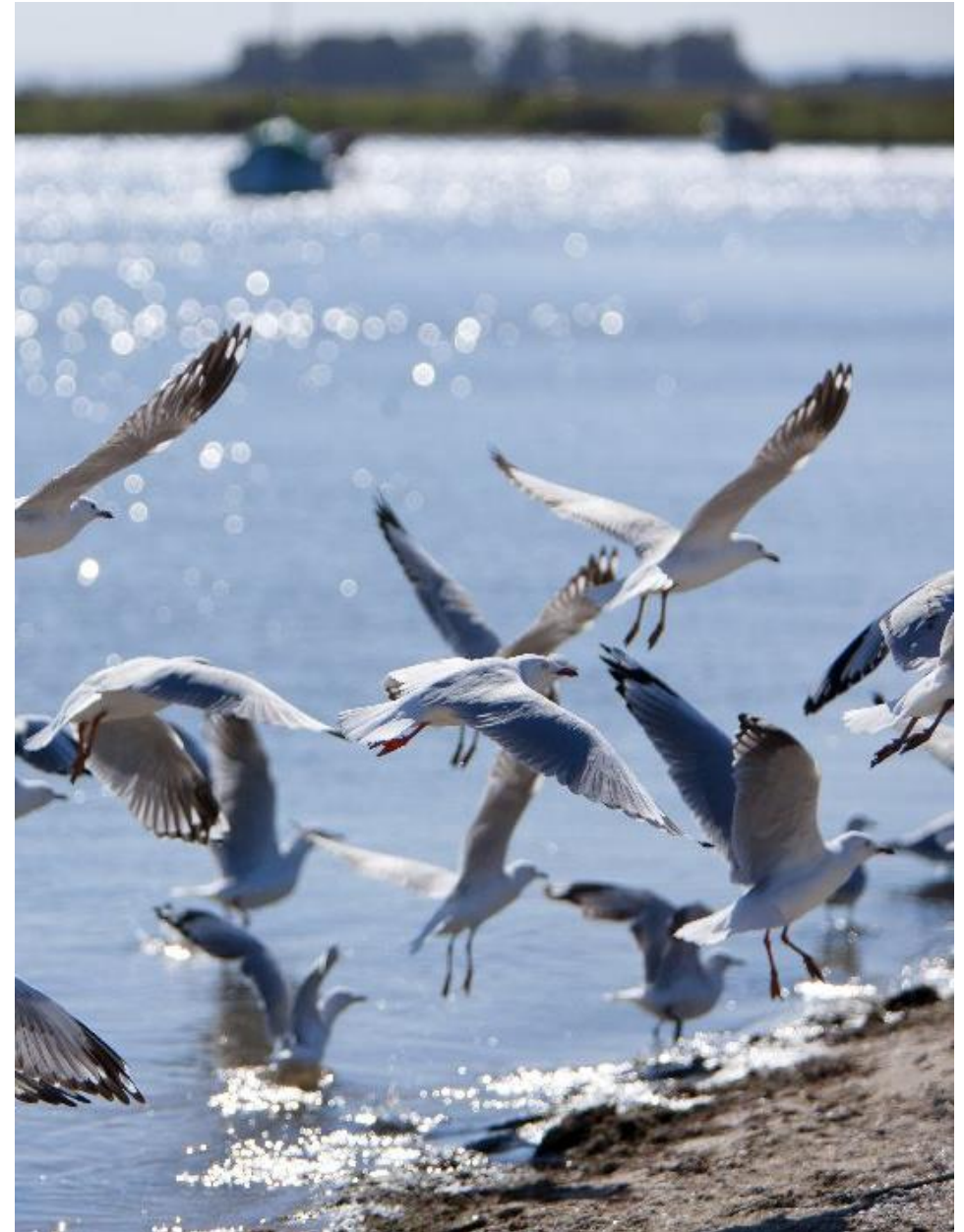




Figure 48: Recreational fishing at the Werribee River Estuary at Werribee South

CHAPTER 6 PRIORITY ACTIONS AND FURTHER WORK

The following issues and actions have been identified as priority tasks for additional work or consideration in the future revision of this document. All serve to further protect and enhance the identified values and features of this Green Wedge, and support the achievement of the regional goals of the *Port Phillip and Western Port Regional Catchment Management Strategy 2004-2009*:

- Sustainable water use and healthy waterways, wetlands, estuaries, coasts, bays and seas;
- Healthy land, used appropriately and productively;
- Healthy and enduring ecosystems with a diversity of habitats and native species; and
- The community valuing, understanding and celebrating the region's assets and acting to achieve sustainability (*Port Phillip and Western Port Catchment Management Authority, 2004*).

Cooperative relationships between Council, the community, and other government and land management bodies are considered a key to securing the sustainability of the Werribee South Green Wedge. This Plan should be used to guide future funding and resource allocation arrangements within and between agencies, to ensure an integrated approach to land management objectives.

WATERWAYS + WETLANDS

Establishment of a program to accurately and regularly monitor salinity at ground water discharge sites

Development of a comprehensive system to monitor water quality and bank condition of Green Wedge waterways and coastline, including further training for community groups

Establishing a coordinated approach to weed removal and re-vegetation along Green Wedge Waterways, including further training and support for community volunteers

Monitoring and review of environmental flow requirements of Werribee and Little Rivers

Application of best practice agricultural run-off management

Encourage the investigation of a more cost effective and sustainable application of water to irrigated crops.

Advocate for access to quality, cost effective water.

CLIMATE CHANGE

Encourage the Investigation of the impacts of climate change on the Green Wedge including actions for mitigation and adaption.

BIODIVERSITY + NATIVE VEGETATION

Application of Environmental Significance (ESO) or Vegetation Protection (VPO) Overlays to protect recorded sites of significance and remnant vegetation

Examination of incentive mechanisms for landowners to protect and enhance native vegetation on private land adjoining waterways

BUFFER MANAGEMENT + PROTECTION

Development of planning guidelines for buffer zone areas, including definitions of concepts and identification of preferred land uses along with conditions for development

Structure planning for the Werribee South Township to establish long term treatment of the boundary and agricultural buffer

TOURISM + RECREATION

Finalise and construct the proposed extension to the Bay Trail, Werribee River Park and Werribee Plains Zoo.

Establishment of a tourism and recreation planning forum to integrate the forward planning activities of Parks Victoria, Werribee Park Precinct Partners and Council

Preparation of an infrastructure plan to establish options for infrastructure management and upgrade in light of increasing visitation pressures

Improve pedestrian access within Grahams Wetland Reserve.

EDUCATION + COMMUNITY PARTICIPATION

Promotion of Point Cook Coastal Park and Marine Sanctuary as a focus for community education

Provision of plant identification and management training for relevant Council staff and community groups to increase awareness of indigenous species

Consideration of capacity building and land stewardship workshops for local environment groups and interested landowners focusing on skills development

COASTAL MANAGEMENT

Development of long term strategies aimed at improving water quality in the channels and drainage lines which flow into the Bay, waterways and natural wetlands.

Investigate mechanisms to protect and enhance the Werribee South Coastal Reserve and adjoining agricultural land.

Development of a Coastal Strategy for Wyndham in conjunction with other key stakeholders.

Revegetation activities along the Werribee South coastline to stabilise ground, increase indigenous coastal vegetation coverage, provide habitat and increase amenity and recreation values

Investigation into the application of a Significant Landscape Overlay (SLO) to protect the landscape values of the Green Wedge coastline

CHAPTER 7 IMPLEMENTATION, MONITORING
AND REVIEW

Council’s Strategic Planning Department is responsible for advising on the implementation of this strategy, which includes providing support and advice to other Council Officers responsible for particular management actions. Green Wedge planning is an incremental, interactive and ongoing process. Accordingly, the Management Plan will be reviewed and refined as it is monitored and evaluated, and as new implementation resources are made available.

The role of the Intensive Agriculture Precinct within the wider Green Wedge, and its particular focus on agriculture, will be reviewed every five years. Council’s Strategic Planning Department, in conjunction with the Werribee South Steering Committee will monitor the performance of the Management Plan, and meet annually to assess its performance against the identified Sustainability Issues. (See Table 9)

The identified Sustainability Issues provide a foundation for monitoring and assessment, the development of associated indicators is required so that they can be accurately quantified. As this may take some time, the further development of the Sustainability Issues is planned as part of the future review processes.

SUSTAINABILITY ISSUES	Reduction of water supply or water quality comparable to that which is available at the time of policy implementation
	Changed soil conditions resulting from recycled water use
	Significant changes to market demand for produce
	Increased impacts from off-site non-agricultural uses
	Loss of existing buffer areas
	Significantly increased tourism numbers or recreational users beyond that which can be accommodated within this strategic framework
	Infrastructure (water, electricity, telecommunications) failure
	Significant changes to the transport network (including road upgrades)
	Major State policy changes or new planning precedents

Table 9: Sustainability Issues for the Intensive Agricultural Precinct

Significant changes within the Intensive Agriculture Precinct to the issues cited in Table 9 may indicate the need for a review of the Management Plan sooner than the scheduled annual meeting. Unscheduled meetings may be requested by members of the Werribee South Steering Committee or by Council.

CHAPTER 8 RELATED POLICY AND LEGISLATION

In addition to the policy directions set by Plan Melbourne, this Plan will work in conjunction with existing International, Federal, State and Local policies and legislation. These include:

INTERNATIONAL

- Ramsar Convention
- Japan-Australia Migratory Birds Agreement (JAMBA)
- China-Australia Migratory Birds Agreement (CAMBA)

FEDERAL

- Ecologically Sustainable Development 1992
- Environmental Protection and Biodiversity Conservation (EPBC) Act 1999

STATE

- Planning and Environment Act 1987
- State Planning Policy Framework (SPPF)
- Victoria's Biodiversity Strategy 1997 (NRE, 1997)
- Melbourne 2030 (State Government of Victoria, 2002)
- Plan Melbourne (State Government of Victoria, 2014)

- Plan Melbourne Refresh Discussion Paper (State Government of Victoria, 2015)
- Linking People and Spaces: A Strategy for Melbourne's Open Space Network
- State Environment Protection Policy (Waters of Victoria) 2003
- Port Phillip Bay & Bellarine Peninsula Ramsar Site Strategic Management Plan 2003
- Port Phillip and Westernport Regional Catchment Strategy 2012
- Point Cooke Marine Sanctuary Management Plan 2007
- Siting and Design Guidelines for Structures on the Victorian Coast 1998
- Victorian Coastal Strategy 2014
- Werribee River Park Management Plan
- Point Cook and Cheetham Wetlands Future Directions Plan 2005
- Wildlife Act 1975
- Archaeological and Aboriginal Relics Preservation Act 1972
- Crown Lands Reserve Act 1978

- Environment Conservation Council Act 1997
- Environmental Effects Act 1978
- Catchment and Land Protection Act 1994
- Flora and Fauna Guarantee Act 1988
- Heritage Act 1995
- Water Act 1989
- Environment Protection Act 1970
- Port Phillip and Westernport Regional River Health Strategy
- National Strategy for the Conservation of Australia's Biological Diversity (ANZECC 2001)
- National Strategy for Ecologically Sustainable Development (COAG 1992)
- Biodiversity Conservation Strategy for Melbourne's Growth Corridors 2013
- Sub-regional Species Strategy for the Growling Grass Frog 2013
- Sub-regional Species Strategy for the Golden Sun Moth 2013
- Permitted Clearing of Native Vegetation Biodiversity Assessment Guidelines 2013
- Coastal Management Act 1995
- Victorian Climate Change Adaptation Plan (2013)

LOCAL

- Werribee South Boatshed Precinct Improvement Plan 2003
- Werribee South Coastal Reserve Management Plan 2002
- Wyndham Coastal Strategy 2002
- Wyndham Local Planning Policy Framework (LPPF)
- Wyndham Strategy for Environmental Sustainability 2004
- Wyndham Waterways Strategy Plan 2003
- Wyndham Coastal Scoping Study 2012
- Wyndham Biodiversity Policy 2014
- Hobsons Bay Local Planning Policy Framework (LPPF)
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- Economic Development Strategy 2012-2016
- Tourism & Events Strategy 2011-2015
- Climate Change Adaptation Strategy 2016-2020

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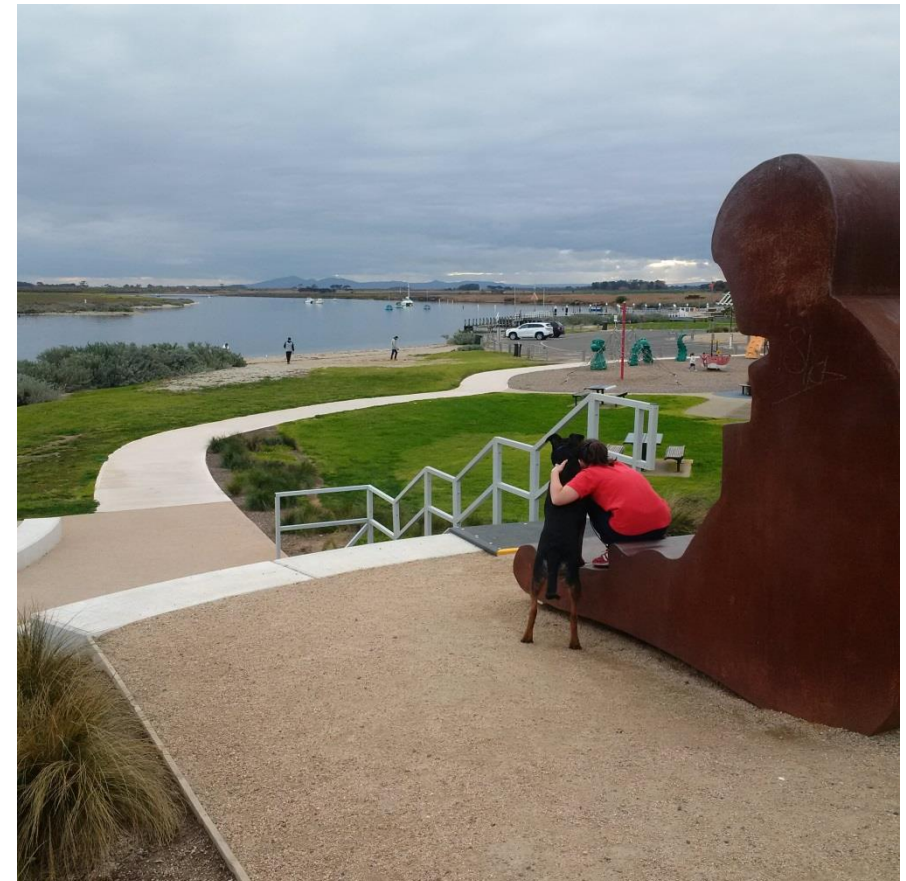


Figure 49: Sculpture at the Werribee South Foreshore

