



Yanggai Barring Linear Park Management Plan



December 2011

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EXECUTIVE SUMMARY

The Yanggai Barring Linear Park Management Plan has been prepared to protect and enhance the biodiversity and conservation values of the park and to extend the provision of recreational opportunities and experiences in a natural setting, including, walking, jogging, dog walking and nature appreciation.

The Management Plan outlines recommendations for the reserve based on a detailed analysis of the Study Area and feedback from user groups and the local community. The Management Plan provides the basis for new capital works funding to improve the Reserve over the next five to ten years.

Manningham's Public Open Space Strategy (currently under review) identifies Yanggai Barring Linear Park as having a flora and fauna function catering to a regional catchment as it has the potential to attract visitors beyond the local area. It has been identified as being of State Significance in the Manningham Biosites Sites of (Biological) Significance Review (2004).

Council's vision for The Yanggai Barring Linear Park is to protect and improve the natural environment and habitat corridor of the linear park as a link between Maroondah to the east and Andersons Creek corridor and The 100 Acres Reserve to the west. The path network will enable pedestrians from Warrandyte South, Warranwood and Ringwood North to gain access to Park Orchards.

A set of objectives has been developed to achieve the above vision for Yanggai Barring Linear Park. These objectives identify the role of the Linear Park in the context of Manningham's open space and extensive path network and provide the basis for the action plan for the future use, development and management of Yanggai Barring Linear Park.

The objectives of the Yanggai Barring Linear Park Management Plan are:

Objective 1: Management Partnerships

Adopt a holistic approach to environment, weed, pest and fire management in the Yanggai Barring Linear Park and adjoining areas through integrated management with other agencies and local government.

Objective 2: Natural Environment

Protect and enhance the biodiversity and conservation values of vegetation communities and flora and fauna species of the Yanggai Barring Linear Park and enhance the fauna habitat link with Andersons Creek habitat corridor.

Objective 3: Cultural Heritage

Recognise and Protect Cultural Heritage Sites

Objective 4: Landscape Values

Maintain and Enhance the Landscape Values

Objective 5: Visitor Experiences and Recreation

Provide sustainable nature-based recreation opportunities that promote visitor appreciation of the natural environment leading to increased health and well being balanced with the need to protect the natural, cultural and landscape values of Yanggai Barring Linear Park.

Objective 6: Infrastructure and Facilities

Construct the Yanggai Barring path to link with the path network in City of Maroondah and with The 100 Acres Reserve in Park Orchards.

Objective 7: Community Awareness and Involvement

Promote community awareness of the significant natural features of Yanggai Barring Linear Park and foster community partnerships in the ongoing management of the Reserve.

The Yanggai Barring Linear Park Management Plan proposes the following key actions to improve the reserve:

- Improve the biodiversity of the Linear Park and enhance strategic vegetation linkages with the Andersons Creek habitat corridor with sustainable and integrated environmental management , including weed and rabbit control programs;
- Construct a low impact bushland walking path to link with the broader path network in the City of Maroondah in the east, to The 100 Acres Reserve in Park Orchards in the City of Manningham and to nearby residential areas;
- Provide managed access for visitors to appreciate the significant natural values and experience tranquility in a natural setting;
- Require dog owners to be responsible dog owners and maintain the Linear Park as a 'dog on lead' reserve and restrict dog walking to paths within the park to protect natural values;
- Protect environmental values by prohibiting horse riding and recreational activities which utilize bushland areas such as BMX and mountain bike riding in the Linear Park; and
- Develop cooperative arrangements with other agencies including Melbourne Water and the City of Maroondah in the development and management of the Linear Park.

On 30 March 2011 the draft Yanggai Barring Linear Park Management Plan was placed on public exhibition for six weeks which included:

- Circulation of the Draft to people who responded to the initial questionnaire and key park user groups;
- Advertisement of the public exhibition in the local newspapers and on Council's website; and
- A call for submissions.

In December 2011 Council endorsed the final Yanggai Barring Linear Park Management Plan following considerations of nine submissions and the recommendations of a separate Traffic Study which was undertaken in June 2012. The Traffic Study addressed the safety issues associated with pedestrians crossing the Warrandyte-Ringwood as part of the Yanggai Barring Trail link to The 100 Acres Reserve.

PART ONE

MANAGEMENT PLAN REPORT

1. INTRODUCTION

1.1. Background

The Manningham open space network covers 19.8km² and represents 17% of the area of the municipality. It comprises over 300 parks and reserves and comprises an extensive trail network. The City has one of the largest networks of parks and open space in Metropolitan Melbourne.

The Yanggai Barring Linear Park is an area of significant remnant bushland surrounded by a suburban landscape. It is located within the Andersons Creek valley in the east of the City of Manningham on the border with the City of Maroondah. The Linear Park is located along a tributary of Andersons Creek, known as the Andersons Creek East Branch and contains the Andersons Creek East Retarding Basin.

Figure 1 shows the location of the Yanggai barring linear park within Manningham.

Manningham's Public Open Space Strategy (currently under review) identifies Yanggai Barring Linear Park as having flora and fauna, informal recreation, linear and drainage functions catering to a Regional catchment as it attracts visitors beyond the local area. It has been identified as being of State Significance in the Manningham Biosites Sites of (Biological) Significance Review (2004).

As part of the open space trail network, extension of a trail through the park has been a long term strategy of Manningham Council to link Warranwood in the City of Maroondah to The 100 Acres Reserve in Park Orchards in Manningham. As a result of a local community initiative a path system and wetlands were constructed upstream of the Linear Park in the City of Maroondah.

In order to create a continuous link various parcels of private land have been acquired by Manningham City Council since early 2000's. The last parcel of land to enable the eventual completion of this link was subject to Amendment C63 to the Manningham Planning Scheme which was gazetted on 8 July 2010.

The Yanggai Barring Linear Park Management Plan is structured in two parts. Part One provides the future direction, objectives and recommendations on how to improve the reserve. Part Two provides the background information, policy context, overview of key findings from community consultation and analysis of key issues.

1.2. Purpose

The purpose of Yanggai Barring Linear Park Management Plan is to provide a preferred future vision for the use, development and management of the Reserve, including the extension of the Yanggai Barring trail and provides the basis for new capital works funding to improve the park over the next five to ten years.

Yanggai Barring Linear Park is an irregular shape which covers an area of 8.44 hectares and comprises Council freehold land, Melbourne Water freehold land and a small section of private land covered by a Public Acquisition Overlay and is described below. Refer Figure 2 for land tenure in the Linear Park.

City of Manningham

Of the total area Council freehold land comprises 9 land parcels with an area of 3.16 hectares. Most of Council land is located between the Melbourne Water Retarding Basin along the northern tributary of the Andersons Creek East Branch and the Maroondah Council boundary and comprises 7 land parcels with an area of 2.7 hectares. A small area of Council land comprises two land parcels with an area 0.46 hectare and is located south of the Retarding Basin and extends to the Maroondah Council boundary.

City of Maroondah

Lot 24 Landau Drive is Maroondah Council freehold land and provides a link to the Yanggai Barring Linear Park from Yanggai Barring Reserve upstream of the Linear Park.

Melbourne Water

Andersons Creek East Retarding Basin is located within the Yanggai Barring Linear Park and is owned and managed by Melbourne Water. It comprises 3 land parcels with a total area of 4.3 hectares. The site is managed under the Melbourne Water Sites of Biodiversity Significance Program and is recognized as a regionally significant biosite. To the western border is the Retarding Basin, which is mown on a regular basis, whilst slashing occurs along the southern and western fence lines and access road. The access road extends to the Retarding Basin wall and provides access for maintenance vehicles.

Melbourne Water is also responsible for waterway management within the Linear Park which includes the bed and banks of the Andersons Creek, the Andersons Creek East Branch and its tributaries. Under Melbourne Water 5-year Waterway Health Program, Melbourne Water is conducting weed removal, bank revegetation, flow improvement and aquatic habitat improvement works along Andersons Creek and its tributaries.

The recommendations outlined in the *Management and Future Directions Plan for the Andersons Creek East Retarding Basin (2006)* relevant to Yanggai Barring Linear Park includes:

- Delatite Court Drainage line is weed infested. Melbourne Water is to investigate and coordinate works with Manningham City Council for establishment of sedimentation pond and litter trap; and
- Support Yanggai Barring trail which traverses land within the Melbourne Water Retarding Basin and connects to extended path network in Manningham.

Future Council Land / Private Land

To enable completion of the Yanggai Barring Trail, Amendment C63 to the Manningham Planning Scheme was gazetted in 8 July 2010. A Public Acquisition Overlay (PAO) has been applied to part of land 115-119 Hall Road Warrandyte South, which extends 300 metres along the Andersons Creek Eastern Branch between the Retarding Basin and Hall Road and covers an area of 0.98 hectare. The amendment provides for the future reservation of the land for public purposes and ensures that changes to the use and development of the land and any changes in ownership of the land do not prejudice the purpose for which the land is to be acquired. The eventual sale and transfer of the land affected by the amendment will complete the Yanggai Barring Linear trail.

Linear Park Identity and Character

Yanggai Barring Linear Park is characterized by a narrow bushland valley set within a predominantly semi-urban landscape surrounded to the north-west and south-west by low density housing where large residential properties on Green Ridge Road and D'Assisi Court have recently been established. The area around the embankment of the Retarding Basin is cleared and represents an open landscape character. To the east and south-east, the Linear Park is surrounded by an established suburban residential area along Glynne Road, Carumut Court, Delatite Court, Landau Drive, Lorraine and Salvia Courts. Many residential properties are visible from the park corridor and impact on the park's natural values.

From the north, access to the Linear Park is along an existing steep path from Homan Court in the City of Manningham to Landau Drive in the City of Maroondah. Maroondah Council has sealed this path and installed a handrail and it is unlikely that any further improvements could be made to reduce the steep gradient. From the south, access is from Glynne Road along the Melbourne Water Vehicular Access Track, which extends to the embankment of the Retarding Basin. From the east an existing path connects from Little John Road to the Melbourne Water Vehicular Access Track.

There is no public pedestrian access to the Linear Park from Delatite Court, as visitors to the park need to cross a private driveway. The owners have experienced a number of people walking along their driveway from the Linear Park to Delatite Court.

Although the Study Area is mainly located within the City of Manningham several of the main park access points and adjacent open space areas lie in the City of Maroondah. For this reason liaison with the City of Maroondah is important for the development and management of Yanggai Barring Linear Park.

1.4. Regional Context

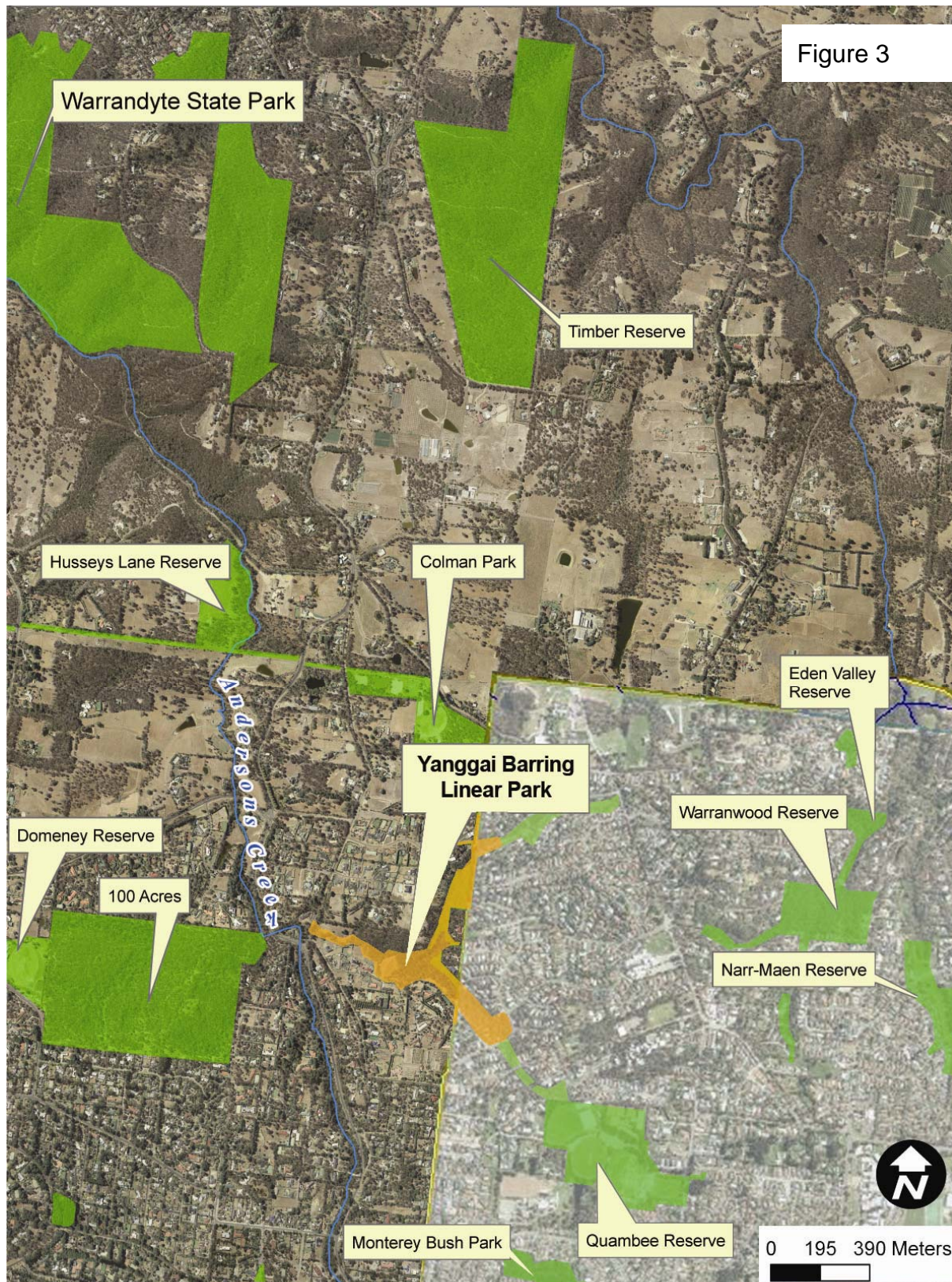
The Yanggai Barring Linear Park is located in the eastern half of the municipality of Manningham on the border with the City of Maroondah. The Linear Park is located within the Andersons Creek Valley comprising rural landscapes with large rural residential properties, remnant agricultural properties and significant bush blocks in

Warrandyte, South Warrandyte, Wonga Park, Park Orchards and Donvale. Upstream the Andersons Creek valley is surrounded by suburban residential properties in the suburb of Warranwood in the City of Maroondah.

Yanggai Barring Linear Park is part of a broader public open space network along the Andersons Creek Corridor which provides opportunities for nature based recreation in natural settings. It forms part of the Andersons Creek riparian corridor which links to Warrandyte State Park and the wildlife corridor also provides continuity of native vegetation from the Linear Park to The 100 Acres Reserve in Park Orchards, which contains vegetation that is rarely rivaled in the Melbourne Region or even in National Parks. Upstream the Yanggai Barring Linear Park connects to open space linkages along Andersons Creek to Quambee Reserve in Ringwood North in the City of Maroondah.

Other existing major areas of open space located within the Andersons Creek Valley include Stintons Reserve, Domeney Reserve and The 100 Acres Reserve in Park Orchards, Coleman Reserve in Warrandyte South and Husseys Reserve, Harris Gully Reserve and Warrandyte Reserve in Warrandyte. Warrandyte State Park is managed by Parks Victoria and includes Taroona Reserve where Andersons Creek joins the Yarra River. The State Park is one of the most important natural areas close to Melbourne, forming part of a major habitat corridor extending along the Yarra River and north to Kinglake National Park.

The regional context of Yanggai Barring Linear Park is shown in Figure 3.



Yanggai Barring Linear Park Regional Context

Surrounding Community

The Cities of Manningham and Maroondah are to experience small to moderate population growth (an average of 0.47per cent for Manningham and 0.8 percent for Maroondah) in the period to 2026, mainly associated with infill and medium density residential development. Overall an increase in the population in the early retirement years expected. However, younger population profiles are likely in areas of new and renewed residential development.

In 2006, the total population in suburbs close to the Linear Park (Mitcham, Donvale, Park Orchards, Ringwood and Ringwood North) was about 50,000. About 23 percent of residents were born overseas, mainly in United Kingdom, Italy, New Zealand, China, Malaysia and India. Park Orchards and Ringwood North are relatively affluent suburbs of separate houses where half the families are comprised of couples with children. Mitcham and Ringwood have more mixed populations, family structures and income levels.

Future population growth near the Linear Park is expected to occur mainly in medium density infill developments in Mitcham and the proposed Ringwood Central Activity District. In the longer term this development may lead to increased use of the Yanggai Barring Linear Park at it would attract a higher local catchment.

1.5. Methodology

The process for developing the Management Plan included the following stages:

- Initial community and stakeholder consultation;
- Community survey of 117 households surrounding the Linear Park and key user groups;
- Ecological desktop study of habitat and vegetation assessments undertaken within the Andersons Creek corridor relevant to Yanggai Barring;
- Review and analysis of the recreation uses, including walking, dog walking and horse riding in Manningham;
- An analysis of the infrastructure and facilities including the trail network;
- Summary of the policy background; and
- Identification of key issues.
-

On 30 March 2011 the draft Yanggai Barring Linear Park Management Plan was placed on public exhibition for six weeks which included:

- Circulation of the Draft to people who responded to the initial questionnaire and key park user groups;
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2. VISION OBJECTIVES AND RECOMMENDATIONS

2.1. Vision

Council's vision for the Yanggai Barring Linear Park is to protect and improve the natural environment and habitat corridor of the Linear Park as a link between Maroondah to the east and Andersons Creek corridor and The 100 Acres Reserve to the west. The path network will enable pedestrians from Warrandyte South, Warranwood and Ringwood North to gain access to Park Orchards.

2.2. Objectives

A set of objectives has been developed to achieve the above vision for Yanggai Barring Linear Park. These objectives identify the role of the Linear Park in the context of Manningham's open space and extensive path network and provide the basis for the action plan for the future management of Yanggai Barring Linear Park.

Objective 1: Management Partnerships

Adopt a holistic approach to environment, weed, pest and fire management in the Yanggai Barring Linear Park and adjoining areas through integrated management with other agencies and local government.

Objective 2: Natural Environment

Protect and enhance the biodiversity and conservation values of vegetation communities and flora and fauna species of the Yanggai Barring Linear Park and enhance the fauna habitat link with Andersons Creek habitat corridor.

Objective 3: Cultural Heritage

Recognise and Protect Cultural Heritage Sites

Objective 4: Landscape Values

Maintain and Enhance the Landscape Values

Objective 5: Visitor Experiences and Recreation

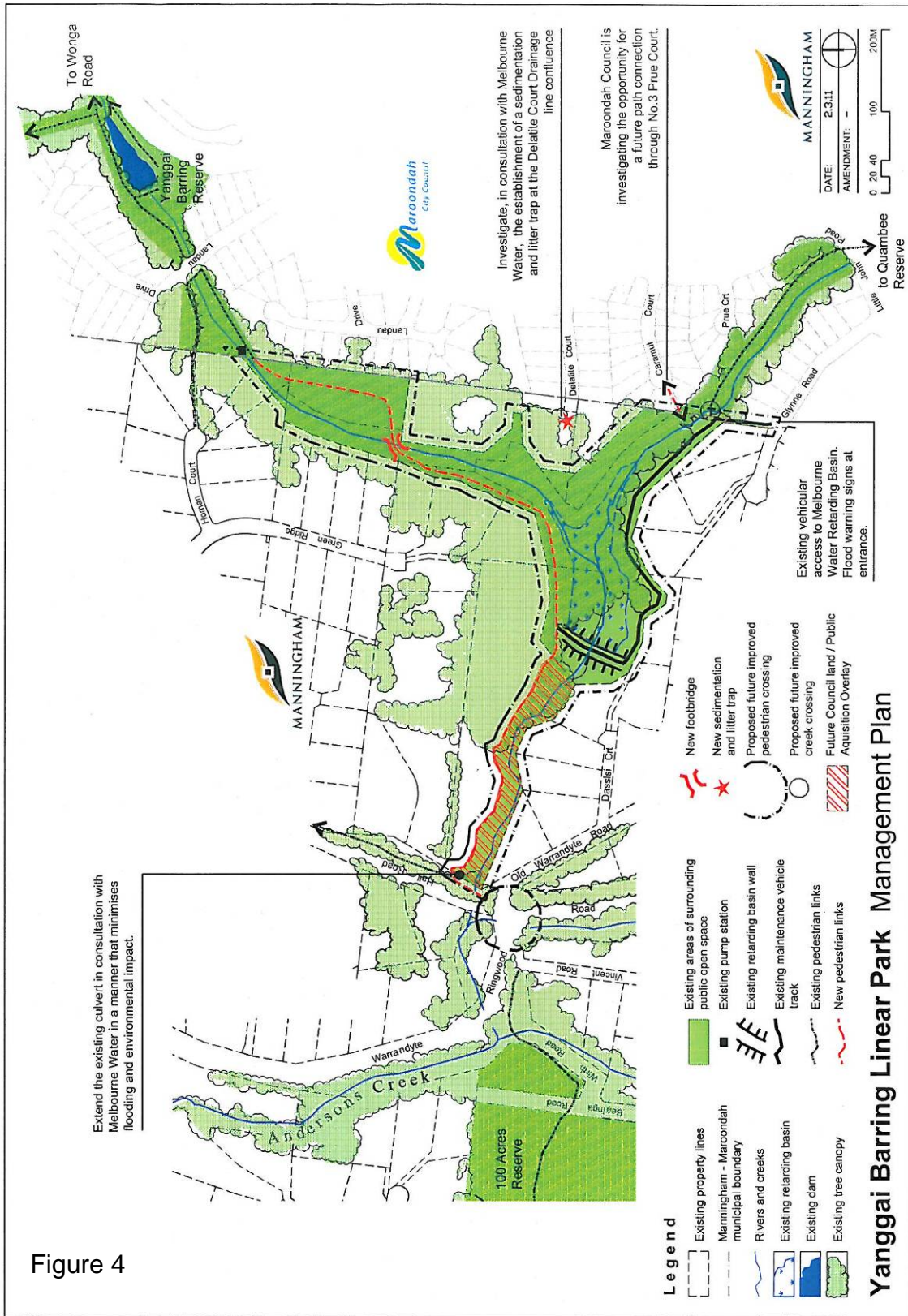
Provide sustainable nature-based recreation opportunities that promote visitor appreciation of the natural environment leading to increased health and well being balanced with the need to protect the natural, cultural and landscape values of Yanggai Barring Linear Park.

Objective 6: Infrastructure and Facilities

Construct the Yanggai Barring path to link with the path network in City of Maroondah and with The 100 Acres Reserve in Park Orchards.

Objective 7: Community Awareness and Involvement

Promote community awareness of the significant natural features of Yanggai Barring Linear Park and foster community partnerships in the ongoing management of the Reserve.



2.3. Recommendations

Table 1 provides a summary of all actions contained in the Yanggai Barring Linear Park Management Plan. They have been grouped under the objectives and include a priority rating and list the Council Unit responsible for implementation. For those recommendations which have a capital and operational annual cost this is included.

The proposed development works are to be undertaken in 3 stages which reflect the priority of works. The cost of Stage 1 and 2 are contained within the current 5 year Capital Works program; however stage 3 is beyond the funding in the Capital Works program for the next five years and therefore the works could take a considerable time to implement unless external funds become available.

The majority of the Management Plan capital works implementation will occur once Council has acquired the Public Acquisition Overlay (PAO) land. This will most likely be subject to negotiations at a subdivision stage.

Refer to Figure 4 Yanggai Barring Linear Park Management Plan for the location of the proposed path alignment and associated development works.

2.4. Table 1 Recommendations and Resource Implications

PR: Parks and Recreation Unit

HLL: Health and Local Laws Unit

EEP: Economic and Environmental Planning Unit

STP; Strategic Planning

(Note that with respect to timing, major implementation will not occur until Council has acquired the land designated for Public Acquisition Overlay PAO.)

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
<p>Objective 1 Management Partnerships</p> <p>Adopt a holistic approach to environment, weed pest and fire management in Yanggai Barring Linear Park and adjoining areas through integrated management with other agencies and local Government.</p>						
1-1.	Co-ordinate management arrangements with Melbourne Water, City of Maroondah and other relevant agencies.	PR				
1-2.	Support Melbourne Water's continued waterway management role for the Andersons Creek and the Eastern Branch including weed control, revegetation and stream stabilisation programs.	PR				
1-3.	Enter into a formal agreement with Melbourne Water for the use of part of the Melbourne Water Andersons Creek East Retarding Basin for the path alignment, including designation of liability and maintenance of the path.	EEP				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
1-4.	Plan and implement effective and integrated fire management planning for the reserve, in conjunction with other fire and land management agencies and the community by preparing a Bushfire Prevention and Preparedness plan for Yanggai Barring Linear Park	PR	8,500			3,000
1-5.	Work with adjoining residents to manage bushland along the creek corridor, particularly those residents with properties that are not fenced off from the linear park.	PR				
1-6.	<p>Prepare an Amendment to the Manningham Planning Scheme:</p> <ul style="list-style-type: none"> • When land is transferred to Council as part of the Yanggai Barring Linear Park and review zoning and overlay controls for land in public ownership which includes the Public Acquisition Overlay on land at 115-119 Hall Road, Warrandyte. • To correct an anomaly to Lot 9A Green Ridge from Environmental Significance Overlay 2 (ESO2) to Environmental Significance Overlay 4 (ESO4). • To rezone all Council land within the Yanggai Barring Linear Park from Low Density Residential Zone (LDRZ) to Public Conservation and Resource Zone.(PCRZ) 	EEP				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$) per annum
<p>Objective 2 Natural Environment</p> <p>Protect and enhance the biodiversity and conservation values of vegetation communities and flora and fauna species of the Yanggai Barring Linear Park and enhance the fauna habitat link with Andersons Creek habitat corridor.</p>						
2-1.	Prepare a land management plan including a detailed and integrated weed and rabbit control program for the Yanggai Barring Linear Park, which identifies natural assets, management issues and specifies actions required to rehabilitate and or/maintain the native vegetation and habitat values present throughout the Linear Park.	EEP	8,150	9,350	9,350	9,350
2-2.	Undertake an ecological assessment of the proposed designated path route prior to the construction of the path to 'avoid' and 'minimize' the removal of vegetation in accordance with Victoria's Native Vegetation Management Policy where a planning permit is required for the removal of vegetation.	EEP	8,000			
2-3.	Establish a program to monitor the environmental condition of fauna and flora habitat and impacts of climate change and if necessary adapt management practices to maintain and improve the environmental quality of the Linear Park.	PR				
2-4.	Encourage natural regeneration of indigenous vegetation via a bushland management program.	PR				
2-5.	Commence proposal to investigate prohibition of cats form Yanggai Barring Linear Park.	PR,EEP HLL				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
Objective 3 Cultural Heritage Recognize and Protect Cultural Heritage Sites						
3-1	Develop and implement a Cultural Heritage Management Plan designed to establish the heritage sensitivity of the footprint of the designated path route.	EEP	15,000			
Objective 4 Landscape Maintain and Enhance Landscape Values						
4-1.	Recognise the critical value of the Yanggai barring linear park as a remnant natural area surrounded by the development of a suburban landscape.	All units				
4-2.	Ensure footbridges, boardwalks, furniture and signage complement the natural character of Yanggai Barring Linear Park.	All units				
4-3.	Advocate for minimising the visual impact of adjoining development on the significant landscape, environmental and cultural values of the Yanggai Barring Linear Park.	EEP				
Objective 5 Visitor Experiences and Recreation Provide sustainable nature-based recreation opportunities that promote visitor appreciation of the natural environment leading to increased health and well being balanced with the need to protect the natural, cultural and landscape values of the Yanggai Barring Linear Park.						
5-1.	Focus on the path development through the Yanggai Barring Linear Park as a low impact bushland walking path to link with The 100 Acres	All units				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
	Reserve and the broader path network in the City of Maroondah including nearby residential areas.					
5-2.	Consider access by all members of the community, and plan for all abilities, wherever feasible.	EEP				
5-3.	Manage the impact of recreational activities on Yanggai Barring Linear Park for the safe and enjoyable use of visitors and minimise conflicts between users and undesirable impacts on the landscape, cultural and environmental values of the park.	PR EEP HLL				
5-4.	Limit additional infrastructure in the park to path needs, signage at the main entrance points, including the need for erosion control measures on the designated path.	All units				
5-5.	Provide seating along the path at strategic points within the Yanggai Barring Linear Park, which provide resting opportunities for quiet enjoyment and nature appreciation of the area.	EEP			1,600	
5-6.	Provide park information, directional, regulatory and educational signage at major entrance points to the Linear Park, where appropriate.	PR,EEP		2,000	3,400	
5-7.	Require dog walkers to be responsible dog owners and maintain Yanggai Barring Linear Park as a 'dog on lead' reserve and restrict dogs walking to paths within the park.	HLL				
5-8.	Use public education, signage and enforcement to gain better compliance with dog control requirements, particularly keeping dogs on leads	EEP				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$) per annum
	and on paths.					
5-9.	Assess and monitor current levels of dog walking use and undertake an assessment after a 3 year period as part of Council's Domestic Animals Management Plan.	EEP, HLL				
5-10.	Provide 'dogs on lead', signage and 'pick up dog faeces' signs at all entrances to the reserve. Refer 5.6.	EEP, HLL				
5-11.	Prohibit horse riding in the Yanggai Barring Linear Park and provide signage at main entrances to the park. Refer 5.6.	EEP, HLL				
5-12.	Confine recreational bicycle use to maintenance vehicle tracks and paths within the Linear Park as shown in Figure 4.	EEP, HLL				
5-13.	Maintain the path network within Yanggai Barring Linear Park based on Manningham's Urban and Park Design Guide path classification.	EEP PR				
5-14.	Monitor erosion and incremental path widening and conduct erosion control measures on paths within Yanggai Barring Linear Park.	PR EEP				
5-15.	Prohibit recreational activities which utilize the bushland areas, such as motor, BMX and mountain bike riding in Yanggai Barring Linear Park by undertaking ongoing park inspections to monitor illegal usage and closing any newly formed unwanted tracks and jumps to prevent negative environmental impacts and conflicts with other park users.					

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
Objective 6 Infrastructure and Facilities						
Construct the Yanggai Barring path link with the path network in the City of Maroondah with The 100 Acres Reserve in Park Orchards						
6-1.	Negotiate acquisition of the part of 115 Hall Rd covered by the Public Acquisition Overlay.	EEP				
6-2.	Prepare detailed designs for a low impact bushland path route in consultation with Melbourne Water and City of Maroondah based on the route shown in Figure 4.	EEP	25,000			
6-3.	Construct a 1.5 m wide predominantly crushed rock path (except in areas with a steep gradient a sealed path surface will be required) along a route which minimizes earthworks and native vegetation removal by utilizing cleared areas and existing paths as far as practical.	EEP STP	21,000	21,000	20,000	2,400
6-4.	Construct low retaining wall and handrail along side of path with steep drop-off to minimize environmental impact.			22,000	22,000	
6-5.	Construct boardwalks in areas where construction of an on ground path would result in significant additional environmental damage.				105,000	600
6-6.	Construct a footbridge over the Andersons Creek Eastern Branch as shown on Figure 4 in a manner that minimizes the flooding and environmental impacts.			60,000	90,000	1,200
6-7.	Upgrade existing Melbourne Water management track on northern side of Retarding Basin to make it suitable for pedestrians.		8,800			

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
6-8.	Upgrade existing maintenance track from Manningham boundary to Landau Drive to make it suitable for pedestrians, including modification to Yarra Valley Water assets to enable path construction.		9,000			
6-9.	Upgrade existing Hall Road crushed rock footpath from Linear Park to Ringwood-Warrandyte Road.		4,000			
6-10.	Investigate in consultation with VicRoads improved pedestrian safety at the crossing over Warrandyte-Ringwood Rd near Hall Rd intersection to link to The 100 Acres Reserve.	STP EEP				
6-11.	Commence negotiations with owners of 14-16 Vincent Road, Park Orchards regarding the acquisition of approximately 50 square metres of that property to incorporate a section of footpath adjacent to the road as part of the Yanggai Barring Trail link to The 100 Acres Reserve.					
6-12.	Extend the existing culvert at the entrance to Yanggai Barring Linear Park at Hall Road in consultation with Melbourne Water in a manner that minimizes the flooding and environmental impacts.	EEP, STP			5,000	
6-13.	Investigate and construct, in consultation with Melbourne Water appropriate Andersons Creek Eastern Branch bank stabilisation to protect proposed footbridges, boardwalks and the path trail.	EEP				
6-14.	Investigate in consultation with Melbourne Water the establishment of a sedimentation and litter trap at the Delatite Court drainage line confluence.	EEP				

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
6-15.	Only permit rural style or maximum 1.8m chain mesh open fencing of residential boundaries with Yanggai Barring Linear Park.	EEP				
6-16.	Following completion of capital works development, allocate additional Council resources each year from Council's operational budget for path maintenance.	EEP				
6-17.	Monitor and remove overhanging vegetation along the path route.	PR				
Objective 7 Community Awareness and Involvement Promote community awareness of the significant natural features of Yanggai Barring Linear Park and foster community partnerships in the ongoing management of the park						
7-1.	Liaise with local residents to improve awareness and appreciation of park values, health benefits and management actions, including in relation to weeds, management of areas adjoining residences and dog walking.	EEP				
7-2.	Liaise with user groups and local schools to improve awareness and appreciation of park values and management leading to increased opportunities for environmental education and ongoing community involvement associated with Yanggai Barring Linear Park.	EEP				
7-3.	Investigate in co-operation with the Maroondah Council extension of the Yanggai Barring Friends Group and encourage recruiting new members, particularly from younger generations.	EEP				
Monitoring and Review						

Objective No	Recommendation	MCC Unit	Stage 1 (\$)	Stage 2 (\$)	Stage 3 (\$)	Operational (\$ per annum)
8-1	Hold an annual meeting with all responsible departments, where necessary, to discuss the progress of the Management Plan.	EEP				
8-2	Review the Yanggai Barring Linear Park five years after completion of the capital works recommended in the Management Plan.	EEP				
	TOTAL MANAGEMENT PLAN COST		126,150	105,000	247,000	

3. MONITORING AND REVIEW

Implementation of the Management Plan will include consultation with stakeholders, community groups and adjoining landowners in the ongoing development, monitoring and management of Yanggai Barring Linear Park. This will include holding an annual meeting with all the responsible departments/units across council to discuss the progress of the management plan and to identify any new issues that may have arisen over the previous 12 months.

The Yanggai Barring Linear Park Management Plan will be reviewed five years after the completion of the capital works recommended in the plan.

PART TWO-MANAGEMENT PLAN REPORT

DETAILED INFORMATION, RESEARCH, ANALYSIS AND ISSUES

4. PLANNING AND POLICY CONTEXT

The Yanggai Barring Linear Park Management Plan has been developed in the context of State Government and Council policies and strategies. The key policies are discussed below and other relevant planning strategies and policies considered as part of this Management Plan are listed in Appendix 1.

The Yanggai Barring Linear Park forms part of Manningham's Open Space network. The planning and management of the network is guided by Manningham City Council's *Public Open Space Strategy (currently being reviewed)* which aims to bring social, health, environment, urban livability, cultural and economic benefits to Manningham's community through the establishment of open space recreation opportunities, including native vegetation linkages and an interconnected and accessible trail network.

The Public Open Space Strategy defines Linear Parks as open spaces which offer fully or nearly continuous access along a linear corridor, typically based around a natural feature such as a waterway or gully. These spaces have dual functions of flora and fauna protection and enhancement as part of an existing or potential habitat corridor, and the informal recreational access. They are also important alternative transport connectors throughout the municipality.

The Strategy classifies Yanggai Barring Linear Park with flora and fauna, informal recreation, linear and drainage functions catering to a Regional catchment as it attracts visitors beyond the local area. The Strategy identifies the potential to create a continuous link from Warranwood in the City of Maroondah and Council has been acquiring strategic parcels since early 2000's. Reserves containing bushland such as the Yanggai Barring Linear Park require specific recommendations to protect and enhance natural vegetation and habitat corridors.

The Yanggai Barring Linear Park is situated north west of Old Warrandyte Road and south of Homan Court in the City of Manningham. It is within Precinct 9 *Park Orchards* in Council's Public Open Strategy. Most of this precinct has low density residential housing. It is a relatively affluent suburb consisting large households with mature families with teenage children. There are large houses on large blocks with a substantial amount of open space including bushland, where there is little need for small local parks. However the Strategy indicates that areas of open space still provide an opportunity for the development of community based recreation facilities which offer an important socializing role. The need to focus on the management of natural reserves and redevelopment of Yanggai Barring Linear Park is high priority within the precinct.

Manningham City Council's *Active for Life Recreation Strategy 2010-25 (2010)* identified that walking was the most popular and accessible recreation

activity identified by Manningham residents. Increased participation in walking should be encouraged for all residents for transport and recreation leading to a healthier community.

Development of Yanggai Barring Linear Park is consistent with the State Government's *Linking People and Spaces: A Strategy for Melbourne's Open Space Network* which provides for the long term planning of open space and protection of areas of environmental significance within metropolitan Melbourne. Manningham is located in the eastern region. The key focus is to enhance existing facilities at a range of sites, to protect open space areas of environmental significance from increasing visitor numbers and pressure for recreation facilities and enhance vegetation links, especially along streams.

There will be a need to balance the protection and enhancement of existing riparian vegetation as a habitat for native fauna along the Andersons Creek East Branch and the northern tributary in regard to the location and construction of the Yanggai Barring Trail. Manningham Council is required to implement Victoria's *Native Vegetation Management- A framework for Action Strategy for the protection of native vegetation and biodiversity*. The framework introduces the concept of 'Net gain' to redress the loss of Indigenous vegetation as is approved through the Victorian Planning Schemes.

The goal of the framework is for the protection of native vegetation and biodiversity and for achieving a reversal across the entire landscape, of the long-term decline in the extent and quality of native vegetation leading to a net gain. Net gain is the outcome for native vegetation and habitat where overall gains are greater than overall losses and individual losses are avoided, where possible. The framework applies when a planning permit is required for the removal of native vegetation and has implication for the path alignment within the Linear Park. Any works requiring removal of vegetation will be subject to Net Gain assessment.

Manningham Planning Scheme

Yanggai Barring Linear Park is contained within four Zones and four Overlays in the Planning Scheme. Most of the Linear Park falls within an area of Cultural Heritage Sensitivity for archaeological significance.

The Zones include:

Low Density Residential Zone (LDRZ) This zone covers all Council land (seven land parcels) in the Study Area north of the Melbourne Water Andersons Creek East Retarding Basin. The purpose of this zone is to provide low density residential development on lots which, in the absence of reticulated sewerage, can treat and retain all waste water. All Council owned land comprising the Linear Park should be rezoned to Public Conservation and Resource Zone (PCRZ).

Public Use Zone -Service and Utility (PUZ1) This zone covers all land in the Study Area within Melbourne Water Andersons Creek East Retarding Basin.

The purpose of this zone is to recognize public land use for public utility and community services and facilities.

Urban Floodway Zone (UFZ) This zone generally matches the Public Acquisition Overlay at 115-119 Hall Road, Warrandyte and includes the intersection of Hall Road and Old Warrandyte Road, Warrandyte South. The purpose of this zone is to ensure that any development maintains free passage and temporary storage of floodwater, minimizes flood damage and is compatible with flood hazard, local drainage conditions and minimization of soil erosion, sedimentation and silting.

Road Zone Category 1 (RDZ1) This zone covers the area around the intersection of Ringwood-Warrandyte Road and Wirth Road. The purpose of this zone is to identify significant existing roads and land which has been acquired for a significant proposed road.

The Overlays include:

Environmental Significance Overlay 2 (ESO2). The ESO2 applies to the land within the Study Area covered by the Public Acquisition Overlay at 115-119 Hall Road, all of the Melbourne Water Andersons Creek East Retarding Basin and 3 small parcels of Council land adjacent to and east of the Retarding Basin. This overlay protects botanical and zoological significance, and maintains ecological processes and genetic diversity. The protection and enhancement of environmentally significant sites and strengthening of connecting habitat links will assist in the maintenance of biodiversity within the municipality and surrounding areas.

Land Subject to Inundation Overlay (LSIO). The LSIO applies to all of the Yanggai Barring Linear Park downstream of the retarding basin. Upstream of the retarding basin this overlay is reduced to a 10-15metre wide strip centered on the creek. The overlay identifies land in flood storage or flood fringe area affected by the 1 in 100 year flood and ensures that any development maintains a free passage and temporary storage of floodwaters, minimises flood damage and is compatible with flood hazard.

Significant Landscape Overlay 1 (SLO1) The SLO1 covers the entire area of the Yanggai Barring Linear Park. The purpose of the overlay is to ensure that the visual impact of development is minimized and that the development of land and the removal of vegetation are not detrimental to the natural environment, character of the area, heritage values or any other environmental features or identified values.

Public Acquisition Overlay 1 (AO) The PAO1 applies to the land at 115-119 Hall Road located between of Hall Road and the western boundary of the Andersons Creek East Retarding Basin. The PAO provides for future reservation of the land for public open space. Schedule 1 of the Overlay designates the land to be acquired by Manningham City Council for the purposes of open space to enable completion of the Yanggai Barring Linear Park trail.

Proposed Planning Controls

The City of Manningham has prepared Amendment C54 which applies to all land in the municipality with identified environmental and landscape values. The purpose of the amendment is to protect Manningham's biodiversity and landscape area and rationalise the number of overlay controls applying to a particular property and to ensure that the provisions provide greater certainty and clarity leading to more consistent decision making. The amendment proposes to implement the findings and recommendations of key strategies that have been approved by Council being *Manningham Biosites: Site of (Biological) Significance Review 2004*; *Manningham Monterey Pine and Cypress Tree Assessment 2003* and the Habitat Corridor Study and Threatened Species Study.

The proposed overlays which apply to Yanggai Barring Linear Park include:

Environmental Significant Overlay 2 (ESO2) The amendment proposes to replace Schedule 2 (Areas of Botanical or Zoological Significance) to the Environmental Significance Overlay with a new Schedule 2 (Sites of Biological Significance) to the Environmental Significance Overlay. The proposed overlay applies to most of the area within the Yanggai Barring Linear Park but excludes:

- Two cleared areas within the Melbourne Water Andersons Creek East Retarding Basin;
- Council land Lot 9A Green Ridge, Warrandyte South; and
- 115-119 Hall Road comprising the section of land with a Planning Acquisition Overlay

Environmental Significant Overlay 3 (ESO3) The amendment proposes to introduce a new Schedule 3 (Buffer Conservation Areas Supporting Sites of Biological Significance) to the Environmental Significance Overlay. The proposed overlay applies to two cleared areas within the Melbourne Water Andersons Creek East Retarding Basin.

Environmental Significant Overlay 4 (ESO4) The amendment proposes to introduce a new Schedule (Sites of Biological Significance and Buffer Conservation Areas in Low Density Residential Areas) to the Environmental Significance Overlay. The proposed overlay applies two parcels of land within the Yanggai Barring Linear Park. There will be a need to review overlay controls in relation to these areas to ensure consistent planning controls within the park. The areas include:

- 115-119 Hall Road comprising the section of land with a Planning Acquisition: Overlay when the land is transferred to Council; and
- Council land Lot 9A Green Ridge, South Warrandyte

5. CULTURAL HERITAGE VALUES

The area of Yanggai Barring Linear Park is within the traditional territory of indigenous people from the Woi wurrung language group. The Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc has been declared by the Victorian Aboriginal Heritage Council to be the Registered Aboriginal party for the area.

The name Yanggai Barring is believed to be derived from the Aboriginal language meaning 'Black Cockatoo'. To honor the local indigenous people, The Friends of Yanggai Barring community group received permission from the Wurundjeri Elders to use the name Yanggai Barring for the reserve.

Several known Aboriginal archaeological sites have been discovered in The 100 Acres Reserve located near to Yanggai Barring Linear Park. As defined by the requirements of the Aboriginal Heritage Act (2006) part of the proposed path alignment is within an area of cultural sensitivity. The Act specifies an area within 200 m of a waterway will require a Cultural Heritage Management Plan for the construction of a path. The detailed area of cultural heritage sensitivity applies to all of the study area except Council land north of the retarding basin.

European settlement of the general region commenced around 1850 with the discovery of gold at Andersons Creek (now Warrandyte) and the development of orchards on higher ground. The residential area located to the east of the linear park in Ringwood north developed mainly between the 1950's and 1980's with larger blocks in South Warrandyte developed during 2000's.

The Andersons Creek Retarding Basin located in the middle of the Linear Park was built to perform a flood management function for Melbourne Water's regional drainage system. It is also managed for its biodiversity values.

The Anderson Creek East Branch is subject to rapid rises in water level after heavy rain. Melbourne Water operates a 24 hour rainfall and flood monitoring network as a basis for issuing flood warnings. Yarra Valley Water has erected a warning sign at the entrance to the Retarding Basin from Glynne Road advising people of sudden rising water and the area should not be used when flooded.

6. NATURAL ENVIRONMENT

6.1. Flora

The indigenous vegetation of the Yanggai Barring Linear Park forms an important part of the Andersons Creek habitat corridor which links to the Warrandyte State Park and is in close proximity to The 100 Acres Reserve.

Melbourne Water Andersons Creek East Retarding Basin is located in the Yanggai Barring Linear Park. The Retarding Basin performs a flood management function for Melbourne Water's regional drainage system. Due to its significant biological values the site is part of Melbourne Water's Sites of Biodiversity Significance program. The site is recognised by the Department of Sustainability and Environment as a regionally significant site.

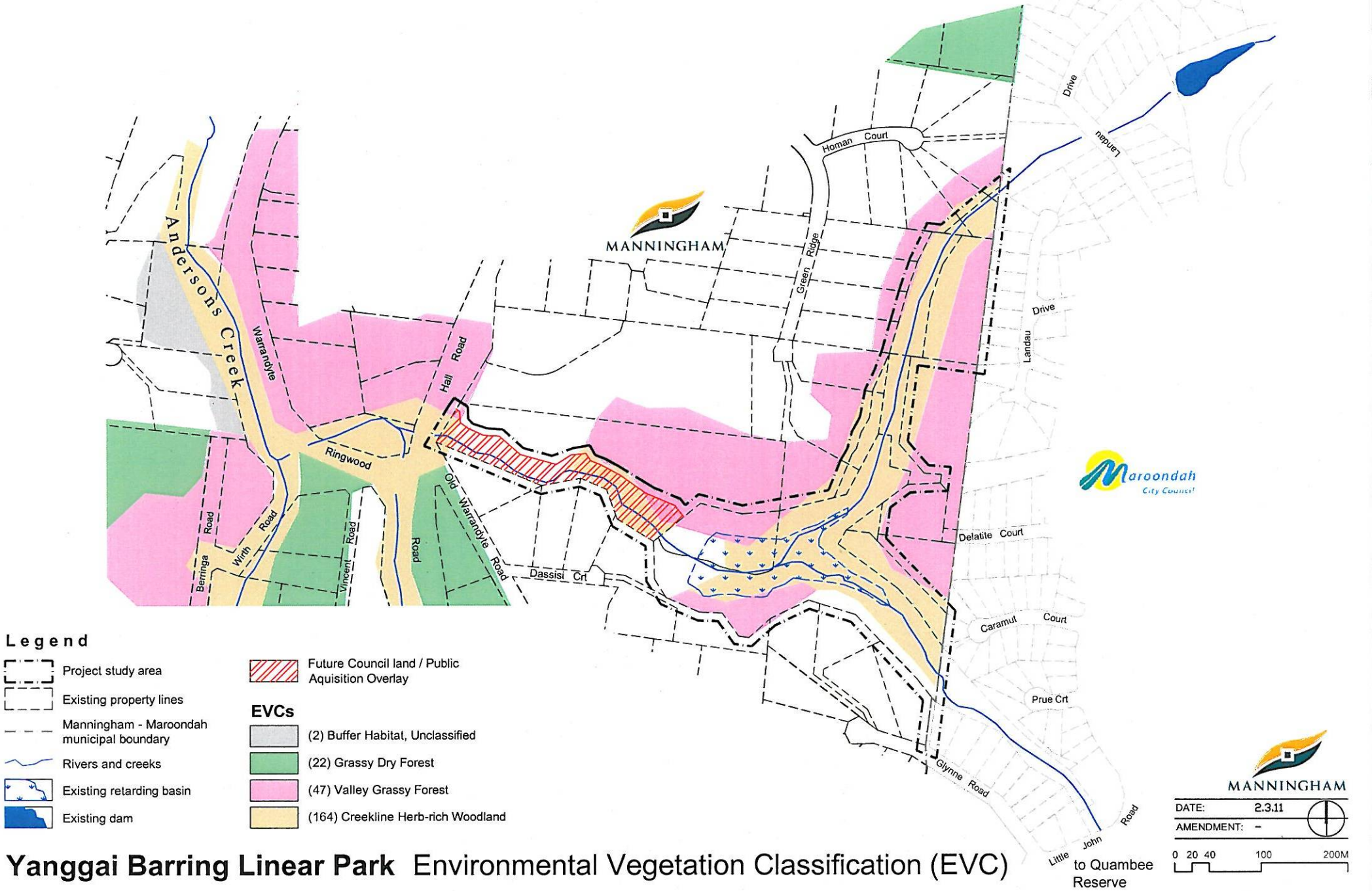
The Habitat and Vegetation Assessment and Future Vegetation Management Directions for Andersons Creek Retarding Basin (2006) prepared by Melbourne Water is an important strategic landscape management direction for the site for the next 10-15 years. The plan has incorporated the potential pedestrian link through the north part of the Retarding Basin as part of Yanggai Barring Linear Park. It also notes the location of adjoining reserves owned by Manningham City Council and encourages Council to take a more active role in managing these important bushland areas, with the intent of protecting the biological values that are present as well as acting as a continuous high quality bushland area within the Retarding Basin.

Yanggai Barring Linear Park falls within the Highlands-Southern fall Bioregion and contains remnants of two Ecological Vegetation Classes (EVC's) which are described in Appendix 2 and shown on Figure 5. The Linear Park is predominantly *Creek-line Herb rich woodland*, which is classified as endangered which flows into *Valley Grassy Forest* and is classified as vulnerable. There are also areas that do not fall into the EVC's and are not made up of remnant vegetation, including the mown area of the Retarding Basin and part of the land 115-119 Hall Road with a Public Acquisition Overlay.

Creek-line Herb rich Woodland (EVC 164) consists of woodland or open forest to 15 metres tall occurring on creek terraces and along shallow drainage lines with ephemeral flows. Soils are mostly alluvial deposits of seasonally wet sands and silts. Characterised by a sparse shrub layer above a grassy/sedgy understorey, it is often rich in herbs within the inter-tussock spaces.

The *Valley Grassy Forest (EVC 47)* in the Linear Park occurs under moderate rainfall regimes of 700-800mm per annum on fertile well-drained colluvial or alluvial soils on gently undulating lower slopes and valley floors. Open forest to 20m may carry a variety of eucalypts, usually species, which prefer moister

Figure 5



Legend

- Project study area
 - Existing property lines
 - Manningham - Maroondah municipal boundary
 - Rivers and creeks
 - Existing retarding basin
 - Existing dam
 - Future Council land / Public Acquisition Overlay
- EVCs**
- (2) Buffer Habitat, Unclassified
 - (22) Grassy Dry Forest
 - (47) Valley Grassy Forest
 - (164) Creekline Herb-rich Woodland

Yanggai Barring Linear Park Environmental Vegetation Classification (EVC)

MANNINGHAM

DATE: 2.3.11

AMENDMENT: -

0 20 40 100 200m

or more fertile conditions over a sparse shrub cover. In season, a rich array of herbs, lilies, grasses and sedges dominate the ground layer but at the drier end of the spectrum the ground layer may be sparse and slightly less diverse, but with the moisture-loving species still remaining.

Existing information on the Department of Sustainability and Environment's *Flora Information System (July 2005 version)* found 1205 flora species in and around five kilometres of the Retarding Basin, of which 24 species were rare or threatened. A site assessment of the Retarding Basin conducted in 2006 recorded a total of 127 species. Two species were recognized as regionally significant, being Common Rasp Fern *Doodia media* and Trim Sun -orchid *Thelymitra* spp.

6.2. Fauna

The vegetation corridor along the Andersons Creek valley provides a significant corridor for wildlife enabling a range of species to live and visit the Linear Park. A recent ecological assessment of the nearby The 100 Acres Reserve found records of 160 fauna species since the late 1970's. Of these the powerful owl is the only fauna species that occurs regularly in the reserve and is listed under the Fauna and Flora Guarantee Act 1988.

No fauna surveys were carried out for this Management Plan. Assessment of habitat was made based on database searches. 14 fauna species of State/National significance have been recorded within a five km radius of the Linear Park and a total of 16 fauna species were recorded within the local area using the Environmental Protection Biodiversity Act (1999) search tool and are listed in Appendix 3.

The distribution of bird species in the area is being affected by the competition from other native birds such as the Noisy Miner *Manorina melanocephala* and the Rainbow Lorikeet *Trichglossus haematodus*. Since the 1970's there are signs of a declining trend in the diversity of birds in the local area which is common throughout the eastern suburbs mainly due to the continued loss of habitat. Despite these changes to bird fauna the importance of managing the vegetation corridor is amplified to provide optimum habitat for fauna and to minimise detrimental impacts.

6.3. Pest Plants and Animals

Environmental Weeds

Environmental weeds include all species capable of invading natural areas, including some noxious species, plants commonly used in horticulture, even Australian natives not indigenous to the area. The Linear Park includes weed species from all plant life forms including climbers, trees, shrubs, grasses and herbs. The control and removal of weed species is an ongoing issue for native vegetation. Major threats to the area are from woody and grassy weed invasion particularly into the highly valued vegetation areas of the Linear Park.

Major weed species include Sweet Vernal-grass *Anthoxanthum odoratum*, Panic Veldt-grass *Ehrharta erecta* Angled onion *Allium triquetrum*, Boneseed *Chrysanthemoides monilifera spp.monilifera*, Blackberry *Rubus anglocandicans*, Bridal Creeper *Asparagus asparagoides* and Yellow Bartsia *Parentucella viscosa*. However Blackberry is a significant habitat plant for small native birds and its control must be staged to manage this impact.

On going weed management is important to protect the vegetation communities within the Linear Park which are in good condition and to improve the condition of other areas within the Park. Melbourne Water has managed the Retarding Basin to ensure its biodiversity values are sustained and enhanced for a number of years. Woody weed control has been undertaken for several years resulting in a low, controllable level of exotic woody weed species throughout most of the area followed by a program to eradicate Grassy weed species.

Under its 5 year Waterway Health program (2008/09 to 2013/14) Melbourne Water is responsible for the bed and banks of waterways and is conducting weed removal, bank revegetation, flow improvement and aquatic habitat improvement works along the Anderson Creek and its tributaries.

Pest Animals

Rabbit populations in the local area are high and control measures undertaken by Melbourne Water have been sporadically undertaken over the years. This should continue and be expanded to include Council reserves within the Linear Park to keep population numbers down. Cooperation with adjacent landowners should also be encouraged.

Introduced Honey Bees (*apis mellifera*) take over the hollows in trees that native birds or marsupials occupy. When found honey bees should be eradicated from the area.

As in other urban bushland in the region native fauna is affected by predation by Red Foxes *Vulpes vulpes* and escaped cats and dogs. Domestic cats are one of the biggest killers of native birds, mammals and reptiles and pose an enormous threat to wildlife. To protect environmental values dogs should be walked on lead within the Linear Park and cats need to be kept contained to the owners property adjoining the park.

6.4. Fire and Emergency Management

The management of fire is complex involving fire risk, fire behaviour and ecological considerations. Fire management planning and response in the general area involves an integrated approach between Councils and several agencies including the Country Fire Authority. Vehicular access to Council land within the Linear Park is limited. An existing fire break is maintained by Melbourne Water along the southern property boundaries of the Retarding Basin.

7. VISITOR EXPERIENCES AND RECREATION OPPORTUNITIES

7.1. Community Survey

The Yanggai Barring Questionnaire 'Our Community Voice' was a self-completion questionnaire mailed on 29 April 2010 to 117 households in the area surrounding the Yanggai Barring Linear Park.

Major interest groups within Manningham were also notified about the Management Plan including and Friends of Manningham Dogs and Cats and Park Orchards Rate Payers Association.

'Have Your Say' signs inviting comments were placed at the entrances to the Yanggai Barring Linear Park notifying visitors about the commencement of the Management Plan. An article about the project inviting comments was also placed in the Manningham Leader in May 2010 and on Council's web site.

The questionnaire was designed to inform the community about the preparation of Yanggai Barring Management Plan and ascertain how it is used by the local community, what park attributes are valued by the community and ideas and issues which should be addressed in the Management Plan. Respondents were also given an opportunity to indicate if they wished to be involved in future consultation.

Survey Findings

The full results of the survey are shown in Appendix 4. Key findings are outlined below.

A total of 48 responses to the questionnaire were received which represented a 41 % response rate. 26 respondents indicated that they would like to be involved in further consultation regarding the preparation of the Management Plan.

The results highlighted that the local community use the existing paths within the park and value it for its environmental and natural attributes which provide a bushland experience for relaxation, walking, dog walking, nature appreciation and wildlife observation.

Even though the Yanggai Barring Linear Park has not been developed, the park is very popular with the local community. Over half of the respondents (58%) indicated that they visit the park. However over a third of the respondents (38%) indicated that they do not use the park, which could be attributed to poor park access, limited path network within the park and lack of signage.

Approximately a third of respondents cited 'walking' (37%) as the main reason they visited the Linear Park followed by 'dog walking' (22%) and 'nature appreciation' (19%) as the most popular activities. These activities are also

the most popular activities undertaken by the local community who live close to The 100 Acres Reserve in Park Orchards which is located within walking distance to Yanggai Barring Linear Park.

The main attributes of the Yanggai Barring Linear Park valued by the community indicated that it is 'close to home' (46%), is a bushland area (19%) which provides an 'area to relax' (10%). A small number of respondents value the area as a place to 'exercise their dogs' (4%).

The growing community awareness about biodiversity and conservation is likely to increase the demand for the protection of natural areas while also increasing the attraction of such areas to people as they seek natural environments as settings for leisure and recreation activity. Continued and improved provision of sustainable nature-based recreation for the community and recognition of their attachment to the natural environment will be important objectives for the future management of the Yanggai Barring Linear Park.

Two thirds of the respondents (67%) use the existing paths which connect to the Linear Park, including the Melbourne Water vehicular access track and the path link along the Yanggai Barring Reserve in the City of Maroondah. A continued path link through the park would increase the recreation and walking opportunities and connection to other path linkages for the benefit of the local and wider community.

Almost all the respondents (96%) indicated they would use the path link, if constructed which supports Manningham Council's long term vision to create a continuous link from Warranwood in the City of Maroondah through Yanggai Barring Linear Park to 100 Acres Reserve. Over three-quarters (79%) of the respondents indicated that they would visit the Park on a regular basis, if the path was constructed. 27% of the respondents would visit between '4-6 times per week', 23% would visit '2-3 times per week' and 29% would visit 'weekly'. Residents of Park Orchards and the surrounding area would benefit significantly with the extension of Manningham's path network in this area of the municipality, where there is relatively poor access to the path network from adjacent residential areas.

The survey findings suggest that the major issues which are important to over a third of the respondents that should be addressed in the Management Plan include park access points (35%) and paths (35%). Over a quarter of the respondents (26%) indicated that 'environmental/bushland management' should be addressed in the Management Plan followed by 'fire management' (8%).

Themes and Issues

The main themes and issues that emerged from the questionnaire can be broadly divided into the following groups:

Extension of the Path Network

Fifteen respondents strongly supported the extension of the path link with comments such as '*fantastic idea*', '*great to extend 100 Acres bushland green*

walking area connecting both parks with increased enjoyment' and 'a link from Melbourne Water access track to the proposed path will give access to a wide range of other walking tracks to Ringwood North and onto Eastland'.

Other comments include:

'Access to the Melbourne Water vehicular access track has been removed from D'Assisi Court and should be re-instated'.

'Minimise damage to the existing vegetation when constructing the new path. Prefer minimal development; love the undeveloped feel of the park'.

'A circuit path would be great by joining the proposed path with the Melbourne Water vehicular access track'.

Environmental and Fire Management Issues

Rabbits are still a major problem in some areas of the park and there is a need for more resources for on-going weed and rabbit control.

Road Safety Issues

The crossing over Warrandyte-Ringwood Road near Hall Road is dangerous and is a major barrier in terms of a pedestrian link to the 100 Acres Reserve due to fast cars and poor sightlines.

Other

One respondent had privacy concerns about the proposed path alignment as the property adjoins the south-west section of the Linear Park adjacent to the Andersons Creek Eastern Branch.

Surrounding Community

The survey findings revealed that two broad demographic groups responded to the questionnaire. The first group represented a 'mature' household and comprised a household with adult children' (23%) as well as a household with no children (19%). The second group represented young and growing families. 28% were households with school age children and 13% were households with children of primary school age.

Almost half of the respondents (46%) who completed the questionnaire were between 50-59 years with over a third (33%) between 35-49 years. The provision of paths and ancillary development within the Linear Park will provide increased opportunities for walking in association with nature appreciation and environmental awareness to enable people of all ages within the local community to engage in physical activity leading to increased health and well being.

7.2. Walking and Nature Appreciation Opportunities

Walking is an inexpensive exercise that can be undertaken by the majority of the population in a variety of settings. Walking is the most popular activity undertaken in Manningham. It is also the most frequently participated in and

appeals to a wide range of people. Walking is an inexpensive exercise that can be undertaken by the majority of the population in a variety of settings. Many walking groups have developed within the municipality particularly over the past six years. Manningham Council hosts many nature walks each year. To foster community participation in walking Council also provides a list of walking groups and walking is further encouraged with the publication of the Walks in Manningham booklet, which is currently being updated.

The Yanggai Barring Linear Park is a natural bushland which has the potential to be enjoyed by the local residents for walking in association with nature appreciation and wildlife observation. However access for people for limited abilities in the Linear Park is limited given the steep topography and the proposed crushed rock path would not be suitable for people in wheelchairs, with prams or who are unsteady on their feet due to the uneven nature of the surface.

7.3. Dog Walking

The Manningham Domestic Animals Strategy (2004) aims to promote and facilitate responsible ownership of dogs and cats, support animal welfare and promotes the benefits of animal companionship, with an emphasis on the protection and enhancement of community safety and the environment.

Dogs and their owners are significant users of public open space, however some dogs in public places can have an adverse effect on community safety and the environment. The Strategy aims to balance the needs of all users of open space through its Dog in Public Places policy by providing a network of on lead, off lead and prohibited areas. The principle means of control of dogs in public places is by way of the Council Order in accordance with S26 (2) of the Domestic Animals Act 1994 which is the responsibility of Health and Local Laws Unit, Manningham City Council.

A Domestic Animals Management Plan must be submitted to the Minister for Agriculture every three years and includes the management of dogs throughout Council reserves.

In accordance with the Council Order under S26 (2) of the Domestic (Animals and Nuisance) Act (1994) all dogs in every public area of the municipal district of the Manningham City Council, including those areas set out in Schedule 1, which nominates designated dogs on lead areas, must be restrained by means of a chain, chord or lead except as provided in the Schedules 2 and 3. Schedule 2 nominates designated dogs and cats prohibited areas and Schedule 3 nominates designated dogs off lead areas.

In accordance with the Council Order dogs are allowed to be walked on lead within the Yanggai Barring Linear Park. This is consistent with the dog on lead controls in The 100 Acres Reserve and dog on lead in reserves which link to Yanggai Barring Linear Park in the City of Maroondah.

The proposed Yanggai Barring path will traverse through vulnerable vegetation communities with high conservation value and the presence of dogs can disrupt wildlife feeding and breeding and dog faeces can introduce additional nutrients which promote weed growth. However the management of dog walking in the Linear Park is required to enable a balance between dog walking opportunities and protection of significant flora and fauna values. Increased ranger presence and signage to clarify dog controls will be required, particularly at the beginning and end of paths.

7.4. Horse Riding Access

The Manningham Horse Riding Strategy (2002) advocates the progressive assessment and management of identified trail links and circuits to improve the quality and safety of trails and to allow a range of environmental management techniques to be implemented. Sustainable riding links require a balance between environmental safety and access concerns based on an assessment of botanical values, existing trail alignment, rider motivations and destinations, soil types, drainage, road safety sight lines and trail surfacing.

Hall Road is a horse link which provides access to The 100 Acres Reserve from the north so there is no need for horses to use the Linear Park. Horse riding is also inappropriate in the Linear Park due to the impact on the environment. There is no link to the Manningham's existing horse trail network and horse riding is prohibited in reserves adjoining the Yanggai Barring Linear Park in the City of Maroondah.

7.5. Cycling

Recreational activities such as BMX bikes and mountain bike riding which have an environmental impact and have the potential to conflict with other park users will not be permitted off established trails within the linear park. Bicycles will be restricted to the paths within the park and will not be permitted to enter bushland. Ranger patrols will be required to monitor inappropriate uses within the park.

8. INFRASTRUCTURE AND FACILITIES

8.1. Yanggai Barring Linear Trail

The Yanggai Barring Linear Trail will be a low key bushland path extending approximately 800 metres from Landau Drive in the City of Maroondah to Hall Road in South Warrandyte. It will be a 1.5 metre wide predominantly crushed rock path with boardwalks and a footbridge to negotiate the difficult site and environmental constraints along the Andersons Creek valley (refer Figure 3). The path will traverse Manningham Council land, Melbourne Water land and a small section on the land owned by the City of Maroondah. The precise route will be determined through detailed design of the route. Determination of the designated path route will be based on an evaluation of the following criteria:

- Recreational value and usability of the path by walkers
- Impact of the path on adjoining residents;
- Public land tenure;
- Andersons Creek flooding limitations and Melbourne Water requirements;
- Impact on archaeological sites;
- Impact on flora and fauna values;
- Engineering feasibility; and
- Cost of construction and maintenance.

8.1.1 Melbourne Water requirements

Melbourne Water has no in principle objection to the development of a pathway within Melbourne Water land, on the northern side of the Andersons Creek Basin. Prior to formal Melbourne Water acceptance of any pathway design on Melbourne Water land, or within reach of a waterway, Melbourne Water will require detailed plans for review. Pathways are generally required to be above the 1:10 year flood level, and crossings should be above the 1:100 year flood level for safety reasons.

The following conditions and requirements will apply to any Melbourne Water approval for construction of a pathway and will form part of the planning approval process:

- A landscape plan must be submitted to Melbourne Water for approval, particularly detailing the path's interface with the waterway. At a minimum this plan should outline setbacks, location and methods to deal with any significant native vegetation as well as planting schedules including detailed plant lists;
- Any proposed works must not impact on any significant native vegetation. Removal of any native vegetation must be in line with the Native Vegetation Framework;
- Melbourne Water records show that the proposed works is likely to have an impact on the local flora and fauna species or communities listed as threatened in Victoria-DSE 2003, or listed under the Flora and Fauna

-
- Guarantee Act 1988 (Vic) that reside on public land. Council is advised to contact Biodiversity Services at Department of Sustainability and Environment to discuss the requirements for a flora and fauna guarantee permit;
- Prior to detailed design of the proposed path, investigations of the affected areas will need to be undertaken by an appropriately qualified consultant on behalf of Council. Findings of these investigations must be provided to Melbourne water for review;
 - Depending on the width and status of the vegetation to be removed, an application to construct a pathway may need to be referred to the department of Sustainability and Environment (DSE). If the proposed pathway would result in removal of species listed under the Environmental protection and biodiversity Conservation Act 1999 (Commonwealth), the proposal must also be referred to the minister for the Department of Sustainability, Environment, Water, Population and Communities.
 - Prior to approval of any works, a site environment management plan (SEMP) must be submitted to Melbourne Water for approval. The SEMP must detail sediment and pollution controls that will be implemented during the construction phase of the project;
 - A maintenance agreement in accordance with our standard template is to be prepared for the recreational features within reach of the waterway. Council's acceptance of the boardwalk, pedestrian path and creek crossing is to be obtained prior to commencing this portion of the works; and
 - Prior to formal agreement Melbourne Water requires that Council enter into a pathways agreement for the construction, maintenance and liability of a constructed council asset on Melbourne Water land.

8.2. Warrandyte –Ringwood Road Crossing

The Management Plan has considered the link to The 100 Acres reserve which includes crossing Warrandyte –Ringwood Road. The intersection of Warrandyte-Ringwood Road with Hall Road and Vincent Road provides many challenges for pedestrians given the bends in the road with poor sight lines and the speed of the traffic (60km/hr limit). The crossing is also complicated by the narrow width of Vincent Road and the location of Andersons Creek. Currently there is no formal crossing and pedestrians judge when to cross the road. Consideration of a safe crossing is required as the completion of Yanggai Barring Linear Trail will increase pedestrians crossing Warrandyte-Ringwood Road.

A Traffic Study was undertaken by Council in June 2011 to further investigate the safe linking of the Yanggai Barring path to The 100 Acres Reserve, particularly the crossing of Ringwood-Warrandyte Road. The Traffic Study identified issues with the width and condition of the northern end of Vincent Road, which was identified as an essential part of the pedestrian link.

A pedestrian refuge on the Ringwood –Heidelberg Road will be required on Ringwood-Warrandyte Road and the northern end of Vincent Road will need

to be widened to incorporate a 40 metre long section of footpath to complete the pedestrian link to The 100 Acres.

The only way to provide a separate footpath is to acquire approximately 50 square metres of land from the adjacent residential property, being 14-16 Vincent Road, Park Orchards. Council will need to commence negotiations with the owners of the Vincent Road property regarding the land acquisition. If these negotiations fail, it may be necessary to pursue an Amendment to introduce a Public Acquisition Overlay.

8.3. Signage

Signage will be required, including park directional and regulatory signs. Signs should be erected at major entrance points to the Linear Park to provide park information including prohibition of horse riding and dog controls.

8.4. Seating

The provision of new seating within Yanggai Barring Linear Park is seen as an important, way of increasing recreation opportunities for users, particularly providing for nature appreciation. Seating allows people to rest and enjoy the natural and peaceful environment.

8.5. Fencing

There may be a need to fence along some sections of the proposed path to protect native vegetation. Acceptable styles of boundary fencing include open style agricultural fencing or cyclone wire fencing for maintenance purposes and visual amenity.

9. COMMUNITY AWARENESS AND INVOLVEMENT

The successful development and management of the Yanggai Barring Linear Park will involve on-going consultation with the major stakeholders and adjoining residents.

The development of Yanggai Barring Linear Park provides an important opportunity for environmental education to improve the valley's bushland environment through active management. The education of local residents about how they can help maintain and improve the significant environmental values of the Linear Park should be fostered.

Community involvement should be encouraged with the establishment of a Friends Group for Yanggai Barring Linear Park, particularly young children to work with Council and Melbourne Water as part of the implementation of the Management Plan. This is particularly important for children, who are generally experiencing less of nature from one generation to the next.

10. IMPLEMENTATION, MONITORING AND REVIEW

The following areas within Manningham City Council are responsible for the management of Yanggai barring Linear Park:

Economic and Environmental Planning Unit

- Landscape and Leisure Team -open space, recreation and strategic planning of Council's parks (including project management of the design and implementation of park management and development plans), and
- Environment Team-environmental planning of conservation and environmental areas.

Parks and Recreation unit

- Landscape Maintenance Team-bushland maintenance, fire management, mowing and garden maintenance and horticulture and landscape maintenance
- Fencing
- Tree Maintenance Team, and
- Park security.

Health and Local Laws Unit

- Local laws Team-local laws patrols. i.e. dog 'on' and 'off' lead areas.

Engineering Operations Unit

- Roads and Infrastructure Team- path and bridge maintenance

Strategic Projects

Given the variety of Council service units who are responsible for the planning and management of Reserves in Manningham, it will be important to designate a team which is responsible for the overall co-ordination and implementation of the management plan. Presently the Landscape and Leisure Team within Economic and Environmental Planning has this responsibility for park management plans.

There is an opportunity to improve communication across all the responsible areas within Council. To facilitate this, it is recommended that as a minimum, an annual meeting is held with all responsible departments/units across Council to discuss the progress of the management plan, identify any new issues that may have arisen over the previous 12 months and to discuss any suggested strategies to address these.

State Planning Strategies and Policies

Aboriginal Heritage Act 2006
Melbourne 2030 (2002)
Metropolitan Open Space Strategy (2002)
Native Vegetation Management Framework (Net Gain)
Mullum Mullum Park Draft Strategic Directions Plan (July 2010)

Local Planning Strategies and Policies

Manningham Council Plan 2009-2013
Healthy Living in Manningham- Municipal Public Health Plan (2009-13)
Disability Access Policy and Action Plan (2004) Manningham City Council
'Active for Life' Recreation Strategy (2010) Manningham City Council
Manningham Horse Riding Strategy (2002)
Manningham Domestic Animals Strategy (2004)
Manningham City Council Public Open Space Strategy (2004)(currently being reviewed)
Manningham Biosites Manningham City Council Sites of (Biological) Significance Review (2004)
Manningham City Council Mullum Mullum Linear Park Stage 3 Management Plan (2008)
Manningham City Council -The 100 Acres Reserve Management Plan(2010)
Andersons Creek Corridor Concept Plan (2003)
Amendment C63 to the Manningham Planning Scheme Gazetted (2010)

EVC No: 164

EVC Name: Creekline Herb-rich Woodland

MCC Distribution: Widespread throughout the eastern half of the study area.

Position in landscape: Situated in the minor gullies of Yarra River tributaries usually flowing into Riparian Forest associated with permanent and semi-permanent watercourses. At the highest elevations Creekline Herb-rich Woodland typically merges with either Valley Grassy Forest or Grassy Dry Forest.

Geology/Soils: Palaeozoic (Silurian) marine siltstones and sandstones. Soils on undulating or rolling rises of marine siltstones and sandstones with soils on gentle terrain associated with gullies (2-5%) being 120 cm deep and gradational in structure (Hood and Crawford 2004).

Biophysical (Habitat) region: Warrandyte Hills.

Ecological notes: Creekline Herb-rich Woodland occupies the lower, middle section of a characteristic topo-sequence typical of the region's vegetation patterning on Silurian geology and is widespread throughout the foothills of north-east Melbourne. On a transect from ridgetops to the creek or river valleys the sequence is: Grassy Dry Forest; Valley Grassy Forest; Creekline Herb-rich Forest; Riparian Forest. The Creekline Herb-rich Forest occupies low energy, ephemeral (seasonal) gullies or creeklines with relatively well developed bands of alluvium supporting deep, gradational soils. Although the transition with other EVCs in this toposequence maybe diffuse, Creekline Herb-rich Woodland is distinctly different in both floristic and structural characteristics as driven primarily by the increasing influence of moisture along the gradient from the dry ridgetops down to the riparian corridors and associated permanent water bodies. Although affected greatly by human disturbance (especially gold mining), in a natural state, runoff is not of a sufficient volume or energy to form permanent water channels gouged into the alluvium.

Structural and floristic discription:

A medium (to 30 m) woodland to open woodland dominated by a canopy of medium mixed eucalypts over a range of tall to prostrate shrubs (to 10 m) virtually all of which are indigenous. The ground layer consists of a range of medium to small (<1 m) tussock and non-tussock forming grasses plus some mat-rushes and some sedges interspersed with a range of medium to small herbaceous dicots. Some common ground ferns and climbers/scramblers are also present. A range of exotics occur frequently in this vegetation but can become visually dominant in the more degraded sites.

The canopy is typically characterized by mixed eucalypts including: Yellow Box, Red Stringybark, Swamp Gum, Red Box, Black Wattle, Cherry Ballart, Blackwood and Silver Wattle comprise the taller shrublayer or can even codominant with the eucalypts. Sweet Pittosporum and Hawthorn are the only consistently present larger woody weeds of this EVC.

The typical medium to small shrubs include species such as Drooping and Common Cassinia, Burgan, Tree Everlasting, Prickly Currant Bush and Victorian Christmas-bush. The last three species indicate the emergence of elements of Riparian Forest, that become dominant further down stream. A range of shrubs typical of drier vegetation also frequently occur in this EVC, these include: Common Heath, Creeping Bossiaea, Grey Parrot-pea, Common Flat-pea and Common Rice-flower. The exotics, Blackberry and Briar Rose, feature consistently in this component of the vegetation.

On the ground the most common indigenous graminoids include: Weeping Grass, Kangaroo-grass, Wattle and Spiny-headed Mat-rushes, Soft, Grey and Common Tussock-grass, Reed Bend-grass, Thatch Saw-sedge, Veined Spear-grass, various Wallaby-grasses, Yellow Rush-lily and Variable Sword-sedge. Black-anther Wallaby-grass is indicative of mixing with drier vegetation at the head or margins of creeklines, whilst the presence of Common Grass-sedge and Common Bog-sedge are indicative of the some times swampy nature of the flatter creeklines. Whilst often in great abundance, four exotic grasses occur frequently in this vegetation: Sweet Vernal-grass, Large Quaking-grass, Brown-top Bent and Yorkshire Fog.

A great richness of herbaceous dicots are usually found in abundance within the graminoid intertices. Species such as Common Raspwort, Bidgee-Widgee, Small Poranthera, Kidney-weed, Small St John's Wort and Shady Wood-sorrel are examples. As with the graminoids and the shrubs, the presence of species such as Centella is also indicative of the increasing influence of moisture. Cat's Ear, Ribwort, Cleavers, Common Sow-thistle, Pimprenal and Common Century are the most commonly encountered exotic herbs.

Common Maiden-hair is the only consistently present species of ground ferns.

Three common climbers/scramblers, occur in this EVC, namely: Mountain and Small-leaved Clematis, and Love Creeper. In this component of the vegetation, the presence of Mountain Clematis is indicative of increasing moisture gradient.

Comparison with general description:

In comparison with the description in Oates and Taranto (2001), Manningham's Creekline Herb-rich Woodland differs in the following ways:

- Narrow-leaf Peppermint, Messmate Stringybark, Candlebark are relatively infrequent whilst Yarra Gum is entirely absent.
 - High frequency of Cherry Ballart plus the typical Riparian Forest elements: Tree Everlasting, Prickly Currant Bush and Victorian Christmas-bush.
 - Low frequency of moisture-loving forbs such as Prickfoot, Austral Brooklime and Angled Lobelia
 - High frequency of Silvertop Wallaby-grass, Spear-grasses and Wallaby-grasses
- In general the Valley Grassy Forest of Manningham is likely a 'typical' example of that described for the greater Port Phillip region in Oates and Taranto (2002). However, there does appear to be some mixing in of Riparian Forest elements that is probably due to mapping and sampling errors, plus a general absence of the wetter herbaceous element due to degradation.

EVC FREQ	LIFE FORM	ORIGIN	NAME	COMMONNAME	FAMILYNAME	AROTS	VROTS	FFG	REG?	MCC FREQ
Trees and Large Shrubs										
59LS			Acacia mearnsii	Black Wattle	Mimosaceae					286
50T			Eucalyptus melliodora	Yellow Box	Myrtaceae					265
50LS			Exocarpos cupressiformis	Cherry Ballart	Santalaceae					330
45T			Eucalyptus macrorhyncha	Red Stringybark	Myrtaceae					342
45T			Eucalyptus ovata	Swamp Gum	Myrtaceae					97
45T			Eucalyptus polyanthemos	Red Box	Myrtaceae					254
36LS			Acacia melanoxylon	Blackwood	Mimosaceae					240
32LS			Acacia dealbata	Silver Wattle	Mimosaceae					153
32LS		#	Pittosporum undulatum	Sweet Pittosporum	Pittosporaceae					240
27LS		*	Crataegus monogyna	Hawthorn	Rosaceae					105
23T			Eucalyptus goniocalyx s.l.	Bundy	Myrtaceae					280
Shrubs and Prostrate Shrubs										
64S			Cassinia aculeata	Common Cassinia	Asteraceae					269
55S			Ozothamnus ferrugineus	Tree Everlasting	Asteraceae					118
41S			Cassinia arcuata	Drooping Cassinia	Asteraceae					205
41S			Kunzea ericoides	Burgan	Myrtaceae					220
41S		*	Rubus sp. aff. armeniacus	Blackberry	Rosaceae					144
36S			Epacris impressa	Common Heath	Epacridaceae					158
32PS			Bossiaea prostrata	Creeping Bossiaea	Fabaceae				EA97	138
32S			Coprosma quadrifida	Prickly Currant-bush	Rubiaceae					120
32S			Dillwynia cinerascens s.l.	Grey Parrot-pea	Fabaceae				EA97	240
32S			Pimelea humilis	Common Rice-flower	Thymelaeaceae					211
32S		*	Rosa rubiginosa	Sweet Briar	Rosaceae					97
27S		*	Rubus fruticosus spp. agg.	Blackberry	Rosaceae					159
23S			Platylobium obtusangulum	Common Flat-pea	Fabaceae				EA97	171
23S			Prostanthera lasianthos	Victorian Christmas-bush	Lamiaceae				EA97	95
Large to small tussock and non-tussock forming graminoids										
91MG			Microlaena stipoides var. stipoides	Weeping Grass	Poaceae					468
55MTG			Themeda triandra	Kangaroo Grass	Poaceae					340
50MTG		*	Anthoxanthum odoratum	Sweet Vernal-grass	Poaceae					309
50SG		*	Briza maxima	Large Quaking-grass	Poaceae					328
45MG			Lomandra filiformis	Wattle Mat-rush	Xanthorrhoeaceae					417
41LG			Lomandra longifolia	Spiny-headed Mat-rush	Xanthorrhoeaceae					161
41MTG			Poa morrisii	Soft Tussock-grass	Poaceae					157
36MTG			Deyeuxia quadriseta	Reed Bent-grass	Poaceae					117
36MG			Gahnia radula	Thatch Saw-sedge	Cyperaceae					200
36MTG			Joycea pallida	Silvertop Wallaby-grass	Poaceae					221
36MG			Tricoryne elatior	Yellow Rush-lily	Phormiaceae				EA92/92	151
32MTG		*	Agrostis capillaris s.l.	Brown-top Bent	Poaceae					137
32MTG			Carex breviculmis	Common Grass-sedge	Cyperaceae					55
32STG			Schoenus apogon	Common Bog-sedge	Cyperaceae					93
27MTG			Austrostipa rudis	Veined Spear-grass	Poaceae					152
27MG		*	Holcus lanatus	Yorkshire Fog	Poaceae					270
27MTG			Lepidosperma laterale	Variable Sword-sedge	Cyperaceae				EA92	163
27MTG			Poa labillardierei	Common Tussock-grass	Poaceae					67
27MTG			Poa sieberiana	Grey Tussock-grass	Poaceae					155
23MTG			Danthonia s.l. spp.	Wallaby Grass	Poaceae					82
Large to small herbaceous dicots and geophytes										

73H	*	Hypochoeris radicata	Cat's Ear	Asteraceae					478
64H		Gonocarpus tetragynus	Common Raspwort	Haloragaceae					419
55H		Acaena novae-zelandiae	Bidgee-widgee	Rosaceae					173
55SH	*	Centaurium erythraea	Common Centaury	Gentianaceae					170
36H	*	Plantago lanceolata	Ribwort	Plantaginaceae					227
32SH	*	Anagallis arvensis	Pimpernel	Primulaceae					94
32SH		Poranthera microphylla	Small Poranthera	Euphorbiaceae					291
27SH		Dichondra repens	Kidney-weed	Convolvulaceae					175
27SH		Hypericum gramineum	Small St John's Wort	Clusiaceae					243
27H		Oxalis perennans	Grassland Wood-sorrel	Oxalidaceae					63
23SH		Centella cordifolia	Centella	Apiaceae					17
23H	*	Galium aparine	Cleavers	Rubiaceae					195
23H	*	Sonchus oleraceus	Common Sow-thistle	Asteraceae					160
Ferns and fern allies									
32GF		Adiantum aethiopicum	Common Maidenhair	Adiantaceae					119
Climbers and Scramblers									
23CL		Clematis aristata	Mountain Clematis	Ranunculaceae					91
23CL		Clematis microphylla	Small-leaved Clematis	Ranunculaceae					134
23CL		Comesperma volubile	Love Creeper	Polygalaceae					105
Other incl. Bryophytes									
									*

EVC No: 47

EVC Name: Valley Grassy Forest

MCC Distribution: A dominant element fringing riparian and minor drainage lines throughout the study area except along the Yarra River flood plain in the far west at Bulleen. One of the most abundant EVCs in the study area.

Position in landscape: With the exception of the upper most minor gullies, Valley Grassy Forest is found fringing or buffering either Riparian Forest or Creekline Herb-rich Woodland. It is generally the dominant element of valleys on the Silurian low hills situated just above the alluvial terraces as controlled by soil patterns and moisture, which at this position in the landscape has little to do with aspect.

Ecological notes: Valley Grassy Forest occupies the lower, middle section of a characteristic topo-sequence typical of the region's vegetation patterning on Silurian geology that is widespread throughout the foothills of north-east Melbourne. On a transect from ridgetops to the creek or river valleys the sequence is: Grassy Dry Forest; Valley Grassy Forest; (Creekline-herb-rich Forest); Riparian Forest. Often the transition with Grassy Dry Forest involves mixed ecotones that may even represent discrete Floristic Communities or EVCs. Compared to Grassy Dry Forest, the most obvious differences in Valley Grassy Forest are structural, although there are notable floristic differences that, as would be expected, reflect the increasing moisture gradient and to a lesser extent soil depth and fertility. Both the floristics and structure of this vegetation, suggest fire is likely to be just as important to the ecology of Valley Grassy Forest as Grassy Dry Forest.

Structural and floristic description:

A medium forest (to 30 m) to woodland of the lower slopes of foothill valleys encasing riparian vegetation dominated by a canopy of medium to short mixed eucalypts over a range of tall to prostrate shrubs (< 5 m) virtually all of which are indigenous. The ground layer consists of a range of medium to small (<1 m) tussock and non-tussock forming grasses plus some mat-rushes and some sedges interspersed with a range of medium to small herbaceous dicots. Some common ground ferns and climbers/scramblers are also present. A limited range of exotics occur frequently in this vegetation but can become visually dominant in the more degraded sites.

The canopy is typically characterized by mixed eucalypts including: Yellow Box, Red Box, Red Stringybark, Narrow-leaf Peppermint and Bundy. Candlebark is also a commonly recorded codominant. Cherry Ballart, Black Wattle, Blackwood and Sweet Bursaria comprise the taller shrublayer or can even codominant with the eucalypts where canopy height growth is limited. Radiata Pine and Sweet Pittosporum are the only consistently present larger woody weeds of this EVC.

The typical medium to small shrubs include species such as Burgan, Drooping and Common Cassinia, Hedge Wattle and Common Heath. Also typical of the drier vegetation, prostrate shrubs are relatively common in Valley Grassy Forest: Common Hovea and Creeping Bossiaea. Only one exotic, Blackberry, features consistently in this element of the vegetation.

On the ground the most common indigenous graminoids include: Kangaroo-grass, Wattle Mat-rush, Weeping Grass, Yellow Rush-lily, Black-anther Flax-lily and Grey Tussock Grass. Whilst often in great abundance, like Grassy Dry Forest, three exotic grasses occur frequently in this vegetation: Sweet Vernal-grass, Large Quaking-grass and Panic Veldt Grass.

A great richness of herbaceous dicots are usually found in abundance within the graminoid intertices. Species such as Common Raspwort, Small Poranthera, Kidney-weed, Chocolate Lily, Small St John's Wort, Shady Wood-sorrel and Bidgee-Widgee are examples. Cat's Ear, Ribwort and Common Century are the most commonly encountered exotic herbs - an element of the vegetation that is sometimes quite abundant.

The consistent present of the common ground ferns, Common Maiden-hair and Austral Bracken plus the four common climbers/scramblers, namely: Purple Coral-pea, Small-leaved Clematis, Common Appleberry and Love Creeper, are indicative of the increasing moisture gradient down slope from typical Grassy Dry Forest on the hill tops.

Comparison with general description:

In comparison with the description in Oates and Taranto (2001), Manningham's Valley Grassy Forest differs in the following ways:

- Whilst frequently present, Candlebark is rarely dominant and Messmate Stringybark is very rarely present.
- Low frequency of Golden Wattle and Lightwood.
- High frequency of a range of ericoid and other shrubs such as Honey-pots and Common Heath typical of Grassy Dry Forest
- High frequency of Silvertop Wallaby-grass and a lower frequency of Spear-grasses and other Wallaby-grasses
- High frequency of Common Raspwort
- Low frequency of typical broad-leaf herbs such as Australian Buttercup and Austral Bear's Ears.

In general the Valley Grassy Forest of Manningham is likely a "dry" variant of that described for the greater Port Phillip region in Oates and Taranto (2002), and perhaps represents a discrete Floristic Community closely related to Grassy Dry Forest. Alternatively, community analysis could point to this vegetation being more comfortably considered a "wet" variant of Grassy Dry Forest or maybe even a complex ecotone between these two EVCs. It

would appear that the composition and structure of the canopy and taller shrub layers has likely been used to drive the field-based EVC mapping in this area.

EVC	LIFE FREQ	ORIGIN	NAME	COMMONNAME	FAMILYNAME	AROTS	VROTS	FFG	REG?	MCC FREQ
Trees and Large Shrubs										
70	LS		Exocarpos cupressiformis	Cherry Ballart	Santalaceae					330
63	LS		Acacia mearnsii	Black Wattle	Mimosaceae					286
51	T		Eucalyptus melliodora	Yellow Box	Myrtaceae					265
48	LS		Acacia melanoxylon	Blackwood	Mimosaceae					240
45	T		Eucalyptus polyanthemos	Red Box	Myrtaceae					254
43	T		Eucalyptus macrorhyncha	Red Stringybark	Myrtaceae					342
34	T		Eucalyptus radiata s.l.	Narrow-leaf Peppermint	Myrtaceae					169
34	T		Eucalyptus gonicalyx s.l.	Bundy	Myrtaceae					280
34	LS		Bursaria spinosa ssp. spinosa	Sweet Bursaria	Pittosporaceae				EA92	222
29	LS	#	Pittosporum undulatum	Sweet Pittosporum	Pittosporaceae					240
29	T	*	Pinus radiata	Radiata Pine	Pinaceae					169
28	T		Eucalyptus rubida	Candlebark	Myrtaceae					100
24	T		Eucalyptus viminalis	Manna Gum	Myrtaceae					104
Shrubs and Prostrate Shrubs										
53	S		Kunzea ericoides	Burgan	Myrtaceae					220
44	S		Cassinia aculeata	Common Cassinia	Asteraceae					269
40	S		Cassinia arcuata	Drooping Cassinia	Asteraceae					205
38	S		Acacia paradoxa	Hedge Wattle	Mimosaceae					125
31	S	*	Rubus fruticosus spp. agg.	Blackberry	Rosaceae					159
29	S		Epacris impressa	Common Heath	Epacridaceae					158
28	PS		Hovea heterophylla	Common Hovea	Fabaceae					170
28	PS		Bossiaea prostrata	Creeping Bossiaea	Fabaceae				EA97	138
26	PS		Acrotriche serrulata	Honey-pots	Epacridaceae					221
26	S		Platylobium obtusangulum	Common Flat-pea	Fabaceae					171
26	PS		Acacia aculeatissima	Thin-leaf Wattle	Mimosaceae				EA97	121
25	S		Dillwynia cinerascens s.l.	Grey Parrot-pea	Fabaceae				EA97/92	240
25	S	*	Rubus sp. aff. armeniacus	Blackberry	Rosaceae				EA97	144
23	S		Acacia genistifolia	Spreading Wattle	Mimosaceae					171
23	S		Coprosma quadrifida	Prickly Currant-bush	Rubiaceae					120
21	S		Pimelea humilis	Common Rice-flower	Thymelaeaceae					211
21	S		Daviesia leptophylla	Narrow-leaf Bitter-pea	Fabaceae					155
20	S		Cassinia longifolia	Shiny Cassinia	Asteraceae					100
Large to small tussock and non-tussock forming graminoids										
69	MTG		Themeda triandra	Kangaroo Grass	Poaceae					340
63	MG		Lomandra filiformis	Wattle Mat-rush	Xanthorrhoeaceae					417
63	MG		Microlaena stipoides var. stipoides	Weeping Grass	Poaceae					468
58	SG	*	Briza maxima	Large Quaking-grass	Poaceae					328
44	MTG	*	Anthoxanthum odoratum	Sweet Vernal-grass	Poaceae					309
41	MTG		Poa sieberiana	Grey Tussock-grass	Poaceae					155
33	MG		Tricoryne elatior	Yellow Rush-lily	Phormiaceae				EA97/92	151
28	MTG		Joycea pallida	Silvertop Wallaby-grass	Poaceae					221
23	MTG		Dianella revoluta s.s.	Black-anther Flax-lily	Phormiaceae					130
23	MTG		Lepidosperma laterale	Variable Sword-sedge	Cyperaceae				EA92	163
20	MTG		Dianella revoluta s.l.	Black-anther Flax-lily	Phormiaceae					192
20	MG	*	Ehrharta erecta var. erecta	Panic Veldt-grass	Poaceae					148
Large to small herbaceous dicots and geophytes										
64	H		Gonocarpus tetragynus	Common Raspwort	Haloragaceae					419
59	H	*	Hypochoeris radicata	Cat's Ear	Asteraceae					478
43	SH		Dichondra repens	Kidney-weed	Convolvulaceae					175
40	SH		Poranthera microphylla	Small Poranthera	Euphorbiaceae					291
35	G		Arthropodium strictum s.l.	Chocolate Lily	Anthericaceae					220
34	H	*	Plantago lanceolata	Ribwort	Plantaginaceae					227
30	SH	*	Centaurium erythraea	Common Centaury	Gentianaceae					170
29	SH		Hypericum gramineum	Small St John's Wort	Clusiaceae					243
28	H		Oxalis exilis	Shady Wood-sorrel	Oxalidaceae					116
28	H		Acaena novae-zelandiae	Bidgee-widgee	Rosaceae					173
25	H		Brunonia australis	Blue Pincushion	Brunoniaceae				EA97/92	141

APPENDIX 3

Significant fauna species detected using the Victorian Fauna Database and the Environment protection and Biodiversity Conservation Act Protected Matters Search Tool.

FFG	EPBC	DSE	Common Name	Scientific Name	Database
F	V	E	Dasyurus maculatus	<i>Spot-tailed Quoll</i>	VFD
		V	Accipiter novaehollandiae	<i>Grey Goshawk</i>	VFD
		N	Alcedo azurea	<i>Azure Kingfisher</i>	VFD
		V	Aythya australis	<i>Hardhead</i>	VFD
		V	Biziura lobata	<i>Musk Duck</i>	VFD
		N	Nycticorax caledonicus	<i>Nankeen Night Heron</i>	VFD
		N	Cinclosoma punctatum	<i>Spotted Quail-thrush</i>	VFD
F		N	Geopelia cuneata	<i>Diamond Dove</i>	VFD
		n	Phalacrocorax varius	<i>Pied Cormorant</i>	VFD
F	E	e	Lathamus discolor	<i>Swift Parrot</i>	VFD
F		v	Ninox strenua	<i>Powerful Owl</i>	VFD
F	V		Litoria raniformis	<i>Growling Grass Frog</i>	VFD
		e	Pseudophryne bibronii	<i>Brown Toadlet</i>	VFD
F	E	e	Macquaria australasica	<i>Macquarie Perch</i>	VFD
	E		Southern Brown Bandicoot	<i>cu</i>	PMST
	E		Australian Painted Snipe	<i>Rostratula australis</i>	PMST
	E		Regent Honeyeater	<i>Xanthomyza phrygia</i>	PMST
	V		Koonoom, Smoky Mouse	<i>Pseudomys fumeus</i>	PMST
	V		Dwarf Galaxias	<i>Galaxiella pusilla</i>	PMST
	V		Australian Grayling	<i>Prototroctes maraena</i>	PMST
	V		Striped Legless Lizard	<i>Delma impar</i>	PMST

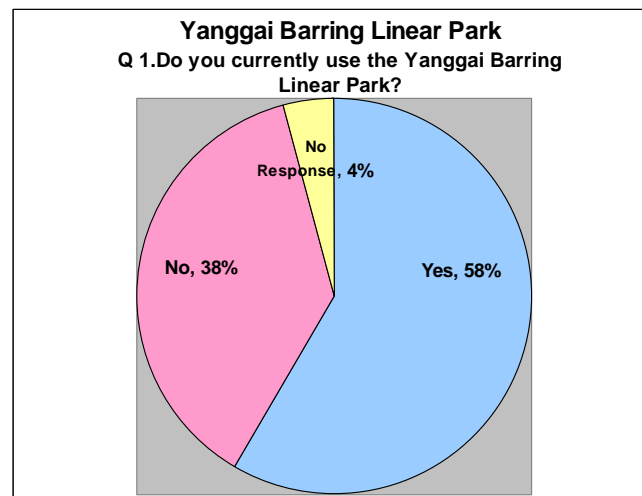
**'OUR COMMUNITY VOICE' YANGGAI BARRING LINEAR PARK
QUESTIONNAIRE RESULTS – June 2010**

The 'Our Community Voice' survey was a self-completion questionnaire, which was mailed on 29 April 2010 to 117 households in the area surrounding the Yanggai Barring Linear Park.

The questionnaire was designed to inform the community about preparation of the Yanggai Barring Linear Park Management Plan and ascertain how the Linear Park is used by the local community and ideas and issues that should be addressed in the Management Plan.

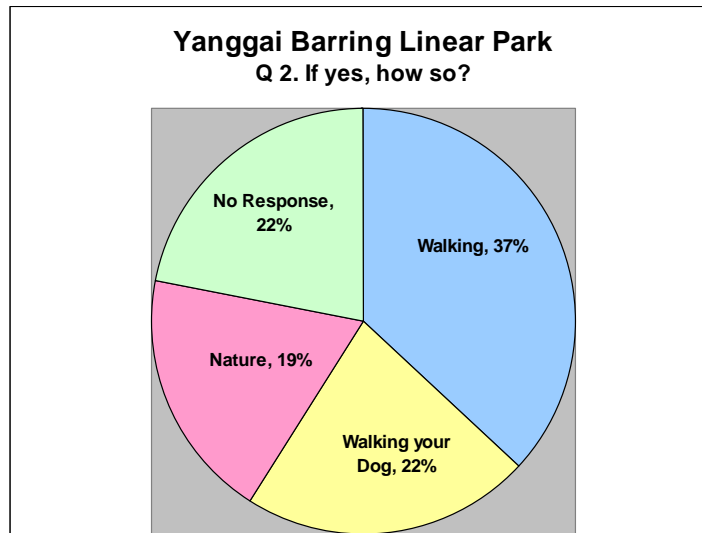
The questionnaire was a mixture of tick boxes and space for individual written comments. Respondents were given an opportunity to indicate if they wished to be involved in future consultation. The respondents had until 31 May 2010 to complete the questionnaire and return it via a reply paid envelope for data processing and analysis.

48 responses were received which represented a 27% response rate. 26 respondents indicated that they would like to be involved in further consultation regarding the preparation of the Yanggai Barring Management Plan. The results of the survey are presented below.

Q1. Do you currently use the Yanggai Barring Linear Park?

Even though the Yanggai Barring Linear Park has not been developed, the park is very popular with the local community. Over half of the respondents (58%) indicated that they visit the park. However over a third of the respondents (38%) indicated that they do not use the park, which could be attributed to poor park access, limited path network within the park and lack of signage.

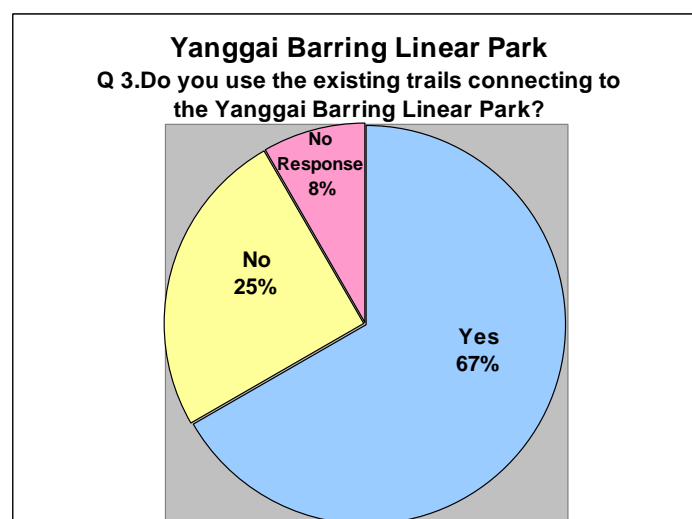
Q2. If yes, how so?



Approximately a third of respondents cited 'walking' (37%) as the main reason they visited the Linear Park followed by dog walking (22%) and nature appreciation (19%) as the most popular activities. It is interesting to note that these activities are also the most popular pursuits undertaken by the local community surrounding the 100 Acres Reserve in Park Orchards, which is located close to the western end of the Yanggai Barring Linear Park. (100 Acres Reserve Management Plan (March 2010).

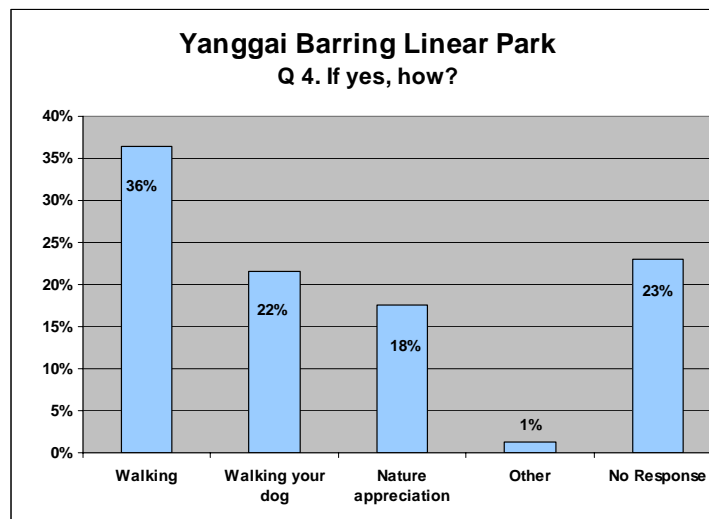
The growing community awareness about biodiversity and conservation is likely to increase the demand for the protection of natural areas while also increasing the attraction of such areas to people as they seek natural environments as settings for leisure and recreation activity. Continued and improved provision of sustainable nature-based recreation for the community and recognition of their attachment to the natural areas will be important objectives for the future management of the Yanggai Barring Linear Park.

Q3. Do you use the existing trails connecting to the Yanggai Barring to Linear Park?



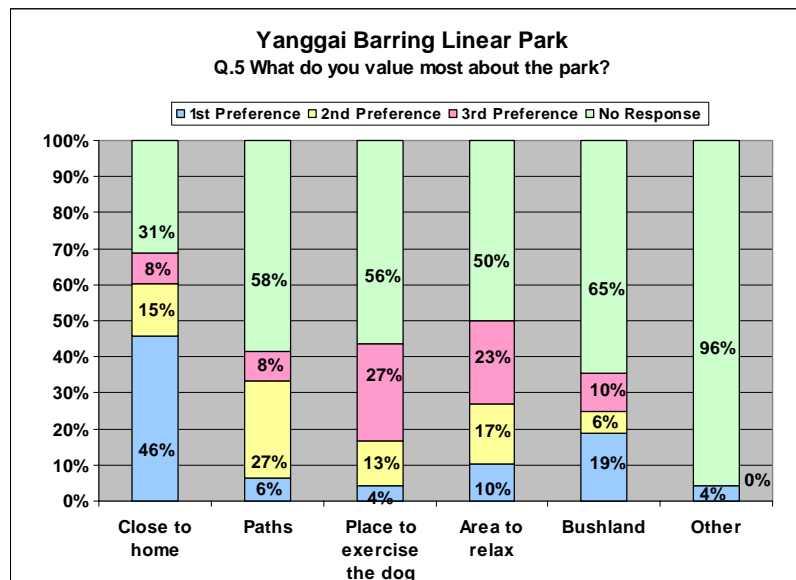
Two thirds of the respondents (67%) use the existing trails which connect to the Linear Park, including the Melbourne Water Vehicular access track and the path link along the Yanggai Barring Reserve in the City of Maroondah.

Q4.If yes, how?



The results of the survey reveal that the existing trails which connect to the linear park are used for walking (36%) dog walking (22%) and nature appreciation (19%).

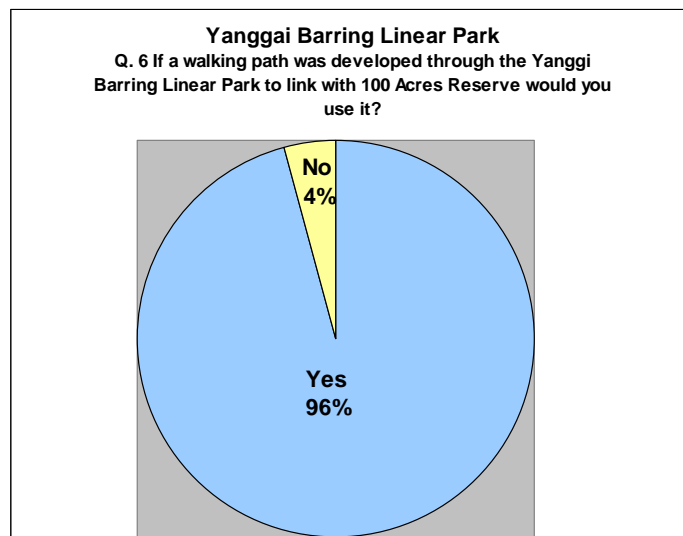
Q5. What do you value most about the park?



The survey findings suggest that Yanggai Barring Linear Park is highly valued by the almost half the respondents who nominated a first preference, because it is 'close to home' (46%) and is a bushland area (19%) which provides an 'area to relax' (10%). The results reveal that a small percentage of respondents value the area to exercise their dogs (4%) and use the path network (6%). A continued path link through the park would increase the

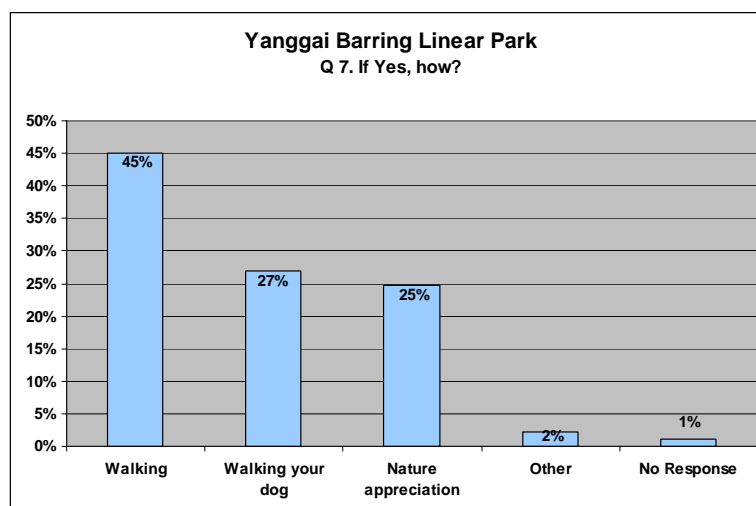
recreation and walking opportunities and connection to the other path linkages for the benefit of the local and wider community.

Q6. If a walking path was developed through the Yanggai Barring Linear Park to link with the 100 Acres Reserve would you use it?



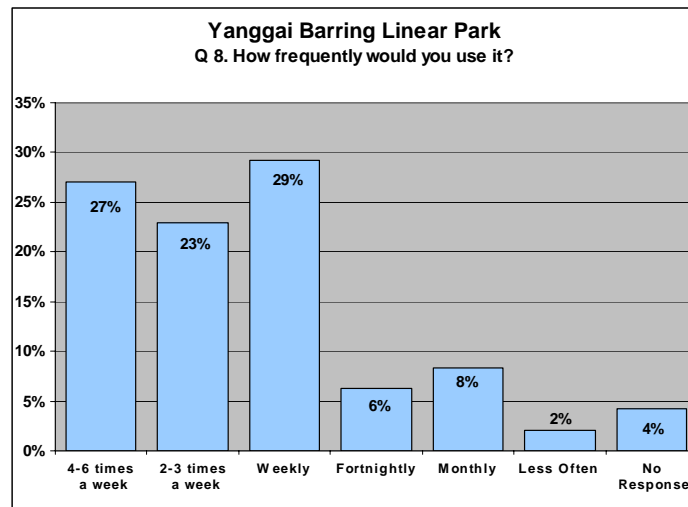
Almost all the respondents (96%) indicated they would use the path link, if constructed, which supports Council's long term vision to create a continuous link from Warranwood in the City of Maroondah through Yanggai Barring Linear Park to The 100 Acres Reserve. Residents of Park Orchards and the surrounding area would also benefit significantly with the extension of Manningham's path network in this area of the municipality, where there is relatively poor access to the path network from adjacent residential areas.

Q7. If yes, how?



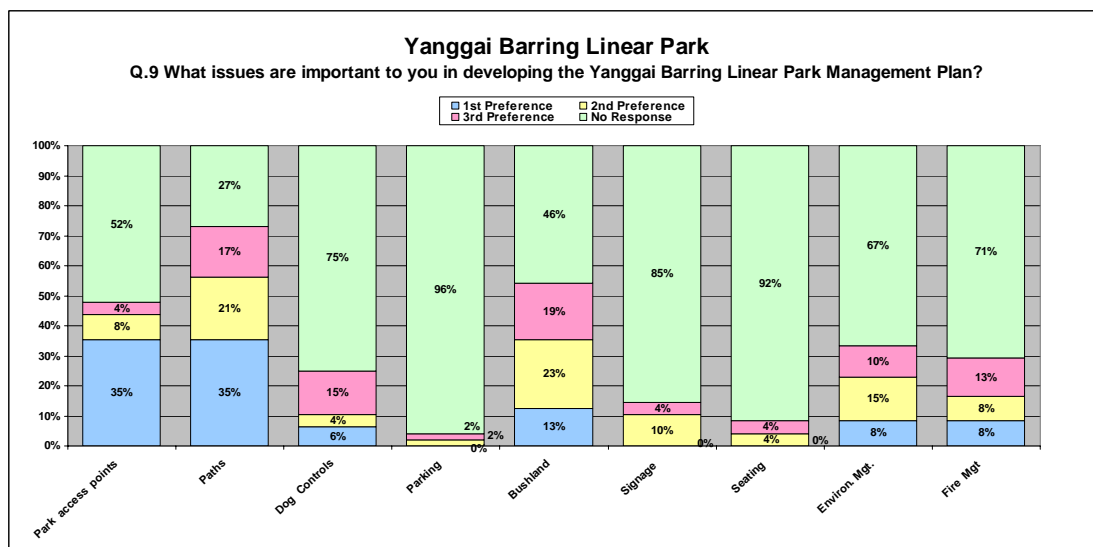
The results of the survey reveal that if the path link was constructed through the Yanggai Barring Linear Park almost half the respondents would use it for walking (45%), with approximately a quarter of them indicating that they would use it for dog walking (27%) and nature appreciation (25%).

Q 8. How frequently would you use it?



Over three-quarters (79%) of the respondents surveyed would visit the Yanggai Barring Linear Park on a regular basis if the path link was constructed. 27% of respondents would visit between '4-6 times per week', 23% would visit '2-3 times a week' and a 29% would visit 'weekly'.

Q9. What issues are important to you in developing the Yanggai Barring Linear Park Management Plan?



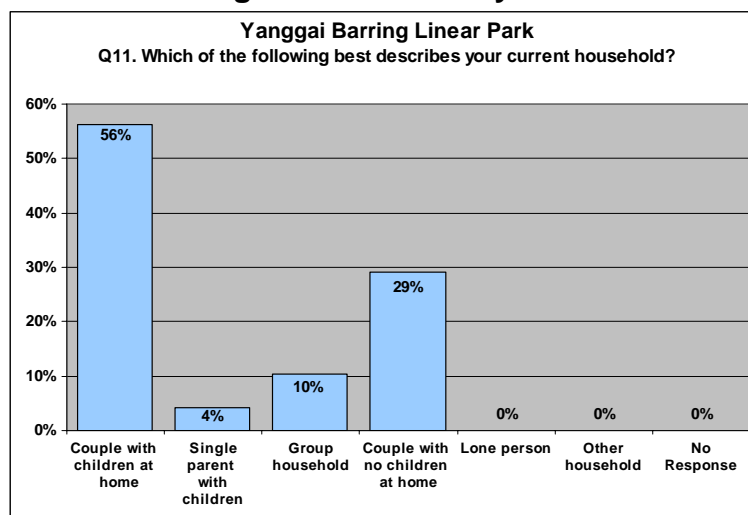
The survey findings suggest that the major issues which are important to over a third of the respondents that should be addressed in the Management plan include path access points (35%) and paths (35%). Over a quarter of the respondents (26%) indicated that Environmental and bushland management and 8% of the respondents indicated fire management should be addressed in the Management Plan.

Q10. Do you have any further comments?

In response to the open ended question the detailed comments made from twenty-three respondents are provided in Attachment 2. The main themes and issues that emerged from the questionnaire can be broadly divided into the following groups:

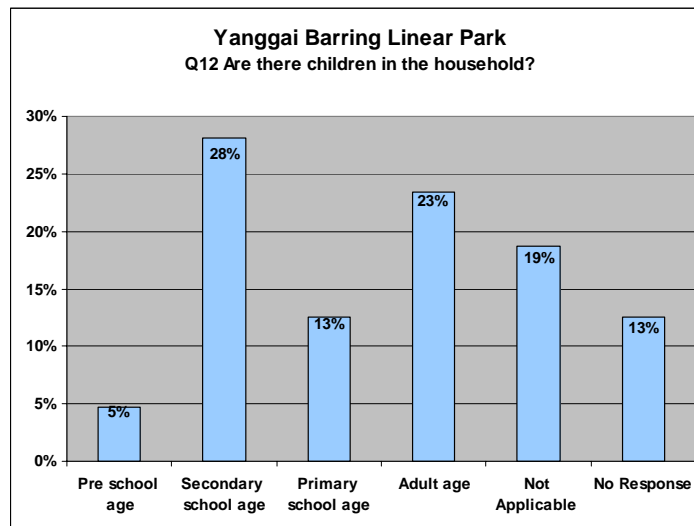
- **Extension of the path network.** Fifteen respondents strongly supported the extension of the path link with comments such as 'fantastic idea, great to extend 100 Acres 'bushland' green' walking area close to home connecting both parks with increased enjoyment' and 'a link from Melbourne Water access track to the proposed walking track will give access to a wide range of other walking tracks to Ringwood North and onto Eastland'.
Access to the Melbourne Water track has been removed from D'Assisi Court which should be re-instated.
Minimise damage to existing vegetation when constructing the new path
A circuit path would be great by joining then proposed track with the Melbourne Water vehicular track.
- **Address environmental and fire management** (four comments)
- **Address road safety issues.** (three comments) The crossing over Warrandyte –Ringwood Road near Hall Road/ Wirth Roads is dangerous due to fast cars and limited visibility.
- **Other.** One respondent had privacy concerns about the path alignment as the property is adjacent to Andersons Creek.
Prefer minimal development, love the undeveloped feel of the park.

Q11. Which of the following best describes your current household?



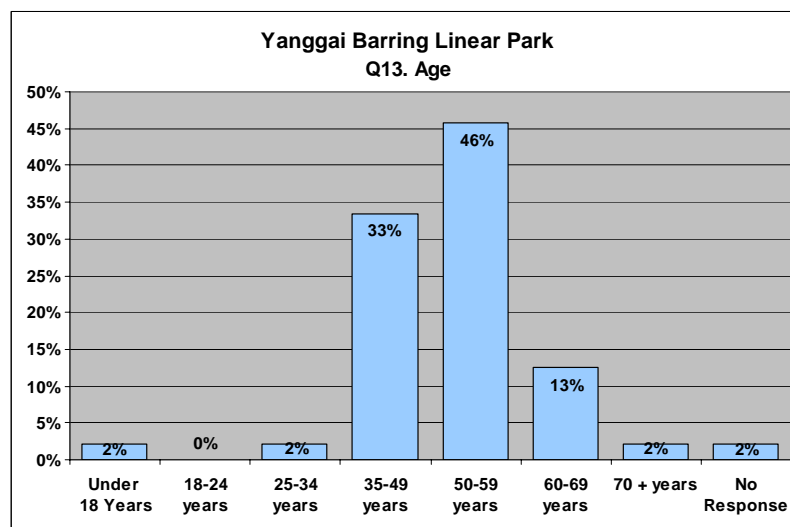
The results of the survey reveal that 56% of the respondents surveyed comprise a 'couple with children at home' with 29 % representing a 'couple with no children at home'.

Q 12. Are there children in the household?



The survey findings reveal two broad demographic groups. The first group comprised 42% of the respondents which represented a 'mature' household composition with adult age children (23%) or no children (19%). The second group comprised 41% of the respondents which represented young and growing families. 28% of this group were families with secondary school age children and 13% were families with children of primary school age.

Q13. Age



The survey results reveal that almost half of the respondents who completed the questionnaire were between 50-59 years with over a third (33%) representing the 35-49 years age group. 13% of the respondents were between 60-69 years. The provision of paths and ancillary development within the park should cater for an aging population as well as young and growing families in the area. Improvements to the Yanggai Barring Linear Park will provide increased opportunities for walking in association with nature appreciation and environmental awareness to enable people of all ages to engage in physical activity leading to increased health and well being.

ATTACHMENT 1

Q 10. Do you have further comments?

In response to this open ended question the detailed comments made from the respondents are provided below.

- If maintained as the Maroondah section will be a real benefit. If maintained as current Manningham section, would not use.
- A link from Melbourne Water access track to proposed and in planning walking track to give access to a wide range of other walking tracks to Ringwood North & onto Eastland
- Paths should be bush paths, not sealed like Homan Ct track.
- Fantastic idea, great to extend 100 Acres bushland "green" walking area close to home connecting both parks with increase enjoyment.
- Like to see dams in 100 Acres cleaned up and weeds removed.
 1. Signs - "subject to flooding"
- "beware of snakes"
 2. Eradicate rabbits
 3. Paths to Caramut Court & Delatite Court & Landau Drive.
- It would be great to join up the path that is currently available from Little John Road too the new path.
- Great idea to create pathways. Love walking through there daily already. Having paths will give me better access.
- Fire management needed throughout the whole area.
- The intersection of Hall Rd & Warrandyte Rd is very dangerous to cross to the 100 Acres. There needs to be a safer crossing point. This intersection is currently dangerous for cars as traffic travelling south regularly cross the painted traffic island and almost collide with traffic in the turning lane for Hall Road. Also foxes are out of control in the bushland.
- Good idea.
- I think it's a great idea and I hope the plans proceed.
- Welcome any developments to parks in the area. Fully support and would use.
- I didn't even know the park was there. It would be lovely to be able to walk along a path from home with or without dogs.
- I would use the proposed path much more than I use the existing one.
- Extension to D'Assisi Court housing has removed access to the Court from the Melbourne Water Vehicular Access Track. This should be reinstalled.
- I think the extra paths would be a fantastic idea. Our household would definitely make use of it.
- The bushland should be preserved in its natural state as much as possible. Access should be such that it causes minimal disturbances.

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- My family & I think that this is a wonderful project and we really hope it goes ahead.
 - My husband and I are most concerned about privacy into our own home. Our property backs onto Andersons Creek with no fencing and not many trees except the bushland further back. The proposed plan exposes our home greatly to the public. We are also concerned about multiple officials accessing our property at will, without the courtesy of notifying us or asking permission.
 - We are currently moving into area.
 - The path to the 100 Acres would be excellent particularly if dogs off lead was allowed
 - The crossing over Warrandyte-Ringwood Road near Hall/Wirth Roads is dangerous due to fast cars and limited visibility. Can this be addressed? Say has an underpass or button operated traffic light. Can Melbourne Water access track be joined with proposed track? It would create a lovely round trip track. See highlight on map.
 - Crossing Warrandyte-Ringwood Road at the Hall Road corner is very dangerous at most times.