



# City of Cockburn Trails Master Plan 2013



Department of  
Sport and Recreation



# City of Cockburn Trails Master Plan

Original prepared by



**TRANSPAN PTY LTD**

Planning and Design

**Transplan Pty Ltd**

78 Gardner Street, Como WA 6152

Phone: 08 9474 4655

Email: [mmaher@westnet.com.au](mailto:mmaher@westnet.com.au)

The City of Cockburn has made alterations to the original document that was prepared by Transplan Pty Ltd. As such the City accepts responsibility for the entire report.

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## EXECUTIVE SUMMARY AND RECOMMENDATIONS

### Setting the Scene

This Trails Master Plan is an update of the 1999 Plan prepared by Maher Brampton Associates. The 1999 Plan set out a range of proposed trails and trail improvements. In the intervening 11 years, a considerable number of those trail projects and other new trails and paths have been established throughout the City of Cockburn.

The 2013 Trails Master Plan seeks to ascertain the progress of implementation of the 1999 plan, and also sets out a new schedule for further improvements and extensions to the already-established trails network.

This plan is not a pathways plan, nor a local bike plan. The purpose of this Trails Master Plan is to set out the range of improvements required on existing trails and proposed future trails, to establish a comprehensive network of recreation facilities available to all residents and visitors to the area.

For the purposes of this Trails Master Plan, a recreation trail is defined as:

*“Any corridor, route or pathway for recreational purposes such as walking and cycling, which passes through or has a strong connection with the natural environment, open spaces and cultural heritage.”*

The City of Cockburn is fortunate in that it has a wide range of attractive and varied landscapes, and a great diversity in wildlife and vegetation. It has many kilometres of coastline, a chain of wetlands and lakes and a limestone ridge – all of which provide excellent natural areas for the development of a trails network.

The area has large tracts of land still well covered in natural vegetation, natural attractions including the lakes and the beaches, an abundance of historic places throughout the municipality, all of which provide ideal opportunities for trails.

There is already a range of opportunities for ‘going bush’ within the City of Cockburn – particularly around the lakes on numerous established trails and pathways. A number of sealed paths, through and abutting natural areas, exist within the urban areas and are well used.

However, further improvements, extensions and enhancements to the trails network of the City of Cockburn could be undertaken, and having quality trails is seen as one way of providing outstanding leisure and recreational activities for local people as well as a means of attracting visitors. An interesting and varied suite of trails is viewed as an integral component of a multi-faceted tourism package.

The suite of trails therefore must reflect the quintessential character of the City of Cockburn – its coastline, its indigenous history, its pioneers, its farming traditions,

its heritage, the magnificent lakes and wetlands, the limestone ridge and the outstanding views.

As a marketing tool, and to capture the essence of the trails network, it is proposed that the City of Cockburn adopt the slogan: ***Lakes, Lookouts and Legends – The Trails of Cockburn***. This slogan refers to the fact that many of the existing (and proposed future) trails are located near or around the wetlands and lakes of the Beeliar Regional Park. It also refers to the fact that most, if not all, of the trails will have (or already have) a viewpoint or lookout affording some view of the coastline, the lakes or some other natural area. It also includes bird hides and boardwalks (as lookout points). By including the word *Legends* in the slogan, the City will then be able to include a wide range of stories (interpretive topics) such as indigenous myths and legends, stories of pioneers of the area (early settlers, market gardeners, fettlers, etc) – all of whom make up the cultural history of the City of Cockburn. The alliteration is deliberate and is something that local people and visitors are expected to warm to.

The financial costs involved in implementing the program outlined in this Trails Master Plan need not be borne by the City of Cockburn alone. A number of funding opportunities are currently available to assist the Council in upgrading and enhancing existing trails and in the development and promotion of new trails. This will enable the Council to embark on a program to progressively upgrade and expand the trail supply, and to promote the trails and natural attractions of the municipality to local residents and visitors.

It is important to note that the Department of Environment and Conservation (DEC) Regional Park Branch and the City of Cockburn's Aboriginal Reference Group (ARF) have been consulted on this plan and were provided with the opportunity to comment. DEC comments and recommendations have already been incorporated into the plan. The ARG provided in-principle support and will be further consulted during the implementation of the projects and actions.

## The Existing Trail Supply Situation

In 'setting the scene' for this Trails Master Plan it is important to be cognisant of the fact that numerous trails and pathways already exist in natural areas in the City of Cockburn. The inventory of Existing Trails prepared as part of this project has identified the following core characteristics of 'trail supply':

- ❖ There are already a number of short walk trails and pathways in the City of Cockburn;
- ❖ There are no formally recognised mountain bike trails or horse-riding trails within the City of Cockburn;
- ❖ Trails in the City of Cockburn are currently not well packaged and promoted, there being few, if any, brochures for any existing trails, and existing trails are poorly signposted; and

- ❖ Interpretation along the trails is spasmodic, with interpretation occurring on some of the existing trails while many trails have none.

## The Role of Trails

Against this backdrop of physical beauty and natural resources and rich history, and a rapidly growing population, this Trails Master Plan is highly timely. Trails have *much* to offer a local government area such as the City of Cockburn.

Right across Australia the many benefits of well-planned and promoted trails are being recognised by a range of agencies from National Park Services to tourism departments, and from local government authorities to a host of health organisations. It is now well recognised that recreation trails perform a number of highly beneficial roles in the broader community:

- ❖ They provide opportunities for low-key unstructured passive recreation for local residents and visitors alike;
- ❖ They enable users to gain fitness and they foster general well-being;
- ❖ They are a valuable tourism attraction, especially when marketed well;
- ❖ They can help instil a conservation ethic amongst users; and
- ❖ They can be a means of educating users about the attributes of an area, especially when good interpretation is a feature of the trail.

Another important consideration that should be attributed to trails is the role they play in providing access for fire fighting purposes. The chosen routes of many of the trails that have been constructed within Cockburn have been chosen not only because of their usefulness as walking trails but because they also act as firebreaks or fire access tracks. Many of the paths have also had limestone placed on them for three reasons: to make them more accessible for walking and cycling, to provide better access for fire fighting vehicles and to reduce the likelihood of spreading dieback.

## TravelSmart and Trails

In line with the City of Cockburn's sustainability and healthy lifestyles, the TravelSmart program aims to reduce solo car trips by private vehicles made by employees and community members by emphasizing the benefits of active travel alternatives such as cycling, walking, scooting, travel blending and utilising the public transport network. TravelSmart is well placed to encourage behaviour change in local residents, school communities and the City's employees from sedentary style behaviour to more active lifestyles to achieve the minimum suggested amount of physical activity for adults – 30 minutes per day, and children (5 to 18 years) 60 minutes of moderate to vigorous physical activity per day<sup>1</sup>.

TravelSmart will support the Trails Master Plan by promoting the opportunities it provides for cyclists and walkers and highlighting its connections to existing path networks. TravelSmart also has capacity to be involved with the provision of wayfinding signage at trail locations.

Commonwealth of Australia, December 2004. Department of Health & Ageing (2004). Australia's Physical Activity Recommendations for 5-12 year olds, 12-18 year olds. Canberra.

## Proposed Priority Projects

What then, can trails do for the City of Cockburn? This Trails Master Plan has been based on consultation with stakeholders and many days of field work in the study area. It is shaped *specifically* to fit the City of Cockburn's unique qualities.

It proposes a number of significant trail projects that have the potential to deliver solid and *real* benefits to the local communities. This Trails Master Plan recognises the needs and demands of local residents and visitors, and it takes advantage of the diverse range of attractive landscapes and vistas on offer within the City of Cockburn.

It is worth noting now that the brief for the Project sought several key outcomes:

- ❖ Reviewing the progress of implementation of the 1999 Trails Master Plan.
- ❖ Auditing each existing trail and provision of a detailed costing and development plan of existing and proposed trails including a staged implementation program and a separate map/plan of each trail.
- ❖ Reviewing the urban development growth since preparation of the 1999 Plan, reviewing other land use and transportation projects and recommend changes to the 1999 Plan to accommodate this growth and transport changes where appropriate.
- ❖ Research and proposing possible interpretive subjects for existing and proposed new trails, including the Davilak Trail;
- ❖ Identifying opportunities, costs, constraints and construction needs for these trails and research funding programs that could be used for implementation of the 2013 Trails Master Plan;
- ❖ Reviewing trails planning and projects of other organisations, such as DEC, that impact on trail development in the City of Cockburn;
- ❖ Reviewing progress of trails projects in adjoining local governments, and the need for connecting to these other regional trails (eg). The Tramway Trail from Rockingham through Kwinana to Cockburn and the coastal trail from Fremantle to Rockingham);



- ❖ Taking into consideration the input of community and interest groups on trail development, particularly Aboriginal community members where Noongar interpretation is required;
- ❖ Identifying needs for signage and promotion of trails;
- ❖ Provide an outline of a heritage interpretation trail for the coastal areas from Fremantle to Rockingham including a boat based trail with reference to the heritage of Cockburn Sound and Garden and Carnac Islands. This sub project to be modelled upon the Golden Quest Discovery Trail; and
- ❖ Developing a new implementation strategy for the 2013 Trails Master Plan.

### **Principles for Selection of Trail Projects**

Candidate trails and sites were assessed against a number of important criteria:

- ❖ Trail demand - the majority of users are seeking short trail opportunities;
- ❖ Value for money (recognising that there will be limited budget). Trail projects should look to provide value for money and a good return on the investment made by the Council and other land managers. High quality, well built, well maintained and well promoted trails highlighting the best features of the City of Cockburn is preferable to a large number of poor quality trails badly constructed and not maintained;
- ❖ Practicalities of trail development – costs, land tenure and access, environmental issues, cultural issues, funding possibilities, possible (on-going) community support and the possibility of opposition, and the safety of users; and
- ❖ User experience. Trails have to provide a high quality user experience or else people will not use them or will not come back – word of mouth is a much stronger advocacy tool than marketing strategies. The trail projects need to ensure a high level user experience.

Combined with the field assessment, consideration of these elements allows the determination of trail projects.

The following trails (and trail upgrading projects) have been identified as needed but are not listed in any particular order. The prioritisation of the trails will be determined each year by staff and will be dependent on available resources, funding opportunities and how they link with other Council projects. It should be noted that it would be possible to develop (or upgrade) more than one trail at any given point in time due to the variance in requirements and implementation.

26 specific projects are recommended in this Trails Master Plan. The 26 projects are as follows:

a) Davilak Heritage Trail

This project involves further upgrading of the existing trail between Manning Lake and the lookouts, and a significant extension to the trail by developing a return loop that takes users past several important historic sites including the ruins of Davilak House. The project budget also allows for interpretive panels.

b) Mt Brown Lookout Trail

This project involves upgrading the existing walk to the summit lookout on Mt Brown – importantly, improvements to the trail surface.

c) Henderson Cliffs Trail (Ancient Coastline Track)

This project involves some minor enhancements to this short coastal walk to make the trail an even better experience.

d) North Lake Circuit

This project involves a number of minor enhancements to the existing crushed limestone trail around North Lake.

The most notable enhancements proposed are a boardwalk and a bird hide, on spurs off the main trail, to enable trail users to get close to the lake's edge to enjoy views of the lake and the bird life.

e) Bibra Lake Circuit

A considerable amount of upgrading of, and extensions to, the existing shared paths around Bibra Lake and a refurbishment of the boardwalk to the bird hide have recently taken place.

This project also involves a number of minor enhancements, the most notable being the installation of promotional, trailhead and directional signage, and the installation of new interpretive signage.

f) Market Gardens Swamp Circuit (North and South)

Minor improvements are recommended for the existing path network, including trailhead, promotional, directional and interpretive signage.

This project also involves the construction of new sections of path, to enable a swamp loop trail and allow users to more fully appreciate the wildlife of the swamps.

## g) Lake Mt Brown Trail

This project includes several enhancements to make the trail a more pleasant and user-friendly experience. The minor enhancements include the installation of directional markers, the installation of interpretation along the trail and the construction of a short boardwalk to enable trail users to get close to the edge of the lake to appreciate the birds and other wildlife of the lake.

## h) Yangebup Lake Trail

An asphalt and/or concrete path already encircles Yangebup Lake and outstanding views of the lake can be seen from several locations. Despite this, it is recommended that additional viewpoints be established. Yangebup Lake is one of the few lakes in the Beeliar Lakes chain that holds water for most/all of the summer and providing views of the water will enhance the appeal of the path circuit.

The most notable recommendation for the Lake Yangebup trail circuit is the development of a trailhead parking area.

Other minor improvements are also suggested including the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage

## i) Little Rush Lake Trail

This project will involve a number of minor improvements to enhance the experience of trail users. These improvements include the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

It is also recommended that a spur trails and boardwalk be constructed in an already somewhat formalised track to lake area to maximise the experience of trail users, enabling them to gain access to the edge of the lake. An upgrading of existing indigenous artwork is needed.

## j) Lake Coogee Trail

The majority of this circuit trail is in place. Completion of the circuit will only be possible upon further residential development in the NE corner of the lake.

In the meantime, a number of improvements and enhancements are recommended for this pathway circuit including replacement of 370m of damaged asphalt path, installation of trail directional markers, interpretive signage and trailhead signage.

## k) Kogolup Lake Trail

Although two marked trails are available in the Kogolup Lake locality (involving significant lengths of roadside paths through the adjoining residential area), it is recommended that a bushland circuit entirely within the Regional Park be delineated and signposted.

The project therefore includes fieldwork, in conjunction with DEC, to determine the most appropriate alignment of the proposed new loop trail.

## l) Manning Lake Trail

This project involves capitalising on the views that are possible, it is recommended that several minor enhancements be made such as the installation of bench seats where people can sit by the side of the lake and enjoy the views.

Other minor enhancements are recommended including the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

## m) North Coogee Coastal Trail

The coastal pathway between South Beach and C. Y. O'Connor Beach is new and consequently requires little in the way of upgrading. However, it could be enhanced to improve an already high quality experience. The range of suggested improvements includes promotional signage, trailhead signage, directional signage and interpretation.

## n) Woodman Point Circuit

The path network in the Woodman Point locality is extensive. Recent construction of two lengthy sections of coastal pathway at Woodman Point by DEC adds considerably to the opportunities for cycling and walking in the coastal environment.

The new paths can now be linked to form a circuit trail. Several small additions to the existing paths are required to actually create the loop, as well as widening of two sections of existing path.

Directional signage will be required to enable users to navigate their way around the circuit. In addition, the usual range of enhancements is required, specifically promotional signage, trailhead signage and additional interpretive signage.

## o) Coastal Pathway

Several significant sections of the Coastal Pathway through the City of Cockburn do not exist at present. This project seeks to identify the best routes for, and construction of, the missing links to enable a continuous

pathway from the City's northern boundary (with the City of Fremantle) to its southern boundary (near the Town of Kwinana).

The most significant "missing links" are through the Port Coogee development; between Woodman Point and Lake Coogee; and south from Mt Brown and into the Town of Kwinana.

p) Thomson's Lake Trails

A long lakeside circuit exists already at Thomsons Lake that, although sandy, provides an interesting walk during favourable times of the year.

The project involves fieldwork, in conjunction with DEC, to determine the most appropriate alignment for a new (shorter) loop trail in the NE quadrant of the reserve. It is expected that the loop will involve utilising existing tracks and firebreaks through the bushland area, though sections of purpose built trail will be required to link up existing tracks as well as give consideration to dieback areas.

q) South Lake Trail

South Lake has one of the most undeveloped trail networks of any lake/wetland in the Beeliar Lakes Regional Park. Currently, a well-formed crushed limestone vehicle track exists in the NW quadrant, and along some of the eastern side of the lake.

The project therefore involves fieldwork, in conjunction with DEC, to determine the most appropriate alignment for a trail route, especially in the NE quadrant, that will complete the loop around South Lake. It is expected that the loop will involve utilising existing tracks and firebreaks through the bushland area, though sections of purpose built trail may be required to link up existing tracks.

r) Beeliar Lakes Trail

The 1999 Trails Master Plan envisaged a continuous pathway linking the eastern chain of lakes in the Beeliar Regional Park. Most of the pathway is now in place although there are still some significant missing links.

This project involves constructing the missing links (and road crossings) to create a continuous, uninterrupted pathway from the northern boundary of the City of Cockburn (at North Lake) to join the (proposed) Disused Railway Trail at Yangebup Lake and the (proposed) Tramway Trail at Kogolup Lake.

s) Ridge Trail

The Lakes and Ridges Trail proposed in the 1999 Trails Master Plan has been revised to take account of recent and likely future residential and industrial developments and transport infrastructure changes (road and rail).

It is now proposed to concentrate on a Ridge Trail, with a northern terminus at the existing C.Y. O'Connor Beach (which can form a trailhead for several trails) and a southern terminus at Rotary Lookout. Some of this trail already exists; much will need to be planned and constructed.

t) Tramway Reserve Trail

This project involves the construction of new sections of pathway on, or alongside, the former Tramway Reserve.

Sections of the Tramway Trail already exist, and ultimately it is proposed that the Tramway Trail be a long distance shared path extending from the lakes of Cockburn, through the Town of Kwinana and the City of Rockingham. With detailed (future) planning, it may be possible to have a shared path trail from the Swan River to the Peel Harvey Estuary. The Tramway Trail through the local governments of Cockburn, Kwinana and Rockingham would be a major component of that cross-regional trail.

u) Drive Trail Project

This project involves establishing a heritage drive along the coast of the City of Cockburn that would form an integral component of a much longer heritage drive between Fremantle and Mandurah.

v) Water Trail Project

Water-based trails for kayaking, scuba and snorkelling could be established to capitalise on the wide-ranging history associated with Cockburn Sound and coastal features.

w) Denis De Young Reserve Trail

This reserve has a number of firebreaks that have recently had limestone placed on them. This makes for easy walking within the reserve and there are numerous options in relation to loops that can be traversed. The native vegetation within the reserve is in very good condition and there is a profusion of wildflowers in the area during spring. Linking the trails in the reserve with those of Shirley Balla Swamp (see project x) will also enable a good walking track to be established from the nearby suburb of Atwell.

x) Shirley Balla Swamp Reserve Trail

This reserve abuts Tapper Road and the suburb of Atwell. This reserve has a number of firebreaks that could also be used as walking trails should limestone be placed on them. This reserve is in close proximity to Denis De Young Reserve and could be linked. Like Denis De Young Reserve the native vegetation within the reserve is in very good condition and there is a profusion of wildflowers in the area during spring.

y) Banksia Eucalypt Woodland Reserve Trail

The northern portion of the reserve has limestone firebreaks around the perimeter and a central asphalt path that links to asphalt paths in the south. There are also paths leading to two wetland areas. The native vegetation within each reserve is in very good condition and there is a profusion of wildflowers in the area during spring.

In addition to the trails development/upgrading projects listed above, another important task (or trails-related project) for the City of Cockburn is a Marketing and Promotion Program.

A series of trails will be developed or upgraded through the programs set out above. When in place, they will need to be better promoted. This is best achieved through a concerted effort at compiling information, and publishing it in the form of simple but aesthetically pleasing brochures/maps.

This project will focus on collating, producing and disseminating information regarding the range of trail opportunities within the City of Cockburn.

### **A Program of Delivery**

This Trails Master Plan suggests a five-year initial implementation program for the 26 projects, bearing in mind that a number of them will flow on into trail development programs that may extend beyond that time frame.

Estimates in the body of this Report suggest that Year 1 will require \$302,950, \$310,590 in Year 2, \$224,120 in Year 3, \$643,340 in Year 4 and \$2,509,760 in Year 5. This is according to priorities assigned to each project by City of Cockburn staff.

This development program could easily be extended out over a lengthier schedule – ten or fifteen years.

Most of the priority projects will result in the need for substantial implementation and marketing funding – sourcing these funds should be a priority action for the City of Cockburn. A range of grant programs is outlined in the report and appear strong prospects for various elements of the program. It should be noted that the cost estimates also include the cost of enhancing and extending paths/trails in land managed by the DEC. DEC will need to seek funding for projects contained within the Trails Master Plan as appropriate, whilst considering priorities across the regional parks network.

Though the total budget appears high, several of these projects are already funded and soon to be implemented by DEC, and several other (expensive) path projects should be provided by developers/subdividers in the land development process.

## **Marketing and Promotion**

The brief for the project suggested the need for advice on signage and promotion of the Council's trails network.

Attracting users to trails is a competitive business. Numerous local governments, and not-for-profit organisations, are now beginning to realise the tremendous benefits that trails can bring to a community. Across Western Australia there are well over 500 trails, most of which are poorly built, poorly signposted, poorly maintained and poorly promoted. With this in mind, this Trails Master Plan strongly recommends that the City of Cockburn strive to attain a competitive edge in its supply and marketing of its trails. To this end, the provision of a suite of quality trails should be the primary objective. With the implementation of the trails projects developed in this Trails Master Plan, the City of Cockburn will be able to attract visitors to the area and provide an accessible network of interconnected trails and paths for local communities.

## **Summary**

In summary, the City of Cockburn is fortunate to have an enviable array of physical and geographical attributes – including the coastline, the chain of lakes and wetlands, the limestone ridge, heritage buildings and the indigenous history of the area.

This Trails Master Plan sets out a project-focussed program of activity designed to deliver the maximum benefits to the widest cross-section of the community. It does not focus solely on developing new trails, but recognises the existence of numerous trails and pathways already in the municipality. It will support the upgrading of a number of these, and enshrines the requirement for quality (and carefully targeted) marketing and promotion.

Further consultation will take place with a range of stakeholders prior to the construction of new trails and the installation of infrastructure and signage.

## **Recommendations**

It is recommended that the City of Cockburn:

- Resolve to endorse the City of Cockburn Trails Master Plan and seek to implement the recommendations contained therein;
- Liaise with the DEC and other relevant stakeholders and seek the continued assistance of the DEC with respect to the development of trails within the Regional Parks in accordance with this plan;



- Consider an annual allocation to supplement grants from other sources to implement the projects contained within the City of Cockburn Trails Master Plan;
- Form a Project Team to oversee the implementation of this Trails Master Plan;
- Seek funds from other sources and funding programs for the projects contained within the City of Cockburn Trails Master Plan; and
- Ideally, a portion of the work time of an officer of the City of Cockburn should be dedicated to trails and implementation of this Trails Master Plan.

## SECTION 1: PROJECT OBJECTIVES AND METHODOLOGY

### 1.1 Background

This Trails Master Plan for the City of Cockburn has been commissioned by the City of Cockburn, with funding support from Lotterywest (which provides funding for non-motorised trails).

The project is essentially a review of the Trails Master Plan prepared in 1999 by Maher Brampton Associates.

For the purposes of this Trails Master Plan, and because funding came from the Lotterywest Trails Funding Program, it is important to clarify and confirm the definition of a 'trail'. The accepted definition of a 'trail' is *"... any corridor, route or pathway which has as its primary land usage any one of - or combination of - recreational walking, mountain biking or horse riding - and which passes through or has a strong connection to the natural environment."* Trails, therefore, in this context and within the City of Cockburn refers primarily to cyclists and walkers.

The brief issued by the City of Cockburn sets out the Scope of Works (see Section 1.3).

The development of this (new/updated) Trails Master Plan will provide the framework to direct the planning of trails in the City of Cockburn to ensure they are well planned, managed, resourced, promoted and maintained and, where practical, linked to external trails networks and wider regional trails.

The purpose of this study is the production of a conceptual plan titled the Trails Master Plan that will identify existing trails and assist in forward planning for the provision of new trails throughout the City of Cockburn.

The project includes an overview report detailing existing trails and potential new trails, and management and maintenance of existing trails and the construction and infrastructure development of new trails.

As the population increases, visitation to the area expands and environmental awareness increases, the natural areas of the City will come under increased pressure for use as trails.

The City has a variety of historic sites and heritage assets, and these too could well be linked by trails. Therefore the importance of trails in increasing environmental awareness and heritage conservation, as well as providing recreational and tourist potential to residents and visitors to the City is paramount.

## ***1.2 Purpose and Need for this Trails Master Plan***

Trails' planning does not exist in isolation. This Trails Master Plan is part of a broader approach by the City of Cockburn to provide growth that meets community, environmental and economic goals, and encourages a strong, diversified economy that supports local employment and enhances the quality of life for residents of the City.

As set out in the Scope of Works, the City of Cockburn requires an updated Trails Master Plan to provide direction for the management and development of trails across the municipality – given the urban development growth since preparation of the 1999 plan. The new plan needs to take into consideration the urban growth, as well as transport changes (roads and railways, etc).

Recreational trails are not an isolated product – they link with a whole range of other planning processes – tourism, open space planning, “eco corridors”, regional planning, economic development, and natural resource management planning. Trails need to be placed in a wider context of other issues.

Experience elsewhere indicates that recreational trails can indeed be a focal point for quality tourism with the right infrastructure and the right packaging. Recreational trails can be a significant component of a sustainable tourism industry capitalising on significant natural assets.

The main target group for trails within the City of Cockburn would be local residents however the City would also need to develop trails that would be of general interest and an attraction to visitors.

The area offers a broad spectrum of possible trail types and standards and the development of a new and updated Trails Master Plan will allow the various governments, private and community organisations to effectively, cooperatively and appropriately plan for the future, with potential in some cases to link with potential future trails in other municipalities (eg the Tramway Trail to and through the Town of Kwinana and the City of Rockingham and the Disused Railway Trail to Armadale).

A series of recreation trails throughout the City of Cockburn would serve the following purposes:

1. Enable convenient and safe access to recreational assets of the City for residents, children and tourists;
2. Cater for east/west and north/south non-motorised transport corridors;
3. Provide an attraction to tourists that would educate them of the ecological, social, and cultural significance of the area to the communities of the City of Cockburn;
4. Provide an opportunity for an integrated community project; i.e. community involvement in all aspects of a trail from alignment determination to design to signage and rehabilitation of the area's vegetation;
5. Provide emergency vehicle access and a firebreak;
6. Incorporate indigenous heritage into the trail system (especially in interpretive signage);
7. Act as 'green corridors' or 'ecological linkages' throughout the urban areas of the City; and
8. Support the historical significance and status of various locations and sites within the City of Cockburn.

### ***1.3 Scope of the Trails Master Plan – the Project Brief***

The brief issued by the City of Cockburn sets out the Scope of Works:

- Reviewing the progress of implementation of the 1999 Trails Master Plan;
- Auditing each existing trail and provision of a detailed costing and development plan of existing and proposed trails including a staged implementation program and a separate map/plan of each trail;
- Auditing existing trails from a users safety perspective;
- Reviewing the urban development growth since preparation of the 1999 Plan, reviewing other land use and transportation projects and recommend changes to the 1999 Plan to accommodate this growth and transport changes where appropriate;
- Research and proposing possible interpretive subjects for existing and proposed new trails, including the Davilak Trail;
- Identifying opportunities, costs, constraints and construction needs for these trails and research funding programs that could be used for implementation of the 2013 Trails Master Plan;
- Identifying "eco-corridors" and their ability to provide suitable trail alignments;

- Reviewing trails planning and projects of other organisations, such as DEC, that impact on trail development in the City of Cockburn;
- Reviewing progress of trails projects in adjoining local governments, and the need for connecting to these other regional trails (eg. The Tramway Trail from Rockingham through Kwinana to Cockburn and the coastal trail from Fremantle to Rockingham);
- Taking into consideration the input of community and interest groups on trail development, particularly Aboriginal community members where Noongar interpretation is required;
- Identifying needs for signage and promotion of trails;
- Provide an outline of a heritage interpretation trail for the coastal areas from Fremantle to Rockingham including a boat based trail with reference to the heritage of Cockburn Sound and Garden and Carnac Islands. This sub project to be modelled upon the Golden Quest Discovery Trail; and
- Developing a new implementation strategy for the 2013 Trails Master Plan.

#### 1.4 Methodology

In common with other Trails Master Plans, this project followed a similar methodology to establish the desired outcomes.

**Background Research** – the first stage of the preparation of a Trails Master Plan is to review background material that may influence the supply of, or demand for, trails within the City of Cockburn. In particular, any information pertaining to existing trails, or proposed trail projects, within the municipality was collected and reviewed. The intention was to compile a list of existing trails, their user group, condition and as many pertinent facts about those existing trails. During this stage, digital mapping data was obtained in preparation for the fieldwork.

**Initial Discussions with client to confirm requirements of brief** – it was imperative to establish the desired outcomes sought by the Client, and to clarify the requirements of the Brief. Initial discussions revealed the intentions of the Client, the prevailing attitudes towards trails development, the role of trails within the local communities, and importantly some local insight into the availability of, and scope for, trails within the City of Cockburn.

**Meeting with key stakeholders** – the input from interested local people and key stakeholders such as the DEC is crucial to the successful preparation and implementation of this Trails Master Plan. In any community, such as the City of Cockburn, there are numerous people with a direct interest and involvement in trails development, whether it is from a botanical perspective, a tourism viewpoint, a historical interest or any number of other interests. Each has a vital role to play in shaping the Plan. Further consultation will take place with a range of stakeholders

prior to the construction of new trails and the installation of infrastructure and signage.

**Field work** – there is no substitute for actually walking (or cycling) existing trails, and assessing areas for possible new trails development. Traversing existing trails enables a comprehensive account of the condition of each existing trail to be compiled, including such matters as signage, trail surface, maintenance requirements, interpretation needs, etc. The in-the-field assessment of natural areas (such as the extensive lake system, the limestone ridge, the coastline and other natural areas) and other trail opportunities provided ideas about future trail development possibilities.

**Report writing** – following background research, consultation and in-the-field assessment of existing and future trail opportunities, all relevant information was compiled and distilled down into a report that dealt with all matters set out in the brief. In the case of the City of Cockburn Trails Master Plan, the essential tasks were to compile an account of the nature and condition of all existing trails, make recommendations about the need for additional trails (ie. a ‘gap’ analysis) and trail projects, and to provide costs and recommended priorities for the enhancement of the trails network within the Council area.

**Further discussions and consultation** – upon completion of the fieldwork, and during the preparation of the draft plan, it was necessary to follow up with various stakeholders to clarify matters. This often involves additional meetings and/or discussions with key stakeholders, such as DEC, to clarify regulations and requirements or to elicit initial feedback on ideas and draft proposals. Further consultation will take place with a range of stakeholders prior to the construction of new trails and the installation of infrastructure and signage.

**Mapping** – an essential element of all Trails Master Plans is the mapping of the trails network. Mapping of the trails network within the City of Cockburn involved the preparation of an individual site plan (on aerial photography) which identified existing and proposed new trails.

**Submission of Draft Report to Client for review** – upon completion of the draft report and mapping, the report was submitted to the Client for initial review and feedback. During this phase of the Project a presentation was made to the Project Management Group. Comments received on the Draft Report were incorporated into the final version of the Trails Master Plan.

**Stakeholder Engagement** – The Department of Environment and Conservation (DEC) Regional Parks Unit and the City’s Aboriginal Reference Group (ARG) have been consulted for initial comments. Comments provided by the DEC have been incorporated into this plan. The City’s ARG provided support of the plan and will be further consulted on the interpretation of each trail.

**City of Cockburn Council Endorsement** – Once all comments have been incorporated and addressed the plan will then be presented to Council for endorsement prior to the public review.

**Public Review of Draft Report** – the community was given 6 weeks to review the proposals contained within the Draft Report. All comments received on the Draft Plan were taken into consideration in the preparation of the final Trails Master Plan.

**Preparation of final Trails Master Plan** – following receipt of comments from the Client, stakeholders and interested community members, the final Trails Master Plan was prepared and submitted to the Council for adoption. Work on the trails will commence as funding becomes available commencing with the implementation of highest priority tasks identified in the Plan.

## **1.5 Definitions**

From extensive discussions over many years in many states of Australia (and overseas) it is clear that numerous people have differing perspectives of what is – and what isn't – a "trail".

For this project to provide effective results it has been important to clarify the definition of a trail, and then to clarify what this definition included - and excluded - in the specific local context.

In Western Australia the definition of a trail has been as follows:

*"A recreation trail is any corridor, route or pathway for recreational purposes such as walking, mountain biking or recreational horse riding - and which passes through or has a strong connection with the natural environment, open spaces and cultural heritage."*

Bikewest (Department of Transport) provides the following definition of a "shared path" (formerly called a dual use path):

*"A path signed for shared use by pedestrians and all classes of bicycle traffic using a common area."*

## **1.6 Some Underlying Philosophies**

Constructing and maintaining trails can be an expensive undertaking. The history of the development of trails in Western Australia has demonstrated that there is limited funding available for the construction of trails – and few, if any, funding programs provide money for the maintenance of trails.

The lack of maintenance has plagued the trails world in Western Australia. All too often the maintenance of a trail is left in the hands of some willing, enthusiastic and generally capable volunteer group but over time personnel in the volunteer group change or leave, enthusiasm wanes and focus may change. When this happens the trail surface deteriorates badly through erosion, vegetation becomes overgrown, trail signage disappears and brochures/leaflets become non-existent.

The trail is no longer suitable for use. The expense and effort in developing the trail has been wasted.

It is imperative therefore that the proponents of trail projects be aware that over-ambitious trail development programs may fail due to limited availability of funds and other resources.

Care must therefore be taken to ensure the proposed trails network be thoughtfully put together and consider future maintenance requirements and funding.

In this regard, it is makes more sense to have a few QUALITY trails rather than a vast QUANTITY of poorly constructed, poorly maintained and little used trails.

When proposing a trails network, there fundamental questions must be answered:

1. *Where is the money going to come from?*
2. *Who is going to use the trail?*
3. *Who is going to maintain the trail?*

Proposing a long list of trails projects can be counter-productive. When faced with a daunting and expensive list of trail development or upgrading) projects, a community can often abandon plans for the trails network as it all becomes too hard.

It is therefore far more preferable to embark on a well-reasoned suite of trails – a program that can be accomplished over a 5-year or perhaps 10-year implementation period.

This Trails Master Plan therefore proposes a number of specific projects that have the potential to deliver solid and *real* benefits to the City of Cockburn. It recognises the needs and demands of local residents in particular and visitors and it takes advantage of the diverse range of attractive landscapes and natural areas on offer.

This Trails Master Plan gives due regard to the financial capacity of the Council. It is more appropriate to embark upon a restricted program of activity – but one that is *achievable* – rather than overly ambitious and therefore not achievable.

### **1.7 The Benefits of Trails**

Right across Australia the many benefits of well-planned and promoted trails are being recognised by a range of agencies such as those responsible for the management of parks, tourism departments, Local Governments and health

organisations. It is now well recognised that recreation trails perform a number of highly beneficial roles in the broader community:

- ❖ They provide opportunities for low-key unstructured passive recreation for local residents and visitors alike;
- ❖ They are a valuable tourism attraction, especially when marketed well;
- ❖ They provide a significant economic benefit to communities where they are located. Users of the Bibbulmun Track, Western Australia's long distance walk trail, inject \$21 million/year into the Western Australian economy, a very good return on an initial one-off \$5 million investment for construction by the WA Government (Colmar Brunton 2004). The Riesling Trail (a 27 kilometre shared use rail-trail in South Australia) injects \$1.08 million per year into the Clare region (Market Equity 2004). Visiting trail users on the Mundaring trails network inject a total of \$10.39 million annually into the local economy (Jessop and Bruce 2001);
- ❖ They enable users to gain fitness and they foster general well-being;
- ❖ They can prompt the community to recognise and record its human and natural heritage;
- ❖ They can help bring together disparate groups within the community by providing non-threatening common ground;
- ❖ They can contribute to a sense of pride by highlighting what is good and rich and of value to the community;
- ❖ They yield significant health benefits both to the individual and society. In the USA a comprehensive health economics study showed every \$US1.00 invested in recreational trails for physical activity yielded a direct medical benefit of \$US2.94 (Wang et al 2005);
- ❖ They can help instil a conservation ethic amongst users;
- ❖ They can be a means of educating users about the attributes of an area, especially when good interpretation is a feature of the trail. High quality trailside interpretation can showcase the attributes of an area; and
- ❖ Trails can provide additional areas for recreational cyclists and walkers that link in with the existing shared paths that can be promoted via the TravelSmart Program at the City of Cockburn.

### ***1.8 Demand for Trails***

The Australian Bureau of Statistics reports on the propensity of Australians to participate in leisure activities:



- 28.8% of survey respondents across Australia participated in walking (making it the most popular form of activity across the country); and
- 5.3% of survey respondents Australia participated in bushwalking (making it the 8<sup>th</sup> most popular form of activity across the country).

The difference between 'walking' and 'bushwalking' is interesting, and of some importance in the City of Cockburn. Trails are now seen to be a resource for the larger group (walkers), as much or more than they are for the smaller, more traditional bushwalking set. This usage by people who would not have considered themselves 'bushwalkers' drives much of today's trail development across Australia.

A number of survey-based studies are available which together give a consistent indication of participation levels relevant to trails-related outdoor recreation activities. These studies come from South East Queensland (SEQ) (1998, 2001 and 2006), South Australia (Adelaide and Adelaide Hills, and *Market Equity 2004*), and the ACT (*Lanyon Valley Community Needs and Facility Study*). These studies clearly establish that walking is the most popular trail-related activity, and is one of the most popular outdoor activities amongst all Australians. The surveys (taken together) show that walking is the activity undertaken by around 60% of respondents who undertook outdoor activities. It is likely to remain so as the population ages. Walking is the most popular activity for older people. Walking is also a popular activity for young parents.

In May 2004, the City of Geelong released its report on the City's activity profile. Entitled "Walking More: Walking Safely", the project focussed on walking generally rather than trail walking; its findings however add a significant dimension to the figures discussed above. Whilst it is not suggested that the recreation patterns for people in the City of Cockburn is identical to Geelong, it is worth noting the key findings (which add to the other studies noted above):

- Over 70% of respondents to the survey reported that they had walked in the previous two-week period. Geelong residents are more likely to walk than take part in any other sport, recreation or fitness activity. A quarter of those who had walked do so on a daily basis.
- Nearly 60% of those walking did so for fitness, exercise or health, with another 20% walking for enjoyment or leisure.

It is worth noting that cycling (on and off-road) is also very popular and is growing in popularity. The SEQ Regional Trails Strategy (2006) noted a strong demand for cycling in younger age groups (less than 30 years). This activity has grown dramatically in the last 20 years and now regularly accounts for between 15 and 30% of outdoor activities in the range of surveys undertaken.

Both walking and cycling have a core of participants who engage in their activity very frequently e.g. at least once or more per week.

The City of Cockburn has grown rapidly in the last few decades with significant residential development occurring. This growth, combined with the national trend of an aging population, will result in walking and cycling continuing to be in significant demand within the City from both residents and visitors.

How long do people spend on trails? A Victorian study (prepared for the Victorian Trails Strategy 2005 - 2010) found that there is a clear preference for shorter walk trails (up to 6 kilometres and taking between 30 minutes and 2 hours to walk), on both metropolitan and 'remote' trails. The Market Equity work in South Australia supports this conclusion with 76% of walkers using trails for less than 2 hours. The Geelong project found that the average duration of a walk is 50 minutes (with the highest numbers walking between 21-30 minutes and 51-60 minutes).

Summarizing the known research data indicates the need to develop a trails network based on 'short' walk trails. This provision will respond to a continuing demand for such facilities from both residents and new residents and will importantly add a new element to the attractiveness of the region for visitors.

## **SECTION 2: THE 1999 COCKBURN TRAILS MASTER PLAN**

### **2.1 Overview**

The 1999 City of Cockburn Trails Master Plan (prepared by Maher Brampton Associates) provided a review of existing trails and the works required to upgrade them to a satisfactory standard. The 1999 plan also proposed a suite of new trails.

One task of this 2013 Trails Master Plan is to review the progress of implementation of the 1999 Trails Master Plan.

At that time (1999) the existing trails considered in the Trails Master Plan were:

- The Coastal Dual Use Path
- Kwinana Freeway Dual Use Path
- Davilak Heritage Trail
- The paths around Bibra Lake
- Paths around Market Garden Swamps
- The path around a portion of Lake Coogee
- The path around a portion of Yangebup Lake
- Parts of paths and trails built on the disused railway reserve, or alongside the operating freight railway line.

The proposed new trails, as set out in the 1999 plan, were:

- Armadale-Fremantle Disused Railway Reserve
- Ridge and Lakes Trail
- Beeliar Lakes Trail (Eastern chain)
- Tramway Reserve Trail
- Kogolup Trail
- Banjup Bridle Trail

Several new trails are recommended in this 2013 Trails Master Plan:

- Denis De Young Reserve Trail
- Shirley Balla Swamp Reserve Trail
- Lyon Reserve & Eucalypt Banksia Woodland Reserve Trail

## ***2.2 Progress of Implementation***

### ***2.2.1 The Coastal Dual Use Path***

At the time of the writing of the 1999 Trails Master Plan a shared path extended along the coast through Coogee from South Beach, following the alignment of a former railway. The path terminated at Woodman Point.

Since 1999 several changes have occurred to the coastal path. The most dramatic is the development occurring at Port Coogee. This development has severed the coastal path, making the route discontinuous. The developers, by means of signboards, have indicated their timeframe for progressive completion of the development and the gradual re-instatement of the coastal pathway. Until full completion of the development, the coastal pathway will remain discontinuous or – at best – quite circuitous.

The re-alignment of Cockburn Road in Coogee – in conjunction with the Port Coogee development - has also had an impact on the coastal path.

Other, positive, improvements have taken place since 1999. A new red asphalt shared path has been constructed between South Beach and C Y O'Connor Beach. This standalone path is assessed in this suite of existing trails (and is called the North Coogee Coastal Trail).

In addition to that path, the DEC has also recently completed construction of new shared paths in the Woodman Point locality, paralleling the coastline and completing a loop/circuit around Woodman Point.

Further south, new shared paths have been constructed on the west side of Lake Coogee and through bushland as far south as Mt Brown. These paths have been constructed some distance away from the coast to avoid the Henderson Industrial Area.

The only discontinuities remaining are the area between C Y O'Connor Beach and Coogee Beach (through the Port Coogee development), a connection between Woodman Point and Lake Coogee and a connection south of Mt Brown (into the Town of Kwinana).

### ***2.2.2 Kwinana Freeway Dual Use Path***

Since the completion of the 1999 Trails Master Plan various improvements to the path alongside the Kwinana freeway have occurred. These include new grade separated crossings (mostly underpasses under on/off ramps), minor surface improvements, localised widening and a significant extension to the path in areas outside of the City of Cockburn.

The freeway shared path has not been audited in this project as its nature is such that it could not be described as a trail in terms of the definition included within this 2013 Trails Master Plan.

### ***2.2.3 Davilak Heritage Trail***

The Davilak Heritage Trail was constructed around 1988 as the City of Cockburn's contribution to commemoration of Australia's Bicentennial. It is located to the west of Manning Lake and is situated around and along the coastal limestone ridge. It was officially opened in April 1988. By 1999, due to neglect and vandalism it had become overgrown and eroded. The 1999 Trails Master Plan (TMP) recommended a major overhaul of the trail, including the following works:

- Upgrading existing trail re-surfacing with crushed limestone (2000 metres) including limestone fill, water bars (20), steps (40)
- A connecting path between the car park at Manning Lake and the trailhead (100m)
- Fencing
- Removal of old seats and installation of 5 new seats
- Installation of directional signs and track markers
- Installation of interpretive signage (5 panels)

The City of Cockburn committed \$40,000 to the repair of the Davilak Trail and the Australian Conservation Volunteers completed the works in February 2004.

Of the works set out in the 1999 TMP, the following appear to have been undertaken:

- Trail surface has been upgraded (new crushed limestone trail surface, water barriers to prevent erosion and limestone block steps.
- Some renovation of the old bench seats
- Some fencing and installation of management access gates

In 2011 further work was undertaken on the trail and some of this work will carry over into 2013. Works include: resurfacing the trail, building retaining walls, seat upgrades, construction of an entry statement, installation of signage and construction of a path linking the trail with the car park at Manning Lake to improve accessibility. This work was supported by funding from Lotterywest and the City of Cockburn.

Whilst these works have certainly improved the trail, it still requires the installation of directional signage, interpretive signage and some other aesthetic improvements. These are detailed in the 'action plan' for the trail.

This trail has outstanding potential, with sweeping views from the three lookouts. However, the absence of any interpretation along the trail, particularly at the lookouts, undermines this potential. One of the main improvements for this trail is the installation of interpretive panels long the trail and at the lookouts.

A return loop taking users past the ruins of Davilak House and other significant sites is strongly recommended.

Interpretation suggested for this trail is set out in Section 5.

#### **2.2.4 Paths around Bibra Lake**

At the time of the writing of the 1999 TMP, a concrete path completely encircled Bibra Lake. The TMP stated that *"as most of these are dual use paths built of either concrete or asphalt it is considered inappropriate to individually report on each of them in a recreation Trail Master Plan."* The TMP also stated that *"a Management Plan for the Beeliar Regional Park is currently being prepared, and the proposals for recreation trails throughout the park should be incorporated into that planning process"*.

The intention of the 1999 TMP was that the existing pathway on the western side of the lake be incorporated into a linear north-south trail alongside several of the lakes and that it is called the Beeliar Lakes Trail. 1999 TMP did not envisage the circuit around Bibra Lake being designated as a stand-alone trail.

Accordingly, the 1999 TMP recommended the following works:

- Installation of distance/direction signs (between Northern boundary of City of Rockingham) to Osprey Drive (near Yangebup Lake); and
- Installation of interpretive signage for this section (4 panels).

No additional trail/path construction in this section was required.

Recently, the City of Cockburn has constructed hundreds of metres of new shared path around Bibra Lake. This 2013 TMP proposes that the loop path around Bibra Lake be promoted as a stand-alone trail and several enhancements (including installation of interpretation) are recommended.

Interpretation suggested for this trail is set out in Section 5.

### **2.2.5 Path around Market Garden Swamps**

As with the paths around Bibra Lake, the 1999 TMP envisaged some of the existing paths around the Market Garden Swamps to be linked together to become part of a broader trail: the *Ridge and Lakes Trail*.

The 1999 TMP noted: *“A number of dual use paths exist in the vicinity of the lakes and swamps, though the network is not continuous. There are a number of small missing links that require construction, as well as significant trail construction on the west and north sides of Lake Coogee.”*

The intention of the 1999 TMP was that existing paths and trails along the limestone ridge (including the Davilak Heritage Trail) and alongside the western chain of lakes and swamps be incorporated into a linear north-south trail and that it is called the *Ridge and Lakes Trail*. 1999 TMP did not envisage the paths around the Market Garden Swamps being designated as a stand-alone trail circuit.

Accordingly, the 1999 TMP recommended the following works:

- 1800 metres of new trail construction between Troode St and West Churchill Ave (east side of Lake Coogee)
- The installation of seats in various locations along this entire trail
- Installation of distance/direction signs in various locations along this entire trail
- Installation of interpretive signage in various locations along this entire trail

Since the preparation of the 1999 TMP, the Cable Water Ski Park has gone and new residential development has occurred. Additional paths around the Market Garden Swamps have been constructed.

This 2013 TMP proposes that the loop paths around the Market Garden Swamps be promoted as a stand-alone trail, and several enhancements (including installation of interpretation) and some new segments of path are recommended.

Interpretation suggested for this trail is set out in Section 5.

### **2.2.6 Path around Lake Coogee**

Similarly to the paths alongside the Market Garden Swamps, the intention of the 1999 TMP was that existing paths and trails along the limestone ridge (including the Davilak Heritage Trail) and alongside the western chain of lakes and swamps be incorporated into a linear north-south trail and that it is called the *Ridge and Lakes Trail*. 1999 TMP did not envisage the paths around Lake Coogee being designated as a stand-alone trail circuit.

As with the Market Garden Swamps paths, the 1999 TMP recommended the following works:

- 1800 metres of new trail construction between Troode St and West Churchill Ave (east side of Lake Coogee)
- The installation of seats in various locations along this entire trail
- Installation of distance/direction signs in various locations along this entire trail
- Installation of interpretive signage in various locations along this entire trail

Since the preparation of the 1999 TMP, new paths around Lake Coogee have been constructed and a loop trail around the lake is nearly complete.

This 2013 TMP proposes that a circuit trail around Lake Coogee be promoted as a stand-alone trail, and several enhancements (including installation of interpretation) and some new segments of path are recommended.

Interpretation suggested for this trail is set out in Section 5.

### **2.2.7 Path around portion of Yangebup Lake**

In 1999 there was no complete circuit trail or pathway around Yangebup Lake. At that time a path existed along the northern boundary (Osprey Drive) and along the southern boundary (along the Yangebup Road alignment).

The 1999 plan recommended the following works:

- Trail construction (west side) Yangebup Lake (spreading crushed limestone and spreading and rolling asphalt onto existing fire access trail: 1200m)

- Installation of distance/direction signs
- Installation of interpretive signage

Now, in 2013, a sealed pathway completely encircles Lake Yangebup. In fact, two designated trails have been mapped indicating routes that local people can follow if exercising.

Interpretation suggested for this trail is set out in Section 5.

### ***2.2.8 Armadale-Fremantle Disused Railway Reserve***

At the time of the preparation of the 1999 Trails Master Plan some segments of pathway already existed within or alongside the disused railway reserve. Unfortunately some sections of the reserve have now been developed which makes a contiguous trail difficult to develop.

It is recommended that this trail be removed from this plan and be re-visited in the future when the need for trails and ecological corridors take preference over development.

### ***2.2.9 Ridge and Lakes Trail***

The 1999 Trails Master Plan envisaged a walk trail along the limestone ridge and western chain of lakes (and wetlands and swamps) from Rockingham Road in the north as far south as the City of Cockburn's southern boundary in Henderson.

Sections of this trail recommended in 1999 have been constructed – notably the path along the western side of Lake Coogee and the path south of Lake Coogee as far as Mt Brown. The connecting path between the Market Garden Swamps and Lake Coogee has also been completed.

However, given the major roads and road realignments that have occurred since 1999, the growth of residential development and the numerous other trail opportunities that are now available, a much abbreviated Ridge Trail is now recommended.

Given the range of new trail projects suggested in this 2013 Trails Master Plan, the intent of the 1999 Ridge and Lakes Trail has now been surpassed by other trail projects. The 2013 Plan recommends a more contained Ridge Trail focussing on the limestone ridge north and south of Manning Lake. Interpretation suggested for this trail is set out in Section 5.



### **2.2.10 Beeliar Lakes Trail (Eastern Chain)**

The 1999 Trails Master Plan envisaged a shared path (catering for cyclists and walkers) following alongside the (eastern) chain of lakes that included North Lake, Bibra Lake, South Lake, Little Rush Lake, Yangebup Lake and Kogolup Lake.

At the time of preparation of the 1999 Plan, some sections of the trail were already in place. Missing were paths/trails alongside Little Rush Lake, Yangebup Lake and around Kogolup Lake.

Since 1999 some additional sections of path have been completed, older paths have been replaced and limestone trails constructed to provide added length to the route. Several missing sections are yet to be completed. These are:

- Connection between the southern end of Bibra Lake and South Lake (across North Lake Rd).
- Path along the eastern side of South Lake.
- Connection across railway between South Lake and Little Rush Lake.
- Connection between southern end of Yangebup Lake and Kogolup Road (across Beeliar Drive).

This trail is still relevant, as it provides a lengthy walk or cycle along the chain of lakes, and the various circuit trails that already exist (or are proposed) for each of the lakes in the chain.

Interpretation suggested for this trail is set out in Section 5.

### **2.2.11 Tramway Reserve Trail**

The idea for the development of a recreation trail along the Tramway Reserve has been around since at least 1987 when the then State Planning Commission carried out an extensive research project into the land tenure and potential for a trail.

Since that time several short sections of trail/path within the Tramway Reserve have been constructed. Sections of the trail have been built within the City of Rockingham (in Baldivis) and in the Town of Kwinana (through the Spectacles). The Town of Kwinana has a recently prepared trail development plan guiding the future development of the Tramway Trail within its boundaries.

Currently, the City of Rockingham is giving focus to the extension of the recreation trail within its section of the Tramway Reserve.

Within the City of Cockburn a 1.3km section of path/trail has been constructed alongside Branch Circus, from “Wedge Rd” to Willerin Loop (in the Boronia Estate).

Though only a comparatively short section of path/trail exists within the City of Cockburn, the completion of the long-proposed Tramway Trail should be regarded as a regional priority project, and that will involve ongoing consultation and collaboration with the Town of Kwinana and the City of Rockingham.

This 2013 Trails Master Plan provides detail on what remains to be constructed within the City of Cockburn.

### **2.2.12 Kogolup Trails**

The 1999 Trails Master Plan recommended the development of two trails in the Kogolup Lake area: a Kogolup Lake Bridle Trail (servicing the large horse riding population that existed in the area at that time) and a Kogolup Dual Use Trail which was to become a component of the proposed Beeliar Lakes Trail.

Since the preparation of the 1999 plan, trails and paths have been developed in the vicinity of the area. The proposed bridle trail has not been developed and it is certain that it will not be as the area around the lake is now part of the Beeliar Regional Park.

Two 'walk trails' have been developed which include routes through the Regional Park in the western section of the Kogolup Lake reserve: the Preissiana Walk Trail and the Marginata Walk Trail. Both these trails involve a substantial length through the adjoining residential area of Beeliar.

Interpretation suggested for this trail is set out in Section 5.

### **2.2.13 Banjup Bridle Trail**

There appears to have been no progress of implementation of the proposed Banjup Bridle Trail. In fact, the potential for development of a bridle trail in this location is now more difficult, given the gazettal of the Jandakot Regional Park, the intensification of development in the area and the ongoing development of the road system and increasing traffic levels on roads. It is suggested that this trail be removed from the master plan.

## **2.3 Audit/Assessment of Existing (Recognised) Trails**

Only trails that are regarded as being 'recognised' were assessed during the preparation of this Trails Master Plan. 'Recognised' means that the trail has some or all of the following characteristics:

- Recognised by the land manager (eg. DEC, City of Cockburn);

- Signposting (trail directional markers; trailhead signage; interpretive signage); and
- Mapping (such as a map contained within a management plan, trail brochure or fire response plan).

The list of existing trails is based on information from a number of sources:

- ❖ Information supplied by various stakeholders;
- ❖ Information brochures and trail maps;
- ❖ Trails/paths observed during field work;
- ❖ Information provided by members of the community; and
- ❖ Input from City of Cockburn staff.

The assessments and audits were undertaken in the period December 2009 to February 2010. Each existing trail was walked or cycled and comprehensive notes and distance measurements taken during those assessments. The improvements and enhancements determined as a result of the assessments form the basis of the recommended works lists set out in this Trails Master Plan.

The existing recognised trails of the City of Cockburn are summarised in the following table.

**Table 2.2.1 – Existing Trails – City of Cockburn**

	Trail Name	Location	User group	Land tenure	Trail Manager	Comments (brochure, interpretation, etc)	Condition (standard of construction, level of maintenance)	Length	Difficulty (grades, etc)
1	<b>Mt Brown Lookout Trail</b>	Beeliar Regional Park, Cockburn Rd	Walkers and cyclists	Beeliar Regional Park	DEC	Good information at trailhead. No brochure. Some old interpretation at summit. No interpretation along trail.	All uphill to summit. Loose sand and limestone. Is soon to be sealed to be suitable for cyclists.	2.22km return	Grade 2/3. Moderately difficult.
Interpretive panels: none along trail. Some general information about Beeliar Regional Park (and walks in the area) at trailhead. At lookout, interpretation of general development in the region; and the nearby Kwinana Industrial Area.									
2	<b>Ancient Coastline Track</b>	Henderson Cliffs, Cockburn Road	Walkers	Beeliar Regional Park	DEC	Very short walk, but interesting. Some basic interpretation at trailhead. Good lookout platform.	New and well constructed. Perhaps could be made longer.	270m loop	Easy – Grade 2 (not all wheelchair friendly. Grade 1 to lookout).
Interpretive panels: One at trailhead (about the trail and other trails in the area). No information about the cliffs. Very small amount about Noongars.									
3	<b>Davilak Heritage Trail</b>	Manning Park, Hamilton Hill	Walkers	Beeliar Regional Park	City of Cockburn	Very old brochure. No interpretation along trail. Recently upgraded, but still needs enhancement. Return loop from viewpoints required.	Well constructed trail surface, with limestone block steps and water bars. Needs regular maintenance.	1.08km each way	Moderately steep climb to lookouts. Grade 2.
Interpretive panels: No on-site interpretation along this trail.									
4	<b>North Lake Circuit</b>	Progress Drive, North Lake	Walkers and cyclists	Beeliar Regional Park	DEC	No brochure. No on-trail interpretation. Pleasant experience that could be enhanced. Better access to lake is needed (boardwalk and/or bird hide) and interpretation needed.	Trail is wide (like a road) in places. Good trail surface.	2.4km loop	Easy, flat. Grade 2.
Interpretive panels: No on-site interpretation along this trail.									

5	<b>Bibra Lake Circuit</b>	Progress Drive, Bibra Lake	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. No on-trail interpretation. Circuit is very well used by cyclists, joggers, walkers and parents with strollers.	High quality (and wide) path – much of it very new. Recently refurbished boardwalk and bird hide.	6.25km loop	Easy, flat, Grade 1 (suitable for disabled use).
Interpretive panels: No on-site interpretation along this trail. Some general bird signage at trailhead.									
6	<b>Market Garden Swamp Circuit (North)</b>	Troode St, Spearwood	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Some interpretation. DUP and concrete paths form a circuit around swamps. Limited views of lake/swamp. Experience could be enhanced.	Good quality paths. Well maintained grassed and picnic areas.	3.01km loop	Easy. Grade 1 (suitable for disabled use).
Interpretive panels: Interpretive panel on frog life cycle.									
7	<b>Market Garden Swamps Circuit (South)</b>	Troode St, Spearwood	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Some interpretation. Map panel of “be active” walk. DUP and concrete paths form a circuit around swamps. Limited views of lake/swamp. Experience could be enhanced by completion of southern-most circuit.	Good quality paths. Well maintained grassed and picnic areas.	2.0km	Easy and flat. Grade 1.
Interpretive panels: 1. Salt water meets fresh water. 2. About not feeding birds. 3. History of Market Garden Swamps.									
8	<b>Lake Mt Brown Circuit</b>	Cockburn Rd, Henderson	Walkers and cyclists	Beeliar Regional Park	DEC	Good information at trailhead. No brochure. No interpretation along trail. Lake is some distance from trailhead.	High quality path to lake, then rough limestone trail around lake, with limited views of lake.	5.16km total	Part Grade 1 – Part Grade 2.
Interpretive panels: No on-site interpretation along this trail. Some general information about Beeliar Regional Park (and walks in the area) at trailhead									

9	<b>Yangebup Lake Trail No. 2 (Blue)</b>	North Lake Rd, Yangebup	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Some trailhead signage, though no actual trailhead (parking area). Several interpretive signs along trail.	Paths in good condition. Well maintained paths.	4.23km loop	Grade 2. One steep section is not disabled friendly.
Interpretive panels: 1. Panel about local birds (birds of prey). 2. Lake of Life (turtles and biodiversity). 3. Effecting change (reducing pollution of lake). Also, three "Beeliar Wetlands Heritage Trail" artworks. Panel with general information about the lakes and use by aboriginal people.									
10	<b>Yangebup Lake Trail No. 1 (Yellow)</b>	Osprey Rd, Yangebup	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Some trailhead signage, though no actual trailhead (parking area). Several interpretive signs along trail.	Path section in good condition. Much of trail uses perimeter firebreaks.	2.95km loop	Some of trail is Grade 1 (wide flat path); and Grade 3 – sandy firebreak.
Interpretive panels: 1. Man's Best Friend (about dogs and impact on local wildlife).									
11	<b>Little Rush Lake Circuit</b>	Grassbird Loop, Yangebup	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Some trailhead signage, though no actual trailhead (parking area). Several interpretive signs along trail.	Path section in good condition. Some trails running parallel to North Lake road are still crushed limestone.	1.68km loop	Easy – Grade 2. Not all sealed.
Interpretive panels: 1. Busy Bills and Fancy Feet (water birds and bush birds). 2. Snakes of the area. 3. Bats. 4. Local Heroes (waterbirds). 5. Long Way Round (migratory birds). 6. Life on the Fringe (fringing vegetation). Three "Beeliar Wetlands heritage Trail" artworks (The Guardians; Waugal; Time Poles).									
12	<b>Lake Coogee Circuit</b>	Fawcett Rd, Coogee	Walkers and cyclists	Beeliar Regional Park	City of Cockburn	No brochure. Coogee Heritage Marker is only interpretation along trail. Bird hide with no ID panels or interpretation.	Circuit currently uses road for several hundred metres. Parts of existing path in poor condition and needs replacing.	4.67km loop	Grade 2 – several steep sections not suitable for wheelchair use.
Interpretive panels: Coogee Heritage Marker (Pensioner Guards). Memorial wall with Enrolled Pensioner Guard mosaic. Sign at well used by Enrolled Pensioner Guard.									

13	<b>Kogolup Lake (Preissiana and Marginata Walk Trails)</b>	Branch Circus (near Hammond Rd), Beeliar	Walkers (mainly)	Beeliar Regional Park and public roads	DEC	No brochure. Some 'trailhead' map panels. Parking areas available. On-path directional signage. Some interpretive signage.	Paths and trails are well constructed and maintained, but much of trails are through residential areas, utilising roadside paths.	Preissiana Walk Trail is 6.9km; Marginata Walk Trail is 4.1km	A mix of grades, Grade 1 through to Grade 5.
Interpretive panels: 1. Panel about birds (suggesting dogs stay on leads). 2. "Biological bulldozer" interpretive panel (dieback/weeds).									
14	<b>Manning Lake Circuit</b>	Azelia Drive, Hamilton Hill	Walkers	Beeliar Regional Park	City of Cockburn	No brochure. Some interpretive signage. Circumferential path needs to be completed to maximise use of the area. Well used area which is full of history. More interpretation needed.	Paths and adjoining picnic areas well maintained.	1.68km loop	Grade 2. Would be Grade 1 if there was a sealed path all the way around the lake.
Interpretive panels: 1. Panel about (not feeding) birds.									
15	<b>North Coogee Coastal Trail</b>	CY O'Connor Beach to South Beach, North Coogee	Walkers and cyclists	Public reserve	City of Cockburn	No brochure or signage to pathway. Coastal path is poorly promoted. Extensive views over beach and Cockburn Sound. Sculptures, but no interpretive panels.	New path in excellent condition. Not suitable for wheelchairs in some locations due to steepness.	1.74km one-way	Grade 2. Path is hilly and steep in a few locations.
Interpretive panels: No on-site interpretation along this trail. However, "Human Race" sculpture. CY O'Connor "Horse and Rider" statue in water.									
16	<b>Woodman Point Circuit</b>	Nyyerbup Circle (off Cockburn Rd), Munster.	Walkers and cyclists	Woodman Point Regional Park	DEC (Note: City of Cockburn is responsible for paths within Coogee Beach)	No brochure, or promotional signage. New paths now almost create a loop trail (that will require signage) and promotion. Area is very popular. Some interpretation.	Some very new paths in excellent condition, as well as some older paths.	7.72km loop	Grade 2 (due to several hilly sections and steepness of path in some locations).
Interpretive panels: 1. Revegetation; 2. Coastal bushland; 3. Clarence townsite.									

17	<b>Coastal Pathway</b>	South Beach to Mt Brown	Walkers and cyclists	Public reserve; Woodman Point Regional Park; and Beeliar Regional Park	DEC; and City of Cockburn	No brochure. Poor directional signage. Path is discontinuous (and now severed by ongoing residential development). Completion of path is required, and promotion and signage required. Some interpretation on some segments of path.	Condition of path varies according to time of construction. Some old segments; some new segments.	Discontinuous	Varies – Generally Grade 1 and 2.
Interpretive panels: No on-site interpretation along this trail (other than those on other stand-alone segments of the pathway).									
18	<b>Thomsons Lake Circuit</b>	Russell Rd, Success	Walkers	Beeliar Regional Park	DEC	No brochure or known promotion. Good trailhead facilities off Russell Rd (at southern end). Most attractive part of Nature Reserve is NE quadrant, well away from Russell Rd trailhead.	Very sandy tracks, passing through some uninteresting topography devoid of much vegetation. Known dieback in reserve.	6.35km	Grade 3 - sandy tracks
Interpretive panels: No on-site interpretation along Lakeside Circuit. Interpretive shelter at Russell Rd trailhead about lake habitat (frogs; reptiles; mammals; birds; plants). Panel about "Fences and Ferals". There is a map of the various 'tracks'.									
19	<b>South Lake</b>	Bushland Ridge,	Walkers	Beeliar Regional Park	DEC	No brochure. Some excellent indigenous interpretation near Bushland Ridge at western side of reserve.	Some crushed limestone tracks; but mostly deep sandy firebreaks (at present).		Grade 2 and 4.
Interpretive panels: (6). Connections of Our Spiritual Dreaming (x2); The Footprints of the First People, Our Ancestors; Living with the Land (x2); The Rainbow Serpent.									
20	<b>Denis De Young</b>	Liddelow Road, Banjup	Walkers	Jandakot Regional Park	City of Cockburn	No brochure. Some signage warning of dieback, dogs on leash etc.	Many crushed limestone tracks.	6.4 km	Grade 2
Interpretive panels: No on-site interpretation along this trail.									
21	<b>Shirley Balla Swamp</b>	Tapper Road, Atwell	Walkers	Jandakot Regional Park	DEC	No brochure. Limited signage	Some crushed limestone tracks; but mostly deep sandy firebreaks (at present).	2.6 km	Grade 2 and 4.
22	<b>Banksia Eucalypt Woodland Reserve</b>	Lyon Road Aubin Grove	Walkers	Public Reserve	City of Cockburn	No brochure. Some signage in Eucalypt Banksia Woodland Reserve	Crushed limestone on perimeter firebreaks in northern areas, asphalt on main paths.		

Note: Trails have been graded using the Australian Standard 2156.1 - 2001 Walking Tracks and Classification.



## 2.4 Mountain Biking Opportunities in the City of Cockburn

There is a growing call in the Community for the provision of mountain biking trails. In considering mountain biking opportunities, it was observed that the City of Cockburn does offer scope for mountain biking however the limitations of the budget did not permit investigation of suitable places for the trails to be located.

In seeking suitable (future) locations for mountain biking trails, there are several locational requirements that should be born in mind:

- Variety of topography (including scope for cross-country and perhaps downhill).
- Well vegetated.
- Tracts of publicly owned land.
- Close proximity to residential areas (to enable young riders without access to cars to easily ride to the MTB park).
- Close to public transport (ideally, close to a railway station).



*The Forrest Mountain Bike Park in the Otway Ranges in Victoria features 15 mountain bike trails – ranging from “Easy” to “Very Difficult” thereby catering for the diverse range of skills and experience of cyclists who desire an off-road experience.*

Generally speaking, mountain biking trails should be planned as a regional resource. There are many types of mountain biking trails (from easy to difficult) to cater for the wide range in the skills of people cycling in off-road situations.

The advantage of a cluster of MTB trails of varying difficulty is that inexperienced mountain bikers can start on the easiest trails and graduate to more and more difficult trails as their skills and confidence improves. IMBA (the International Mountain Bicycling Association) states that trail systems must serve the needs of multiple user groups and take environmental and geographic factors into account, as well as creating good experiences for diverse visitors.

There are several of these mountain biking parks throughout Australia including the Goat Farm in Perth (Greenmount), Mount Stromlo in Canberra, Eagle Mountain Bike Park Nest in Adelaide and the Forrest Mountain Bike Park in Victoria. Building one single-track or one mountain biking trail in the City of Cockburn would not cater for the wide range in demand. It would serve a very limited market and would in a short time become unused. For example, the Eagle Mountain Bike Park in the Adelaide Hills provides a network of trails that cater for a variety of mountain bike disciplines and abilities.

- Approximately 21kms of cross country trails
- A specifically designed downhill trail
- A skills development park
- A jumps park
- A trials area

A suitable location for such a facility would need to be found in the South West Corridor that would cater for enthusiasts from the City of Cockburn and, potentially, mountain bikers from the Town of Kwinana, City of Rockingham, City of Mandurah and right across the metropolitan region. Proximity to a railway station will increase usage from riders from distant locations.

What would be ideal is for a group of like-minded local governments (and land managers) in the south west corridor to work together to determine the most appropriate area for a 'cluster' or 'nest' of mountain biking trails: a "mountain biking park". The study would identify demand for the facility and then to investigate options for the location of such infrastructure, the feasibility of developing the facility and how it would be managed. The City is advised to also liaise with DEC's Recreation and Trails Unit in relation to regional mountain biking opportunities.

### ***2.5 Mapping Existing & Future Trails***

The accompanying plans (see Appendix 1) illustrate the range of existing and proposed non-motorised trails in the City of Cockburn.

## SECTION 3: PROPOSED TRAILS AND COSTS

### 3.1 Review of Key Outcomes

This Trails Master Plan sought a number of outcomes, including:

- An inventory of existing non-motorised recreation trails;
- Identification of future trail opportunities; and
- Determination of a costed, prioritised and staged series of trail projects.

### 3.2 Assessment Criteria

The key elements considered in the determination of trail opportunities were:

- Trail demand - the majority of users are seeking short trail opportunities (as discussed earlier). Though they are very difficult to quantify, the health benefits to be gained by increasing the propensity of local people to exercise and get fit on local trails and pathways should not be underestimated as part of the demand consideration;
- Stakeholder and Project Management Committee input;
- Value for money (recognising that there will be limited budget). Trail projects should look to provide value for money and a good return on the investment made by the Council and other land managers. High quality, well built, well maintained and well promoted trails highlighting the best features of the City of Cockburn is preferable to a large number of poor quality trails badly constructed and not maintained. Where appropriate, trail projects should build on existing trails, and broader recreation and other community facility investments;
- Opportunity for linkages with other trails within the City of Cockburn (and opportunities to link with trail projects in neighbouring local governments);
- Practicalities of trail development – costs, land tenure and access, environmental issues, cultural issues, funding possibilities, possible (on-going) community support and the possibility of opposition, and the safety of users;
- User experience. Trails have to provide a high quality user experience or else people will not use them or will not come back – word of mouth is a much stronger advocacy tool than marketing strategies. The trail projects need to ensure a high-level user experience; and
- Key background documents and already adopted strategies of the City of Cockburn.

Assessment of each of the existing trails was done in a broad sense against all these criteria as well as against a number of specific individual criteria. Combined with the field assessment, consideration of these elements allows the determination of trail projects.

### **3.3 The Trail Projects**

A number of projects present themselves as capable of matching the outcomes sought by the City, and making the most of the opportunities that are available in the City of Cockburn. These projects build on known success-stories (well-packaged short walk trails), seize opportunities (heritage; wetlands and lakes; high points with views) and offer outcomes for both locals and visitors to the municipality. It is noted that proposed new trails will need to be considered land tenure.

#### **Project a) – Davilak Heritage Trail**

The Davilak Heritage Trail has undergone recent upgrading and the trail from Manning Lake up to the two highest lookouts is now in good condition. However, despite the relatively recent upgrading the trail is in need of further enhancement. At present the trail is an 'out and back' experience, with users having to retrace their steps back to the commencement point. (A return loop has been identified in the "Walking in the City of Cockburn" booklet but this return loop is in poor condition, uninteresting and probably subject to being disrupted by future road projects). [See Plan a].

A new return loop which takes users past the ruins of Davilak House and its outbuildings is recommended, giving weight to the actual name of the trail. The accompanying trail map illustrates the recommended trail route.

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Construction of a crushed limestone trail following existing sandy tracks.
- The cutting of a new trail through bushland to avoid the busy access road in to Manning Lake parklands. This would be subject to a detailed vegetation site assessment.
- Construction of limestone block steps along the trail.
- Various upgrading and improvement works at the existing lookouts.
- Construction of a small viewing platform overlooking the ruins of Davilak House.
- Installation of directional markers and trailhead signage.

- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels).

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

#### **Cost Estimates for Project a) - Davilak Heritage Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at location of old Heritage Trail sign.	3,000
2. Install promotional signage (double-sided) at corner of Hamilton Road/Azelia Rd and Davilak Ave/Rockingham Road.	500
3. Install special sign at trail junction pointing to “Eastern Lookout 140m” with arrow, and arrow and sign pointing to “Western Lookout 100m” with arrow.	500
4. Install interpretive panels (see separate list). (Allow for 10 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	18,000
5. Install ‘cladding’ on safety railing (16m) at “Cultural Council Lookout”.	2,000
6. Install “directional dial” on Eastern Lookout (see topics in Section 5).	4,000
7. Install “directional dial” on Western lookout (see topics in Section 5).	4,000
8. Repair wall of seating area at Western Lookout.	500
9. Repair seating (9m x 0.5m) at Western Lookout.	800
10. Install 5m safety railing on western steps platform at Western Lookout.	1,000
11. Install shade shelter or steel shade shelter over Western Lookout.	5,000
12. Replace 3 missing bricks on steps at Western Lookout.	100
13. Construct 2 steps on south side of platform at Western Lookout.	1,500
14. Construct 6 limestone block steps.	1,200
15. Construct 4 limestone block steps.	1,200
16. Construct 12 limestone block steps over rocky track.	800
17. Stabilise and construct 320m stabilised limestone trail surface	7,400
18. Construct 160m stabilised limestone trail surface past ruins.	3,200
19. Clear and level ground and construct viewing platform (3m x 2m)	5,000

overlooking ruins of Davilak House.	
20. Construct pedestrian crossing and 50m new trail to east of access road.	3,000
21. Install trail directional markers (with arrows) on posts (17).	2,250
22. Construct wooden steps from access road up to Eastern Lookout	140,000
Sub-Total	\$204,950
Contingency allowance (10%)	\$20,495
Sub-Total	\$225,450
10% GST	\$22,540
<b>Total (including GST)</b>	<b>\$247,990</b>

### Project b) - Mt Brown Lookout Trail

The walk to the summit of Mt Brown is reasonably long and arduous, following a wide crushed limestone vehicle track. Once at the summit the views are outstanding.

This project involves a number of smaller improvements to make the uphill walk a more pleasant and rewarding experience. [See Plan b].

It is understood that the DEC is planning to seal the track with an asphalt surface enabling it to be also used by cyclists. The asphalt surface will make walking to the summit easier and more pleasant.

The project budget includes an allowance for:

- Minor improvements (seating; directional signposting, etc).
- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project b) - Mt Brown Lookout Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage in car park.	3,000
2. Clear vegetation from in front of "Advance Warning" sign on north side.	50
3. Install "advance warning" (ie. promotional sign) on Cockburn Rd – south side.	500

4. Install trail directional markers with arrows (and distance plates). (8)	1,200
5. Install 2 bench seats along trail.	1,200
6. Install interpretive panels (see separate list). (Allow for 6 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	10,800
Sub-Total	\$16,750
Contingency allowance (10%)	\$1,675
Sub-Total	\$18,430
10% GST	\$1,840
<b>Total (including GST)</b>	<b>\$20,270</b>

### Project c) - Henderson Cliffs Trail (Ancient Coastline Track)

The short walk to and along the cliffs at Henderson is suitable for most people. Given the spectacular nature of the cliffs, and excellent views up and down the coastline, it is proposed that the short trail be enhanced by placement of a seat to enable users to sit and relax and take in the view. Additional interpretation is also recommended.

The proposed interpretive panel should provide detailed information on the formation of the cliff. [See Plan c].

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project c) - Henderson Cliffs Trail (Ancient Coastline Track)

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage in car park near commencement of path to lookout (alongside existing DEC panel).	3,000
2. Install 1 bench seat along trail (at most northerly point of trail).	700
3. Install "advance warning" (ie. promotional sign) on Cockburn Rd – south side.	300
4. Install interpretive panel (subject: detailed information on the formation of the cliffs, etc). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> </ul>	1,800

<ul style="list-style-type: none"> <li>Graphics (photos and drawings)</li> <li>Installation</li> </ul>	
5. Install 2 trail direction markers with arrows.	300
Sub-Total	\$6,100
Contingency allowance (10%)	\$610
Sub-Total	\$6,710
10% GST	\$671
<b>Total (including GST)</b>	<b>\$7,380</b>

### Project d) - North Lake Circuit

This project involves a number of minor enhancements to the existing crushed limestone trail around North Lake. [See Plan d].

The most notable enhancements proposed are a boardwalk and a bird hide, on spurs off the main trail, to enable trail users to get close to the lake's edge to enjoy views of the lake and the bird life.

As is the case for all the recommended trails in the City of Cockburn, it is proposed that trailhead and directional signage along the trail be consistent.

The project will include the following elements:

- Construction of boardwalks and bird hide.
- Installation of promotional, trailhead and directional signage.
- New interpretive signage.

Interpretive subjects for this trail are set out in Section 5.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimate for Project d) - North Lake Circuit

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at trailhead car park on Progress Drive.	3,000
2. Install trail directional markers on posts with arrows (11).	1,650
3. Install promotional signage (double-sided) at corner Farrington Road / Progress Drive; North Lake Rd/ Farrington Rd; North Lake Rd / Bibra Dr; Bibra Dr / Progress Dr and double-sided fingerboard at entrance to trailhead.	2,200



4. Construct 8m shared path connecting car park and existing path.	1,200
5. Construct 35 metres embankment or boardwalk (on east side of lake).	3,500
6. Construct bird hide at end of proposed embankment/boardwalk.	3,000
7. Install interpretive panels (see separate list). (Allow for 8 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	14,400
Sub-Total	\$28,950
Contingency allowance (10%)	\$2,900
Sub-Total	\$31,850
10% GST	\$3,190
<b>Total (including GST)</b>	<b>\$35,040</b>

### Project e) - Bibra Lake Circuit

A considerable amount of upgrading of, and extensions to, the existing shared paths around Bibra Lake and a refurbishment of the boardwalk and bird hide has recently taken place.

This project also involves a number of minor enhancements, the most notable being the installation of promotional, trailhead and directional signage, and the installation of new interpretive signage. An interpretation signage strategy is also being developed by the City of Cockburn and should incorporate some of the suggestions detailed below.

A short section of path is required to ensure connectivity between two sections of new shared path. [See plan e]. Interpretive subjects for this trail are set out in Section 5.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

**Cost Estimate for Project e) - Bibra Lake Circuit**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 4 locations: at trailhead on Progress Drive; at parking area near corner of Progress Drive and Bibra Drive; at Cockburn Wetlands Education Centre and at parking area on Bibra Drive (north of Parkway Road).	12,000
2. Install promotional signage (double-sided) at corner Farrington Road / Progress Drive; North Lake Road / Farrington Road; Bibra Drive / Progress Drive; North Lake Road / Bibra Drive and double sided fingerboard at entrance to trailhead on Progress Drive.	2,200
3. Install trail directional markers on posts with arrows with distance plates. (12)	1,800
4. Install additional "Please Share" signage (x3).	600
5. Install interpretive panels (see separate list) including panels on existing (old) bird hide. (Allow for 12 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	21,600
Sub-Total	\$38,200
Contingency allowance (10%)	\$3,820
Sub-Total	\$42,020
10% GST	\$4200
<b>Total (including GST)</b>	<b>\$46,200</b>

**Project f) – Market Gardens Swamp Circuit (North and South)**

The recent residential development around the Market Garden Swamps has facilitated the construction of several kilometres of concrete and bitumen shared paths alongside the swamps/lakes. Currently some small loops are possible. It is expected that with further residential development, particularly at the southern end, further opportunities will become available for extensions to the existing path network.

Minor improvements are recommended for the existing path network, including trailhead, promotional, directional and interpretive signage. [See Plan f].

This project also involves the construction of bird hides to enable trail users to more fully appreciate the wildlife of the swamps that, from many parts of the existing pathway network, are currently obscured.

Connection of the path networks of Market Garden Swamp North and Market Garden Swamp South by a safe crossing of Troode Street is also recommended. Connecting the two path networks will provide a much larger circuit and provide opportunities for trailhead parking (which is absent from the Market Garden Swamp North area).

The trail should also link with the trail around Lake Coogee which is further south. This may be facilitated by the new development occurring in this area. A small connecting path to Mayor Road has already been constructed from Lake Coogee close to Hamilton Road.

Interpretive subjects for this trail are set out in Section 5.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

#### **Cost Estimates for Project f) - Market Gardens Swamp Circuit (North and South)**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at (recommended) trailhead on Leschenault Blvd.	3,000
2. Install promotional signage (double-sided) at corner Rockingham Road / Troode Street, Troode Street / Leschenault Blvd. and single sided fingerboard on Leschenault Blvd. (opposite trailhead).	1,200
3. Install trail directional markers on posts with arrows. (Allowance for 40)	6,000
4. Construct 2 new kerb ramps across Troode Street, at junction of Troode St and Leschenault Blvd.	800
5. Construct 2 new kerb ramps across Troode Street, opposite Watercress Gardens.	800
6. Install "Trail Crossing" warning signs on Troode St either side of trail crossings.	400
7. Paint "Give Way" symbols on path either side of road crossings of Troode St.	200
8. Construct 550m new shared path at southern end (between Musulin Rise and Atwell Close).	Developers
9. Install interpretive panels (see separate list). (Allow for 12 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	21,600
<b>Sub-Total</b>	<b>\$34,000</b>

Contingency allowance (10%)	\$3400
Sub-Total	\$37,400
10% GST	\$3740
<b>Total (including GST)</b>	<b>\$41,140</b>

### Project g) – Lake Mt Brown Trail

This project includes several enhancements to make the trail a more pleasant and user-friendly experience.

The minor enhancements include the installation of directional markers, the installation of interpretation along the trail and the construction of a short boardwalk to enable trail users to get close to the edge of the lake to appreciate the birds and other wildlife of the lake. [See Plan g].

It is also recommended that DEC give consideration to the development of a small crushed limestone trailhead parking area off Rockingham Road – close to the lake. This should be done after discussions with Landcorp given that there may be some modifications to the area due to the area becoming an industrial subdivision in the near future. The project budget includes an allowance for:

- Construction of a trailhead parking area off Rockingham Road.
- Management access gates.
- Construction of an 80m boardwalk and viewing platform.
- Installation of several bench seats.
- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project g) - Lake Mt Brown Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at existing trailhead off Cockburn Road.	3,000
2. Install promotional signage (double-sided) on Cockburn Road (opposite entrance to trailhead parking area).	500
3. Build 20m new crushed / compacted limestone trail at end of asphalt path.	500
4. Install trail directional markers on posts with directional arrows (14).	2,100
5. Install interpretive panels (see separate list). (Allow for 5 panels:	9,000

600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	
6. Install 3 bench seats (or sleeper seats) around trail.	2,100
7. Construct barriers (rocks / logs) to prevent access by 4WD (5).	3,000
8. Install management access gates.	1,000
Sub-Total	\$21,200
Contingency allowance (10%)	\$2,120
Sub-Total	\$23,320
10% GST	\$2,332
<b>Total (including GST)</b>	<b>\$25,652</b>

### Project h) – Yangebup Lake Trail 2 (Long Circuit)

An asphalt and/or concrete path already encircles Yangebup Lake and outstanding views of the lake can be seen from several locations. Limestone has also recently been placed on the paths/firebreaks adjacent to Mudlark Way, Pelican Ramble and Pioneer Drive. Despite this, it is recommended that additional viewpoints be established. Yangebup Lake is one of the few lakes in the Beeliar Lakes chain that holds water during summer and views of the water will enhance the appeal of the path circuit.

The most notable recommendation for the Lake Yangebup trail circuit is the development of a trailhead parking area. Currently, people wishing to drive to the lake must park either in a side street or in the cul-de-sac turning circle at the northern end of Parkes Street (near Tamara Drive). Given the availability of land in the south-east corner of the Lake Yangebup reserve (near Parkes Street) it is recommended that a formal trailhead be established within the Regional Park in this location. [See Plan h].

Other minor improvements are also suggested including the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Trailhead construction;
- Additional viewpoints and associated furniture;
- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### **Cost Estimates for Project h) - Yangebup Lake Trail 2 (Long Circuit)**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 3 locations: Proposed new trailhead parking area at northern end of Parkes Street; Osprey Drive and playground entrance.	9,000
2. Install promotional signage (double-sided) at corner North Lake Road and Hammond Road and directional fingerboard at corner Hammond Road and Parkes Street.	700
3. Install trail directional markers on posts with directional arrows (12)	1,800
4. Construct trailhead parking area at northern end of Parkes Street (reconfigure existing asphalt turning circle and install bollards, etc) – or, alternatively, construct parking area off Parkes Street further north.	30,000
5. Construct 15m asphalt path at lookout/viewpoint.	2,500
6. Install bench seat at lookout/viewpoint	\$700
7. Install interpretive panels (see separate list). (Allow for 3 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	5,400
Sub-Total	\$50,100
Contingency allowance (10%)	\$5,010
Sub-Total	\$55,110
10% GST	\$5,511
<b>Total (including GST)</b>	<b>\$60,620</b>

### **Project i) – Little Rush Lake Trail**

As with Lake Yangebup, an asphalt trail encircles Little Rush Lake. An asphalt path also runs parallel to Osprey Drive and terminates at an exit to North Lake Road. Limestone has been placed on the firebreak that runs parallel to North Lake Road and this links back into the asphalt path in the north east. There is no trailhead parking available.

This project will involve a number of minor improvements to enhance the experience of trail users. These improvements include the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

It is also recommended that spur trails and boardwalks be constructed to maximise the experience of trail users, enabling them to gain access to the edge of the lake.

Existing artworks should also be refurbished, as they are showing signs of age and neglect. [Recommended improvements are shown on Plan i].

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Upgrading of the existing trail surface.
- Construction of spur trails, boardwalks and bird hides.
- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project i) - Little Rush Lake Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 3 locations: Proposed Parkes St trailhead; Osprey Drive entrance; and playground entrance (Grassland Loop).	9,000
2. Install promotional signage (double-sided) on North Lake Road (opposite entrance to trailhead).	500
3. Construct 10m asphalt path from proposed trailhead (at northern end of Parkes St) to existing path along North Lake Road.	2,000
4. Construct 20m asphalt path from existing concrete path along North Lake Rd to existing crushed limestone trail.	4,000
5. Install trail directional markers on posts with directional arrows (11).	1,650
6. Install road crossing warning signage (on trail both sides of road and on Osprey Dr both sides of trail crossing).	700
7. Construct 50m crushed limestone spur trail.	1,500
8. Construct 10m viewing platform	10,000
9. Revamp existing Beeliar Wetlands Heritage Trail artworks.	5,000
10. Re-construct 30 crushed limestone trail	1000
11. Construct 15m boardwalk	20,000
12. Construct bird hide at end of boardwalk	5,000
13. Install interpretive panels (see separate list). (Allow for 1 panel: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> </ul>	1,800

• Installation	
Sub-Total	\$62,150
Contingency allowance (10%)	\$6,215
Sub-Total	\$68,370
10% GST	\$6,840
<b>Total (including GST)</b>	<b>\$75,200</b>

### Project j) – Lake Coogee Trail

It is possible to walk/cycle around Lake Coogee, although a relatively short section in the NE corner is currently on-road. Until further subdivision occurs, this section will have to remain on-road, but as and when development occurs the City of Cockburn should obtain public open space alongside the lake to enable the eventual completion of the pathway circuit. The trail should also link with the Market Garden Swamp trail and this will likely be facilitated due to new developments occurring slightly north east of Lake Coogee.

As with all other existing trails, a number of improvements and enhancements are recommended for this pathway circuit including replacement of 370m of damaged asphalt path, installation of trail directional markers, interpretive signage and trailhead signage. It is also recommended that new trailside furniture be installed at strategic locations to enable trail users to stop and enjoy the scenery afforded for the trail.

Interpretive subjects for this trail are set out in Section 5. [Recommended improvements are shown on Plan j].

The project budget includes an allowance for:

- Replacement of defective path (370m).
- Installation of promotional, trailhead and directional signage.
- Additional trailside furniture.
- Re-enhancement of the existing bird hide.
- Repairs to broken pieces of the concrete path.
- Installation of interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels).

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***



**Cost Estimates for Project j) - Lake Coogee Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at trailhead on Fawcett Road.	3,000
2. Install promotional signage (single-sided) at corner Rockingham Road / Mayor Road and Rockingham Road / Russell Road, and double-sided promotional signage at Russell Road / Coogee Road and Mayor Road / Fawcett Road and single-sided fingerboard at corner Coogee Road / Fawcett Road.	2,200
3. Install trail directional markers on posts with directional arrows (allowance for 15).	2,250
4. Repair/replace 370m damaged (grass invasion) asphalt path.	55,500
5. Repair broken concrete path near junction of Coogee Road and Gardiner Ave.	1,000
6. Install picnic shelter under trees on NE corner of lake.	3,000
7. Construct 650m new asphalt path on NE quadrant of lake (between West Churchill Ave and existing path across wetland). (Note: will require land to be subdivided to provide foreshore reserve).	Developer
8. Install interpretive panels (see separate list). (Allow for 8 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	14,400
Sub-Total	\$81,350
Contingency allowance (10%)	\$8,130
Sub-Total	\$89,480
10% GST	\$8,950
<b>Total (including GST)</b>	<b>\$98,430</b>

**Project k) – Kogolup Lake Trail**

Although two marked trails are available in the Kogolup Lake locality (involving significant lengths of roadside paths through the adjoining residential area), it is recommended that a bushland circuit (and new lakeside trails) entirely within the Regional Park be delineated and signposted. [Recommended improvements are shown on Plan k].

The project therefore involves fieldwork to determine the most appropriate alignment of the proposed new loop trail. It is expected that the loops will involve utilising existing tracks and firebreaks through the bushland area, though sections of purpose

built trail may be required to link up existing tracks (and to avoid unsightly and uninteresting firebreaks and residential areas).

The project budget includes an allowance for:

- An allowance for new trail construction.
- An allowance for (crushed limestone) surfacing of sections of existing tracks and firebreaks.
- Installation of promotional, trailhead and directional signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project k) - Kogolup Lake Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at trailhead on Branch Circus.	3,000
2. Install promotional signage (double-sided) at corner Beeliar Drive / Hammond Road, Hammond Road / Russell Road and Hammond Road / Branch Circus and single-sided fingerboard at "Wedge Road" opposite trailhead parking area.	1,700
3. Preparation of simple Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	2,400
4. Allowance for installation of trail directional markers on posts with directional arrows (allow for 15).	2,250
5. Allowance for basic trail construction and trail surfacing (600 metres).	24,000
6. Allowance for installation of interpretive panels (see separate list). (Allow for 7 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	12,600
Project management (no allowance made)	0
Sub-Total	\$45,950
Contingency allowance (10%)	\$4,590
Sub-Total	\$50,540
10% GST	\$5,050
<b>Total (including GST)</b>	<b>\$55,590</b>

### Project I) – Manning Lake Trail

There is a complete asphalt trail around the lake. To capitalise on the views that are possible, it is recommended that several minor enhancements be made such as the installation of bench seats where people can sit by the side of the lake and enjoy the views. [Improvements are shown on Plan I].

Other minor enhancements are recommended including the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage

The project budget includes an allowance for:

- Installation of various signage, notably interpretive panels.
- Installation of bench seats at viewpoints.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project I) - Manning Lake Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage in main car park opposite museum. (Existing old information shelter to be replaced with new structure).	3,000
2. Install promotional signage (double-sided) at corner of Hamilton Road/Azelia Rd and Davilak Ave/Rockingham Road.	1,000
3. Install trail directional markers on posts with directional arrows (8).	1,200
4. Install bench seat.	700
5. Install bench seat.	700
6. Install interpretive panels (see separate list). (Allow for 5 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	9,000
Sub-Total	\$15,600
Contingency allowance (10%)	\$1,560
Sub-Total	\$17,160
10% GST	\$1710
<b>Total (including GST)</b>	<b>\$18,870</b>

## Project m) – North Coogee Coastal Trail

The coastal pathway between South Beach and C.Y. O'Connor Beach can be considered as a stand-alone trail experience (although it will form a component of the much longer Coastal Pathway).

The path is new and consequently requires little in the way of upgrading. However, it too could be enhanced to improve what is otherwise a high quality experience. The range of suggested improvements include promotional signage, trailhead signage, directional signage and interpretation. [See Plan m].

The range of improvements required on the trail includes:

- Interpretation (both at trailhead, and along the trail) – see Section 5.
- On-trail directional signage
- Promotional signage

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### Cost Estimates for Project m) - North Coogee Coastal Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at C.Y. O'Connor Beach car park.	3,000
2. Install map panel at the following locations: South Beach car park; Rollinson Rd car park.	4,000
3. Install promotional signage (double-sided) at corner Cockburn Road / McTaggart Cove.	500
4. Install trail directional markers on posts with directional arrows (13).	1,950
5. Install interpretive panels (see separate list). (Allow for 4 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	7,200
Sub-Total	\$16,650
Contingency allowance (10%)	\$1,670
Sub-Total	\$18,320
10% GST	\$1,830
<b>Total (including GST)</b>	<b>\$20,150</b>

### Project n) – Woodman Point Circuit

The path network in the Woodman Point locality is extensive. Recent construction of two lengthy sections of coastal pathway at Woodman Point by DEC adds considerably to the opportunities for cycling and walking in the coastal environment.

The new paths can now be linked to form a circuit trail. Several small additions to the existing paths are required to actually create the loop, as well as widening of two sections of existing path. [Recommended improvements are shown on Plan n].

Directional signage is required to enable users to navigate their way around the circuit.

In addition, the usual range of enhancements is required, specifically promotional signage and trailhead signage.

The project budget includes an allowance for:

- Widening 350m of existing pathway.
- Construction of 40m of new asphalt path (to connect two existing segments of path).
- Installation of signage (promotional, directional and trailhead).
- Minor improvements at a number of locations.
- Installation of safety signage at road crossings.
- 

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project n) - Woodman Point Circuit

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at trailhead at John Graham Recreation Reserve.	3,000
2. Install map panel at the following locations: parking area at Woodman Point (near groyne); at Poore Gr parking area and at path entry off Cockburn Road (south of Fairbairn Rd).	6,000
3. Install promotional signage (double-sided) on Cockburn Road at entrance to John Graham Recreation Reserve.	500
4. Install trail directional markers on posts with directional arrows (18).	2,700
5. Widen existing red asphalt path by 0.7m (from 1.8m to 2.5m) over 350 metres.	15,000
6. Install "Road Ahead" and "Give Way" signage at road crossing (Woodman Point View).	500
7. Install "Trail Crossing" signs on Woodman Point View either side of trail crossing.	400
8. Widen existing red asphalt path by 0.7m (from 1.8m to 2.5m) over 70 metres.	3,000

9. Install "Road Ahead" and "Give Way" signage at road crossing (Jervois Bay Cove).	500
10. Install "Trail Crossing" signs on O'Kane Ct either side of trail crossing.	400
11. Install "Trail Crossing" signs on Jervois Bay Cove either side of trail crossing.	400
Sub-Total	\$32,400
Contingency allowance (10%)	\$3,240
Sub-Total	\$35,640
10% GST	\$3,560
<b>Total (including GST)</b>	<b>\$39,200</b>

### Project o) – Coastal Pathway

Several significant sections of the Coastal Pathway through the City of Cockburn do not exist at present. This project seeks to identify the best routes for, and construction of, the missing links to enable a continuous pathway from the City's northern boundary (with the City of Fremantle) to its southern boundary (near the Town of Kwinana).

The most significant "missing links" are:

- through the Port Coogee development;
- between Woodman Point and Lake Coogee; and
- south from Mt Brown and into the Town of Kwinana.

The responsibility for the re-instatement of the coastal pathway through the Port Coogee development rests with the developer.

The other two sections are issues that the City of Cockburn, in conjunction with DEC, can attend to. DEC has proposals for connecting Woodman Point with Lake Coogee, the details of which have not been finalised. A road reserve (for the Beeliar Drive extension) between Fawcett Road and Cockburn Road provides opportunities.

The extension of the pathway beyond the Mt Brown area (or Lake Mt Brown) and into the Town of Kwinana is a complicated and complex issue. The scope of this Trails Master Plan review has precluded a comprehensive and detailed investigation of the potential routes available. It is probable that the most convenient route will be one that connects with the proposed Tramway Trail. [See Plan o for details of the route].

The project budget includes an allowance for:

- Fieldwork, to determine the possible routes for the two missing links and a detailed plan for the construction of each.
- Consultation with stakeholders (including DEC; Main Roads WA; Water Corporation; Town of Kwinana).
- Preparation of a trail development plan (indicating construction requirements).

- An allowance for several significant sections of new pathway.
- An allowance for trail directional markers.
- An allowance for dealing with road crossings.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### **Cost Estimates for Project o) - Coastal Pathway**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 3 locations: South Beach car park; Coogee Café car park and Mt Brown car park.	9,000
2. Install promotional signage (double-sided) at cnr Cockburn Road / McTaggart Cove; opposite entrance to Coogee café and opposite entrance to Mt Brown car park (on Cockburn Road).	1,500
3. Fieldwork to confirm preferred pathway route; interpretive sites; location of signs	4,800
4. Consultation (with Council staff, DEC, other stakeholders; etc)	2,400
5. Preparation of simple Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	4,800
6. Allowance for installation of trail directional markers on posts with directional arrows (allow for 30).	4,500
7. Allowance for 330m asphalt path (2.5m wide) – from path in Woodman Point locality (near caravan park) to Cockburn Road.	59,400
8. Road crossing treatment of Cockburn Road (ramps, signage, etc).	2,000
9. Allowance for 720m asphalt path (2.5m wide) - Cockburn Road to existing Lake Coogee path.	129,600
10. Allowance for 5,400m asphalt path (2.5m wide) – from Lake Mt Brown to Tramway Trail (Tramway Reserve near Harry Waring Reserve).	972,000
11. Allowance for installation of trail directional markers on posts with directional arrows (allow for 50).	7,500
12. Allowance for road crossing treatments (signage, etc) at other road crossings (eg. Russell Road; Success Way; Jessie Lee St; Rockingham Road)	10,000
13. Allowance for maze crossing of freight railway.	20,000
14. Install interpretive panels (see separate list). (Allow for 13 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> </ul>	23,400

<ul style="list-style-type: none"> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	
Sub-Total	\$1,250,900
Contingency allowance (10%)	\$125,090
Sub-Total	\$1,375,990
10% GST	\$137,600
<b>Total (including GST)</b>	<b>\$1,513,590</b>

### Project p) – Thomsons Lake Trails

A long lakeside circuit exists already at Thomsons Lake which, although sandy, provides an interesting walk during favourable times of the year.

However, the long walk on a sandy surface would not be well utilised. Due to the size of the reserve and its variety of vegetation, a smaller loop trail is possible – particularly in the NE corner of the reserve which is relatively close to residential development. The existing formed car parking area on Branch Circus is the ideal trailhead for this proposed new loop trail, given its distance from the Russell Road trailhead. The Russell Road trailhead should remain in place for those walkers attracted to the reserve for the longer (existing) Lakeside Circuit.

The project therefore involves using the existing asphalt path (through the Tramway Reserve as far as the Boronia residential estate), a new (short trail) within the Tramway Reserve, a trail following the existing drain and then linking up with the existing Lakeside Circuit to return to the trailhead. [See Plan p].

The project budget includes an allowance for:

- Fieldwork, to determine the most appropriate alignment for the proposed new loop trail.
- An allowance for new trail construction.
- An allowance for (crushed limestone) surfacing of sections of existing tracks and firebreaks.
- Installation of promotional, trailhead and directional signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***



**Cost Estimates for Project p) - Thomsons Lake Trails**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at trailhead on Branch Circus.	3,000
2. Install promotional signage (double-sided) at corner Beeliar Drive / Hammond Road, Hammond Road / Russell Road and Hammond Road / Branch Circus and single-sided fingerboard at "Wedge Road" opposite trailhead parking area.	1,700
3. Fieldwork to confirm preferred trail route; interpretive sites; location of signs.	2,400
4. Consultation (with Council staff, DEC, other stakeholders; etc)	1,200
5. Preparation of simple Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	2,400
6. Allowance for basic trail construction and trail surfacing (500 metres).	10,000
7. Allowance for installation of trail directional markers on posts with directional arrows (allow for 10).	1,500
8. Install interpretive panels (see separate list). (Allow for 10 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	18,000
Sub-Total	\$40,200
Contingency allowance (10%)	\$4,020
Sub-Total	\$44,220
10% GST	\$4,420
<b>Total (including GST)</b>	<b>\$48,640</b>

**Project q) – South Lake Trail**

South Lake has one of the most undeveloped trail networks of any lake/wetland in the Beeliar Lakes Regional Park. Currently, a well-formed crushed limestone vehicle track exists in the NW quadrant, and along some of the eastern side of the lake. DEC advises that further upgrading of existing sandy firebreaks on the western and southern side of the lake (to a crushed limestone standard) is to be undertaken.

Excellent indigenous interpretation has recently been installed at the western entrance to this part of the Regional Park off Bushland Ridge.

A circumferential trail of South Lake is warranted, given its attractiveness.

The project therefore involves fieldwork to determine the most appropriate alignment for a trail route, especially in the NE quadrant, that will complete the loop around South Lake. It is expected that the loop will involve utilising existing tracks and firebreaks through the bushland area, though sections of purpose built trail may be required to link up existing tracks. [See Plan q].

The project budget includes an allowance for:

- Fieldwork, to determine the most appropriate alignment for the proposed new sections of the loop trail.
- An allowance for new trail construction.
- Allowance for development of new trailhead off North Lake Road (to be determined in consultation with DEC);
- An allowance for (crushed limestone) surfacing of sections of existing tracks and firebreaks.
- Installation of promotional, trailhead and directional signage.

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#### **Cost Estimates for Project q) - South Lake Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 2 locations: near interpretive shelter off Bushland Ridge, and on western side near proposed access point from North Lake Road.	6,000
2. Install promotional signage at cnr North Lake Rd / Discovery Dr (double-sided); cnr Discovery Drive / Sustainable Ave (single-sided); cnr Sustainable Ave / Bushland Ridge (single-sided) and fingerboard opposite entrance to trail; and opposite proposed new trailhead off North Lake Road.	2,200
3. Fieldwork to confirm preferred trail route; interpretive sites; location of signs	1,200
4. Consultation (with Council staff, DEC, other stakeholders; etc)	1,200
5. Preparation of simple Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	2,400
6. Allowance for installation of trail directional markers on posts with directional arrows (allow for 10).	1,500
7. Allowance for trail construction and trail surfacing (750 metres). Note: path on western side of lake has been costed in Beeliar Lakes Trail improvements.	15,000
8. Allowance for development of new trailhead off North Lake Road using existing access (management access gate) and limestone road.	20,000
9. Install interpretive panels (see separate list). (Allow for 4 panels: 600mm x 350mm).	7,200

<ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	
Sub-Total	\$56,700
Contingency allowance (10%)	\$5,670
Sub-Total	\$62,370
10% GST	\$6,240
<b>Total (including GST)</b>	<b>\$68,610</b>

### Project r) – Beeliar Lakes Trail

The 1999 Trails Master Plan envisaged a continuous pathway linking the eastern chain of lakes in the Beeliar Regional Park. Most of the pathway is now in place although there are still some significant missing links.

This project involves constructing the missing links (and road crossings) to create a continuous, uninterrupted pathway from the northern boundary of the City of Cockburn (at North Lake) to join the (proposed) Disused Railway Trail at Yangebup Lake and the (proposed) Tramway Trail at Kogolup Lake. [See Plan r].

The project budget includes an allowance for:

- Construction of new paths.
- Road crossing treatments.
- Installation of promotional, trailhead and directional signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project r) - Beeliar Lakes Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 4 locations: car park on Progress Drive at near Farrington Road; at Bibra Lake (main car park on Progress Drive; at proposed trailhead at Yangebup Lake and at car park off Branch Circus).	12,000
2. Install promotional signage (double-sided) at cnr Farrington Rd / Progress Dr; opposite entrance to Bibra Lake car park (trailhead); cnr North Lake Road/Hammond Rd; and (single-sided) fingerboard at cnr Hammond Rd/Parkes St.	1,700
3. Install trail directional markers on posts with directional arrows (allowance for 60).	9,000

4. Road crossing treatment of Hope Road.	600
5. Construct 25m new shared path (2.5m wide) between two existing segments of recently constructed new path (opposite Forrest Rd). (Costed in Bibra Lake Circuit project).	n/a
6. Construct 110m new shared path (2.5m wide) between path junction and Progress Drive.	19,800
7. Road crossing treatment of Progress Drive.	1,200
8. Road crossing treatment of North Lake Road.	8,000
9. Construct 95m new shared path (2.5m wide) between North Lake Road and existing crushed limestone vehicle track within Regional park (South Lake).	17,100
10. Install gate to permit pedestrians and cyclists.	1,000
11. Construct 400m new shared path (2.5m wide) on existing crushed limestone vehicle track.	72,000
12. Construct 90m new shared path (2.5m wide) between southern end of existing crushed limestone vehicle track and (proposed) maze crossing of freight railway.	16,200
13. Install gate to permit pedestrians and cyclists.	1,000
14. Construct maze across freight railway (also forms component of Disused Railway Trail).	20,000
15. Construct 190m shared path (2.5m wide) from freight railway to Little Rush Lake Circuit (trail) (also forms component of Disused Railway Trail)	34,200
16. Construct 570m new shared path on east side of Little Rush Lake - from opposite Omeo St to Osprey Drive (also forms component of Disused Railway Trail)	102,600
17. Construct 650m shared path (2.5m wide) from Yangebup Rd to Beeliar Dr and along Beeliar Dr (north side) to Hammond Rd. (Note: costed in Tramway Trail proposal).	n/a
18. Complete construction of road crossing of Beeliar Dr (ramps, median refuge, signage, etc). (Note: costed in Tramway Trail proposal).	n/a
19. Beeliar Dr to Hammond Road (completed – past college. (Note: costed in Tramway Trail proposal).	n/a
20. Construct 1,300m shared path (2.5m wide) from Hammond Road to Wedge Rd. (Note: costed in Tramway Trail proposal).	n/a
21. Install interpretive panels (see separate list). (Allow for 1 panel: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> </ul>	1,800

• Installation	
Sub-Total	\$318,200
Contingency allowance (10%)	\$31,820
Sub-Total	\$350,020
10% GST	\$35,000
<b>Total (including GST)</b>	<b>\$385,020</b>

### Project s) – Ridge Trail

The Lakes and Ridges Trail proposed in the 1999 Trails Master Plan has been revised to take account of recent and likely future residential and industrial developments and transport infrastructure changes (road and rail).

It is now proposed to concentrate on a Ridge Trail, with a northern terminus at the existing C.Y. O'Connor Beach (which can form a trailhead for several trails) and a southern terminus at Rotary Lookout. Some of the proposed Ridge Trail already exists; much will need to be planned and constructed. [See Plan t].

A pinch point occurs where the trail must cross the freight railway, although sufficient width does exist for pedestrians to cross the railway on the road bridge, between the wire fence and the concrete barriers. An improved surface will be required and the wire fence should be relocated to maximise width for trail users.

The project budget includes an allowance for:

- Fieldwork, to determine the precise location of the proposed new sections of trail.
- Allowance for construction of new trail.
- Various types of signage (promotional; directional; trailhead; interpretive, etc)
- Preparation of a trail development plan (indicating construction requirements).

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project s) - Ridge Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage 2 locations: at CY O'Connor Beach and Rotary Lookout.	6,000
2. Install promotional signage (double-sided) at cnr Cockburn Road / McTaggart Cove; cnr Cockburn Rd / Beach Rd; cnr Beach Rd / Fairview St; and (single-sided) fingerboard opposite trailhead at Rotary Park.	1,700
3. Fieldwork to confirm preferred trail route; interpretive sites; location of signs.	2,400

4. Consultation (with Council staff, DEC, other stakeholders; etc)	1,200
5. Preparation of simple Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	2,400
6. Allowance for trail directional markers on posts with directional arrows (allow for 30).	4,500
7. C.Y. O'Connor Beach Trailhead to Cockburn Road (path already in place along McTaggart Cove).	n/a
8. Road crossing of Cockburn Road (partly in place).	1,000
9. Construct 25m shared path (2.5m wide) along Cockburn Road (to existing crushed limestone trail).	4,500
10. Trail from Cockburn Road to Manning Park already in place (715m).	n/a
11. Trail from Manning Park to western lookout already in place - Davilak Heritage Trail (690m).	n/a
12. Allowance for construction of 90m crushed limestone trail (2.0m wide) from western lookout to trail junction (costed as part of Davilak Heritage Trail extension).	n/a
13. Allowance for construction of 740m crushed limestone trail (2.0m wide) from trail junction to Spearwood Avenue.	14,800
14. Road crossing of Spearwood Avenue.	2,000
15. Allowance for construction of 230m crushed limestone trail (2.0m wide) from Spearwood Avenue to path on north side of freight railway.	4,600
16. Allowance for construction of 80m asphalt path alongside road across railway.	14,400
17. Relocate fencing on abutment to maximise width for walkers.	3,000
18. Allowance for construction of 850m crushed limestone trail (2.0m wide) from railway to Ocean Road.	17,000
19. Road crossing of Ocean Road.	2,000
20. Allowance for construction of 720m crushed limestone trail (2.0m wide) from Ocean Road to Rotary Lookout.	14,400
21. Install sheltered bench seats at locations along trail (allow for 5).	15,000
22. Install interpretive panels (see separate list). (Allow for 3 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	5,400
Sub-Total	\$116,300
Contingency allowance (10%)	\$11,630
Sub-Total	\$127,930

10% GST	\$12,790
<b>Total (including GST)</b>	<b>\$140,720</b>

### Project t) – Tramway Reserve Trail

This project involves the construction of new sections of pathway on or alongside the former Tramway Reserve. Sections of the Tramway Trail already exist and ultimately it is proposed that the Tramway Trail be a long distance shared path extending from the lakes of Cockburn, through the Town of Kwinana and the City of Rockingham. With detailed future planning it may be possible to have a shared path/trail from the Swan River to the Peel Harvey Estuary. The Tramway Trail through the local governments of Cockburn, Kwinana and Rockingham would be a major component of that cross-regional trail. [See Plan t].

It is important to note that the Beeliar Regional Park Management Plan and the Metropolitan Region Scheme both make provision for the Tramway Trail as a major north-south greenway.

The project budget includes an allowance for:

- Construction of several lengthy sections of new trail/pathway.
- Signage.
- Road crossing treatments.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### Cost Estimates for Project t) - Tramway Reserve Trail

Tasks	Costs
1. Install <i>Lakes, Lookouts and Legends</i> trailhead signage at 3 locations: proposed trailhead at Yangebup Lake; Branch Circus trailhead; and the southern end (within City of Cockburn).	9,000
2. Install promotional signage (double-sided) at cnr Beeliar Drive / Hammond Rd; cnr Hammond Rd / Branch Circus; and (single-sided) fingerboard opposite trailhead on Branch Circus.	1,200
3. Install trail directional markers on posts with directional arrows (allow for 30).	4,500
4. Construct 650m shared path (2.5m wide) from Yangebup Rd to Beeliar Dr and along Beeliar Dr (north side) to Hammond Rd (also part of Beeliar Lakes Trail enhancement).	n/a
5. Complete construction of road crossing of Beeliar Dr (ramps, median refuge, signage, etc). (Also part of Beeliar Lakes Trail enhancement).	n/a
6. Beeliar Dr to Hammond Road (completed – past college) (also part of	n/a

Beeliar Lakes Trail enhancement).	
7. Construct 1,300m shared path (2.5m wide) from Hammond Road to Wedge Rd (also part of Beeliar Lakes Trail enhancement).	n/a
8. Wedge Rd to Boronia Estate (completed).	n/a
9. Construct 1,560m shared path (2.5m wide) from Boronia Estate to Russell Road.	280,800
10. Construct road crossing of Russell Rd (ramps, median refuge, signage, etc).	3,000
11. Construct 1,440m shared path (2.5m wide) from Russell Road to Frankland Avenue.	259,200
12. Construct 820m shared path (2.5m wide) from Frankland Avenue to Rowley Road (City of Cockburn southern boundary.	147,600
13. Install interpretive panels (see separate list). (Allow for 4 panels: 600mm x 350mm). <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	7,200
Sub-Total	\$712,500
Contingency allowance (10%)	\$71,250
Sub-Total	\$783,750
10% GST	\$78,370
<b>Total (including GST)</b>	<b>\$862,130</b>

### Project u) – Heritage Drive Trail Project

Given that some preliminary investigations and planning has been undertaken by the South West Group, it is recommended that the City of Cockburn continue to liaise with that organisation to develop the proposed Catalpa Coast Tourist Drive.

In order to ensure that the completed project is every bit as good as other iconic drive trails of Western Australia, such as the Golden Quest Discovery Trail, the City of Cockburn should actively involve itself in the detailed planning and development.

Careful selection of sites within the City of Cockburn should be the responsibility of the City of Cockburn. Council will want to showcase the best and most historic sites and stories of its area.

Developing a world class drive is a specialised task, and the City of Cockburn should make a budget allowance to cover the engagement of an expert to provide ongoing advice and detailed information to the proponents of the Catalpa Coast Tourist Drive.



The range of potential sites for inclusion on the drive trail include:

- Fremantle smelting works
- Robb Jetty abattoir
- South Beach Horse Exercise Area
- South Fremantle Power Station
- Newmarket Hotel
- Pensioner guards
- Market gardens
- Manning Lake / Davilak Homestead / Azelia Ley Homestead (Museum)
- Lime kilns
- Powell's dairy
- Horse Racing Industry - Randwick Stable and house
- Gun emplacement
- C O'Connor Statue
- Coogee Beach and boathouses
- Coogee Hotel and Coogee Post Office
- Clarence townsite
- Explosives magazines
- Woodman Point and quarantine station
- Railway to Woodman Point
- Lighthouse and lighthouse keepers' cottages
- Boat building industry
- Henderson Cliffs
- Mt Brown

The major cost components of this project are the writing and installation of interpretive signage, audio interpretation, directional signposting and the map/trail guide. It is assumed that car parking at many/most of the proposed and potential sites already exist, although this would not be known until a detailed trail development plan is prepared.

Note that no map has been produced for this trail as there will need to be a final determination on which sites would be included.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

**Cost Estimates for Project u) - Heritage Drive Trail Project**

<b>Tasks</b>	<b>Costs</b>
Consultation (with Council staff, local groups, DEC, South West Group, other stakeholders; etc)	\$3,600
Fieldwork to confirm preferred drive trail route and sites; location of signs; preparation of sign log	\$6,000
Preparation of Drive Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	\$12,000
Design of Directional Sign shields	\$1,500
Allowance for supply of directional signage (shields) / posts / brackets (allow for 80 signs)	\$60,000
Installation of directional signage (allow for 80 signs)	\$12,000
Interpretive panels – research, writing, design, manufacture <ul style="list-style-type: none"> <li>○ 2 @ 800mm x 600mm (trailhead)</li> <li>○ 30 @ 600mm x 350mm</li> </ul>	\$60,000
Allowance for installation of Interpretive Panels	\$5,000
Allowance for preparation of Trail Guide Book	\$10,000
Allowance for printing of Trail Guide Book	\$10,000
Allowance for preparation of audio interpretation	\$10,000
Allowance for site infrastructure (tables, etc)	\$50,000
Allowance for project management	\$20,000
Sub-Total	\$260,100
Contingency allowance (10%)	\$26,010
Sub-Total	\$286,110
10% GST	\$28,610
<b>Total (including GST)</b>	<b>\$314,720</b>

**Project v) – Water Trail Project**

Cockburn Sound, and the coastline of Cockburn Sound, contains innumerable historic sites, shipwrecks and history.

Many of the sites and interpretive topics set out in the various land-based trails capture much of this history. Nonetheless, a water based trail catering for canoeists, kayakers and those in bigger vessels can cater for those wishing to discover other elements of the history of the area (and natural features) that can only be observed (or stories that can only be told) on the water.

The major cost components of this project are the fieldwork (on the water) to determine suitable sites for interpretation, writing and installation of interpretive signage, audio interpretation, way finding and the map/trail guide. It is assumed that car parking at water craft launching areas is already available, although this would not be known until a detailed trail development plan is prepared.

Note that no map has been produced for this trail as there will need to be a final determination on which sites would be included.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

#### **Cost Estimates for Project v) - Water Trail Project**

<b>Tasks</b>	<b>Costs</b>
Consultation (with Council staff, local groups, DEC, other stakeholders; etc)	\$3,600
Fieldwork to confirm preferred sites	\$6,000
Preparation of Water Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	\$8,400
Interpretive panels – research, writing, design, manufacture <ul style="list-style-type: none"> <li>○ 2 @ 800mm x 600mm (trailhead)</li> <li>○ 20 @ 600mm x 350mm</li> </ul>	\$42,000
Allowance for installation of (floating) Interpretive Panels	\$5,000
Allowance for preparation of Guide Book	\$10,000
Allowance for printing of Trail Guide Book	\$10,000
Allowance for preparation of audio interpretation	\$10,000
Allowance for site infrastructure (tables, etc)	\$20,000
Allowance for project management	\$20,000
Sub-Total	<b>\$115,000</b>
Contingency allowance (10%)	<b>\$11,500</b>
Sub-Total	<b>\$126,500</b>
10% GST	<b>\$12,650</b>
<b>Total (including GST)</b>	<b>\$139,150</b>

#### **Project w) – Denis De Young Reserve Trail**

This project will involve a number of minor improvements to enhance the experience of trail users. These improvements include the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

#### **Cost Estimates for Project w) - Denis De Young Reserve Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install Lakes, Lookouts and Legends Trailhead signage near hall	\$3000
2. Install promotional signage (double sided) on Liddelow Road	\$500
3. Install interpretive panels (see separate list)(Allow for 5 panels – 600mm x 350mm): <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and Manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	\$11,400
Sub-Total	\$14,900
Contingency allowance (10%)	\$1,490
Sub-Total	\$16,390
10% GST	\$1,640
<b>Total (including GST)</b>	<b>\$18,030</b>

#### **Project x) – Shirley Balla Swamp Reserve Trail**

This project will involve a number of improvements to enhance the experience of trail users. These improvements include, limestone being placed on some existing firebreaks, the installation of directional markers, the installation of interpretation along the trail and trailhead and promotional signage.

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Installation of limestone on some existing firebreaks.
- Construction of pedestrian access ways.

- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### **Cost Estimates for Project x) - Shirley Balla Swamp Reserve Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install Lakes, Lookouts and Legends Trailhead signage (Tapper Rd)	\$3000
2. Install promotional signage (double sided) on Liddelow Road	\$500
3. Crushed limestone placed on highlighted trail	\$35,000
4. Install interpretive panels (see separate list)(Allow for 5 panels – 600mm x 350mm): <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and Manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	\$11,400
Sub-Total	\$49,900
Contingency allowance (10%)	\$4,990
Sub-Total	\$54,890
10% GST	\$5,490
<b>Total (including GST)</b>	<b>\$60,380</b>

### **Project y) – Banksia Eucalypt Woodland Park Trail**

This project will involve a number of improvements to enhance the experience of trail users. The provision of some additional pedestrian access ways in Lyon Reserve, installation of directional signage markers, trail head and provision of additional signage in Lyon Reserve to compliment that which exists in Banksia Eucalypt Woodland Reserve. This latter reserve may also require some trail head signage.

Interpretive subjects for this trail are set out in Section 5.

The project budget includes an allowance for:

- Construction of pedestrian access ways.

- Installation of trailside interpretive panels (involving research, consultation, writing, design, manufacture and installation of panels) and trailhead signage.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

### **Cost Estimates for Project y) - Banksia Eucalypt Woodland Park Trail**

<b>Tasks</b>	<b>Costs</b>
1. Install Lakes, Lookouts and Legends Trailhead signage near Lyon Road/Twilight Mews; and Blue Mountain Circuit.	\$3000
2. Install promotional signage (double sided) near Aubin Grove Link (between Nornalup Close and Vitality Mews);and Cape Le Grand Avenue/Aubin Grove Link.	\$500
3. Install interpretive panels (see separate list)(Allow for 5 panels – 600mm x 350mm): <ul style="list-style-type: none"> <li>• Research and writing</li> <li>• Design and Manufacture</li> <li>• Graphics (photos and drawings)</li> <li>• Installation</li> </ul>	\$11,400
4. Installation of 4 pedestrian access ways incorporating chicanes to prevent motorbike access.	\$24,000
Sub-Total	\$38,900
Contingency allowance (10%)	\$3,890
Sub-Total	\$42,790
10% GST	\$4,279
<b>Total (including GST)</b>	<b>\$47,070</b>

### **3.4 Summary of Project Costs**

In considering all of the cost estimates provided in this section, it must be recognised that these have been provided on the basis that the each job is completed.

***The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.***

The figures have been calculated at expected consultancy and contractors' rates, with no allowances made for volunteer input from partner agencies or other sources.

<b>Project</b>	<b>Project Description</b>	<b>Cost (excluding GST)</b>
a	Davilak Heritage Trail	\$225,450
b	Mt Brown Lookout Trail	\$18,430
c	Henderson Cliffs Trail (Ancient Coastline Track)	\$6,710
d	North Lake Circuit	\$31,850
e	Bibra Lake Circuit	\$42,020
f	Market Gardens Swamp Circuit (North and South)	\$37,400
g	Lake Mt Brown Trail	\$23,320
h	Yangebup Lake Trail 2 (Long Circuit)	\$55,110
i	Little Rush Lake Trail	\$68,370
j	Lake Coogee Trail	\$89,480
k	Kogolup Lake Trail	\$50,540
l	Manning Lake Trail	\$17,160
m	North Coogee Coastal Trail	\$18,320
n	Woodman Point Circuit	\$35,640
o	Coastal Pathway	\$1,375,990
p	Thomsons Lake Trails	\$44,220
q	South Lake Trail	\$62,370
r	Beeliar Lakes Trail	\$350,020
s	Ridge Trail	\$127,930
t	Tramway Reserve Trail	\$783,750
u	Heritage Drive Trail Project	\$286,110
v	Water Trail Project	\$126,500
w	Denis De Young Reserve Trail	\$16,390
x	Shirley Balla Swamp Reserve Trail	\$54,890
y	Lyon Reserve & Banksia Eucalypt Woodland Reserve	\$42,790
<b>Total Cost (excluding GST)</b>		<b>\$3,990,760</b>

## SECTION 4: IMPLEMENTATION PROGRAM

### 4.1 *Timeframe for Implementation*

While an effort has been made to keep this Trails Master Plan straightforward, there are many worthwhile and deserving projects – mainly as a result of a desire to provide facilities for local people.

This Trails Master Plan is project-focussed, as this targeted approach appears the most likely to actually deliver outcomes ‘on the ground’. A range of substantial benefits could be garnered by simply proceeding with any of the projects – these are all simple, stand-alone projects that would deliver tangible benefits to the City of Cockburn – particularly local people.

However, the entire set of trails projects, including the proposed ‘water trail’, should be regarded as a complete package. It is unlikely that any one trail project would be sufficient to attract substantial numbers of new visitors to the City of Cockburn – not that this is the main driver of this project. The provision of a complete package of trail opportunities is far more likely to deliver benefits to the City of Cockburn and its residents. For this reason the Council is recommended to proceed with implementation of all trail projects in a timely manner.

The implementation program is set out over a five-year period. With sufficient funding, all these projects could be brought to fruition in a shorter timeframe, providing skilled and experienced project management is available. On the other hand, the program could be spread out over a longer timeframe (say, 10 -15 years), depending on the availability of funding.

The suggested implementation program is a guide only and would / could be variable given current resources, funding and community interest in any given year. It should be noted that the recommendations for existing trails can be done at anytime in conjunction with new trails, works programs and in-house compilation of brochures.

The good news is that there is an ever-increasing propensity for State and Federal government departments to provide funding for non-motorised transport and tourism projects. Consequently, the total project costs that are included within this Trails Master Plan should not be considered overwhelming. There is generally funding available.

It is noted that DEC also needs to consider a regional parks across both the metropolitan area and the state when prioritising projects and funding.

The highest priority project is considered to be further upgrading and an extension to the Davilak Heritage Trail.

Future funding allocations will also need to be made for ongoing maintenance of the trails once projects are completed. Ongoing maintenance funding has not been considered in the projected costs.



<b>Project</b>	<b>Project Costs (excluding GST)</b>				
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Project a) Davilak Heritage Trail	\$225,450				
Project b) Mt Brown Lookout Trail (DEC)				\$18,430	
Project c) Henderson Cliffs Trail (Ancient Coastline Track) (DEC)			\$6,710		
Project d) North Lake Circuit (DEC)				\$31,850	
Project e) Bibra Lake Circuit	\$42,020				
Project f) Market Gardens Swamp Circuit (North and South)		\$37,400			
Project g) Lake Mt Brown Trail (DEC)				\$23,320	
Project h) Yangebup Lake Trail 2 (Long Circuit)		\$55,110			
Project i) Little Rush Lake Trail		\$68,370			
Project j) Lake Coogee Trail			\$89,480		
Project k) Kogolup Lake Trail (DEC)				\$50,540	
Project l) Manning Lake Trail	\$17,160				
Project m) North Coogee Coastal Trail	\$18,320				
Project n) Woodman Point Circuit (DEC)		\$35,640			
Project o) Coastal Pathway (DEC & COC)					\$1,375,990
Project p) Thomsons Lake				\$44,220	

Trails (DEC)					
Project q) South Lake Trail (DEC)				\$62,370	
Project r) Beeliar Lakes Trail (DEC & COC)					\$350,020
Project s) Ridge Trail			\$127,930		
Project t) Tramway Reserve Trail (DEC & COC)					\$783,750
Project u) Heritage Drive Trail Project				\$286,110	
Project v) Water Trail Project				\$126,500	
Project w) Denis De Young Reserve Trail		\$16,390			
Project x) Shirley Balla Swamp Reserve Trail (DEC)		\$54,890			
Project y) Lyon Reserve & Banksia Woodland Reserve Trail		\$42,790			
<b>Totals (not including GST)</b>	<b>\$302,950</b>	<b>\$310,590</b>	<b>\$224,120</b>	<b>\$643,340</b>	<b>\$2,509,760</b>

*Note: Depending on the success or otherwise of attracting funding for the Trails Program, this development program may be extended over a longer period.*

## 4.2 Trails Marketing and Promotion Plan

One of the best mechanisms for ensuring the sustainability of the trails is to have lots of people using them, including local residents and visitors to the area from elsewhere in the Perth metropolitan region. Four key steps need to be taken to build usage of the trails:

1. Undertake the trail upgrading and construction program outlined in this report, to develop the trails as a high-quality experience for potential users;
2. Install high quality interpretive material as set out in this report;
3. Prepare a clear, concise, informative brochure(s) or booklet, including an easy to read map;
4. Inform potential trail users of the existence of the trails, and their recent development.

An important task for this project is defining just how to best utilise the City of Cockburn's natural and built assets to create a series of walk and cycle trails (and the proposed coastal Drive Trail and Water Trail) which will be of lasting benefit to the community.

The City of Cockburn is a place rich in European history, indigenous history and natural heritage. The integrity of the heritage places must be maintained (and interpreted), and doing so will ensure the quality of experience expected by those who visit. For a project such as this to succeed it is crucial that the very sites chosen to support the trails are not degraded (in fact, they should rather be upgraded, as a consequence of this project), and that quality of experience becomes the primary focus of the trails.

Therefore, a trail potentially provides a visitor with a community-based interactive means of experiencing aspects of the settlement history from the perspective of the community, and the indigenous population. The essence of the trails product is to provide visitors with an opportunity to learn more about the local or regional area they are visiting and an opportunity to provide an economic and social base for regional tourism development.

In order to maximise usage of the City of Cockburn Trails Network (when completed) it is necessary to ensure that tourists (visitors to the area and those passing through en route to some other destination) and local people know of their existence. To facilitate this usage, a marketing and promotional campaign is proposed.

The purpose of the marketing and promotional campaign is to create awareness of the attractions of the City of Cockburn, and the means of accessing them via the trails. It will generate local support and enthusiasm for the project, as well as generating state-wide promotional coverage of the project through local and state media and the formation of partnership opportunities through networking.

As outlined earlier, it is recommended that some catchy slogan be developed and to this end it is recommended that the slogan **Lakes, Lookouts and Legends – The Trails of Cockburn** be adopted to 'position' the trails in the market place.

Several components are included within the Marketing Plan.

**Develop logo and design standards** - Develop comprehensive brief, select designers - produce colour and mono output versions of logo plus style manual

**Market Planning and Target Marketing** - Engage marketing consultants to provide phone linked mentoring assistance (40 hrs @ \$100 hr). Engage marketing consultant to work with local implementation group / tourism operators to review existing tourism products and market test trails concepts (20 hrs @ \$150 hr). Develop a 12-month promotional program to promote trails and other facilities, including targeted advertising, listing of websites, briefing and information distribution to information to linked visitor information outlets, publicity program to niche and mainstream print and radio media.

**Membership Fees** - Establish links with visitor's centres and WA Tourism Network through payment of appropriate memberships

**Industry Familiarisation Program** - Develop familiarisation program for tourism industry network eg local visitor centres, WATC, RAC, media

**Postcard Promotion** - design, print and distribute postcards promoting the trails to local residents targeting visiting friends and relatives market

**Brochure Distribution** - contract specialist brochure distribution firm/s for targeted brochure delivery to key information outlets throughout WA.

### Cost Estimates for Marketing and Promotion Plan

Tasks	Costs
Develop logo and design standards	\$6,000
Market Planning and Target Marketing	
o Marketing consultants – phone mentoring assistance	\$4,000
o Marketing consultants – review existing products; market test trails	\$3,000
o Promotional program	\$12,000
Membership Fees	\$3,000
Industry Familiarisation Program	\$5,000
Postcard Promotion	\$3,000
Brochure / Trail Guide Distribution	\$5,000
Trails “Guide Book”: research, write and design; cartography; preparation (DL size; 20 pages including fold out map and cover pages)	\$6,000
Printing of Trail Guide Book	\$8,000
Sub-Total	\$55,000
10% GST	\$5,500
<b>Total (including GST)</b>	<b>\$60,500</b>

### 4.3 Information Brochure / Booklet

All trail users require information, to safely access and enjoy the trails in question. Delivering that information is often a challenge for trail providers, and is commonly one poorly met.

Ideally all trails should have a brochure that will contain an accurate and informative map, showing clearly the various routes that are possible, defined access and egress points, appropriate trail behaviour information and interpretive material. In addition

such a map/brochure should show distances between points, and could provide basic 'trail notes' where appropriate.

Preparing such a brochure or booklet involves choosing a vital (but sometimes tricky) point on a spectrum between a glossy advertising products and a dreary and/or amateurish give-away. Information must be clear, concise, accurate, interesting and enjoyable. Good design can help produce a visually pleasing and educational product that will still fulfil its primary role of providing essential route-related information. Aesthetics should never be allowed to overwhelm the provision of vital information such as distances, warnings (road crossings, other users, etc) and directions.

Distributing such a product can be difficult. Visitors to the trailhead may not even be aware that a brochure exists. Consideration should be given to distributing brochures from many locations in the region such as the Council offices, the Council's libraries and community centres, café's, and other shops, DEC's offices, tourist bureaux and - possibly - from dispensers at the trailheads.

Several other mechanisms exist for wider distribution (or just to raise awareness of the brochure/trail) via stories in local newspapers circulating in the region and the wider Perth metropolitan region, tourist bureaux and equipment suppliers.

When trails are developed and available for use, the recommended approach is to devise a 'package' of trail information – a small booklet that contains maps and other information about the complete set of trails (walk and drive) that are available in the City of Cockburn.

A brochure(s) or booklet should be professionally prepared and designed, and should be printed in an attractive format, pleasing to the eye yet still simple to read. It should have the following features:

- A clear concise map, with distances, scale bar, north point and other annotations;
- Trail notes, describing key points along the way and relating them to distances and directions;
- Background information about the City of Cockburn, the history of farming in the area, aboriginal history and early European exploration and settlement, other features of the region, the heritage buildings, and the trails themselves;
- Educational information about trail usage, safety and etiquette;
- Some interpretive information about culture, history, geography and environmental matters;
- Information about management and maintenance, including phone numbers for reporting any trail related matters;
- Emergency contact details and directions;

- Clear indication of routes to and from the trail head and parking areas, and guidance on do's and don'ts regarding usage;

In summary, the brochure or booklet **MUST** be professional. It should be articulate, enjoyable to read, easy to follow, informative, educational and should inspire confidence in being able to follow each trail route. It is the primary point of contact with trail users and should be at least as good as the trail itself. There is no more certain way of condemning the trail to an uncertain future than by producing a sub-standard brochure/map.

There are many fine examples of trails booklets available, and the booklet prepared for the suite of trails to be developed in the City of Cockburn should be modelled on the best of those available.

#### ***4.4 Availability of Trail Information and Promotion***

Access to information describing the location of existing trails is surprisingly difficult in many places in Australia. In most locations, a multitude of organisations, both government and local government, and community groups that manage the natural areas and parks within a local government (and surrounding local government areas) makes the accessibility of pertinent information complex.

For most people, land management boundaries are meaningless and irrelevant. One area of open space appears much the same (from a user perspective) as the next. The community does not discern any difference between management agencies. Therefore, when attempting to acquire information, the community would assume that whatever trails information is available would be readily accessible at many outlets. Usually, information about trails is difficult to obtain.

It was noted with interest that there were no trail brochures for any existing trail within the City of Cockburn (apart from a very old Davilak Heritage Trail brochure) - and no promotional signage for any of the trails.

A priority action would be to establish a centralised location for the distribution and dissemination of trail information for the City of Cockburn. All trails related brochures and leaflets (when prepared) should be made available at least in one location – preferably more. Potential trail users should not be expected to travel all over the City of Cockburn seeking the information they desire – just because different management agencies look after different areas of the natural environment and the trails therein.

#### ***4.5 Mapping of Trails***

An essential requirement of any trail is appropriate and adequate mapping – for use both on trailhead signs and promotional material (including brochures and web sites).

Maps provide a quick visual representation of the trail route – indicating primarily the route of the trail, the destination, whether it is out and back, or a loop.

Good mapping will contain an array of information, including:

- access roads from nearby towns (and distances)
- north point and scale bar
- trailhead location
- trailhead facilities (eg. parking, picnic tables, toilets, barbecues, etc)
- difficulty level (easy; moderate; difficult; disabled)
- length and duration (and direction of travel if one-way loop)
- points of interest along the trail, including geographical features
- symbols indicating location of interpretive panels (if any)
- other information if relevant and appropriate, such as crossroads, cross tracks, trailside furniture (seats, shelters, lookouts), viewpoints, emergency (fire) escape routes, etc.

## **SECTION 5: INTERPRETATION AND INTERPRETIVE SIGNAGE**

### ***5.1 Interpretation Signage on Trails***

Interpretation is the key to the success or failure of many trails. Trails can be regarded as merely the vehicle for telling stories - for educating and entertaining people. For the business of delivering 'edu-tainment'.

On-trail interpretation is becoming more and more of a feature of trails built in recent times. When done well, interpretive signage can add significantly to the richness and depth of the user's experience. It can also generate a sizeable cost, and can be subject to ongoing vandalism in rural and remote areas. Care will need to be taken in a base-line decision about what on-trail interpretation is provided, and in choosing a style of signage with a reputation for withstanding both graffiti and vandalism. Anodised aluminium may be a good option, as it is sturdy and enables easy graffiti removal. All interpretation signage within any of the Regional Parks must also be in keeping with the DEC Perth's Regional Parks Sign System and Brand Images Manual and be considerate of Disability Access and Inclusion Principles.

The unique and varied flora, fauna and landscape of the City of Cockburn, its indigenous history, its settlement history, historic and contemporary agricultural enterprises, and characters of the area (past and present) are just a few of the themes that could be developed along the trails.

The quality of interpretation is often the key to the success - or failure - of trail projects. While some trails can rely upon the natural beauty for attracting visitors, most trails rely heavily on good quality interpretation to be successful and well used.

Interpretation reveals the meanings and relationships of our cultural and natural heritage to visitors, through first hand experiences with objects, artefacts, landscapes, and sites. Every aspect of our heritage has a story to be told. Heritage interpretation tells the tales of the land, past activities and land uses, its people, animals and plants, and in the telling, helps people form connections with our heritage. The history of various agricultural pursuits (market gardening, etc) in the City of Cockburn, and the successive waves of people who have lived and/or worked in the area, have a vast multitude of stories waiting to be told.

Visitors want to learn, see, and do! They travel to heritage sites and tourist areas for a mix of memorable educational experiences that are at the same time fun or entertaining - in short, they want "edu-tainment".

What will make the trails of City of Cockburn popular attractions will be the quality of the interpretive material, and the manner in which that interpretive material is presented and delivered. The trail interpretive material will encourage interaction and immersion, thus providing a far more rewarding learning experience.

Specialist interpretation consultants can be engaged to undertake the necessary research, consultation, writing and design of the panels, and to arrange manufacturing and delivery.

## ***5.2 Recommended Interpretation***

A range of stakeholders will be consulted in relation to the interpretive signage for each trail. Stakeholders may include, but not necessarily be limited to, the following groups: DEC, Department of Sport and Recreation, Department of Transport, Regional Park Community Advisory Groups, Heritage Council and Aboriginal Reference Groups.

The following are just some ideas of subjects that could be interpreted along each of the recommended trails. The proposed budget for each trail project has an allowance for the necessary research and consultation to arrive at an agreed set of topics for interpretation along each trail. The following are merely 'thought starters'.

### ***5.2.1 Davilak Heritage Trail***

Lucius Manning, in the transcripts of two interviews which are held in the Fremantle library, describes the following (any of which could form the basis of numerous interpretive panels along the trail and/or around Manning Lake):

- Bush fire destroying Davilak in the 60's;
- Ship wrecks: Orizaba, Carlisle Castle



- Explanation of the name Davilak
- Owen Anchorage during the gold rush
- Tent Town
- Horses, "the only way to get about"
- The Davilak phaeton
- The Darac car
- Building a road from the gate to Davilak House
- Breeding horses for the army in India (Indian Remounts)
- Squatters on Manning land
- The cellars and observatory at Manning Hall
- Explanation of the name Mannings Folly
- Division of fathers estate
- Bricks as ballast
- Bushfires at Davilak
- Aborigines camp near Devils Lake (Davilak)
- The gardens at Davilak
- Fate of Davilak
- The well
- The Old Farm
- The building of Davilak Road
- Death of father
- Owen Anchorage
- Shipwrecks on the beach
- Escaped prisoners
- Convicts
- Staff at Davilak
- Issuing rations to the Aborigines
- Description of Davilak
- Chain gangs

***Western lookout:***

- Islands and their early exploration: Dutch ships Leeuwin 1622, Gulden Zeepaerd 1627. French ships Gros Ventre 1772, Astrolabe 1826.
- Early Dutch and French names for sites. Garden Island – Ile Buache, Carnac Island – Ile Berthellet
- Garden Island chosen by Stirling as site of temporary settlement
- Town of Clarence (Woodman Point)- 169 settlers on the Gilmore commanded by Thomas Peel arrived at Cockburn Sound
- Ship, the Leda- 1830 commanded by George Robb. (His representative Sidney Smith) Established Robb's Farm in Hamilton Hill
- Current land usage/industry of area in view
- Directional dial: Current buildings in view; prominent landmarks (including

islands)

### ***Eastern lookout:***

- Manning Family / Davilak Lake / Davilak Homestead / Azelia Ley Homestead / subdivision of original property into smaller lots
- Hamilton Hill - the first successful settlement
- Directional dial: prominent landmarks
- The lake system (including Manning Lake and others in the Beeliar Regional Park)
- Indigenous interpretation: Beeliar district – name of the district between the Canning River and the northern extremity of the Murray River Aboriginal lands. Beeliar Aborigines were the local sub-group of the Wadjuk dialect group.

### ***5.2.2 Mt Brown Lookout Trail***

- Unexploded ordnance and military history of the region
- Flora and fauna of the area (x2)
- Birds of the area: bird identification panels (x2)
- Indigenous interpretation: Creation of Garden Island (Meandip) - “The crocodile Meandip came here and the Noongar said,” This is the Noongar land and we don’t want you here – you are a bad man- you’ve got to go back to your land”. But the crocodile said, “I’m not leaving.” And so the Noongar decided they would call on the Waugal to help them. The Waugal said he would fight Meandip and the winner would keep the land. And so they fought all the way round the mouth of the Swan River to Cockburn Sound where Garden Island is. Now the Waugal got the better of Meandip, put a foot on him, pulled a whisker out of his face and tied him up. And when you look at the island from up high to the SE, you can see the white cliffs (his teeth), the knob (his crown) and then there’s the rest of Meandip’s shape. That’s how garden Island got its aboriginal name – Meandip.”

### ***5.2.3 Henderson Cliffs Trail (Ancient Coastline Track)***

- Formation of the cliffs; coastline advance and recession; formation of offshore islands.

### ***5.2.4 North Lake Circuit***

- Flora and fauna of area/lake (x3)
- Indigenous interpretation: Aboriginal mythology and beliefs: inhabited by Waugal who maintains the flow of the springs that feed them.
- Indigenous interpretation: Semi-permanent camping ground and source of turtle and wildfowl. (NE edge and S shore of Bibra Lake)

- Indigenous interpretation: Used for ceremonial activities and firestick stories.
- Indigenous interpretation: Some parts of Bibra and North lake were for men only (including for initiation).
- Birds of the lake: bird identification panels (particularly at proposed bird hide).

#### **5.2.5 Bibra Lake Circuit**

- Previous name - Walliabup. Then named after Von Bibra who had a market garden in 1843.
- Chinese market gardens bordering the lake.
- Origins of the Norfolk Island Pine trees (1900 John Dixon planted 2) – on Municipal Inventory.
- Other early residents of the area.
- Meller House near Bibra Lake (on Municipal Inventory)
- Indigenous interpretation: Aboriginal Fringe Camps - associated with working on farms and cutting timber bean poles for market gardeners
- Indigenous interpretation: limestone pinnacles near Adventure World - rainmaking site
- Birds of the lake: bird identification panels (in old bird hide and at hide on refurbished boardwalk and bird hide) (x4).

#### **5.2.6 Market Gardens Swamp Circuit**

- Market gardens – vegetables and fruit. Olive oil. South Coogee (1890's), Spearwood, Hamilton Hill (by 1930). Chinese and European.
- Various panels outlining the history of the more significant families/names associated with market gardening of the region (as evidenced by the street names).
- Birds of the swamps: bird identification panels (at proposed bird hides and viewing platforms) (x4).

#### **5.2.7 Lake Mt Brown Trail**

- Birds of the lake: bird identification panels (in proposed new bird hide on boardwalk)
- Aboriginal mythology and beliefs.

#### **5.2.8 Yangebup Lake Trail 2**

- Note: some interpretation already exists around trail.
- Flora and fauna of area/lake (x2).
- Aboriginal mythology and beliefs.

### **5.2.9 Little Rush Lake Trail**

- Note: some interpretation already exists around trail.
- Aboriginal mythology and beliefs

### **5.2.10 Lake Coogee Trail**

- Pensioner Guards (In the 1880's they established a community around Lake Coogee. Village did not survive)
- Limestone Well, Stone Ruins – Lake Coogee (on Municipal Inventory)
- Adjoining industry
- Birds of the lake: bird identification panels (in bird hide) (x2)
- Fringing vegetation of the lake
- Tuart trees (on Municipal Inventory)
- Indigenous interpretation: Creation Myth for Lake Coogee and Western Chain of Cockburn Wetlands and Limestone Ridge – “A Sparrow and a Hawk flew into the round hole in the earth where the moon rested during the day. This hole is located in the vicinity of North lake. The two birds stole fire from the moon in the form of a fire stick. They flew along the limestone ridge near the ocean. The bush caught fire. The moon called his uncle, the ocean to help. The ocean rose and extinguished the fire. Nyungars were drowned and the lakes in the area were formed, including Lake Coogee.”

### **5.2.11 Kogolup Lake Trail**

- Flora and fauna of area/lake (x2)
- Birds of the lake: bird identification panels (x2)
- Indigenous interpretation: Fishing and Hunting in the lakes - Aborigines watched the pelicans to see how they line up and swim to drive the fish in front of them. Noongars did the same thing to drive the fish into shallow water and then spear them.
- Indigenous interpretation: Building of traps in the reeds to catch ducks.
- Indigenous interpretation: Using hollow reeds as snorkels and swim under water towards the duck and then grab it.

### **5.2.12 Manning Lake Trail**

- The Aboriginal name for the lake was Dgilgie's.
- The word 'Davilak' is believed to be a combination of 'Devil's Lake' and 'Davies Lake'. Devil's Lake refers to the local Aboriginal people's belief that devils haunted the lake after dark, and Davies was a hermit who frequented the area around the lake.
- Duck shooting on the swamps and lakes around Davilak
- Birds of the lake: bird identification panels (x2).

**5.2.13 North Coogee Coastal Trail**

- Life and times of CY O'Connor – his greatest achievements (x 3).
- The suicide of CY O'Connor C.Y. O'Connor statue (on Municipal Inventory).

**5.2.14 Woodman Point Circuit**

- None recommended (upon advice of DEC).

**5.2.15 Coastal Pathway**

- Fremantle Smelting Works 1901 - beginning of industrial age of Cockburn
- Explosives manufacture for mining - Near Robb Jetty in sand hills
- Moreton Bay Fig trees – near Robb Jetty Abattoir (on Municipal Inventory)
- South Beach Horse Exercise Area - since 1833
- Robb Jetty abattoir - “The Kimberley Ring” – companies that held large pastoral properties
- Horse Racing Industry - Randwick Stable and house; est 1923 by the Marks family. Blacksmiths, saddlers hundreds of horses and stables throughout the area
- Cattle Plague: 1922-1923
- Robb Jetty Chimney (on Municipal Inventory)
- South Fremantle Power Station
- Coogee Hotel and Post Office
- Lime kilns along the coast
- Lighthouse and lighthouse keepers' cottages.
- Indigenous interpretation: Robb Jetty Camp - in the sand hills to the south of South Beach.

**5.2.16 Thomsons Lake Trails**

- Flora and fauna of area/lake (x4).
- Aboriginal mythology and beliefs.
- Birds of the lake: bird identification panels (x2)
- Panels identifying the variety of vegetation types (especially in NE quadrant, including paperbarks).

**5.2.17 South Lake Trail**

- Note: significant Indigenous interpretation already.
- Flora and fauna of area/lake (x2)
- Birds of the lake: bird identification panels (x2).

**5.2.18 Beeliar Lakes Trail**

- Indigenous interpretation: Beeliar Pad – joined chains of wetlands and waterways. Part of an Aboriginal track or pad from the Swan River to the Murray River, which passed from Fremantle, through North Lake and Bibra Lake and the chain of freshwater lakes leading to Mandurah. A pad led also from this N/S track west to the present Rockingham area. Used for travelling and camping.
- Note: Trail will encompass segments of other trails, and therefore interpretation associated with other trails.

**5.2.19 Ridge Trail**

- Indigenous interpretation: Creation of Cockburn Sound and Rottnest, Carnac and Garden Islands - 2 stories:
- 1. “These once formed part of the mainland, however the Waugal caused the ground to split asunder with great noise and the sea rushed in between, leaving the islands as they are today.”
- 2. “The islands once formed part of the mainland and the intervening ground was thickly covered with trees, which took fire in some unaccountable way, and burned with such intensity that the ground split asunder with a great noise and the sea rushed in between, cutting off the islands from the mainland.”
- Indigenous interpretation: The Sea - The Aborigines along the whole line of western coast believe that when the body dies, the spirit goes away westward through the sea to some country far away, and that there the spirit lives in much the same manner as it has lived when in the flesh.

**5.2.20 Tramway Reserve Trail**

- The Peel Estate.
- The extent and duration of the tramway.
- The reasons for the development of the tramway.
- Earliest pioneers of the area and early settlers.
- Note: Trail will encompass segments of other trails, and therefore interpretation associated with other trails.

**5.2.21 Drive Trail and Water Trail**

- See section 7.

**5.2.22 Denis De Young Trail**

- Flora and fauna of area/lake.

- Reserve name detail.
- Trotting and Pony Club Complex.

#### **5.2.23 Shirley Balla Swamp Reserve Trail**

- Flora and fauna of area/lake.
- Reserve name detail.

#### **5.2.24 Banksia Eucalypt Woodland Reserve Trail**

- Flora and fauna of area and wetlands.
- Reserve name detail.
- Birds of the wetland.

## **SECTION 6: TRAIL DEVELOPMENT CONSIDERATIONS**

### **6.1 General Considerations**

The following information is provided as a backdrop for the trails construction and upgrading program described elsewhere in this Trails Master Plan. It is intended to give a framework against which to measure recommendations made regarding the construction / upgrading of the trails. Each section addresses a key area, and provides information relating to the parameters used in assessing requirements.

#### **6.1.1 General Considerations for Sustainable Trails**

This section of the Report addresses a series of matters relating to trail design and development – to achieve trails (and paths) that are constructed with minimal disturbance to the natural environment, are sustainable and that require minimal maintenance.

In general, the following general design and location considerations should be taken into account before and during construction of any trail or path:

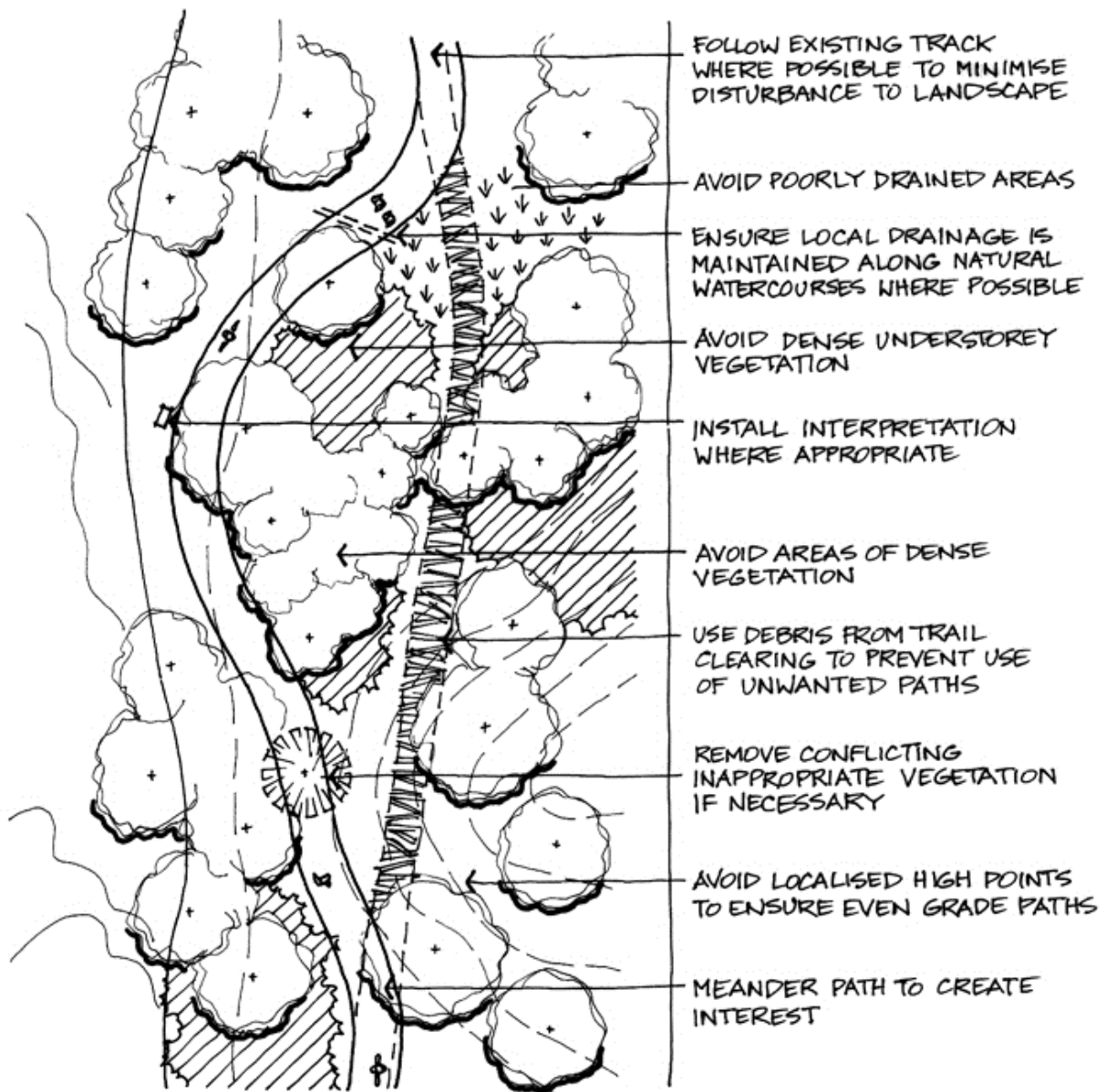
- ❖ Following existing tracks/trails where possible to minimise disturbance to the landscape.
- ❖ Avoiding poorly drained areas.
- ❖ Ensuring local drainage is maintained along natural watercourses where possible.
- ❖ Avoiding dense understorey where possible.

- ❖ Avoiding areas of dense vegetation that may require heavy clearing.
- ❖ Avoiding environmentally sensitive areas (eg. areas of endangered flora).
- ❖ Using debris from trail clearing to prevent use of unwanted paths.
- ❖ Removing conflicting inappropriate vegetation if necessary and as approved.
- ❖ Avoiding localised high points to ensure even path grades.
- ❖ Avoiding long straight sections with long steady grades. Trail to meander to take advantage of natural and man-made features and to create interest.
- ❖ Avoiding areas with high erosion potential.
- ❖ Locating path near to points of interest.
- ❖ Taking note of safety hazards and avoiding where possible.

Careful examination of aerial photography, supported by extensive on-the-ground verification, will enable the best possible routes of proposed trails to be selected that maximises use of already-disturbed locations and that minimises the need for clearing of vegetation. The budget for proposed trails (or extensions to existing trails) includes an allowance for additional fieldwork to confirm trail routes, and selection of suitable sites for interpretive panels and trailside furniture (and road crossings).

Effective drainage will be essential along the proposed trails. Nothing is more devastating to a trail surface than extensive use in wet, boggy conditions. Such use in wet periods on unstable areas may loosen the trail subsurface and will create an ongoing maintenance problem.





### TRAIL ALIGNMENT GUIDELINES

Similarly, allowing water to flow down a trail without creating 'run-off' opportunities is quite clearly going to produce erosion problems. Siting of the (proposed) trail routes on higher (level) ground has been an aim.

Choosing appropriate materials for the trail's sub-base and topping (surface layer) is critical to the longevity and suitability of the trail for the intended user groups.

Culverts and other drainage controls (steps and water bars) should be used to direct run-off away from the trails where needed. It should be noted that some slope is desirable on shared-use trails. A perfectly level trail will hold water (ponding), creating mud holes which then become maintenance problems.

### 6.1.2 Trail Width and Height

Walk trails in the locations proposed should have a maximum trail width of 1.5 metres on those sections where purpose-built trail is required. In some sections however, the surface will be wider, as it will follow existing vehicle tracks.

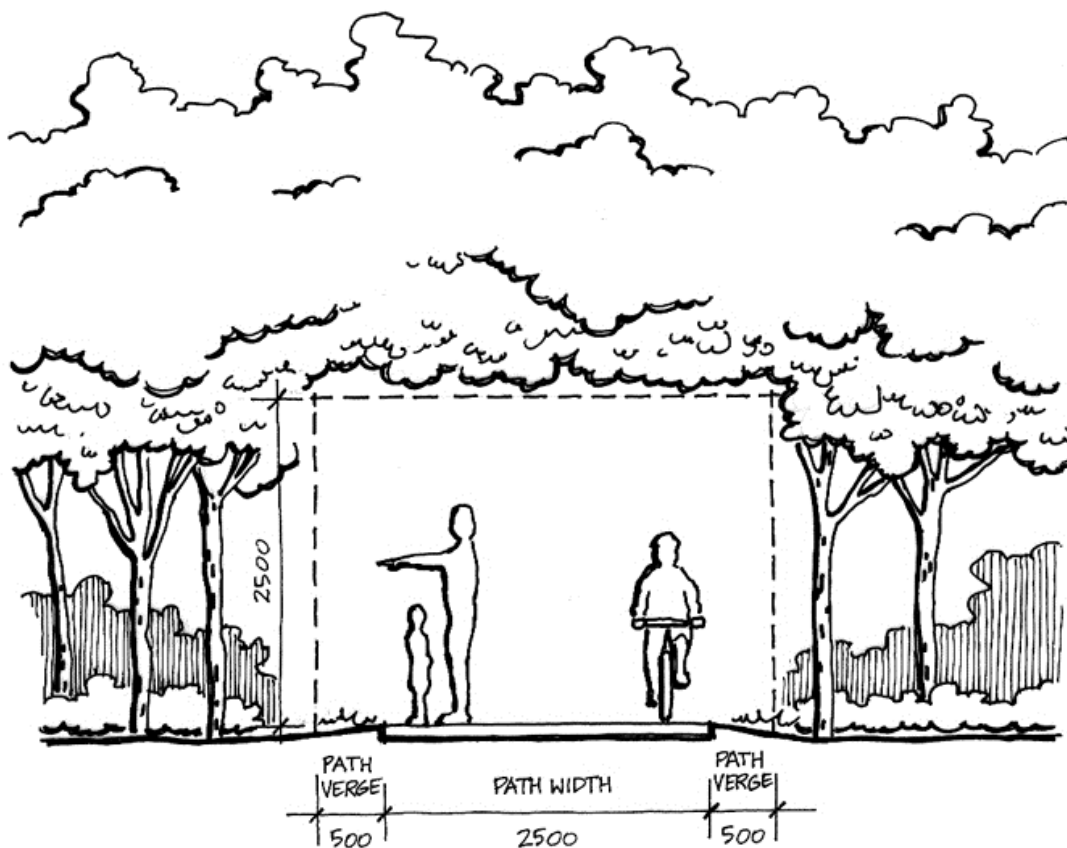
On some sections of new purpose-built walk trail, there is an opportunity to provide a more intimate experience by reducing the trail width to around 1.0 to 1.2 metres. The expected lower usage levels will mean fewer opportunities for conflicts to occur between users.

On trails only to be used only for walking (where cycling and mountain biking are to be excluded) height clearance should be around 2.5 metres. Pruning of overhanging branches should occur where necessary to enable safe passage without the need for stooping under branches.

To function effectively, shared-use trails should have a minimum trail width of 2.5 metres – this is the recommended minimum width for shared use paths as set out in Austroads' *Guide to Traffic Engineering Practice – Part 14 – Bicycles*.



Quality construction, such as these rock steps on the Golden View Trail in Kalamunda, is the hallmark of a quality trail.



Maintaining consistency of width is important – particularly when cyclists are likely to be the main user group using a trail or pathway.

It is important to ensure that the entire trail is available for a wide range of users (including people with disabilities, parents with prams, etc) rather than having the trail solely for able-bodied walkers.

People in wheelchairs and cyclists need ample space to pass each other without having to divert off a path or trail.

### **6.1.3 Trail Surface Material**

A smooth natural earth surface (or crushed limestone) is most appropriate for the proposed walk trails in the City of Cockburn. In some cases, the existing earth surface should be firm enough in locations to provide pleasant walking conditions, and should be pleasing to the eye of walkers.

Some short sections of existing trails require additional fill material, especially where the trail alignment is steep and is subject to erosion. These areas are not extensive.

A smooth compacted surface is most appropriate for shared-use trails. The surface should be firm enough to provide cyclists with a relatively smooth ride, and free of potholes and undulations.

It is noted that the preferred surface material for existing trails is crushed limestone. For many of the proposed trails, the preferred trail surfacing material is crushed limestone.

### **6.1.4 Erosion Control and Water Crossings**

Proper drainage is of considerable importance in constructing a lasting, maintenance-free facility. Water should be removed from trail surfaces as fast as possible, wherever possible. The steepness of some of the trails and the type of soil dictate individual site requirements for the frequency of draining water from the trail.

## **6.2 Safety Considerations**

The most significant safety issue is that which relates to possible conflicts between different types of trail users – legal and illegal - for example, walkers and trail bikes or 4WD's, or cyclists and walkers. Effective signage will greatly limit this potential problem. An allowance has been made in the budget for some of the trails for additional signage to minimise conflict between user groups.

### **6.2.1 Road Crossings**

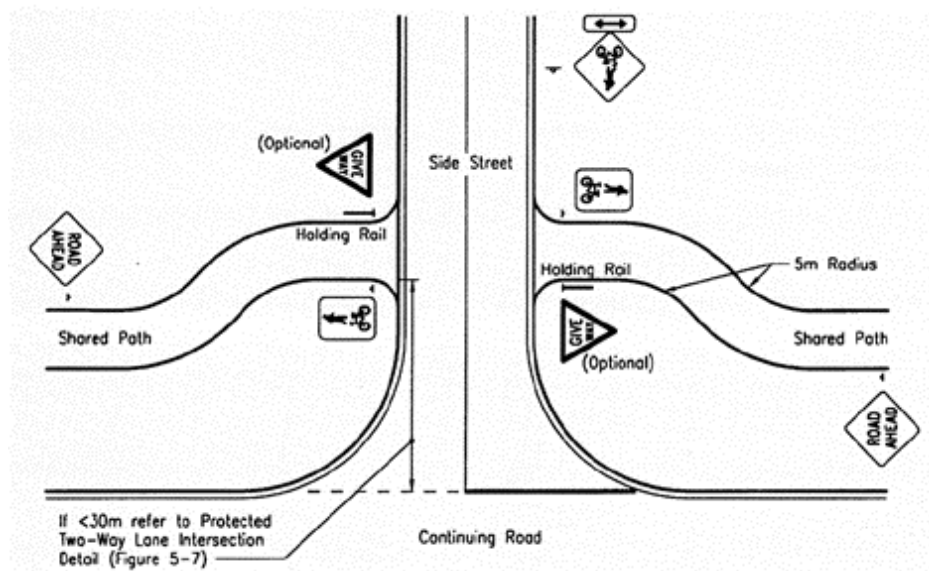
Road / trail crossings always present a special hazard which must be addressed carefully. A crossing should have enough space cleared and levelled on both sides of

the road to allow trail users travelling together to gather in a group and cross *en masse*.

One-at-a-time crossing greatly increases the overall time in the roadway and therefore increases the likelihood of encountering a vehicle. The crossing should ideally be at a straight, level area allowing both trail user and vehicle driver good visibility and the driver ample stopping distance (if possible).

Signs required to create safe road crossing are outlined in the next section of this report. The trail should be clearly marked on each side of the road for easy recognition and the crossing be designed to move the trail user away from the road reserve as quickly as possible. If at all possible the trail should not slope down - or up - to the road. Such slopes elevate danger levels considerably.

Conformity with road crossing detail as specified in *Austrroads Guide to Traffic Engineering Practice - Pt 14 - Bicycles* is essential. (See diagrams).



**Intersection of Shared Path and Road – Preferred Treatment (Minor Crossing)** Source: *Austrroads Guide to Traffic Engineering Practice – Pt 14 – Bicycles: Figure 6-35 Page 97*

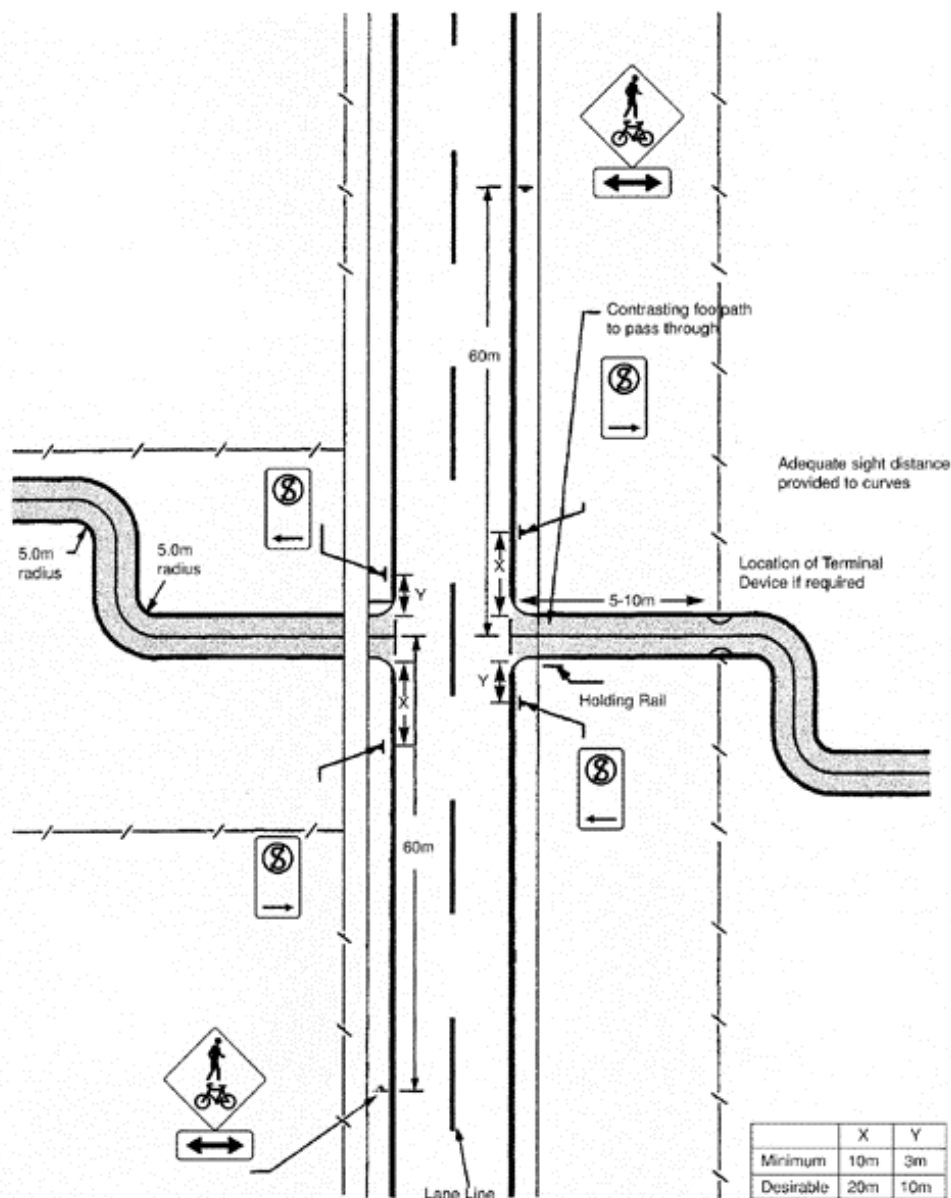
### 6.3 Signage

Signage is another important facet of the City of Cockburn trails network where improvements could occur. During fieldwork it was noted that few directional markers exist along trails, and trailhead signage was basic – if present at all. No ‘promotional’ signs exist.

Several kinds of signage are required on trails including distance, directional, warning, promotional, etiquette and interpretive signs. All signage installed within the regional parks will be in accordance with the relevant DEC Sign System and Brand Images Manual. Ideally trail signage should be standardised across the City of Cockburn, regardless of management agency however this can be impractical if

different agencies decide to upgrade signage. The City is fortunate as both the DEC and the City's signage styles are very similar and complement each other. Signage should also accord with relevant local or Australian 'standards' or practices.

It is noted however that excess signage may not compliment the natural surroundings and may distract trail users from noting the natural surroundings. The City will endeavour to reach a balance between the numbers of signs while maintaining a natural experience for trail users.



### Preferred Treatment of Road/Path Intersection (*Major Crossing*)

Source: Austroads Guide to Traffic Engineering Practice – Pt 14 – Bicycles:  
Figure 6-29 Page 93

It is recommended that trails in the City of Cockburn have a consistent colour scheme and consistent and uniform suite of logos (with a logo unique to each trail). The use of distinctive trail markers and colour scheme is important throughout the City of Cockburn, to engender a sense of uniqueness. The recent finalisation of the City's signage style guide will ensure this consistency.

The extent of directional signage will depend on the target market – the more 'rugged' the trail, the less the need for trail markers, but the more important it is to have clear information at the trail-head (warning of trail conditions, length, duration, etc).

Trail markers need to be placed at regular intervals along each route – and particularly at corners and junctions. The spacing and location of these markers will depend on the local factors, and intended user groups. A unique colour scheme could/should be considered. The trail markers should have a distinguishing symbol or logo.

### **6.3.1 Directional Signage**

Trail markers need to be placed at regular intervals along all trails – particularly at corners and junctions. As the proposed trails within the City of Cockburn will attract a large number of novice (inexperienced) walkers and visitors unfamiliar with the area, it is considered appropriate to install markers at closer intervals than would normally be the case. It is recommended that directional markers be placed on treated pine post totems every 200-400 metres. The pine posts should be 125-150mm diameter, 1.5 metres in length, and buried 600mm in the ground. At these recommended spacing's they should be clearly visible in the near distance and minimise confusion and uncertainty. The standard colour scheme is black on a yellow triangle, but given the uniqueness of some of the localities a situation-specific colour scheme should be considered. The trail markers should have a distinguishing symbol.

Markers are usually not required along straight sections of trail as the trail is usually clear and obvious, but given the fact that the Cockburn trails will attract entry-level trail users, it is recommended that additional trail and directional markers be used to assist these users.

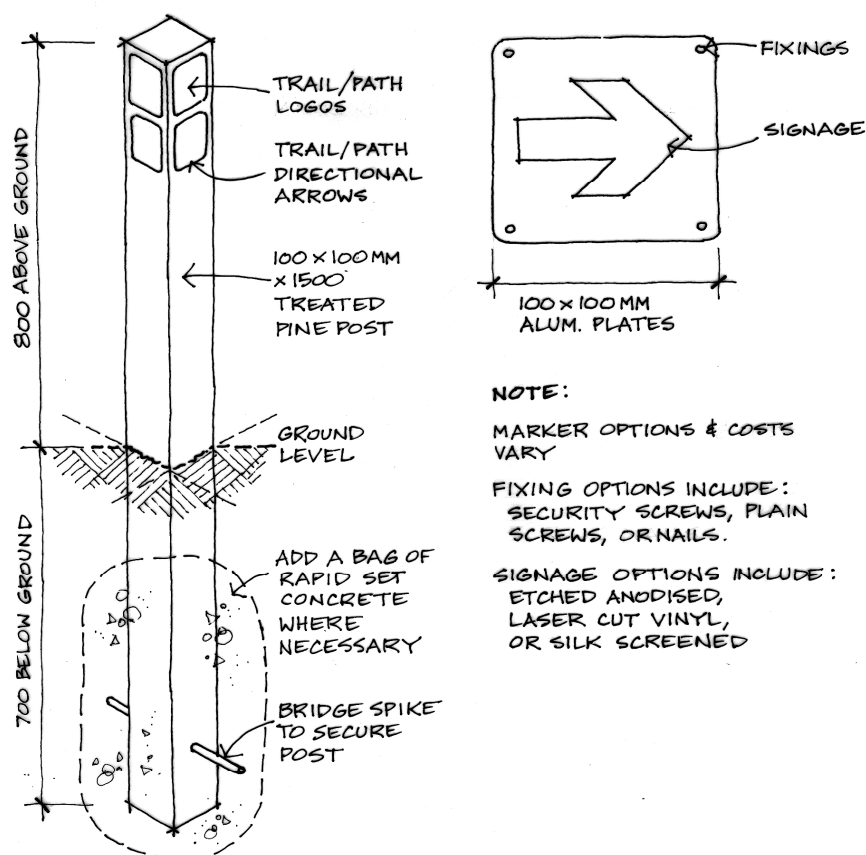
The use of a higher number of directional trail markers will result in even the most inexperienced of users feeling confident that they can remain on track. The City will endeavour to reach a balance between the numbers of signs while maintaining a natural experience for trail users.

Markers should be either vertical (straight ahead) or horizontal (turn here). They must be affixed with at least 2 nails (on pine posts) to prevent them being turned or removed by vandals. Alternatively, the direction markers could be affixed with glue/silastic. Direction markers should be a triangle, made of aluminium, not less than 1.6mm thick, 80mm wide at the base, and 110mm high.





The Guildford Heritage Trails are an excellent model for how walk trails should be developed. They feature interpretive panels (left photo) for each 'site' along the trails, and excellent directional markers (right photo) for each of the trails.



#### NOTE:

MARKER OPTIONS & COSTS VARY

FIXING OPTIONS INCLUDE:  
SECURITY SCREWS, PLAIN SCREWS, OR NAILS.

SIGNAGE OPTIONS INCLUDE:  
ETCHED ANODISED,  
LASER CUT VINYL,  
OR SILK SCREENED

#### TRAIL/PATHWAY DIRECTIONAL SIGNAGE



### 6.3.2 Promotional Signage

Though the location of some of the trail locations are quite likely familiar to local people and regular or frequent visitors to the area, it is recommended that a 'promotional' sign be erected at nearby (major) intersections to give prominence to the trails. The installation of "Daviak Heritage Trail" (for example) signs on Rockingham Road and Hamilton Rd will make motorists and other road users more aware of the trail, hopefully inducing greater attention and enquiry when driving through the area. This style of promotional signage has been used to great effect on the Bibbulmun Track and the Railway Reserve Heritage Trail. The proposed signage should be constructed as a 1200mm x 250mm x 3mm aluminium panel (painted both sides).

The aluminium panel should be constructed with a 10mm 'lip' to provide greater strength. The sign should bear the name of the trail - and have the recommended logo - on both sides.

It should be mounted on 100mm – 150mm treated pine posts approx. 1 metre out of the ground. The actual posts would be either 1.5 or 1.8 metre long, thus having 600 - 800 mm in the ground. The sign would be placed in a slot cut in the top of the posts, and security bolted through the post.

An alternative is to have a Tourist Attraction type sign (white lettering on brown sign, with chevron arrow) – see example sign below.



*Promotional signage should be installed to alert road users to the presence of a trail. The Railway Reserve Heritage Trail (left photo) in Mundaring illustrates best practice. The use of 'chevron' signs (right photo) is another well recognised way of informing road users of the presence of an historic or scenic site.*

### 6.3.3 Interpretive Signage

A wide range of materials are used for interpretive panels across Australia. These vary substantially in terms of longevity/hardiness and price. Simply put, the cheaper the panel the more prone it is likely to be to vandalism and the shorter the period that it will retain its full original 'colour' and therefore its aesthetic appeal. Experience in

many locations has shown that vandals and the weather can combine to make life difficult for interpretive panels, and can quickly erode the investment made by the host organisation.

If interpretive panels are to last – and are to still be looking good in 5 – 10 years time, they will necessarily be from the more expensive end of the spectrum.

One particular panel material (and manufacturing process) is recommended – especially in locations such as the City of Cockburn that are going to be exposed to a high potential for vandalism because of the isolated and remote nature of some of the existing and proposed trails.

Architectural-grade etched anodised aluminium panels retain their high-quality aesthetics into the 10 year (and beyond) time-frame – regardless of weather. Further, this material / process has the greatest resistance to vandalism (paint, ink, pen, felt pens, scratching, impact damage etc) of any known option on the Australian market.

Not surprisingly, this grade of etched anodised aluminium is at the more expensive end of the range, and can cost up to double some of the cheaper options. Further, only one manufacturer (Armsign Pty Ltd, Lismore, NSW) produces these panels. It is important to note that other manufacturers produce ‘photo-anodised aluminium’ panels (generally at a cheaper rate) – but this is NOT the same process and does not produce the same quality or longevity.

While this ‘monopoly’ may lead to concerns about inflated prices, it has been found that Armsign are genuinely committed to a competitive approach, knowing that their panels are always being compared with cheaper processes. This ensures that their quotes give good value-for-money, despite the lack of direct competition. Many clients do not understand the (significant) differences between various aluminium-based panels and therefore apply continuing pressure to Armsign’s costing regime.



*All trails included within the Great Short Walks of Tasmania have a unique and eye catching trailhead signage system. Upon arriving at the trailhead, trail users have the knowledge that they are in for a quality experience, as these trails have been selected because they meet some stringent qualification criteria to be included in the program. Something similar is envisaged for the trails in Cockburn*

#### **6.4 Trailheads and Parking**

Given that the much of the usage of the trails is likely to come from visitors to the region from elsewhere in the City of Cockburn and elsewhere in the Perth metropolitan region, a formal ‘trailhead’ is vitally important to give trail users a defined starting and ending point. It is valuable to have a defined location for a large interpretive / information / mapping display, from which all

directions and distances are taken, and to which users from further away can be directed.

Trailheads should generally have ample places for parking of cars (and tour buses if desirable), picnic tables, and trailhead signage.

An excellent model for the City of Cockburn to follow is that from the *Great Short Walks* program of Tasmania. All 60 trails included have been selected on the basis of their scenic appeal, quality construction, interpretation and other signage. Each of the 60 trails feature a standard eye-catching trailhead sign, which has information about the trail, as well as a map of the trail route. The map panel also gives basic information about the trail including distance and difficulty rating.

## SECTION 7: LINKS BETWEEN TRAILS – DRIVE TRAILS

### 7.1 Drive Trails and Heritage Tourism

The research and investigations carried out in the preparation of this Trails Master Plan reveals that a heritage drive trail along the coast of the City of Cockburn is a feasible proposition and justified, given the wealth of heritage (both natural and built) that exists throughout the area.

The brief for this project asked for:

*“An outline of a heritage interpretation trail for the coastal areas from Fremantle to Rockingham including a boat based trail with reference to the heritage of Cockburn Sound and Garden and Carnac Islands. This sub project to be modelled upon the Golden Quest Discovery Trail”.*

The Golden Quest Discovery Trail is a heritage based drive trail in the eastern goldfields of Western Australia. The trail is 965 kilometres long. Features of the trail are:

- 25 ‘sites’ featuring an important place or natural area of the region (gold mine, hotel, cemetery, lone grave, transport infrastructure, wood lines, creeks, etc.);
- Provision of interpretive panels at each of the 25 sites;
- “Map” panels at selected locations enabling trail users to easily navigate their way around the trail;
- Directional signposting, again enabling trail users to easily navigate their way around the trail;
- A 161 page full-colour guidebook, with additional stories and photographs to enhance the experience, as well as trail maps for each section of the trail (indicating places of interest and interpretive sites);

- 2 CD's included within the guidebook, with audio tracks to be played between sites providing historical information and entertainment with a humorous slant; and
- A web site, providing information about the trail.

Given the City of Cockburn's rich and colourful history, its importance in the tanning, power production, market gardening, boat building and numerous other industries of Western Australia, the development of additional trail (and outdoor) activities in City of Cockburn will serve to attract and keep tourists longer.

This Trails Master Plan has concluded that a heritage drive trail, linking existing and proposed trails and other attractions and heritage sites of the City, can be designed to deliver significant economic and social benefits to the communities of the City of Cockburn – as well as delivering additional tourist attractions for visitors.

It is recommended that the City of Cockburn work with adjoining local governments to plan and develop a heritage drive trail, similar in concept to the Golden Quest Discovery Trail, thereby showcasing what the City (and its neighbouring local governments) has to offer in the way of built and natural heritage.

The range of possible sites (or subjects of interpretation) on the drive trail would include:

- Fremantle smelting works
- Robb Jetty abattoir
- South Beach Horse Exercise Area
- South Fremantle Power Station
- Newmarket Hotel
- Pensioner guards
- Market gardens
- Manning Lake / Davilak Homestead / Azelia Ley Homestead (museum)
- Lime kilns
- Powell's dairy
- Horse Racing Industry - Randwick Stable and house
- Gun emplacement
- C O'Connor Statue
- Coogee Beach and boathouses
- Coogee Hotel and Coogee Post Office
- Clarence townsite
- Explosives magazines
- Woodman Point and quarantine station

- Railway to Woodman Point
- Lighthouse and lighthouse keeper's cottages
- Boat building industry
- Henderson Cliffs
- Mt Brown

During the course of preparing this Trails Master Plan, it was discovered that the some work had been done by the South West Group to develop a South West Corridor Coastal Drive – the Catalpa Coast Tourist Drive. That project envisages a drive trail between Fremantle and Mandurah.

Sites listed in the document (within the City of Cockburn) are:

- Newmarket Hotel
- Port Coogee
- Coogee Beach, Post Office and hotel
- Woodman Point
- Jervois Bay Boat Harbour
- Beeliar Regional Park
- Henderson limestone cliffs and lookout
- Challenger Beach

If properly and thoroughly planned, the drive trail will cater for the majority of visitors – as it would provide a quality experience.

If motorists chose to stop at each of the designated sites along the drive trail, read the interpretation which should be provided, and experience walk trails (where available), visitors could easily fill in a complete day with interesting activities, thereby keeping visitors in the region longer.

The drive trail, if implemented, would enable visitors to the City of Cockburn (and the neighbouring local governments) to discover the natural and human history of the region. The project should also focus on the natural environment.

As is the case with the Golden Quest Discovery Trail, the proposed drive trail is an excellent the perfect 'vehicle' for delivering interpretation of the many facets of life and industry in the region. Each of the stopping places along the drive trail route should have an interpretive panel, and all panels should include information relevant to, and consistent with, an overall theme.





*The suggested heritage drive trail along the coast between Fremantle and Rockingham should include interpretive panels at selected sites (similar to those on the Golden Quest Discovery Trail – left photo). Directional signage will also be required – such as along the Golden Quest Discovery Trail (right photo).*

The task ahead is for the City of Cockburn to work with the South West Group to develop a detailed project plan, similar in style to the Golden Quest Discovery Trail. The trail, when complete, should consist of:

- A series of well presented stopping places (ie. ‘sites’);
- Interpretive panels (or interpretation – not necessarily a static panel, could be rusty steel cut-outs);
- A trail guide (brochure or guide book);
- Audio interpretation (CD’s or audio files downloadable onto MP3 player);
- Directional signage; and
- A web site.

## **7.2 Water Trail**

Given the tremendous history that exists on the land along the coast and on and under the water, between Fremantle and Mandurah, it should be possible to develop a water-based heritage trail – similar in concept to a drive trail.

A water trail is similar to a land-based trail in that it has a route with access points. The overall philosophy taken in planning a water trail is to take users on a “treasure hunt”, rather than just a list of places to stop and look at things of interest. Navigating

on a water body (a lake, a creek or along a coastline) and “finding all the treasures” can bring a sense of achievement.

A water trail will likely attract attention from canoeists, kayakers, as well as motorised fishing and pleasure craft.

As Cockburn Sound contains a number of islands, and wrecks, the type and number of sites available to users of a water trail will vary from those to be experienced on the drive trail.

There are a number of design elements common to drive trails and water trails – these are:

- signage – directional, promotional, and interpretive (at landing points and trailheads);
- trail furniture (at landing points); and
- trailheads and parking.

The budget limitations of this project have not enabled a comprehensive and detailed examination of the potential for a water trail to be undertaken.

It is recommended therefore that the City of Cockburn give consideration to the preparation of a detailed water trail development plan, which would include:

- Feasibility of the water trail;
- Assessment of potential users;
- Research into history of the Cockburn Sound area;
- Selection of potential sites;
- Development of potential interpretive information;
- Consideration of wayfinding and navigational issues; and
- Assessment of likely ‘trailheads’ and landing areas.

## SECTION 8: RESOURCES AND FUNDING OPPORTUNITIES

### 8.1 Introduction

This Section provides a detailed list of potential funding sources – from all level of Government, corporate sponsors, community-government programs such as Green Corps and the use of community volunteers such as Conservation Volunteers Australia.

Resourcing trail construction and promotion programs can be challenging, as can resourcing ongoing maintenance requirements. It must be recognised that a Trails Master Plan such as this, and the individual projects it contains, are an investment in the future. Well planned and built, well interpreted and appropriately promoted, the trail projects will bring tourists and money into the City of Cockburn. They will stimulate the creation of jobs, and will significantly assist in the conservation and preservation of heritage (natural and cultural) throughout this area. The trail projects outlined will also benefit local communities in a range of ways already elucidated.

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*Trail projects should be seen to be a valid and valuable investment for the City of Cockburn. They will deliver a wide range of tangible benefits, many of which service areas of great and obvious need.*

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A range of sources of funds and other resources are currently available, and some of the better known are summarised below. This list should NOT be taken to be full and final, as there are no doubt other sources not shown.

### 8.2 Funding Programs

#### 8.2.1 Department of Resources, Energy and Tourism TQAL Grants

TQUAL Grants is a competitive merit-based funding program aimed at stimulating sustainable growth in the Australian tourism industry. It does this by supporting innovative, high-quality tourism products that contribute to the long-term economic development of Australia. Through TQUAL Grants, the Australian Government has redesigned the program formerly known as the Australian Tourism Development Program to better position the Australian tourism industry in a highly competitive market.

There are three categories of funding, each with separate eligibility requirements, evaluation criteria and funding requirements.

##### Category 1

Category 1 grants of between \$5,000 and \$100,000 for Innovative Tourism Projects. Category 1 projects should aim to stimulate the development of innovative tourism product, service(s) or system(s).



### Category 2

Category 2 grants of between \$100,000 and \$500,000 for Integrated Tourism Development Projects. Category 2 projects should aim to enhance the overall tourism appeal of a large area by encouraging inter-regional collaboration to achieve greater tourism benefits. Projects funded under this category will be large scale, collaborative, multi-faceted activities that involve a number of regions.

### Category 3

Category 3—grants of between \$25,000 and \$500,000 for National or Sectoral Tourism Initiatives.

For more information about the T-QUAL Grants program:  
[www.ret.gov.au/tourism/business/tq/tgrants](http://www.ret.gov.au/tourism/business/tq/tgrants)

## **8.2.2 Indigenous Heritage Programme**

The Federal Government Department of Sustainability, Environment, Water, Population and Communities Australian Government offer the Indigenous Heritage Grant Programme. This programme is an ongoing competitive annual grants program which provides \$3.645 million to support the identification, conservation, and promotion of heritage places important to Aboriginal and Torres Strait Islander people.

Projects funded through the Indigenous Heritage Program include conservation works at heritage sites such as rock art sites and mission buildings identification surveys, production of conservation management plans for Indigenous heritage places, installation of interpretive signage, recording traditional knowledge of sites using video, audio and GPS technology, establishing a keeping place for sacred objects, database establishment, and educational museum displays.

Incorporated organisations can apply for projects up to \$100,000 (GST exclusive). Individual applicants will generally be eligible for funding up to \$10,000. Applications for larger amounts may be considered where the applicant demonstrates special circumstances or a genuine requirement for additional funds. Eligible organisations may also apply for triennial funding up to \$250,000 (GST exclusive) through one application, but with annual reporting on outcomes. The Indigenous Heritage Program Guide for Applicants provides details on funding conditions.

Further information:

[www.environment.gov.au/heritage/programs/ihp](http://www.environment.gov.au/heritage/programs/ihp)

### 8.2.3 Department of Sport and Recreation – Lotterywest Trails Grant Program

The Department of Sport and Recreation (DSR) have partnered with Lotterywest to deliver the Lotterywest Trails Grant program since 1997. The program offers a range of grant categories for funding including trail planning, construction, upgrades and promotion and marketing. Grants are not available for trail maintenance.

The program offers small grants (\$1–\$15,000) and large grants (\$15,001–\$100,000 maximum).

Organisations applying for a Large Grant are required to provide a matching \$1 for \$1 contribution.

Applicants are required to discuss their proposals with DSR staff to ensure their project is eligible for grant assistance. Consultation with DSR will form part of the assessment of every application.

Applications are available from the Lotterywest website.

[www.lotterywest.wa.gov.au/grants/grant-types/heritage-and-conservation/interpretation](http://www.lotterywest.wa.gov.au/grants/grant-types/heritage-and-conservation/interpretation)

Further Information:

Recreation Development Leader  
246 Vincent Street, LEEDERVILLE WA 6007  
PO Box 329, LEEDERVILLE WA 6903  
Telephone (08) 9492 9732  
Facsimile (08) 9492 9711

Web: [www.dsr.wa.gov.au/trailsfunding](http://www.dsr.wa.gov.au/trailsfunding)

### 8.2.4 Lotterywest – Interpreting Cultural Heritage Grants

Grants are provided by Lotterywest to explain and help us to understand our past.

Interpretation is a means of communicating ideas and feelings, which help people to understand more about themselves and their environment. (Interpretation Australia Association)

These grants can be applied for to support the creation and installation of signage, at a heritage site or trail

Separate applications can be made for discrete parts of a project in different years.

The preparation of Interpretation plans is strongly encouraged.

Further information and applications can be found on the Lotterywest website:

[www.lotterywest.wa.gov.au/grants/grant-types/heritage-and-conservation/interpretation](http://www.lotterywest.wa.gov.au/grants/grant-types/heritage-and-conservation/interpretation)

### **8.2.5 Department of Culture and Arts.**

The Department of Culture and Arts runs several grant programs, including an Indigenous Arts Program.

There are two funding categories, Development and also Distribution and Marketing.

**Development:** This category is open to Aboriginal and Torres Strait Islander artists, groups or organisations working in all eligible art forms for projects that involved the exploration of new ideas, the development of new skills, the creation of new work or the recreation or reinterpretation of traditional or customary practices or cultural expression.

**Distribution and Marketing:** This category is open to Aboriginal and Torres Strait Islander artists, groups or organisations working in all eligible art forms and facilitates the distribution of an existing WA arts activity, event or product to new audiences locally, interstate, and/or internationally.

The Development category would likely be the most applicable to interpretive signage creation and installation.

Further information:

Department of Culture and Arts  
PO Box 8349  
Perth Business Centre WA 6849  
Telephone (08) 6552 7300

Web: [www.dca.wa.gov.au](http://www.dca.wa.gov.au)

### **8.2.6 City of Cockburn Contributions**

Many of the grant programs available for trail projects require matching contributions, and it is recommended that the City of Cockburn make an annual budget allocation each year to support cash and/or in-kind contributions for the trail initiatives set out in this Trails Master Plan.

### **8.2.7 Corporate Sponsors**

Sponsorship is big business – and very competitive. Two main options exist: either negotiate with local corporate entities which have a geographical and social

connection with the area, or go after the ‘big’ players for big projects. Many large companies have formalised sponsorship programs.

Funding for trail development has been received from a number of major (and minor, local) companies. Sums of up to \$100,000 can be gained, if benefits can be proven. Any company with an operation within the region would appear to be a potential sponsor.

For example, within the City of Cockburn there exist several potential corporate sponsors (such as Cockburn Cement and various major boat builders).

### **8.2.8 Green Corps**

Federally funded “Young Australians for the Environment” program. A ‘major project’ provides a host partner agency with 10 ‘trainees’ and a supervisor for 14 weeks within a 26-week program. All materials, tools and technical supervision to be provided, as is accommodation and some other basic requirements.

### **8.2.9 Volunteers**

Often the last thought-of resource – but often the most effective. Many trails are only built – and then kept alive – by volunteer input. Either establish a specific local ‘Trail Volunteers’ or ‘Friends of...’ group, or tap into existing community organisations such as service clubs, progress associations, schools, scouts etc.

### **8.2.10 Conservation Volunteers Australia (CVA)**

The Trust provides small crews of volunteers, with a supervisor, to undertake environmental activities. Teams of between five and eight people work for one to two weeks. CVA imposes an administration fee. Materials, tools and technical supervision need to be provided by the host agency. CVA have been involved in trails project elsewhere in Australia.

### **8.2.11 Prison crews**

Crews of minimum-security inmates have worked extensively in trail construction in Western Australia in the last ten years. This has proven a hugely beneficial program - to host agencies, to the Ministry of Justice and to the inmates themselves. A prison officer and transport is usually provided, but materials, tools, and technical supervision are required. In addition the Ministry may require host agencies to cover the Ministry’s costs (staff etc).

### **8.2.12 Department of Environment and Conservation**

DEC is an obvious potential partner for trails within the City of Cockburn that are located within, or pass through the Beeliar Regional Park. While outright sums of cash may not be available, DEC staff are likely to offer in-kind assistance in the determination of trails routes, etc. DEC should be intimately involved in the detailed planning for trails within the Regional Park, as well as the proposed interpretation that will be installed at trailheads and along trails in that area.

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## APPENDIX 1 – PLANS