



**Macedon
Ranges**
Shire Council

Master Plan

Gisborne Botanic Gardens

October 2017



Prepared by:

Michael Smith and Associates

Landscape Architecture and Urban Design

Office: 1st Floor, 407 Whitehorse Road, Balwyn, 3103

Postal: 5 Jervis Street, Camberwell, 3124

Tel: (03) 9830 0414

Mobile: 0418 172 863

Fax: (03) 9830 2555

Email: mike@msalandurb.com.au

FOR MACEDON RANGES SHIRE COUNCIL

October 2017

ACKNOWLEDGMENT OF COUNTRY

We acknowledge that Macedon Ranges Shire Council is on Dja Dja Wurrung, Taungurung and Wurundjeri Country whose ancestors and their descendants are the traditional owners of this Country. We acknowledge that they have been custodians for many centuries and continue to perform age old ceremonies of celebration, initiation and renewal. We acknowledge their living culture and their unique role in the life of this region."

ACKNOWLEDGMENTS

The consultant team acknowledge the support and input of Macedon Ranges Shire Council officers and staff and the Friends of the Gisborne Botanic Gardens.

In particular we wish to acknowledge the contributions by:

- Scott Gilchrist, Parks Coordinator (Macedon Ranges Shire Council)
- Lisa Ryan, Senior Team Leader Horticulture (Macedon Ranges Shire Council)
- Justin Lee, Team Leader Parks and Garden (Macedon Ranges Shire Council)
- Meagan Kiss, Parks and Garden staff (Macedon Ranges Shire Council)
- Amanda Gauci, President Friends of the Gisborne Botanic Gardens

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EXECUTIVE SUMMARY

The Master Plan's Vision and recommendation focus is on Gondwana and Macedon Ranges Shire plant species and providing features that make it more attractive and accessible to the community. As there are three botanic gardens in the Macedon Ranges Shire, the two others being the Malmsbury Botanic Gardens and Kyneton Botanic Gardens, creating a point of difference to distinguish the Gisborne Botanic Gardens is a high priority.

In November 2016, Michael Smith and Associates Landscape Architecture and Urban Design were appointed by Macedon Ranges Shire Council to prepare the Master Plan for the Gisborne Botanic Gardens.

In developing the 2017 Master Plan, consideration has been given to the strengths, weaknesses and opportunities inherent in the Gisborne Botanic Gardens as indicated through consultation with Council staff, stakeholders groups, the Friends of the Gisborne Botanic Gardens and members of the community. The Master Plan will provide a guide for future improvement, development, management, operation and programming / activation for the gardens for at least the next 5 years.

The last Concept Plan for the Gisborne Botanic Gardens was prepared by Environmental Design Group in 1994. An unofficial Master Plan was also prepared by the Friends of the Gisborne Botanic Gardens in 2015. These were not adopted by Council.

Vision

To establish a destination botanic gardens with a diverse plant collection that demonstrates sustainable practices

To improve the amenity, infrastructure and facilities commensurate with the expectation of a regional botanic gardens

Master Plan Recommendations

Below is the summary of the master plan recommendations.

Infrastructure

- Install additional seats, particularly within shaded areas. Seats have to have back rests and arm supports. Allow a space beside each seat for a wheelchair/scooter to park.
- Install additional picnic tables. All picnic tables should be wheelchair/scooter accessible.
- Design and install additional wayfinding signage. Signs to be placed at a suitable height to allow reading from a wheelchair. Signage is to be graphically clear.
- Provide additional car park spaces with designated accessible spaces and bus parking along Robertson Street.
- Provide a pedestrian entrance or at least a visual presence for the gardens at Robertson Street. This is a longer term strategy.
- Install additional sculptures and artworks within the gardens. Potential to engage local artisans.
- Improve the presentation legibility and sense of arrival to the western entrance of the gardens. This includes removal of hedge vegetation to create more visual exposure.

Trees and Landscaping

- Incorporate plants that are representative of the broader Gondwana supercontinent based on the Recommended Plant Zones Plan.
- Add plants that are representative of the EVCs of the Macedon Ranges including riparian, forest and woodland species (indigenous species) based on the Recommended Plant Zones Plan.
- Incorporate additional Australian native plants based on the Recommended Plant Zones Plan. This can be as specimen trees and as massed / group plantings.
- Provide both exotic and native shade trees in selected areas of the gardens based on the Recommended Plant Zones Plan keeping with Gondwana theme.
- Provide plant labels to at least each representative species in the gardens. Signage to be in large font to assist people with visual impairments.

- Install signage / features to raise awareness regarding threatened, rare and significant flora within the Macedon Ranges.
- Design and construct 'bog areas' in two of the low lying sections of the gardens. This will have to reflect the ephemeral pondages.
- Re-profile some shallow surface depressions to redirect water away from some grassed areas during heavy rain events.

Maintenance and Policies

- Consider increasing staff times in the maintenance and assisting in the establishment of the gardens, as a regional resource. Current staffing levels in maintenance is considered low.
- Review the current Council policy for allowing dogs on lead within the gardens.
- Encourage involvement from local schools and the Gisborne Garden Club in projects, activities and appropriate events in the gardens. Projects to be agreed upon and supervised.
- Improve irrigation for a more sustainable use of water and labour within the gardens. Undertake an intensive audit of the current water supply to determine the best options available.
- Consider opportunities to relocate the Tane Mahuta sculpture within the gardens.
- Any maintenance works by the Friends Group, i.e. pruning, plant removal and planting, etc., must be communicated to and approved by Council prior to commencement of works.

INTRODUCTION

The regional town of Gisborne is located in northwest Victoria, approximately 55 kilometres from Melbourne. The resident population in 2011 was estimated at 8,700.

The relationship of Gisborne in Australia and Gisborne, New Zealand started in the 1970's. The Maori word for Gisborne is Tairawhiti, which means the coast on which the sun shines across the water. Gisborne, a city of approximately 30,000 people, is the first city in New Zealand that receives the morning sun rise.

The Gisborne Botanic Gardens is one of three botanic gardens within the Macedon Ranges Shire (along with Malmsbury and Kyneton Botanic Gardens) and is approximately six hectares in size bounded by Jacksons Creek to the east, south and west and a residential estate on Frith Road to the north. Two pedestrian bridges connect the gardens to the municipal offices to the west and the second to the Jacksons Creek Reserve to the east.

The Gisborne Botanic Gardens Master Plan aims to guide the development, management, operation and programming of the botanic gardens for at least the next 15 years. The area covered by the Master Plan includes the entire area bounded by the Frith Road residential area to the north and Jacksons Creek to the east, south and west. The interface to surrounding areas such as the existing adventure playspace to the east, the residential areas to the north, Jacksons Creek and the town centre were considered.

Project Aims

The following Aims and Objectives for the development of a Master Plan for the Gisborne Botanic Gardens.

- Council was approached by the Friends of Gisborne Botanic Gardens requesting that a Master Plan be developed based on the plan developed by the Friends Of Gisborne Botanic Gardens (FoGBG).
- Assist Council officers in ensuring future projects that have been identified for the Gardens are included in the Master Plan.
- Preparation of a concept plan for new pathways, park furniture signage, bollards, public art and planting. In this the gardens are distinctly different to an urban park in their management and operation.

- Embrace the geographic and cultural history, plant consideration, educational roles and partnership with Gisborne on New Zealand's North Island.
- Preparation of a schedule of works for the implementation of the Plan. Provide prioritised steps to guide the continuing management and improvement of the Gardens.
- Establish the framework for an annual review and maintenance of the Gardens.
- Aim to increase site visitation from horticultural enthusiasts, educational groups, schools, tertiary colleges, tourists and the broader community.
- Provide guidelines and actions to enhance sustainability in terms of the site opportunities i.e. drainage systems, WSUD treatments/solutions, microclimates including climate change effects and balance of nature to particularly Gondwana plant genera.
- Through the Friends Group, Council and the consultation and engagement outreach to the broader community the significance and point of difference the Gardens have to other Victorian Provincial Botanic Gardens. Botanic Gardens have specialised in various themes, i.e. Warrnambool and Hamilton – Guilfoyle layout, Colac – the view of the Lake, Penshurst – wetland lakes.
- Prepare a vision for the Gisborne Botanic Gardens that has agreement and ownership to the local community, Council and the Friends Group.
- Prepare a five year action plan to include cost estimates associated with each action then identify priorities for implementation. The actions may be extended to 10-15 years to facilitate development and community expectations.

PROCESS

The table below outlines the actions undertaken to inform the development of the Master Plan.

November 2016	<p>Appointment of Consultant</p> <p>Macedon Ranges Shire Council appointed Michael Smith and Associates (MSA) to prepare the Gisborne Botanic Gardens Master Plan.</p> <p>Council Staff and Stakeholder Workshop</p> <p>An informal workshop was held to discuss the Vision, current issues and future opportunities for the botanic gardens.</p>
December 2016	<p>Community Engagement</p> <p>An extensive community engagement program was undertaken to explore what visitors, residents and stakeholders think about the Gardens, and the changes and improvements they would support in the future. A drop-in session was held on Saturday 10th December 2016 at the Council Offices and at the Gisborne Village Shopping Centre.</p> <p>A project update and an online community survey were published to gauge people's reactions to the Draft Vision and the summary of issues and key directions.</p>
February 2017	<p>Assessment of Opportunities (refer to Appendix 2)</p> <p>The consultant team assessed each opportunity and provided a recommendation about the level of priority assigned to each. Four categories were used to summarise the opportunities:</p> <ul style="list-style-type: none"> • Infrastructure • Trees and Landscaping

	<ul style="list-style-type: none"> • Events and Recreation (none of the recommendations were adopted into the final Master Plan) • Maintenance and Policies <p>Preparation of the Draft Master Plan</p> <p>The consultant team prepared the Draft Master Plan for presentation during the next phase of community consultation on March 2017.</p>
March 2017	<p>Presentation of the Draft Master Plan and Council Review</p> <p>The consultant will present the Draft Master Plan to representatives of the Friends of Gisborne Botanic Gardens and Council's Project Group.</p>
April – May 2017	<p>Public Display of the Draft Master Plan</p> <p>The PCG published the Draft Master Plan recommendations for community feedback.</p>
June – July 2017	<p>Finalisation of the Master Plan</p> <p>The consultant team finalised the Master Plan for presentation to Council, taking into consideration the community feedback from December 2017 – May 2017.</p> <p>Presentation of the Master Plan to Councillors</p>

BACKGROUND

History

The site of the Gisborne Botanic Gardens was acquired by the then Gisborne Shire Council in the 1980's and a section was gazetted for development as a botanic gardens in early 1991. Jacksons Creek forms a horseshoe bend around three sides of the gardens and the creek is lined with Swamp Gums and Manna Gums, Black Wattles, Blackwoods, all contributing a backdrop of canopy vegetation. The site is prone to inundation by Jacksons Creek during heavy rain and flood events such as the heavy floods of September 1993.

The idea for the establishment of the Gisborne Botanic Gardens was first suggested in early 1991 by the Shire of Gisborne and a community working group. Gisborne Botanic Gardens was established in the early 1990's and is the only botanic garden in Australia specialising in showcasing New Zealand plants.

The Friends of the Gisborne Botanic Gardens was formed in late 1994.

The Gisborne Botanic Gardens was officially opened to the public on the 9th November 1996 by Dr Philip Moors (the Director of the Royal Botanic Gardens Melbourne at the time). The Tane Mahuta or 'Lord of the Forest' sculpture carved by Derek Lardelli in Gisborne, New Zealand was installed in the western section of the gardens on the same day. The sculpture is made out of a piece of whalebone and greenstone representing the land of Aotearoa. The head of the original Tane Mahuta sculpture was stolen on September 2002 and was replaced by a sculpture by Simon Lardelli, Derek Lardelli's nephew and was again stolen in late 2011.

In December 1999 a sculpture entitled 'Raincatcher' by local sculptor Anton Hasell was installed in the Australian section of the Gisborne Botanic Gardens in New Zealand.

Design and Existing Planting

David Abbott of Environmental Design Group prepared the Master Plan in 1991, which became the foundation for all future works. This plan included a small New Zealand section within the broader framework of a mix of exotic and native planting.

In 1992 Stephen Ryan, a local nurseryman, proposed to have all the planting be entirely composed of New Zealand genera due to the following reasons:

- (a) To strengthen the linkage with the then sister city Gisborne and Gisborne District Council in New Zealand
- (b) To create an educational facility and facilitate research
- (c) The climate of Gisborne in the Macedon Ranges is similar to many parts of New Zealand
- (d) To create a point of distinction for the Gisborne Botanic Gardens as there are no other New Zealand botanic gardens in Australia

The proposal was accepted by the community working group on July 1992 and the final planting design was completed in 1994.

The paths were laid out in 1993 and the southeast section of the gardens was the first area to be planted with *Cordyline australis* (Cabbage trees) and *Phormium tenax* (New Zealand Flax), most of which were swept away during the major flood on September 1993.

There are approximately 100 species of Hebes, most are endemic to New Zealand. They are relatively frost-tolerant so some can tolerate Gisborne's winter climate.

Hebes, *Phormium*, *Sophora*, *Coprosma* and *Pittosporum* are represented in the gardens in dedicated garden beds. Genera are labelled.

Some of the plants supplied came from donations from Melbourne's Royal Botanic Gardens, Sydney Botanic Gardens and from private gardens at Mount Macedon. A gift of 30 plants by the Gisborne District Council (NZ) in 1993 became the base of collections and a reciprocal arrangement by the Gisborne Botanic Gardens Friends group saw some Australian natives sent to Gisborne Botanic Gardens in New Zealand.

The Concept Plan completed in 1994 by Environmental Design Group divided the gardens into five zones, one zone of which is Gondwana linkages and the focus on New Zealand, Australia, South Africa and South America that formed the southern portion of Gondwana Land.

Other zones described on the interpretive information displayed are:

- (a) The buffer zone, a mix of indigenous riparian vegetation along Jacksons Creek that separate the garden from the remaining open space parkland
- (b) The woodland zone where there is considerable fill material from the central area to the outer edges. It comprises conifers and broadleaf species.
- (c) The creation of microclimates so as some areas of less hardy New Zealand species can grow in Gisborne's cold weather. There are a number of regimes of altitude dependant regimes:
 - Low altitude beach and Kauri Forest
 - Beach forest of Axial Ranges
 - A modal Kauri forest
 - North island low altitude conifer and broadleaves
 - South Island low altitude conifer and broadleaf trees
 - South Island high altitude conifer and broadleaf trees
- (d) Gondwana linkages area at the entrances to the gardens with representative genera that comprise the supercontinent of Australia, South Africa and South America, i.e. Proteaceae family
- (e) Intensive development zones particularly to paths, to showcase New Zealand plants.

The Friends of the Gisborne Botanic Gardens prepared a Master Plan from 2015 which focused on the inclusion of Macedon Ranges and Gondwana flora within the gardens.

MASTER PLAN RECOMMENDATIONS

The following discussion underpins the Draft Recommendations derived from the analysis and the assessment of merit of ideas raised during the community and stakeholder consultation and engagement process.

Infrastructure

Current Situation

The botanic gardens have good pedestrian connectivity to the surrounding municipal parkland to the east to the play space and picnic facilities and to the west, the Council offices and carpark. There is no formal car parking provided specifically at the gardens, so visitors have to walk across one of two bridges spanning Jacksons Creek or use the access path parallel to residential properties to the northeast corner of the gardens.

There are only two existing picnic tables, which are located in areas that are locally inundated with water during heavy rain events. There are only seven seats located in areas that lack shade.

Recommendations

Install additional seats, particularly within shaded areas. Seats have to have back rests and arm supports. Allow a space beside each seat for a wheelchair/scooter to park. HIGH PRIORITY

Sheltered seating options within the gardens would be useful on hot days. Locate seats within flat zones with enough space for pram, scooter and wheelchair parking. The distance between existing and proposed seats must not be too great so that people who need to can rest in between 'stops'.

Install additional picnic tables. All picnic tables should be wheelchair/scooter accessible. HIGH PRIORITY

The provision of additional picnic tables will allow people to enjoy the gardens for a longer visit, even if the grassed areas are wet. The picnic tables are recommended to be located in the proposed western picnic area, which is on a higher elevation than the eastern section, leaving the central area fairly open. The picnic table will have a space for a wheelchair or scooter to park.



Example of an accessible picnic table

Design and install additional wayfinding signage. Signs to be placed at a suitable height to allow reading from a wheelchair. Signage is to be graphically clear. HIGH PRIORITY

Connection to other environmentally significant destinations nearby is important to diversify visitors' experiences. The key destinations would be shown on a map to be installed near the western entrance, the north eastern entrance and the proposed southern entrance from Robertson Street.

Provide additional car park spaces with designated accessible spaces and bus parking along Robertson Street. MEDIUM PRIORITY

The additional parking on Robertson Street will cater for visitors given visitation rates will very likely increase as the gardens are promoted and improved and made more accessible to people. A section for bus parking should be provided for group tours of the gardens.

Provide a pedestrian entrance or at least a visual presence for the gardens at Robertson Street. This is a longer term strategy. MEDIUM PRIORITY

An eye-catching entrance or at least a clear visual presence will encourage tourists and motorists to stop and explore the gardens.

Install additional sculptures and artworks within the gardens. Potential to engage local artisans. LOW PRIORITY

Artworks and sculptures can be of a botanic, nature or garden theme so as not to detract from the aesthetic value of the gardens. Artworks can be integrated into new wayfinding and information signage. Locate some at the west and south side of the gardens close to the existing and proposed entrances.

Re-Install Tane Mahuta sculpture within the gardens. MEDIUM PRIORITY

The head of the original Tane Mahuta sculpture was stolen on September 2002 and 2011. Look for opportunities to relocate Tane Mahuta sculpture to improve visibility within the Botanic Gardens to help reduce likelihood of theft and vandalism.

Improve the presentation legibility and sense of arrival to the western entrance of the gardens. This includes removal of hedge vegetation to create more visual exposure.

HIGH PRIORITY (hedge removal only), LOW PRIORITY

The presentation of the western entrance should be greatly improved given that it is currently the main entrance to the gardens. Potential for local artisans to be involved in the provision of artwork that can be incorporated near the entrance.



Existing western entrance to the gardens

Opportunities

- Install barbecue units on an as needed basis.
- Install litter bins on an as needed basis.
- Install accessible drinking fountains and water bottle-filling stations on an as needed basis.
- Construct a potting shed for the Friends Group within the gardens subject to approval by the Council.

Trees and Landscaping

Current Situation

Much of the gardens are on a grassed plateau with a path network linking the two bridges on either side of the gardens. The grassed plateau has a number of shallow depressions that collect drainage water during high rainfall events. The western section is densely planted with woodland species. A key feature of the gardens is the riparian indigenous and native vegetation along Jacksons Creek which presents as a 'horse-shoe' shape that surrounds three sides of the gardens.

The Gondwana planting concept from 1991 was never officially adopted by Council.

Recommendations

Incorporate plants that are endemic to the Macedon Ranges within the gardens based on the Recommended Plant Zones Plan. HIGH PRIORITY

Incorporation of endemic Macedon Ranges plants within the Gisborne Botanic Gardens will serve as a point of difference to distinguish the Gisborne Botanic Gardens from the other botanic gardens particularly Malmsbury and Kyneton Botanic Gardens.

Add plants that are representative of the EVCs of the Macedon Ranges including riparian, forest and woodland species (indigenous species) based on the Recommended Plant Zones Plan. HIGH PRIORITY

Themed garden beds incorporating riparian, forest and woodland plants will create an interesting dimension and would visually assist in defining spaces. A plant list kindly assembled by the Friends of Gisborne Botanic Gardens is provided in Appendix 3.

Incorporate additional Australian plants based on the Recommended Plant Zones Plan. This can be as specimen trees and as massed / group plantings. HIGH PRIORITY

The planting of more indigenous and native trees, shrubs and groundcovers will increase habitat values and create horticultural interest and educational value.

Provide both exotic and native shade trees in selected areas of the gardens based on the Recommended Plant Zones Plan. HIGH PRIORITY

Shade trees are to be provided to the proposed seating area to the east and proposed picnic area to the west.

Provide plant labels to at least each representative species in the gardens. HIGH PRIORITY

The existing plant labels are of the existing genera only. Plant labels for representative species of both existing proposed planting will greatly assist in the interpretation and educational value of the garden as a special resource.



Example of a plant label (Source: Santa Fe Botanical Garden)

Install signage / features to raise awareness regarding threatened, rare and significant flora within the Macedon Ranges. MEDIUM PRIORITY

This will contribute to greater awareness within the community and for the visitors about the threatened flora and fauna in the Macedon Ranges Shire. Refer to Appendix 4 for a list of rare and threatened species in the Macedon Ranges.

Design and construct ‘bog areas’ in two of the low lying sections of the gardens. This will have to reflect the ephemeral pondages. HIGH PRIORITY

There are some depressions that should be retained and converted to bog/ephemeral marsh and shallow surface depressions that need to be re-profiled. Together with re-profiling depressions, this will assist in redirecting water away from grassed areas. Ensure that the cut/fill balance is neutral to protect the gardens’ current flood storage level.



An existing low lying area within the gardens after a heavy rain event

October 2017

Re-profile some shallow surface depressions to redirect water away from some grassed areas during heavy rain events. HIGH PRIORITY

Filling of shallow existing depressions will allow surface movement of water into pathways and will assist in drainage.

Maintenance and Policies

Current Situation

The presentation of the gardens, in terms of weeding and mowing, is dependent on limited or periodic maintenance by Council staff as maintenance funding is low. There is no maintenance service standards specific to the gardens.

The Gisborne Botanic Gardens is largely used as a place of passive recreation and as a park for dog walking. Currently signs ask dog owners to please keep their dogs on a lead.

Macedon Ranges Shire Council is committed to supporting events within the Gisborne Botanic Gardens and recognises the value of events to both the economy and the way in which they appeal to a wider community with the intent to market and promote the Gardens to people who may not otherwise consider visiting.

Applications to host events in the Gisborne Botanic Gardens need to go through the Council event notification process and will be considered on a case-by-case basis.

Recommendations

Consider increasing staff times in the maintenance and assisting in the establishment of the gardens, as a regional resource. Current staffing levels is considered low. HIGH PRIORITY

By hiring more staff, there will be a more regular mulching and mowing regime. Urgent matters such as replacement of dying plants and weeding in particular garden beds can be attended to immediately. With the planned re-development of the botanic gardens, there will be additional staff and assistance from the Friends Group

Formalise Council's position on dog on and off lead areas within the Gisborne Botanic Gardens. MEDIUM PRIORITY

Consider the most appropriate solution for the Gisborne Botanic Gardens when undertaking the feasibility of introducing an order that identified dog on and off lead areas in the Shire. This is an activity in the 2017-2021 Domestic Animal Management Plan, scheduled to commence in 2018/2019. Consideration may include dog on and off lead and dog prohibited areas.

Encourage involvement from local schools and Community groups in projects, activities and appropriate events in the gardens. Projects to be agreed upon and supervised. MEDIUM PRIORITY

By involving groups other than the Friends Group, there will be more initiatives that can promote the gardens and be implemented to increase visitation rates and make the gardens more of a destination place.

Improve irrigation for a more sustainable use of water and labour within the gardens. MEDIUM PRIORITY

This would be a longer term opportunity as the installation of an automatic irrigation system is a high cost.

Any maintenance works by the Friends Group, i.e. pruning, plant removal and planting, etc., must be communicated to and approved by Council prior to commencement of works. HIGH PRIORITY

This will facilitate better communication between the Friends Group and Council and minimise any misunderstanding between the two parties in the future.

APPENDICES

- 1) Issue and Opportunities Paper
- 2) Assessment of Merit
- 3) EVC list/Draft Macedon Ranges Gondwana Planting List prepared by the Friends of Gisborne Botanic Gardens
- 4) Rare and Threatened Species of the Macedon Ranges
- 5) Opinion of Probable Cost

Gisborne Botanic Gardens Master Plan Supporting Documentation

Macedon Ranges Shire Council

July 2017

Contents

- 1 – Issue and Opportunities Paper
- 2 – Assessment of Merit
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Gisborne Botanic Gardens
- 4 – Rare and Threatened Species of the Macedon Ranges
- 5 – Opinion of Probable Cost



1- ISSUE AND OPPORTUNITIES PAPER

GISBORNE BOTANIC GARDENS MASTERPLAN

STRENGTHS

- Water features
- Winding paths for walking
- The presence of 'nooks'
- Local vegetation
- Proximity to Jacksons Creek
- Trees
- The New Zealand theme, as it's rare for a botanic garden in Australia to have a New Zealand collection
- The sister city relationship with Gisborne in New Zealand
- Pleasant environment for walking and passive recreation
- The gardens are very open
- Dog-friendly environment
- Connection to continuous parklands within Gisborne
- Central location
- Presence of the totem pole sculpture

ISSUES/THREATS

- The botanic garden has more forgotten and secluded (underdeveloped and not marketed) during the last 20 years
- Parking issues
- Not enough staff to maintain the gardens
- Some pathways become flooded during heavy rain events, making access difficult for less-mobile people
- No drinking fountain
- Vandalism
- Theft
- Some dog owners don't clean up after their dogs
- Standing water in the open areas after heavy rain events
- Inadequate number of seats and tables
- Inadequate shade
- Too many New Zealand plants and not enough Australian plants
- The New Zealand theme discourages some people from visiting
- Dogs off-lead in the gardens are a threat to children and people who are scared of dogs

OPPORTUNITIES

- Construction of a public toilet block on site
- Construction of a gazebo, particularly in the northern section
- Provision of a potting shed for the Friends Group
- Provision of a central feature in the middle of the gardens such as a rotunda
- Installation of additional seats ('random' ones rather than the standard bench seats), particularly within a shaded area
- Installation of additional picnic tables
- Installation of additional litter bins
- Provision of additional wayfinding signage
- Provision of additional information signage
- Provision of barbecue units
- Provision of drinking fountains and water bottle-filling stations

- Provision of lighting at night
 - Provision of additional car park spaces and a formal car entry/exit points at Robertson Street (which might require a bridge to cross the creek)
 - Installation of additional sculptures of artworks
 - Installation of water features such as a feature fountain, which could use recycled water or water from Jacksons Creek
 - Improvement of the presentation of the western entrance to the gardens
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- Provision of plants that are endemic to the Macedon Ranges
 - Provision of plants that are representative of the EVCs including riparian, forest and woodland species
 - Replanting of areas that have dead/dying plants
 - Provision of additional native and indigenous plants
 - Provision of additional exotic trees
 - Provision of shade trees
 - Provision of additional themed garden beds with long-lived shrubs
 - Provision of plant labels
 - Provision of trees with significance in the local history such as *Quercus* 'Firthii' and *Pinus contorta*
 - More variety in the plantings
 - Installation of signage/features to raise awareness regarding threatened flora and fauna in the area
 - Provision of a 'bog area' in one low lying section of the gardens
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- Provision of a bushfoods/insect-attracting garden
 - Provision of an interactive children's garden area or at least interactive features such as large hollow trees
 - Provision of barbecue areas
 - Provision of a bird hide
 - Provision of an area for youth-targeted activities such as a BMX track to activate the gardens
 - Provision of a designated events area
 - Improvement of linkage to BIOLINK
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- Hiring additional staff to maintain the gardens
 - Increase security at night
 - Review the current policy for allowing dogs in the gardens
 - Additional support from community groups and staff
 - Involvement of local schools and the Gisborne Garden Club
 - Improvement of irrigation, particularly to the grassed areas
 - Improvement in the maintenance of the totem sculpture
 - Improvement of mulching and mowing regime

2- ASSESSMENT OF MERIT OF IDEAS RAISED DURING THE CONSULTATION PROCESS

GISBORNE BOTANIC GARDENS MASTER PLAN

The following document is the consultant team's assessment of merit of key opportunities identified during the consultation with community organisations and groups, the general community (through informal interviews and the online survey), Friends of the Gisborne Botanic Gardens and Macedon Ranges Shire Council officers and Councillors.

OPPORTUNITIES	CONSULTANTS ASSESSMENT OF MERIT		PRIORITY		
	Yes	No	High	Medium	Low
INFRASTRUCTURE					
Construct a public toilet block on site <i>Toilets on site would assist in making the botanic gardens more of a long stay destination.</i>	✓				✓
Construct a gazebo/conservatory, particularly in the western section <i>This could be in a dedicated section of the gardens for activities for the community and the Friends Group.</i>	✓			✓	
Construct a potting shed for the Friends of the Gisborne Botanic Gardens <i>Currently there are no special amenities for the use of the Friends Group. Experience at Melton Botanic Gardens to establish a propagation and potting shed facility assists in team bonding and leads to plant sales and raising funds.</i>	✓		✓		
Provide a central feature in the middle of the gardens such as a rotunda <i>The central area should be free of built structures and be a viewing area.</i>		✓ (The central area should be free of structures)			
Install additional seats ('random' ones rather than the standard bench seats), particularly within a shaded area <i>Sheltered seating options during hot days. Seats could include metal strap circular seats to surround certain trees.</i>	✓		✓		
Install additional picnic tables <i>There are only two existing picnic tables in the gardens. Additional picnic tables will encourage people to stay longer in the gardens, especially during weekends and public/school holidays.</i>	✓			✓	
Install additional litter bins <i>The installation of additional picnic tables and/or barbecue units will warrant installation of additional litter bins.</i>	✓			✓	
Provide additional wayfinding and information signage <i>This will provide visitors with a better understanding of where facilities and special features are.</i>	✓		✓		
Provide barbecue units <i>The installation of barbecue units will encourage people to stay longer in the botanic gardens.</i>	✓			✓	
Provide drinking fountains and water bottle-filling stations <i>There are currently no drinking fountains on site.</i>	✓		✓		
Provide lighting at night <i>There has been previous cases of vandalism and theft at night, some people in the community believe that provision of lighting at night can deter thieves and vandals. The area is quite secluded. The Jackson Creek zone should be preserved as a habitat corridor and the installation of lighting is not appropriate</i>		✓ (Lights will assist rather than deter vandals and thieves)			
Provide additional car park spaces and a formal car entry/exit points at Robertson Street (which might require a bridge to cross the creek) <i>This should be planned for a longer term as the visitation to the gardens increases.</i>	✓				✓
Install additional sculptures or artworks <i>Members of the community have mentioned that the existing sculptures look tired. Additional artworks in the gardens would attract visitation and interest.</i>	✓			✓	
Install water features such as a feature fountain <i>This would add an interesting element to the gardens and could be an opportunity to use recycled water.</i>	✓				✓
Improve the presentation and sense of arrival to the western entrance of the gardens <i>The presentation of the western entrance should be greatly improved as it's the main entrance. An eye-catching entrance will encourage non-locals to stop at the gardens and explore.</i>	✓		✓		

GISBORNE BOTANIC GARDENS MASTERPLAN

The following document is the consultant team's assessment of merit of key opportunities identified during the consultation with community organisations and groups, the general community (through informal interviews and the online survey), Friends of the Gisborne Botanic Gardens and Macedon Ranges Shire Council officers and Councillors.

OPPORTUNITIES	CONSULTANTS ASSESSMENT OF MERIT		PRIORITY		
	Yes	No	High	Medium	Low
TREES AND LANDSCAPING					
Add plants that are endemic to the Macedon Ranges <i>The incorporation of plants from the Macedon Ranges within the Gisborne Botanic Gardens will set it apart from the other botanic gardens in the Macedon Ranges municipality (i.e. Kyneton and Malmsbury).</i>	✓		✓		
Add plants that are representative of the EVCs including riparian, forest and woodland species <i>Increasing the diversity of plants in the botanic gardens will make the gardens more recognisable as a botanic garden as opposed to just a regular park.</i>	✓		✓		
Incorporate additional native and indigenous plants <i>The planting of more indigenous and native trees, shrubs and ground storey will increase habitat values and create horticultural interest and educational value.</i>	✓		✓		
Provide shade trees in selected areas of the gardens <i>The use of several clusters of deciduous trees to key picnic zones and seating areas should be considered. Additional deciduous trees will create the character of a more traditional botanic garden.</i>	✓		✓		
Provide themed garden beds <i>Themed garden beds will create an interesting dimension and would visually assist in defining spaces.</i>	✓			✓	
Provide plant labels <i>Currently there are only genera identifying general plant types. A botanic garden should have labels to at least every species represented not necessarily every plant. A botanic garden should be a place of curiosity, learning and education.</i>	✓		✓		
Add trees with significance in the local history such as <i>Quercus 'Firthii'</i> and <i>Pinus contorta</i> <i>This was a suggestion from representatives of the Gisborne and Mount Macedon Districts Historical Society</i>	✓			✓	
Install signage/features to raise awareness regarding threatened flora and fauna in the area <i>This would contribute to greater awareness within the community and for the visitors about the threatened flora and fauna in the Macedon Ranges municipality.</i>	✓		✓		
Create a 'bog area' in one of the low lying section of the gardens <i>Together with re-profiling depressions, this will assist in redirecting water away from grassed areas and pathways during heavy rain events. It will create greater species diversity and horticultural interest.</i>	✓		✓		
Re-profile some surface depressions <i>Filling in some of the depressions will assist in redirecting water away from the grassed areas during heavy rain events.</i>	✓		✓		
EVENTS AND RECREATION					
Create a bushfoods/insect-attracting garden <i>This is likely to increase visitation rates and allows greater exposure to the gardens. It will provide additional horticultural and cultural interest. This can be a marketing tool.</i>	✓			✓	
Provide an interactive children's garden area or at least interactive features such as large hollow trees <i>It would be appropriate to incorporate natural and sensory play elements to attract more families to visit the gardens. This would lead to the creation of a destination space within the botanic gardens.</i>	✓		✓		
Provide a bird hide <i>A bird hide would be more appropriate near Jacksons Creek as adjunct to the gardens. This would create diversity and interest.</i>	✓			✓	
Create an area for youth-targeted activities such as a BMX track to activate the gardens <i>This will encourage more user groups to use the gardens. However it is not the appropriate location for these activities.</i>		✓			

GISBORNE BOTANIC GARDENS MASTERPLAN

The following document is the consultant team's assessment of merit of key opportunities identified during the consultation with community organisations and groups, the general community (through informal interviews and the online survey), Friends of the Gisborne Botanic Gardens and Macedon Ranges Shire Council officers and Councillors.

Provide a designated events area <i>This would be a longer term priority, once the visitation to the gardens increases. The depression on the southern section of the gardens was identified at the analysis stage, as a possible location for an amphitheatre.</i>	✓				✓
Improve linkage to BIOLINK <i>Strengthening the gardens' links to areas of significant vegetation in other parts of Gisborne will help in the conservation of habitat corridors in the area.</i>	✓			✓	
OPPORTUNITIES	CONSULTANTS ASSESSMENT OF MERIT		PRIORITY		
	Yes	No	High	Medium	Low
MAINTENANCE AND POLICIES					
Hire additional staff to maintain the gardens <i>By hiring more staff, there will be a more regular mulching and mowing regime. Urgent matters such as replacement of dying plants and weeding in particular garden beds can be attended to immediately. With the planned re-development of the botanic gardens, there will need to be additional staff and assistance from the Friends Group.</i>	✓		✓		
Review the current policy for allowing dogs in the gardens <i>Only dogs on-lead are allowed within the gardens however this policy is ignored by many people.</i>	✓		✓		
Encourage involvement from local schools and the Gisborne Garden Club in projects, activities and events in the gardens. <i>By involving groups other than the Friends Group, there will be more initiatives that can promote the gardens and be implemented to increase visitation rates and make the gardens more of a destination place.</i>	✓		✓		
Improve irrigation, particularly to the grassed areas <i>This would be a longer term opportunity as the installation of an automatic irrigation system is a high cost investment.</i>	✓				✓
Improve maintenance of the Tanemahuta sculpture <i>The Tanemahuta sculpture is a special feature of the gardens and should be better maintained and protected from vandalism and theft.</i>	✓		✓		

**3- EVC LIST/DRAFT MACEDON RANGES GONDWANA PLANTING
LIST PREPARED BY THE FRIENDS OF GISBORNE BOTANIC
GARDENS**

Friends of the Gisborne Botanic Garden Planting List 2017

The Macedon Ranges are made up of many EVC's including Alpine, sub alpine, Montane, wet sclerophyll, dry sclerophyll - through to Soaks and riparian complements.

This planting list has been prepared to represent the Macedon Ranges Gondwana ancestry. Fossil flora, through to Angiosperm.

As all of the Austral flora is largely derived from Gondwanan evolution, the Macedon Ranges contributed significant flora and function to the Central and southern districts of the State of Victoria. Due to settlement impacts that have cleared and dissociated the Ranges Botanical evolution it is deemed most urgent to capture the remnants, re-introduce, and protect into the future our precious ancestry in order to restore its evolutionary path and survival, restoring proper function to the State.

In acknowledging the Macedon Ranges Flora it is evident the Range is unequivocally linked to Tasmania and NSW. Recognising, re-establishing and enabling this link is the key function we must restore. Amending impact, and protection is the right intervention and gets us back to evolution... the Macedon Ranges is far more significant to Australia to not be included and restored, its continued decline must be addressed.

The Gisborne Botanic Garden is perfectly placed to be the Gondwanan garden that bridges the gap of lost species in Vic to view to rehabilitation and further study joining Nsw, Vic and Tas. Fixing the Macedon Ranges. Understanding the Macedon Ranges its iconic species, such as depicted by the Gisborne Golf Club - Yellow tail Black Cockatoo

Studies at Gisborne wetlands and swamp for

'Cooksonia Flora',

Barangwanathia Flora of Victoria,

Ancestral Giant Club Moss Flora mid **Devonian 385-325 million years ago**

Mass volcanic activity on the continental shelf of Australia adding to the Macedon ranges and its sediments contributing to its Flora.

Lycopods, articulates and ferns. Seed produces, gymnosperms (cone produces)

Laymens terms of reference are

Carboniferous - Rhacopteris Flora

end of **Carboniferous** and pending ice age.

Permian - Glossopteris Flora

Early Ginkgos and Conifers colonising drier hillside, away from permanent water and tree ferns of today. Cycad ancestors.

contraction of the ice sheet Mycorrhizal fungi (allowing distance connection to the swamps)

Triassic - Dicroidium Flora

Jurassic - Cyathea, Pandanac, Cycadaceae

Cretaceous - Victoria famous early Cretaceous, cool wet, abundant ferns mosses, ferns and conifers with ginkgophytes, cycadophytes

Tertiary - Early, Angiosperms dispersion of great importance floristically and migratory creating the largest relicts of angiosperms.

Proteaceae, Casuarina now confined to Australia (Allocasuarina- bullock, sheoak)

Restionaceae, Rutaceae, Thymelaeaceae, Myrtaceae, Euphorbaceae many other angiosperms part of Austral flora now present.

Southern Conifers: Araucariaceae and Podocarpaceae,

Baragwanathia Flora of Victoria

Permian

Glossopteris flora

Dicroidium

lookup

Ilex, Winteraceae - Forest Holly

Fern group:

Polystichium

Dicksonia Antarctica

Blechnum Wattsii

Pterostylis

Elkhorn

Rainforests:

Anodopetalum biglandulosum - **horizontal**

Atherosperma moschatum - **Sassafras**

Athrotaxis cupressoides - **Pencil pine**

Athrotaxis selaginoides - **King Billy pine**

Phyllocladus aspleniifolius - **Celery top pine**

Eucryphia lucida - **Leatherwood**

Lagarostrobos franklinii - **Huon pine**

Nothofagus cunninghamii - **Myrtle Beech**

Richea pandanifolia -

Podocarpus lawrencei - **Mountain plumpine**

Exocarpus cupressiformis - **Cherry ballart, wild cherry**
Telopeaea specisima

Shrubs

Agastachys odorata - **fragrant candlebush** **PROTEACEAE**
Cenarrhenes nitida - **native plum**
Persoonia gunnii - **mountain geebung**
Epacris impress - **heath** **EPACRIDACEAE**
Monotoca glauca - **goldey wood**
Richea dracophylla - **pineapple candle heath**
Richea pandanifolia - **pandani**
Trochocarpa thymifolia - **thyme leaf purple berry**
Anopterus glandulosus - **tasman laurel** **ESCALLONIACEAE**
Xanthorrhoeaceae **XANTHORRHOEACEAE**
Eucalyptus regnens - **Mountain Ash** **MYRTACEA**
Eurymyrtus ramosissima ssp. *ramosissima* - **Rosy Baeckea**
Leptospermum - *lanigerum*
Leptospermum - *scorparium*
Baeckea gunniana - **alpine heath myrtle**
Gahnia grandis - **CYPERACEAE**
Gahnia radula
Gahnia clarkei
Gahnia filum
Gahnia sieberiana
Gahnia trifida
Coprosma hirtella - **coffee berry** **RUBICEAE** (Vic, rough coprosma! terrible)
Coprosma moorei - **blue matt currant**
Coprosma quadrifida - **prickly currant bush**
Coprosma nitida - **mountain currant**
Cryptandra alpina - **alpine pearl** **RHAMNACEAE**
Cryptandra amara - **bitter cryptandra** (needs improvement Vic!)

Herbs

Billardiera scandens - **velvet apple-berry** **PITTOSPORACEA**
Billardiera macrantha - **purple apple-berry**
Billardiera mutabilis - **common apple-berry**
Olearia glandulosa - **swamp daisybush** **ASTERACEA**
Olearia lirata - **forest daisybush**
Olearia phlogopappa var. *phlogopappa* - **common dusty daisybush**
Ozothamnus ferrugineus - **tree everlasting**
Ozothamnus obcordatus - **grey everlasting**
Ozothamnus rosmarinifolius - **rosemary everlasting**
Oxylobium ellipticum - **golden shaggypea** **FABACEAE**
Pultenaea juniperina - **prickly beauty**

Sambucus gaudichaudiana - **white elderberry, native elderberry**
ADOXACEAE

References:

Former Gisborne Botanic Garden Masterplan. 1994

White, Mary E, Greening of Gondwana, 1993

Launceston Field & Naturalists Club, A guide to Flowers & Plants of Tasmania Fourth Edition 2008

Bull, Marilyn, Flora of Melbourne 4th Edition, 2014

4- RARE AND THREATENED SPECIES OF THE MACEDON RANGES



3.7 RARE AND THREATENED FLORA AND FAUNA

Rare or Threatened Fauna and Species

Australian Categories of Rare or Threatened Species (AROTS)

In order to qualify for a threatened fauna category in Victoria, a taxon must meet the criteria establish either at National or State level.

As mentioned previously, at the Commonwealth level, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which came into force in July 2000, represents a major consolidation of national legislation dealing with biodiversity. In Chapter 5, Part 13 - Species and Communities (Division 1 of that Act), the criteria for listing threatened native species and ecological communities is established. See Table 3.5.

Table 3.5 Categories of Australian threatened or rare fauna species (AROTS)

Status	Criteria
<i>Extinct</i>	<ul style="list-style-type: none"> There is no reasonable doubt that the last member of the species has died.
<i>Extinct in the wild</i>	<ul style="list-style-type: none"> It is known to survive in cultivation, in captivity or as a naturalised population well outside its past range; or It has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriated to its life cycle and form.
<i>Critically endangered</i>	<ul style="list-style-type: none"> It is facing an extremely high risk of extinction in the wild in the immediate future.
<i>Endangered</i>	<ul style="list-style-type: none"> It is not critically endangered; and it is facing a very high risk of extinction in the wild in the immediate future.
<i>Vulnerable</i>	<ul style="list-style-type: none"> It is critically endangered of endangered; or it is facing a high risk of extinction in the wild in the medium-term future.
<i>Conservation dependent</i>	<ul style="list-style-type: none"> The species is the focus of a conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

Source: EPBC Act, pp. 211 - 219.

Australian Rare or Threatened Species (AROTS) in Macedon Ranges

Table 3.6 shows the rare or threatened *flora* according to the national listing that are recorded in Macedon Ranges, whilst Map 3.6 depicts the distribution of the recorded specimens listed in that table. Table 3.7 shows the rare or threatened *fauna* recorded in Macedon Ranges, while Map 3.7 depicts the distribution of the recorded specimens listed in that table. The location of these species is an important consideration for conservation activities.



Table 3.6 Australian rare or threatened flora species recorded in Macedon Ranges

Species	Common Name	Status
<i>Xerochrysum palustre</i>	Swamp Everlasting	Vulnerable
<i>Senecio psilocarpus</i>	Swamp Fireweed	Vulnerable
<i>Thesium australe</i>	Austral Toad-flax	Vulnerable
<i>Glycine latrobeana</i>	Clover Glycine	Vulnerable
<i>Ballantinia antipoda</i>	Southern Shepherd's Purse	Endangered
<i>Dianella amoena</i>	Matted Flax-lily	Endangered

Source: GIS Layer (thflo100), DSE/DPI CGDL and Flora Information System Database, DSE.

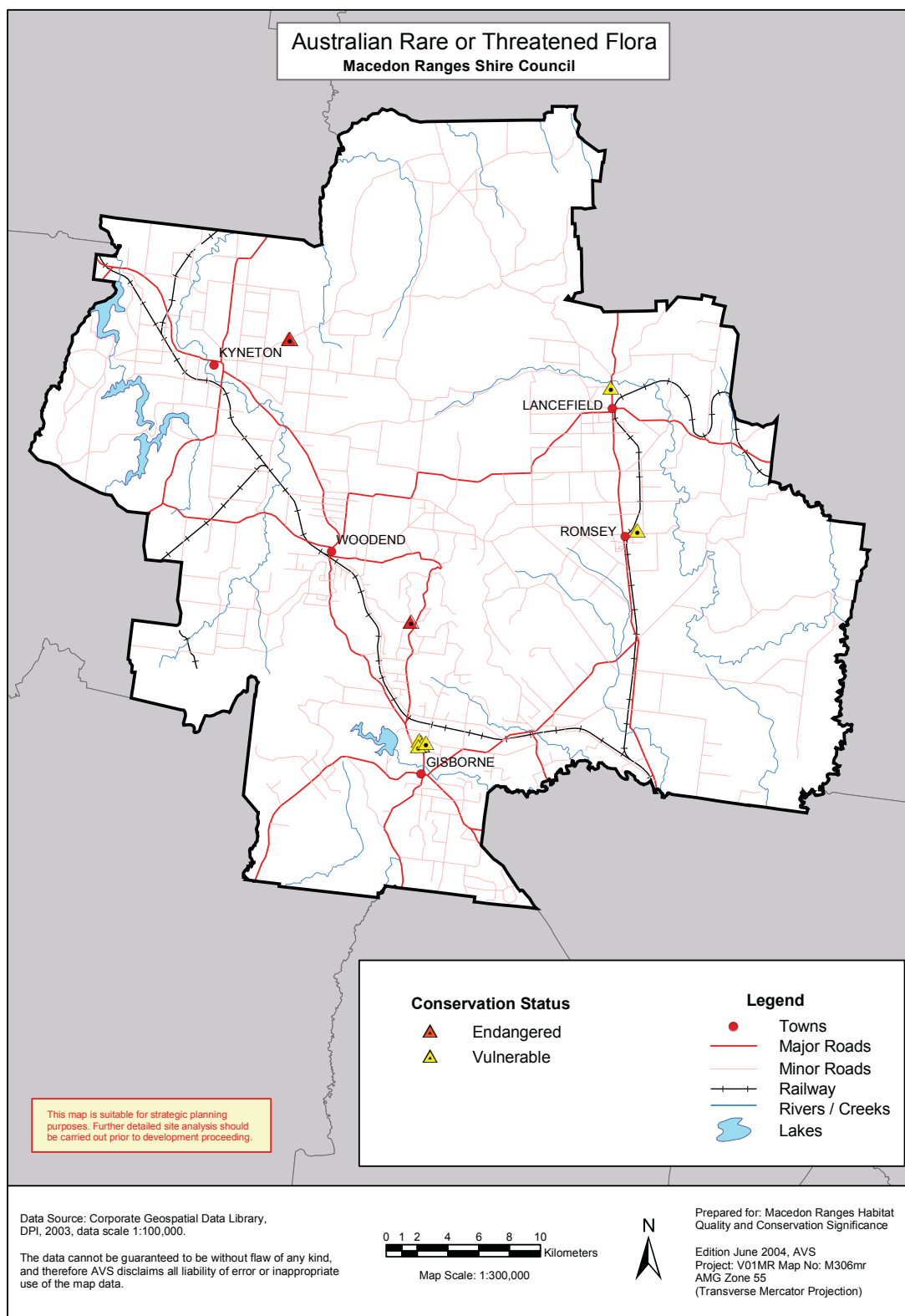
Table 3.7 Australian rare or threatened fauna species recorded in Macedon Ranges

Species	Common Name	Status
<i>Litoria raniformis</i>	Growling Grass Frog	Endangered
<i>Xanthomyza phrygia</i>	Regent Honeyeater	Critically Endangered
<i>Pedionomus torquatus</i>	Plains-wanderer	Critically Endangered
<i>Dasyurus maculatus</i>	Spot-tailed Quoll	Endangered
<i>Nannoperca obscura</i>	Yarra Pigmy Perch	Low Risk

Source: GIS Layer (thfau100), DSE/DPI CGDL and Atlas of Victorian Wildlife, DSE.

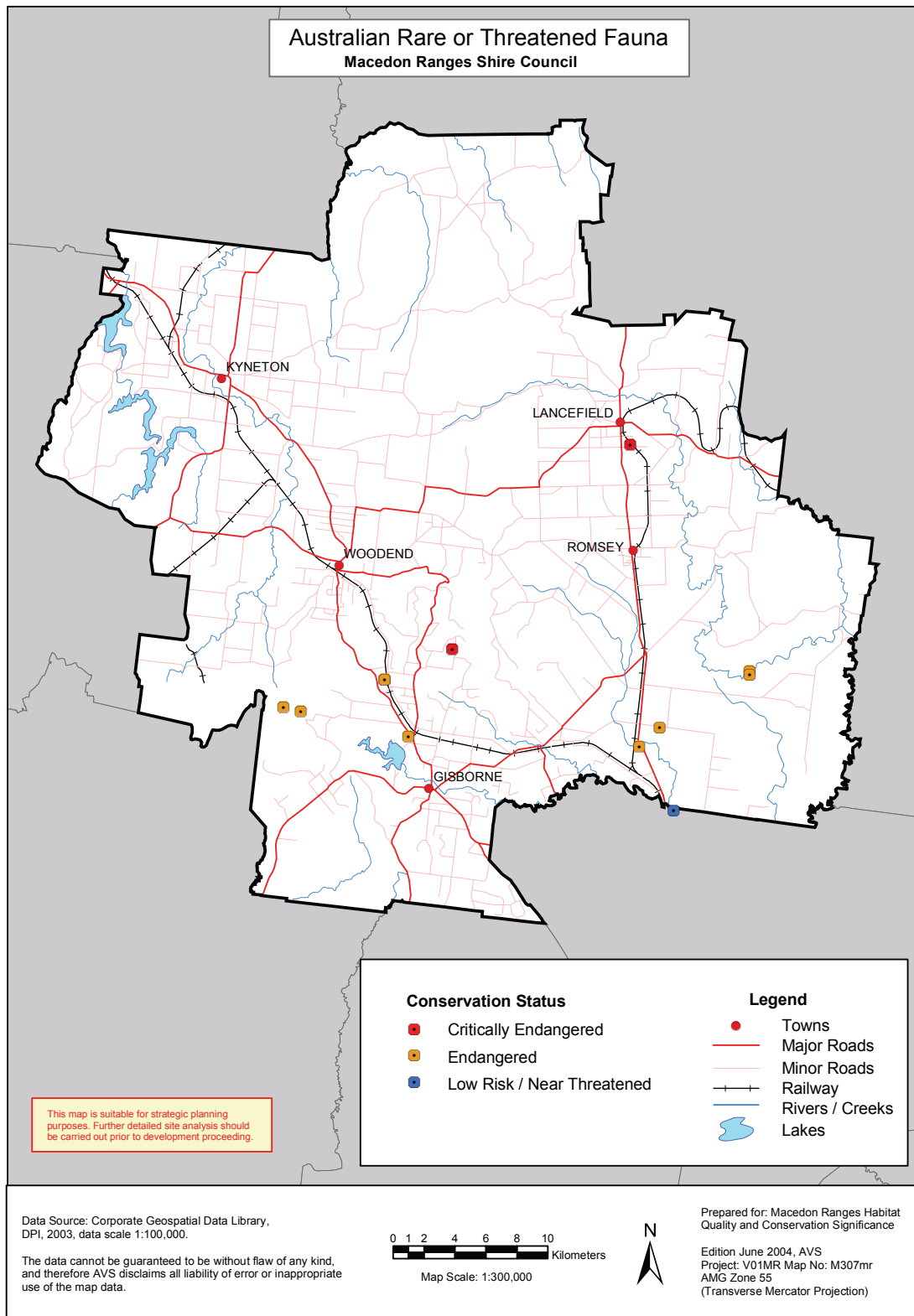


Map 3.6 Australian Rare or Threatened Flora





Map 3.7 Australian Rare or Threatened Fauna





Victorian Rare or Threatened Species (VROTS)

Listed Species, and Communities

At State level, the *Flora and Fauna Guarantee Act 1988* provides for the listing of taxa (genera, species, subspecies, varieties) and ecological communities of flora and fauna. Under the Act, an *Action Statement* must be prepared by the Department of Sustainability and Environment (DSE) for each item following its listing. Action Statements are like brief management plans. They provide some background information about the species, including its description, distribution, habitat, life history, the reasons for its decline and the treats which affect it. They also state what has to be done to conserve the species and what will be done. Action Statements are formulated to apply for 3 to 5 years, after which time they will be reviewed and updated. In some cases, a single Action Statement has been prepared for a group of species or communities.

Categories of Victorian Rare or Threatened Species (VROTS) - Plants

The categories within the classification of Victorian rare or threatened species (VROT) - plants are shown in Table 3.8.

Table 3.8 Categories of Victorian Rare or Threatened Species (VROTS) - plants

Status	Criteria
<i>Presume extinct (x)</i>	<ul style="list-style-type: none">No post-1950 records from Victoria, in spite of field searches specifically for the plant; orIntensive field searches (since 1950) at known sites have failed to record the plant.
<i>Endangered (e)</i>	<ul style="list-style-type: none">Rare and at risk of disappearing from the wild state is present land use and other casual factors continue to operate.
<i>Vulnerable (v)</i>	<ul style="list-style-type: none">Rare, not presently endangered but likely to become so soon due to continued depletion, or which largely occur on sites likely to experience changes in land use which would threaten the survival of the plant in the wild.
<i>Rare (r)</i>	<ul style="list-style-type: none">Plants which are rare in Victoria but which are not considered otherwise threatened. This category does not necessarily imply that the plants are substantially threatened, but merely that there are relatively few known stands.
<i>Poorly known (k)</i>	<ul style="list-style-type: none">Species poorly known and are suspected, but not definitely known, to belong to any of the above categories within Victoria. At present, accurate field distribution information is inadequate.
<i>(d)</i>	<ul style="list-style-type: none">Plants that are not rare in Victoria in the wild state, yet are considered threatened as their regeneration is problematic or less than necessary to replace losses and the populations are continuing to decline.

Note: The plant's status elsewhere in Australia is not considered in the categories.



Categories of Threatened Wildlife of Victoria (TWV) classification

Victorian Threatened Vertebrate fauna has been identified using the International Union for the Conservation of Nature - IUCN (1994) criteria as shown in Table 3.9.

Table 3.9 Categories of Threatened Wildlife of Victoria (TWV)

Status	Criteria
<i>Critically Endangered (CEn)</i>	<ul style="list-style-type: none">The taxon is facing a extremely high risk of extinction in the wild in the near future.
<i>Endangered (End)</i>	<ul style="list-style-type: none">The taxon is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.
<i>Extinct (Ext)</i>	<ul style="list-style-type: none">There is no reasonable doubt that the last individual of the taxon has died.
<i>Data Deficient (Ins)</i>	<ul style="list-style-type: none">There is inadequate information to make a direct or indirect assessment of its risks of extinction based on its distribution or population status. The possibility exists that future investigation will show that a threatened classification is appropriate.
<i>Lower Risk (LR)</i>	<ul style="list-style-type: none">A taxon is LR - near threatened when it has been evaluated, and does not satisfy the criteria for any of the threatened categories, but which is close to qualifying for Vulnerable.
<i>Vulnerable (Vul)</i>	<ul style="list-style-type: none">It is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Source: IUCN, 1994.

Victorian Rare or Threatened Species (VROTS) in Macedon Ranges.

Table 3.10 shows rare or threatened *flora* recorded in Macedon Ranges according to the listing. Map 3.8 depicts the distribution of the recorded species listed in that table. Table 3.11 shows the rare or threatened *fauna* recorded in Macedon Ranges; whilst Map 3.9 depicts the distribution of the recorded species listed in that table.



Table 3.10 Victorian rare or threatened flora species recorded in Macedon Ranges

Species	Common Name	Status
<i>Xerochrysum palustre</i>	Swamp Everlasting	Vulnerable
<i>Craspedia paludicola</i>	Swamp Billy-buttons	Vulnerable
<i>Lachnagrostis filiformis</i> (p)	Wetland Blown-grass	Poorly Known
<i>Helichrysum</i> aff. <i>rutidolepi</i>	Pale Swamp Everlasting	Vulnerable
<i>Microseris</i> sp. 1	Plains Yam-daisy	Vulnerable
<i>Senecio psilocarpus</i>	Swamp Fireweed	Vulnerable
<i>Tetradlea stenocarpa</i>	Long Pink-bells	Rare
<i>Eucalyptus yarraensis</i>	Yarra Gum	Poorly Known
<i>Pultenaea muelleri</i> var. <i>ref</i>	Mueller's Bush-pea	Poorly Known
<i>Eucalyptus leucoxylon</i> ssp.	Melbourne Yellow-gum	Vulnerable
<i>Diuris</i> X <i>palachila</i>	Broad-lip Diuris	Rare
<i>Leucopogon microphyllus</i>	Hairy Beard-heath	Rare
<i>Eucalyptus aggregata</i>	Black Gum	Endangered
<i>Euphrasia collina</i> ssp. <i>spec</i>	Purple Eyebright	Presumed Extinct
<i>Grevillea repens</i>	Creeping Grevillea	Rare
<i>Thesium australe</i>	Austral Toad-flax	Vulnerable
<i>Glycine latrobeana</i>	Clover Glycine	Vulnerable
<i>Brachyscome debilis</i>	Weak Daisy	Vulnerable
<i>Ballantinia antipoda</i>	Southern Shepherd's Purse	Endangered
<i>Euphrasia scabra</i>	Rough Eyebright	Endangered
<i>Pultenaea glabra</i>	Swamp Bush-pea	Rare
<i>Eucalyptus brookeriana</i>	Brooker's Gum	Rare
<i>Dianella amoena</i>	Matted Flax-lily	Endangered
<i>Pseudanthus divaricatissimu</i>	Tangled Pseudanthus	Rare
<i>Astrotricha linearis</i> ssp. 1	Narrow-leaf Star-hair	Rare
<i>Bossiaea cordigera</i>	Wiry Bossiaea	Rare
<i>Racomitrium rupestre</i>	Rock Fringe-moss	Poorly Known
<i>Gahnia microstachya</i>	Slender Saw-sedge	Rare
<i>Grevillea obtecta</i>	Fryerstown Grevillea	Rare
<i>Acacia verniciflua</i> (Bacchus)	Bacchus Marsh Varnish Wattle	Vulnerable
<i>Acacia nano-dealbata</i>	Dwarf Silver Wattle	Rare
<i>Diuris punctata</i> var. <i>puncta</i>	Purple Diuris	Vulnerable
<i>Cardamine tenuifolia</i>	Slender Bitter-cress	Poorly Known
<i>Arachnorchis</i> sp. aff. <i>conco</i>	Midlands Spider-orchid	Vulnerable
<i>Carex iynx</i>	Tussock Sedge	Poorly Known
<i>Comesperma polygaloides</i>	Small Milkwort	Vulnerable

Source: thflo100, DSE/DPI CGDL and Flora Information System Database, DSE



Map 3.8 Victorian Rare or Threatened Flora

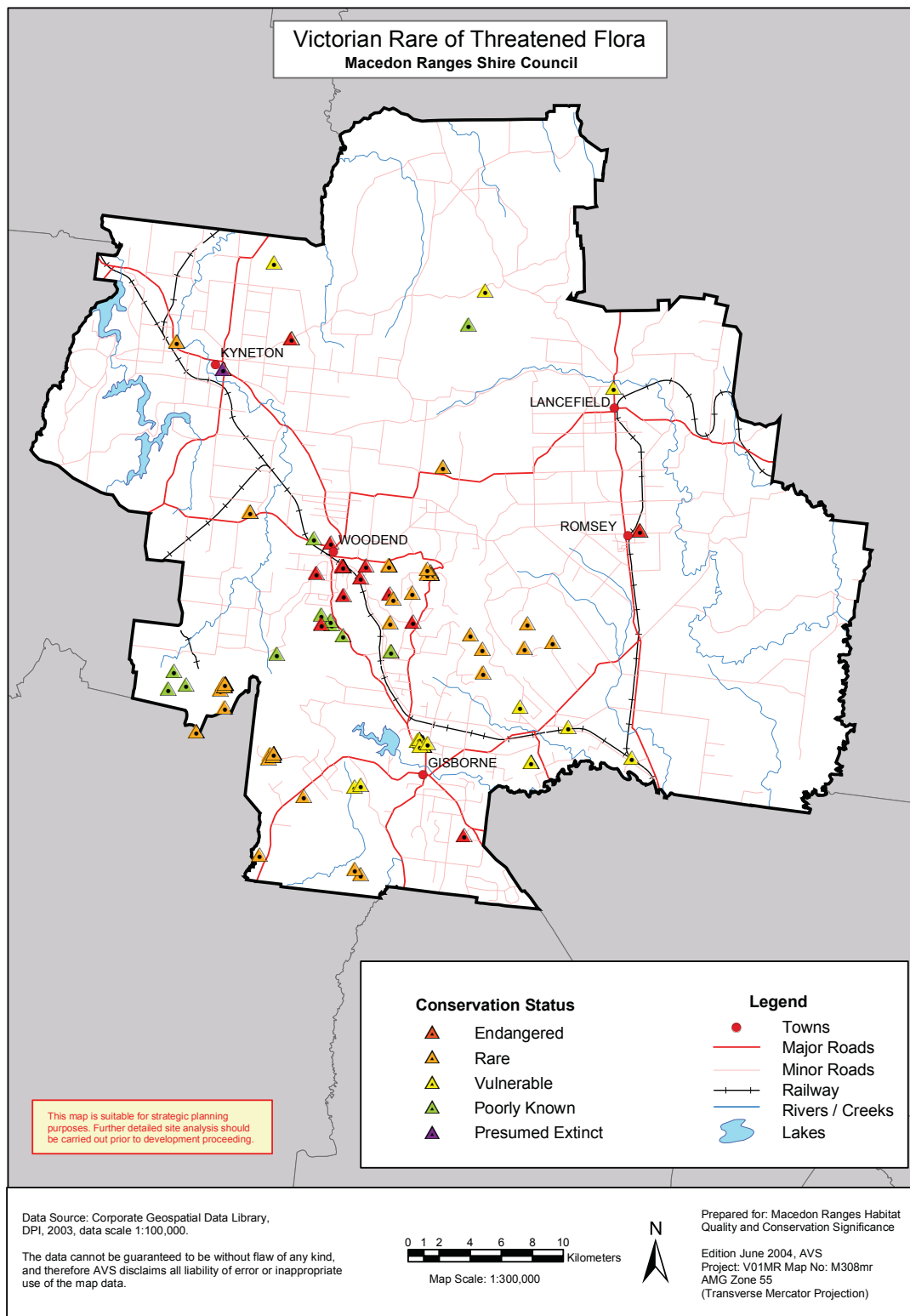




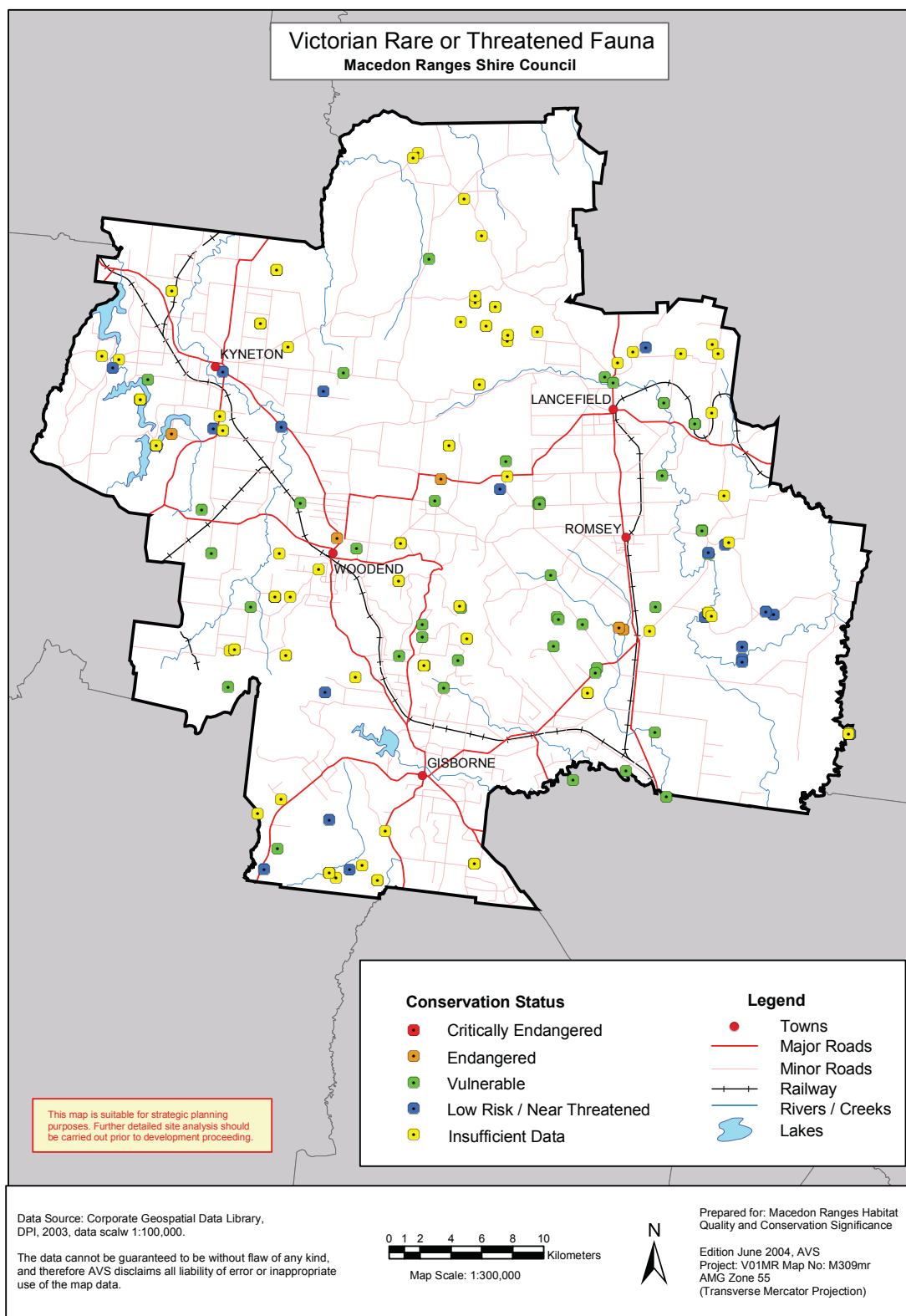
Table 3.11 Victorian rare or threatened fauna species recorded in Macedon Ranges

Species	Common Name	Status
<i>Ardea intermedia</i>	Intermediate Egret	Critically Endangered
<i>Botaurus poiciloptil</i>	Australasian Bittern	Endangered
<i>Ninox connivens</i>	Barking Owl	Endangered
<i>Tyto novaehollandiae</i>	Masked Owl	Endangered
<i>Gadopsis marmoratus</i>	River Blackfish	Insufficient Data
<i>Galaxias olidus</i>	Mountain Galaxias	Insufficient Data
<i>Climacteris picumnus</i>	Brown Treecreeper	Low Risk
<i>Chlidonias hybridus</i>	Whiskered Tern	Low Risk
<i>Gallinago hardwickii</i>	Latham's Snipe	Low Risk
<i>Nycticorax caledonic</i>	Nankeen Night Heron	Low Risk
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Vulnerable
<i>Turnix pyrrhotorax</i>	Red-chested Button-quail	Vulnerable
<i>Porzana pusilla</i>	Baillon's Crake	Vulnerable
<i>Platalea regia</i>	Royal Spoonbill	Vulnerable
<i>Ardea alba</i>	Great Egret	Vulnerable
<i>Anas rhynchotis</i>	Australasian Shoveler	Vulnerable
<i>Aythya australis</i>	Hardhead	Vulnerable
<i>Biziura lobata</i>	Musk Duck	Vulnerable
<i>Falco subniger</i>	Black Falcon	Vulnerable
<i>Ninox strenua</i>	Powerful Owl	Vulnerable
<i>Oxyura australis</i>	Blue-billed Duck	Endangered
<i>Circus assimilis</i>	Spotted Harrier	Low Risk
<i>Cinclosoma punctatum</i>	Spotted Quail-thrush	Low Risk
<i>Coturnix ypsilophora</i>	Brown Quail	Low Risk
<i>Myotis macropus</i>	Large-footed Myotis	Low Risk
<i>Sminthopsis crassica</i>	Fat-tailed Dunnart	Low Risk
<i>Sminthopsis murina</i>	Common Dunnart	Vulnerable
<i>Stagonopleura guttat</i>	Diamond Firetail	Vulnerable
<i>Pseudophryne semimar</i>	Southern Toadlet	Vulnerable
<i>Maccullochella peelii</i>	Murray Cod	Endangered
<i>Pseudophryne bibroni</i>	Bibron's Toadlet	Endangered
<i>Phalacrocorax varius</i>	Pied Cormorant	Low Risk
<i>Melanodryas cucullat</i>	Hooded Robin	Low Risk
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable
<i>Accipiter novaeholla</i>	Grey Goshawk	Vulnerable

Source: GIS Layer (thfau100), DSE/DPI CGDL and Atlas of Victorian Wildlife, DSE.



Map 3.9 Victorian Rare or Threatened Fauna





The Focal and Flagship Species Concepts

Focal or Umbrella Species

Species differ in their territory size, dispersal ability and perception of landscape patterns. Consequently, they respond differently to the structure of the landscape even within the same taxonomic group (Wiens *et al.*, 1997). Species whose population is limited by the pattern of landscape attributes, such as habitat area or connectivity, are most vulnerable. Species with the most demanding requirements for these attributes may hence be selected to define the minimum acceptable area for each landscape parameter. (Simberloff, 1998).

Therefore, *focal or umbrella species* are those which are useful targets for conservation actions because their requirements reflect many of other associated species or communities. Action for one focal species will also favor wider biodiversity conservation. The critical parameters can be deduced if information is available about the ecological requirements of prospective focal taxa and their occurrence in relation to patch size and connectivity. These parameters can then be used to plan for habitat creation (Nikolakaki, 2004; Conine *et al.*, 2004).

Freudenberger (1999) and Lambeck (1999) have found that birds are useful focal species because they move across landscapes and are relatively easy to see and identify. Native mammals, including bats, are exposed to similar landscape threats, but are more difficult to survey. Reptiles and invertebrates are potential focal species for finer-scale threats caused by loss of micro-habitats such as logs or bark. Too little is known of the requirements of plants and the time scales involved. Plants are less useful because there is less information on their reaction to habitat, area, quality and isolation.

Griffioen *et al.*, (2002) have developed a new method for identifying focal species that are limited by the area, quality or isolation of patches or remnant habitat using data from the *Atlas of Australian Birds*.

Flagship Species

Flagship or icon species are those which have particular promotional and publicity value. They are also species that can increase public support for biodiversity conservation. These species tend to be "warm and cuddly" (i.e. Koalas), or are attractive, brightly coloured species such as some birds, insects, spiders, reptiles. Obscure species such as fish or bats, rarely make good flagship species as they lack intrinsic attractiveness for those not already enthralled by nature (Lowe, Ahern, Park, Moorrees and Price, 2002, p. 15).

Flagship species for the Goldfields Bioregion include Swift Parrot, Brush-tailed Phascogale, Red Ironbark and several spider orchids.

The flagship flora species for the Central Victorian Uplands Bioregion include Black Gum, Buxton Gum and Enfield Grevillea. Flagship fauna species include the Bluenose (Trout) Cod, Brush-tailed Phascogale, Small Ant-blue Butterfly and Golden Sun Moth.

Flagship flora species for the Victorian Volcanic Plain Bioregion include Curly Sedge, Small Golden Moths, Sunshine Diuris, Swamp Billy-buttons, and Tough Scurf-pea. Flagship fauna include Brolga, Cape Barren Goose, Eastern Barred Bandicoot, Freckled Duck, Plains-wanderer, Striped Legless Lizard and Yarra Pygmy Perch.

5- OPINION OF PROBABLE COST

MASTER PLAN FOR GISBORNE BOTANIC GARDENS MACEDON RANGES SHIRE COUNCIL

IMPLEMENTATION PLAN AND OPINION OF PROBABLE COSTS

Based on final plan (dated 21.07.2017)

DATE 21.07.2017

PRIORITIES: HIGH 1-4 YEARS; MEDIUM 5-9 YEARS; LOW 10 YEARS AND BEYOND

1. INFRASTRUCTURE

ACTION	PRIORITY (H/M/L)	TIMEFRAME	OPINION OF PROBABLE COSTS BASED ON 2017 COSTS
• Install additional seats, particularly within shaded areas. Seats have to have back rests and arm supports. Allow a space beside each seat for a wheelchair/scooter to park. Three seats on concrete pads. \$2,000 per seat. Additional seats to be provided as needed.	H	1-4 years	\$6,000
• Re-Install Tane Mahuta sculpture within the gardens, look for opportunities to relocate Tane Mahuta sculpture to improve visibility within the Botanical Gardens to help reduce likelihood of theft and vandalism.	M	5-9 years	\$20,000
• Install additional picnic tables. All picnic tables should be wheelchair/scooter accessible. Two picnic tables. \$4,500 per picnic table. Additional picnic tables to be provided as needed.	H	1-4 years	\$9,000
• Design and install additional wayfinding signage. Signs to be placed at a suitable height to allow reading from a wheelchair. Signage is to be graphically clear. Two signs to the northern and eastern entrances.	H	1-4 years	\$6,000
• Improve the presentation legibility and sense of arrival to the western entrance of the gardens. This includes removal of hedge vegetation to create more visual exposure. Includes sculptural artwork and fabrication of entrance signage. Engage local artisans in a commissioned process to construct robust and vandal resistant artworks.	H (hedge removal)	1-4 years	\$5,000
	L (artwork and signage)	10 years +	\$20,000
• Install additional sculptures and artworks within the gardens. Potential to engage local artisans. Sculptural elements must be vandal resistant.	L	10 years +	Allow \$15,000
• Provide additional car park spaces with designated accessible spaces and bus parking along Robertson Street. Council offices drive provide six car spaces. North side of Robertson Street provide ten car spaces and one bus space as parallel parking.	M	5-9 years	Near the Council offices \$24,000 North side of Robertson Street \$48,000
• Provide a pedestrian entrance or at least a visual presence for the gardens at Robertson Street. This is a longer term strategy. Includes new path, pedestrian footbridge across Jacksons Creek, planting and entrance signage.	M	5-9 years	\$300,000

2. TREES AND LANDSCAPING

ACTION	PRIORITY (H/M/L)	TIMEFRAME	OPINION OF PROBABLE COSTS BASED ON 2017 COSTS
• Incorporate plants that are representative of the broader Gondwana supercontinent based on the <u>Recommended Plant Zones Plan</u> .	H	1-4 years	\$5,000
• Add plants that are representative of the EVCs of the Macedon Ranges including riparian, forest and woodland species (indigenous species) based on the Recommended Plant Zones Plan.	H	1-4 years	\$10,000
• Incorporate additional Australian native plants based on the Recommended Plant Zones Plan. This can be as specimen trees and as massed / group plantings.	H	1-4 years	\$5,000
• Provide exotic and native shade trees in selected areas of the gardens based on the Recommended Plant Zones Plan. Ten indigenous shade trees and ten deciduous shade trees. \$200 per indigenous tree and \$500 per deciduous tree supplied and planted. Additional shade trees to be provided as needed.	H	1-4 years	\$5,000
• Provide plant labels to at least each representative species in the gardens. Signage to be in large font to assist people with visual impairments. Includes design and fabrication of 100 labels initially .	H	1-4 years	\$1,500
• Design and construct 'bog areas' in two of the low lying sections of the gardens. This will have to reflect the ephemeral pondages. Approximately 1,330 sqm and 500 sqm. Includes minor level re-shaping and planting.	H	1-4 years	\$20,000
• Re-profile some shallow surface depressions to redirect water away from some grassed areas during heavy rain events. Approximately 570 sqm.	H	1-4 years	\$10,000
• Install signage / features to raise awareness regarding threatened, rare and significant flora within the Macedon Ranges.	M	5-9 years	\$6,000

3. MAINTENANCE AND POLICIES

ACTION	PRIORITY (H/M/L)	TIMEFRAME	OPINION OF PROBABLE COSTS BASED ON 2017 COSTS
<ul style="list-style-type: none"> Consider increasing staff times in the maintenance and assisting in the establishment of the gardens, as a regional resource. Current staffing levels in maintenance is considered low. Seek alternative funding sources such as: <ul style="list-style-type: none"> - Victorian Landcare Grants - Sustainability Fund 	H	1-4 years	To be determined in line with decision
<ul style="list-style-type: none"> Formalise Council's position on dog on and off lead areas. 	M	5-9 years	-
<ul style="list-style-type: none"> Encourage involvement from local schools and the Gisborne Garden Club in projects, activities and appropriate events in the gardens. Projects to be agreed upon and supervised. 	M	5-9 years	-
<ul style="list-style-type: none"> Any maintenance works by the Friends Group, i.e. pruning, plant removal and planting, etc., must be communicated to and approved by Council prior to commencement of works. 	H	1-4 years	-
<ul style="list-style-type: none"> Improve irrigation for a more sustainable use of water and labour within the gardens. Undertake an intensive audit of the current water supply to determine the best options available. 	M	5-9 years	Design Allow \$25,000 Installation and Implementation Allow \$150,000

TOTAL - HIGH PRIORITY ACTIONS (Excluding GST)	\$82,500
TOTAL - MEDIUM PRIORITY ACTIONS (Excluding GST)	\$573,000
TOTAL - LOW PRIORITY ACTIONS (Excluding GST)	\$35,000
SUBTOTAL (Excluding GST)	\$690,500
Add 10% Contingency Sum	\$69,050
TOTAL (Excluding GST)	\$759,550



KEY DIRECTIONS

INFRASTRUCTURE

- 1 Install additional seats, particularly within shaded areas. Seats have to have back rests and arm supports. Allow a space beside each seat for a wheelchair/scooter to park.
- 2 Install additional picnic tables. All picnic tables should be wheelchair/scooter accessible.
- 3 Design and install additional wayfinding signage. Signs to be placed at a suitable height to allow reading from a wheelchair. Signage is to be graphically clear.
- 4 Provide additional car park spaces with designated accessible spaces and bus parking along Robertson Street.
- 5 Provide a pedestrian entrance or at least a visual presence for the gardens at Robertson Street. This is a longer term strategy.
- 6 Install additional sculptures and artworks within the gardens.
- 7 Improve the presentation legibility and sense of arrival to the western entrance of the gardens. This includes removal of hedge vegetation to create more visual exposure.

TREES AND LANDSCAPING

- 8 Incorporate plants that are representative of the broader Gondwana supercontinent based on the Recommended Plant Zones Plan.
- 9 Add plants that are representative of the EVCs of the Macedon Ranges including riparian, forest and woodland species (indigenous species) based on the Recommended Plant Zones Plan.
- 10 Incorporate Australian native plants based on the Recommended Plant Zones Plan. This can be as specimen trees and as massed / group plantings.

- 11 Provide exotic and native shade trees in selected areas of the gardens based on the Recommended Plant Zones Plan.
- 12 Provide plant labels to at least each representative species in the gardens. Signage to be in large font to assist people with visual impairments.
- 13 Install signage / features to raise awareness regarding threatened, rare and significant flora and fauna within the Macedon Ranges.
- 14 Design and construct 'bog areas' in two of the low lying sections of the gardens. This will have to reflect the ephemeral pondages.
- 15 Re-profile some shallow surface depressions to redirect water away from some grassed areas during heavy rain events.

MAINTENANCE AND POLICIES

- a Consider increasing staff times in the maintenance and assisting in the establishment of the gardens, as a regional resource. Current staffing levels in maintenance is considered low.
- b Review the current policy for allowing dogs on lead within the gardens.
- c Encourage involvement from local schools and the Gisborne Garden Club in projects, activities and appropriate events in the gardens. Projects to be agreed upon and supervised.
- d Improve irrigation for a more sustainable use of water and labour within the gardens. Undertake an intensive audit of the current water supply to determine best options available.
- e Consider opportunities to relocate the Tane Mahuta sculpture within the gardens.
- f Any maintenance works by the Friends Group, i.e. pruning, plant removal and planting, etc., must be communicated to and approved by Council prior to commencement of works.

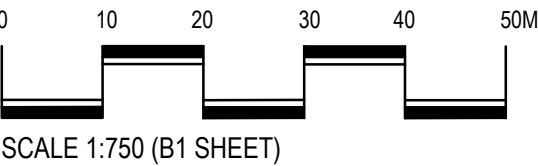
LEGEND

- | | | | |
|--|-----------------------------------------------------------------------|--|--------------------------------------------------------------------|
| | EXISTING VEGETATION GROUPING PREDOMINANTLY NATIVE / INDIGENOUS | | EXISTING PICNIC TABLE |
| | EXISTING VEGETATION GROUPING PREDOMINANTLY FROM NEW ZEALAND | | EXISTING SEAT |
| | EXISTING GRASSED AREA | | PROPOSED VEGETATION OF PREDOMINANTLY INDIGENOUS AND ENDEMIC PLANTS |
| | EXISTING MULCHED AREA | | PROPOSED EPHEMERAL BOG / LOW LYING ZONE |
| | EXISTING STRUCTURE WITHIN THE GARDENS | | PROPOSED SHADE TREE |
| | EXISTING BUILDING WITHIN NEIGHBOURING PROPERTIES | | PROPOSED SEAT |
| | JACKSONS CREEK ALIGNMENT | | PROPOSED PICNIC TABLE |
| | EXISTING CAR PARKING SPACES WITHIN NEIGHBOURING PROPERTIES | | PROPOSED LOCATION FOR ADDITIONAL SCULPTURES / ARTWORKS |
| | EXISTING SCULPTURE INCLUDING FEATURE TANE MAHUTA - LORD OF THE FOREST | | PROPOSED LOCATION FOR ADDITIONAL WAYFINDING SIGNAGE |
| | | | PROPOSED LOCATION FOR ADDITIONAL INFORMATION SIGNAGE |

KEY DIRECTIONS

GISBORNE BOTANIC GARDENS MASTERPLAN

MACEDON RANGES SHIRE COUNCIL



Amendments:
2017.10.06 REV A - Changes to text labels
2017.10.12 REV B - Changes to text labels

Print Issue:
2017.02.24 Emailed to S. Gilchrist
2017.03.14 Emailed to S. Gilchrist
2017.07.24 Emailed to S. Gilchrist
2017.10.06 REV A Emailed to J. Lee
2017.10.12 REV B Emailed to S. Gilchrist

Title: Key Directions
Gisborne Botanic Gardens Masterplan

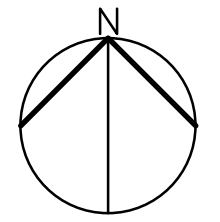
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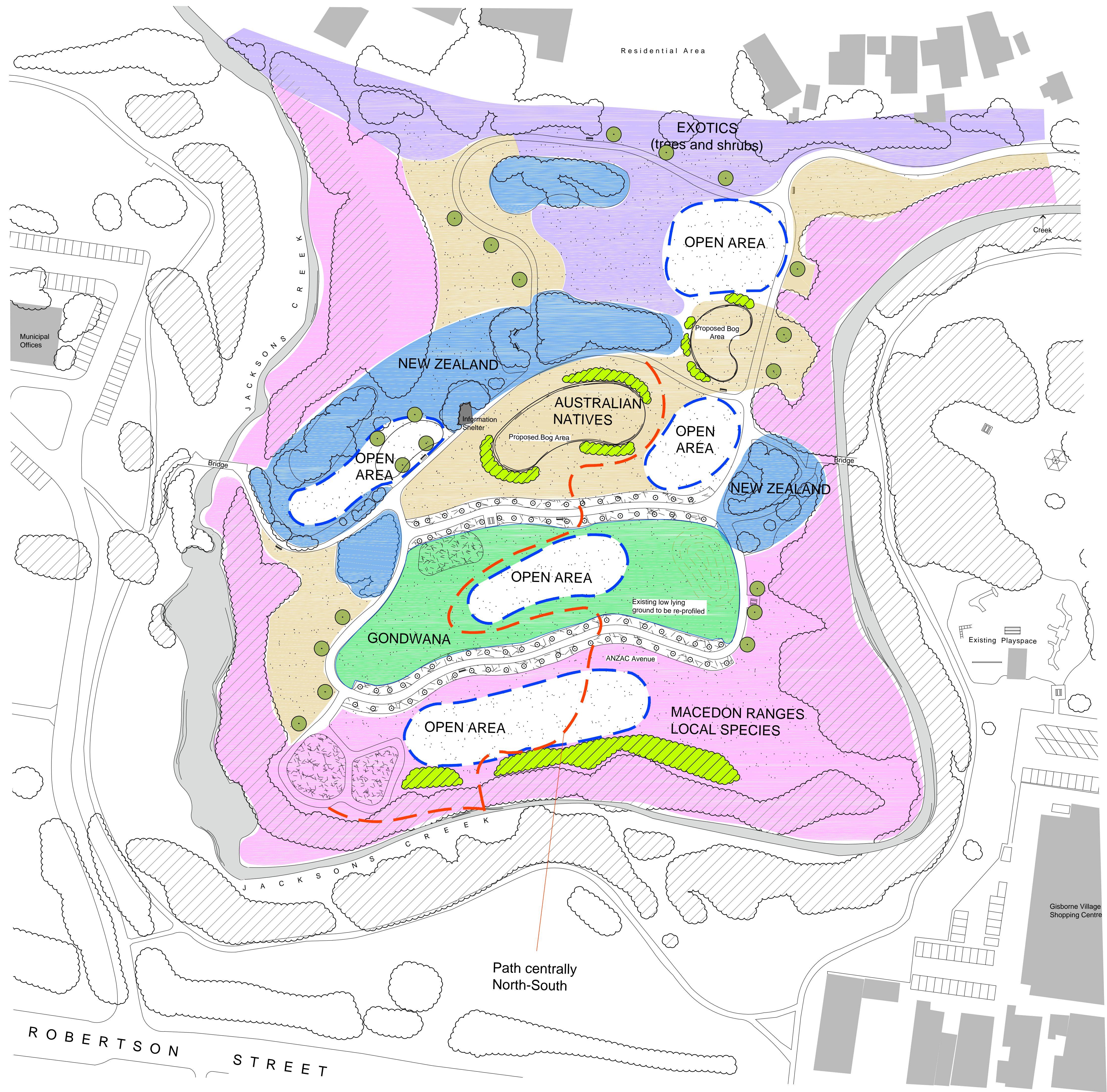
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MICHAEL SMITH AND ASSOCIATES
Landscape Architecture and Urban Design

Office: 1st floor, 407 Whitehorse Road, Balwyn VIC 3103
Postal: 5 Jervis Street, Camberwell VIC 3124
Tel: 9830 0414
Fax: 9830 2555
Email: mike@msalandurb.com.au

Drawn:	
Date: 10.11.2016	
Project No.: 16-049	
Cad File:	
Drawing No.: Sheet 1 of 1	

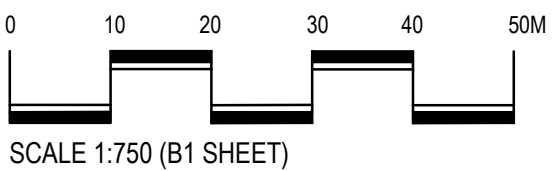




LEGEND

- PROPOSED ADDITIONAL INTERNAL PATH
- EXOTIC PLANTS
- GONDWANA SUPERCONTINENT PLANTS
- NEW ZEALAND PLANTS
- AUSTRALIAN NATIVE PLANTS
- MACEDON RANGES PLANTS
- PROPOSED VEGETATION OF PREDOMINANTLY INDIGENOUS AND ENDEMIC PLANTS
- PROPOSED EPHEMERAL BOG / LOW LYING ZONE
- PROPOSED SHADE TREE
- EXISTING VEGETATION GROUPING PREDOMINANTLY NATIVE / INDIGENOUS
- EXISTING VEGETATION GROUPING PREDOMINANTLY FROM NEW ZEALAND

RECOMMENDED PLANT ZONES PLAN
GISBORNE BOTANIC GARDENS MASTERPLAN
MACEDON RANGES SHIRE COUNCIL



Amendments:

Print Issue:
2017.07.24 Emailed to S. Gilchrist

Title: Recommended Plant Zones Plan
Gisborne Botanic Gardens Masterplan

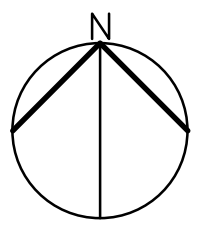
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MASTER PLAN FOR GISBORNE BOTANIC GARDENS MACEDON RANGES SHIRE COUNCIL

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TOTAL - MEDIUM PRIORITY ACTIONS (Excluding GST)	\$568,000
TOTAL - LOW PRIORITY ACTIONS (Excluding GST)	\$35,000
SUBTOTAL (Excluding GST)	\$690,500
Add 10% Contingency Sum	\$69,050
TOTAL (Excluding GST)	\$759,550