



**Macedon  
Ranges**  
Shire Council



# **Malmsbury Common Master Plan**

**March 2018**

***Adopted by Council 27 June 2018***

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## Introduction

The Malmsbury Common Master Plan is a shared strategic action plan between the Malmsbury Common community working group and Macedon Ranges Shire Council with the aim to protect and revitalise the Malmsbury common. The Malmsbury Common community working group is made up of representatives from the Malmsbury community and is led by a coalition of Malmsbury District Landcare Group and the Malmsbury Historical Society. It is the intent of the shared plan that both parties will take responsibility for its ongoing implementation.

The Malmsbury Common Master Plan comprises this document which includes the plan at **Appendix 1** along with an interpretive signage map at **Appendix 2** and a conservation report at **Appendix 3**.

## Vision

*The Malmsbury Common Master Plan aims to highlight the unique natural, cultural and historical qualities of the Common and provide opportunities to increase the use and enjoyment of this place by a range of users while enhancing the environmental values.*

## Objectives

1. Create a **biodiverse natural corridor** along the Coliban River that connects with the broader region.
2. Use regenerative management techniques and supplementary (revegetation) planting to **improve biodiversity** by promoting high quality, diverse and healthy ecosystems that support locally indigenous flora and fauna
3. Encourage **partnerships** and **collaboration** between government organisations and the local community
4. Facilitate **education** through connection with nature and history and the importance of connection to country by providing **interpretative information** on Aboriginal cultural heritage, European history, and environmental values (including vegetation management techniques of the Common. Include the theme of 'water' as this site demonstrates the value and use of water and many associated natural resources by people across time. Encourage creativity and support the inclusion of public art at the common.
5. Provide **access** to the values of the Common by developing **walking trails** that provide visitors with diverse site experiences such as wide open spaces, seating and picnic areas, alluvial mining pits, mining heritage, and grassland, wetland and riparian natural conservation areas.

## Background

Malmsbury Common had been identified as a key flora and fauna reserve in both the 2003 Malmsbury Urban Design Framework and in the 2006 Small Town Study. In March 2008, Malmsbury District Landcare Group, in partnership with Macedon Ranges Shire Council and the North Central Catchment Management Authority (NCCMA), developed a master plan and planting guidelines to develop the Malmsbury Common, as well as a Cultural Heritage Management Plan (CHMP) for area adjacent to the Common.

Since 2009, the NCCMA, both directly, and through grants to Malmsbury District Landcare Group (under the direction of Council's Environment Department as land manager), has invested significant funds into willow removal along the Coliban River, weed removal across the entire Common, and revegetation in the riparian zone and on the Common generally. This work was intended to prepare this highly significant environmental site for the next stage of development, to establish, and facilitate public access to a high quality flora and fauna Reserve.

In 2017, members of the Malmsbury community asked Council for support to revitalise the work on the Malmsbury Common. An allocation of \$5,000 was included in the 2017-18 budget to support the Malmsbury community to review and revise the master plan. PLOT Landscape Architects were selected to assist in the process and a stakeholder workshop was held at the Malmsbury Town Hall on Thursday 14 September. The participants for the workshop included representatives from Malmsbury District Landcare Group, Malmsbury Historical Society, Malmsbury Town Hall Committee, Malmsbury Youth Justice Centre, DELWP, North Central Catchment Management Authority, and Council's Environment and Community Places & Partnership teams. A second stakeholder workshop was held on Tuesday 31 October to review the draft, discuss costings and the potential staging of works on the Common with the same representatives as well as a representative from Coliban Water. Community consultation was conducted from 15 November to 15 December 2017 and minor revisions were made to the plan in January 2018.

## Site Location

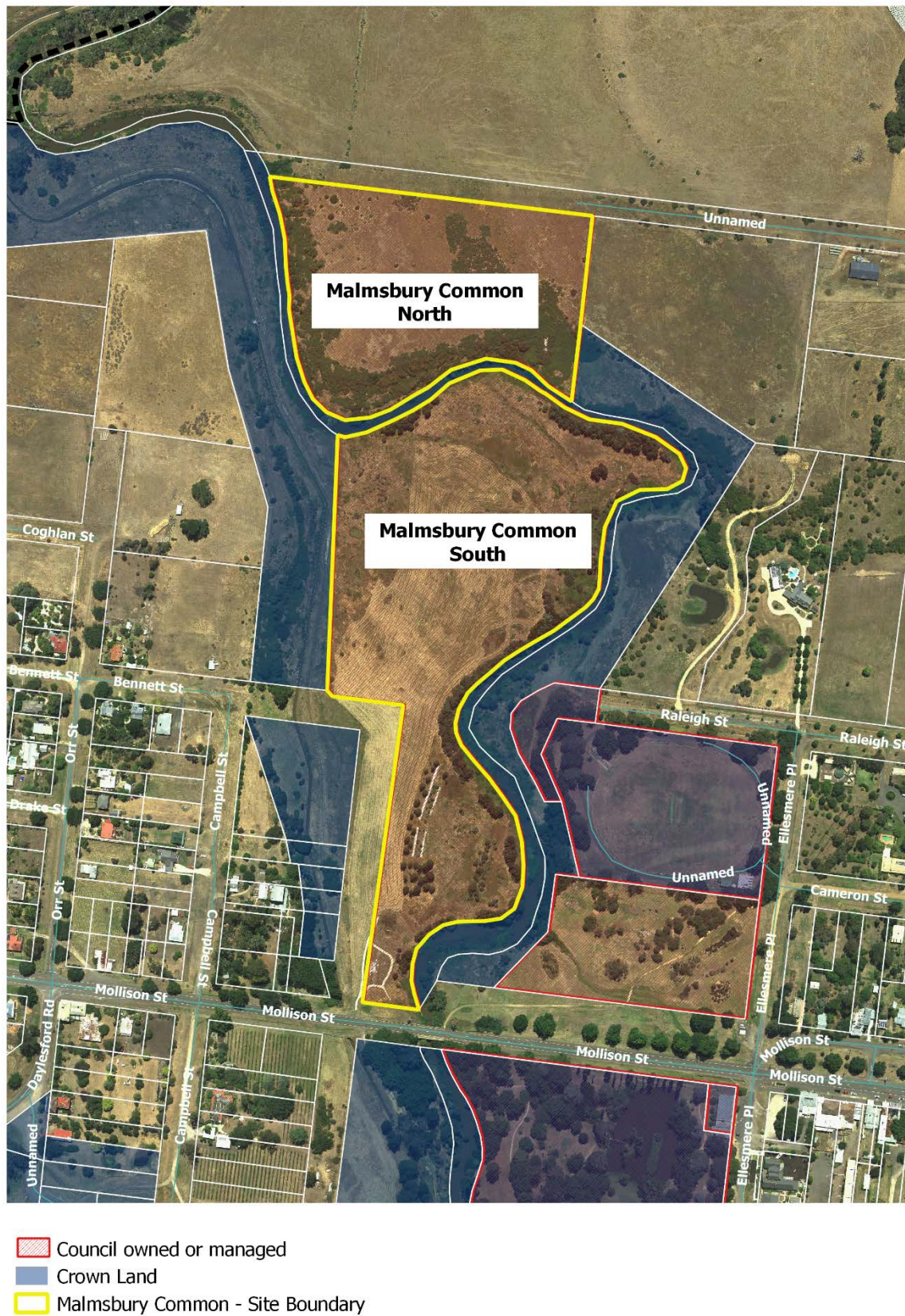
The Malmsbury Common is located on Dja Dja Wurrung country and is to the north of Mollison St, west of the Coliban River and the Malmsbury arboretum and east of the Coliban water channel. The site comprises two land parcels divided by the Coliban River. These parcels will be referred to as "Malmsbury Common"

## Land Tenure

The site is freehold land owned by Macedon Ranges Shire Council. Coliban Water directly manage the reserve adjacent to the Common on the west as part of the Coliban water channel and DELWP directly manage land to the east of the Coliban River.



Figure 1: Land Tenure



## Site Description

The site comprises two land parcels which will be referred to as Malmsbury Common North and Malmsbury Common South.

Malmsbury Common South comprises low lying land, much of which is within the floodplain and, therefore, is susceptible to inundation. A large portion of this site is dominated by introduced grasses, presumably resulting from the site's history of grazing and other disturbance. Revegetation has occurred in the southern section of the site and along the Coliban River. Areas of native vegetation occur along the north and west boundaries. Mining pits are scattered across the site creating depressions in the ground.

Malmsbury Common North comprises a steep escarpment which is dominated by introduced species and, at the time of producing this report, contained large infestations of woody weeds.

A more detailed description of the site is provided in the Conservation Report at **Appendix 3**.

## Environmental Values

### Flora values

The site contains a variety of native grassland, wetland and riparian native vegetation which contribute to the region's biodiversity and provide habitat for local fauna. The site has been divided into five conservation zones with the following environmental values:

- **Conservation Zone 1 (CZ1)** – dominated by native wetland species such as sedges and rushes along with introduced grasses and woody weeds.
- **Conservation Zone 2 (CZ2)** – dominated by native grasses, especially Kangaroo Grass which would have been widespread in the area prior to disturbance associated with European settlement.
- **Conservation Zone 3 (CZ3)** – riparian area dominated by indigenous stream bank native understorey vegetation and planted canopy species that were installed as a part of historic revegetation efforts.
- **Conservation Zone 4 (CZ4)** – a steep escarpment dominated by introduced grasses and woody weeds.
- **Conservation Zone 5 (CZ5)** – elevated plains at the top of the escarpment dominated with pasture grasses. Some small patches of native grasses are present.
- **Existing Revegetation Zone (ERZ)** – Revegetation areas containing a range of native ground, mid and canopy species.

Further details about the site's environmental values is provided in the Conservation Report at **Appendix 3**.

## Fauna values

A comprehensive fauna survey was not undertaken as a part of this project, however incidental sightings have been recorded of the following notable species:

- Water rat
- Platypus
- Kangaroos
- Birds (a range of common species such as Wood Ducks, Black Ducks and Quail)

A search on the Victorian Biodiversity Atlas identified that the following species are found within 5km of the site as well:

Common Name	Most recent sighting	EPBC	FFG	Victorian Advisory List	Likelihood of occurring at the site	Comments
<b>Australasian Shoveler</b>	23/02/2006			Vulnerable	Likely	
<b>Blue-billed Duck</b>	21/02/1993		Listed	Endangered	Likely	
<b>Brown Toadlet</b>	30/08/1974		Listed	Endangered	Likely	Site contains ephemeral pools which provide excellent habitat for this species
<b>Brown Treecreeper (south-eastern ssp.)</b>	9/11/1998			Near threatened	Likely	
<b>Brush-tailed Phascogale</b>	20/08/2017		Listed	Vulnerable	Likely	
<b>Common Bent-wing Bat (eastern ssp.)</b>	20/05/2011		Listed	Vulnerable	Likely	
<b>Crested Bellbird</b>	1/01/1941		Listed	Near threatened	Likely	
<b>Eastern Great Egret</b>	2/03/2000		Listed	Vulnerable	Likely	
<b>Emu</b>	9/11/1998			Near threatened	Unlikely	Probably locally extinct
<b>Freckled Duck</b>	23/02/2006		Listed	Endangered	Likely	
<b>Hardhead</b>	23/02/2006			Vulnerable	Likely	
<b>Hooded Robin</b>	29/08/1976		Listed	Near threatened	Likely	
<b>Macquarie Perch</b>	8/12/1989	Endang.	Listed	Endangered	Likely	
<b>Musk Duck</b>	3/03/2001			Vulnerable	Likely	
<b>Pied Cormorant</b>	2/03/2000			Near threatened	Likely	
<b>Powerful Owl</b>	30/07/2015		Listed	Vulnerable	Likely	Known to occur in Malmsbury area
<b>Red-backed Kingfisher</b>	31/12/1928			Near threatened	Likely	
<b>White-bellied Sea-Eagle</b>	17/09/2017		Listed	Vulnerable	Likely	A breeding pair is known to live at Malmsbury Reservoir

## Environmental Opportunities

Opportunities to enhance the environmental values at the site include:

- Continued woody weed control
- Ecological burning and / or selective brush-cutting to interrupt introduced grass seed production and reduce biomass
- Fauna monitoring to gain a comprehensive understanding of the site's fauna values
- Reduction in slashed area to facilitate regeneration of native understorey species
- Revegetation / supplementary planting in select locations to enhance species diversity and native species coverage

Further details about the environmental management of the site is provided in the Conservation Report at **Appendix 3**.

## Cultural and Historical Values

Prior to European contact, the area now known as the Malmsbury Common had been owned and inhabited by the Dja Dja Wurrung (or Jaara Jaara people). Specifically, the *galgal gundidj* clan (literally meaning 'belonging to the forest') had territory in the area northwest of Kyneton and in the vicinity of the current Malmsbury Common (Clark, 1990).

Following the dispossession of the Dja Dja Wurrung of their land by the Europeans, it became part of Alexander Mollison's large pastoral run (known as 'Colliban') from 1837 to 1851. Following the discovery of gold, Malmsbury developed as a resting point servicing the 'diggers' working the goldfields at Mount Alexander. In 1851 the land was surveyed and reserved for the Malmsbury Township with the Common designated a farmer's common for grazing livestock. At some point between 1851 and 1856, gold was discovered in Malmsbury and the Burra Burra mine was established just north of the Common and a number of alluvial mining sites were developed on the river flats on the Common itself.

In the early 1860's, the Coliban water scheme was conceived to provide water to the goldfields in Sandhurst and Castlemaine and the Malmsbury reservoir was constructed from 1867-1874. In 1873, early plans for establishing a 'stone-sawing' site on the Common were initiated but abandoned soon after and moved over the road. In 1879, part of the Malmsbury Common was reserved as a site for the "Volunteer Rifle Practice and Drill Ground", as well as being used as a picnic, bathing and camping area by locals, with livestock grazing continuing into the early 1930's. In 1967, the land was granted to the Shire of Kyneton and is now managed by Macedon Ranges Shire Council.



## Interpretative Signage

A key feature of the master plan is to facilitate environmental, cultural and historical education through interpretative signage and acknowledgment of the traditional owners. The table below outlines the identified type, location and themes of the interpretative signs. This is indicative only. The final signs and content will be confirmed with relevant stakeholders at the time of implementation. A map of the locations of the signs can be at **Appendix 2**.

All signs should be consistent with Council's *Bushland Reserves Signage Template 2015* except where indicated.

Sign	Location (Theme)	Indicative Content (may include further information).
<b>Sign 1</b>	Entry	<p><b>'Welcome to Country'</b> signage (potentially as an art/sculptural piece and developed in consultation with the Dja Dja Wurrung)</p> <p><b>Entry signage</b> including a requirement for dogs-on-leads and 'take your rubbish with you'. The sign should describe that the Common is a "special place that has unique natural, cultural and historical values and is being managed by local volunteers".</p> <p><b>Wayfinding signage</b> including the following.</p> <ul style="list-style-type: none"> <li>• Picnic area (200m return).</li> <li>• Inner Loop (600m return).</li> <li>• Gathering Space (1km return)</li> <li>• Outer Loop (2km return).</li> </ul> <p><i>Use MRSC standard signs (except for 'Welcome to Country').</i></p>
<b>Sign 2</b>	Road Bridge (River Crossings)	<p><b>Interpretative signage</b> including information relating to the Coliban River and in particular the history of the bridge crossings (i.e. to get to other goldfields, hazards associated with doing so such as drownings and the succession of bridges).</p> <p><i>Use MRSC standard sign.</i></p>
<b>Sign 3</b>	Existing Structure (Overview)	<p><b>Interpretative signage</b> including an overview of the Coliban River and water channel, ecological values, European &amp; Aboriginal history, mining information relating to the Malmsbury Common and Bluestone sawing. Possibly include the theme of the use of 'water' as this site demonstrates the value and use of water and many associated natural resources by people through time.</p> <p><b>Wayfinding signage</b> including the following.</p> <ul style="list-style-type: none"> <li>• Picnic area (60m return).</li> <li>• Inner Loop (460m return).</li> <li>• Gathering Space (850m return)</li> </ul>

		<ul style="list-style-type: none"> <li>Outer Loop (1.8km return).</li> </ul> <p><i>Place sign/s in existing shelter structure.</i></p>
<b>Sign 4</b>	Gathering Space (Aboriginal History)	<p><b>Interpretative signage</b> including information relating to the Aboriginal cultural values relating to the Malmsbury Common (refer to CHMP &amp; direct consultations with Dja Dja Wurrung).</p> <p><i>Use MRSC standard sign.</i></p>
<b>Sign 5</b>	Burra Burra Mine (Mining)	<p><b>Interpretative signage</b> including information relating to the mining history of the site including the Burra Burra mine and alluvial pits.</p> <p><i>Use MRSC standard sign.</i></p>
<b>Sign 6</b>	Conservation Zone 1 (Flora & Fauna)	<p><b>Interpretative signage</b> including information relating to the ecology of the Common (flora &amp; fauna) and the innovative management and restoration techniques being trialled.</p> <p><i>Use MRSC standard sign.</i></p>
<b>Sign 7</b>	Raleigh Street Entry (FUTURE)	<p><b>‘Welcome to Country’</b> signage (potentially as an art/sculptural piece and developed in consultation with the Dja Dja Wurrung)</p> <p><b>Entry signage</b> and <b>Wayfinding signage</b> including a requirement for dogs-on-leads.</p> <p><i>Use MRSC standard sign (except for ‘Welcome to Country’).</i></p>
<b>Sign 8</b>	Coliban River	<p><b>Interpretative signage</b> including information relating to the flooding of the Coliban River, flora &amp; fauna and revegetation works along the Coliban River.</p> <p><i>Use MRSC standard sign.</i></p>
<b>Sign 9</b>	Wildlife Refuge	<p><b>Information</b> sign advising that the land between the sign and the river is a wildlife refuge zone and discouraging public use.</p>

## Actions and Priorities

*The following actions will be implemented collaboratively by Council and the Malmsbury community*

### 2017 / 2018 PRIORITY ACTIONS

**Extension of Conservation Zone 1.** Mark new edge with fire-proof poles / markers to define new extent of CZ1 and assists slasher operator (action #9).

Maintain grass slashing regime to maintain views and reduce fire fuel load.

Mow future paths – priority is around entry area then inner loop then outer loop.

Engage with the Dja Dja Wurrung and other stakeholders, including Malmsbury Youth Justice Centre, to discuss Masterplan Vision and priorities.

Design and planning for interpretation signs focusing on entry area / existing structure.

Ongoing woody weed control.

### 2018 / 2019 PRIORITY ACTIONS

**Entry Area - Fence.** Construct timber rail fencing and maintenance access / gate (action #16).

**Entry Area - Signs.** Install entry, “Welcome-to-Country”, wayfinding and interpretative signage (action #17).

**Inner Loop.** Construct 2.0m wide gravel path on raised profile (approx. 430Lm) along edge of planting to provide access for all, including boardwalks where ground is uneven or to avoid existing vegetation (action #12 & #29).

**Conservation Zone 1.** Continue removal of woody weeds and implement grassy weed management (action #4).

**Extension of Conservation Zone 1.** Replace current slashing maintenance with environmental burning or other vegetation management (action #8).

**Conservation Zones 1 and 2.** Implement environmental burn or other techniques to manage vegetation (action #20).

**Gathering Space.** Regrade existing ‘former rifle range mound’ into two mounds – one mow-able grass and one revegetated (action #23).

<b>2019 / 2020 PRIORITY ACTIONS</b>
<b>Picnic Space.</b> Extend concrete path (approx. 40Lm), install seating / picnic tables (action #30).
Extend concrete path, install seating and information signage (near bridge) (action #33).
<b>Outer Loop.</b> Construct 2m wide path (approx. 635Lm) including boardwalk/s where ground is uneven, inundated or to avoid existing native vegetation (action #6).
<b>Gathering Space.</b> Construct 2m wide gravel path (action #24) and gathering area approx. 500mm above existing ground, provide seating, signage and plantings (action #25).
<b>Conservation Zone 5.</b> Implement environmental burn.
<b>ONGOING / FUTURE ACTIONS</b> (not in priority order)
<b>1. Malmsbury Common North.</b> Explore future access.
<b>2. Malmsbury Common North.</b> Ongoing weed control and revegetation by MRSC.
<b>3. Coliban Water Channel Reserve.</b> Explore opportunities for future public access to Ellis Falls with Coliban Water and other land owners.
<b>4. Conservation Zone 1.</b> Continue removal of woody weeds and grassy weed management.
<b>5. Conservation Zone 1.</b> Reintroduce wetland, ground and mid storey species.
<b>7. Conservation Zone 1.</b> Provide interpretative information relating to the ecology and historic mining pits.
<b>10. Extension of Conservation Zone 1.</b> Reintroduce wetland, ground and mid storey species.
<b>11.</b> Plant groups of indigenous canopy trees to provide habitat and shade to walking path. Locate seats in the shade of trees.
<b>13. Existing Revegetation Zone –</b> Continue planting of indigenous plants along Coliban River.
<b>14.</b> Mow 3.0m wide informal access paths down to Coliban river edge using existing topography.
<b>15.</b> Construct concrete base to existing shelter and install interpretative signage and walking track information.
<b>18. Entry Area.</b> Continue indigenous planting, including edible native plantings.



<b>19.</b> Explore informal gravel carparking within existing road reserve (opposite Entry Area).
<b>20. Conservation Area 1, 2 and 5.</b> Continue environmental burn or other techniques to manage vegetation. <b>Consider conducting a fuel reduction burn of the central slashed area when conducting burns of Conservation Areas 1 and 2.</b>
<b>21. Conservation Area 2.</b> Explore seed collection and propagation to supplement existing vegetation.
<b>22.</b> Views of Historic Burra Burra Mine site. Install interpretative signage relating to mine and revegetation works along Coliban River.
<b>26.</b> Mow 3.0m wide informal access paths.
<b>27. Extension of Conservation Zone 2.</b> Replace current slashing maintenance with environmental burning or other vegetation management.
<b>28. Coliban River Crossing.</b> Explore options for crossing river e.g. pedestrian bridge.
<b>31.</b> Develop planted area around historical remnants.
<b>32.</b> Demolish and remove old changing rooms (Arboretum side of river)
<b>33.</b> Explore possible public art at Entry Area (or within larger site)
<b>34.</b> Flora and fauna monitoring, including targeted surveys before and after ecological burns. Prioritise monitoring for frogs and reptiles (including the Brown Toadlet) and bird surveys.

**Note:** *The implementation of actions will be subject to securing funding through Council's annual budget process or from other external funding sources*

## Appendix 1 – Malmsbury Common Master Plan



*The Malmsbury Common Masterplan aims to highlight the unique natural, cultural and historical qualities of the Common and provide opportunities to increase the use and enjoyment of this place by a range of users while enhancing the environmental values.*

Implementation of the Masterplan will achieve the following objectives.

1. Create a biodiverse, natural corridor along the Coliban River that connects with the broader region.
2. Use regenerative management techniques and supplementary (revegetation) planting to improve biodiversity by promoting high quality, diverse and healthy ecosystems that support locally indigenous flora and fauna.
3. Encourage partnerships and collaboration between government organisations and the local community.
4. Facilitate education through connection with nature and history and the importance of connection to country by providing interpretative information on Aboriginal cultural heritage, European history, and environmental values (including vegetation management techniques) of the Common. Include the theme of 'water' as this site demonstrates the value and use of water and many associated natural resources by people across time. Encourage creativity and support the inclusion of Public Art at the Common.
5. Provide access to the values of the Common by developing walking trails that provide visitors with diverse site experiences such as wide open spaces, seating and picnic areas, alluvial mining pits, mining heritage and grassland, wetland and riparian natural conservation areas.

1. Create a biodiverse, natural corridor along the Coliban River that connects with the broader region.
2. Use regenerative management techniques and supplementary (revegetation) planting to improve biodiversity by promoting high quality, diverse and healthy ecosystems that support locally indigenous flora and fauna.
3. Encourage partnerships and collaboration between government organisations and the local community.
4. Facilitate education through connection with nature and history and the importance of connection to country by providing interpretative information on Aboriginal cultural heritage, European history, and environmental values (including vegetation management techniques) of the Common. Include the theme of 'water' as this site demonstrates the value and use of water and many associated natural resources by people across time. Encourage creativity and support the inclusion of Public Art at the Common.
5. Provide access to the values of the Common by developing walking trails that provide visitors with diverse site experiences such as wide open spaces, seating and picnic areas, alluvial mining pits, mining heritage and grassland, wetland and riparian natural conservation areas.

*Conservation Zone 3 - Riparian Woodland*  
(Existing planting).

Conservation Area 2 - Grassland Taxa.  
(Existing dense sward of Kangaroo Grass; highest existing conservation values).

20. *Implement environmental burn or other techniques to manage vegetation.*

21. *Explore seed collection and propagation to supplement existing vegetation.*

**REFER ENLARGEMENT OF GATHERING SPACE ON L03**  
(existing rifle mound; open slashed grass; drainage lines),  
23. *Re-grade mound (subject to contamination assessment) to raise gathering space, produce mowable slopes and provide informal pedestrian access / lookout.*  
24. *Construct 2m wide gravel path.*  
25. *Construct gathering space with seating, signage, shade & shelter, interpretative signage and plantings.*

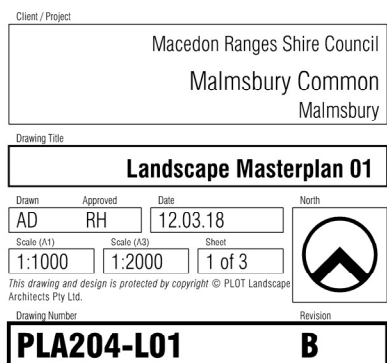
— River Viewing Area over 'island' - explore construction of viewing / bird-hide structure.

– 27. *Replace current slashing maintenance with environmental burning or other vegetation management to extend CZ2 zone as shown.*

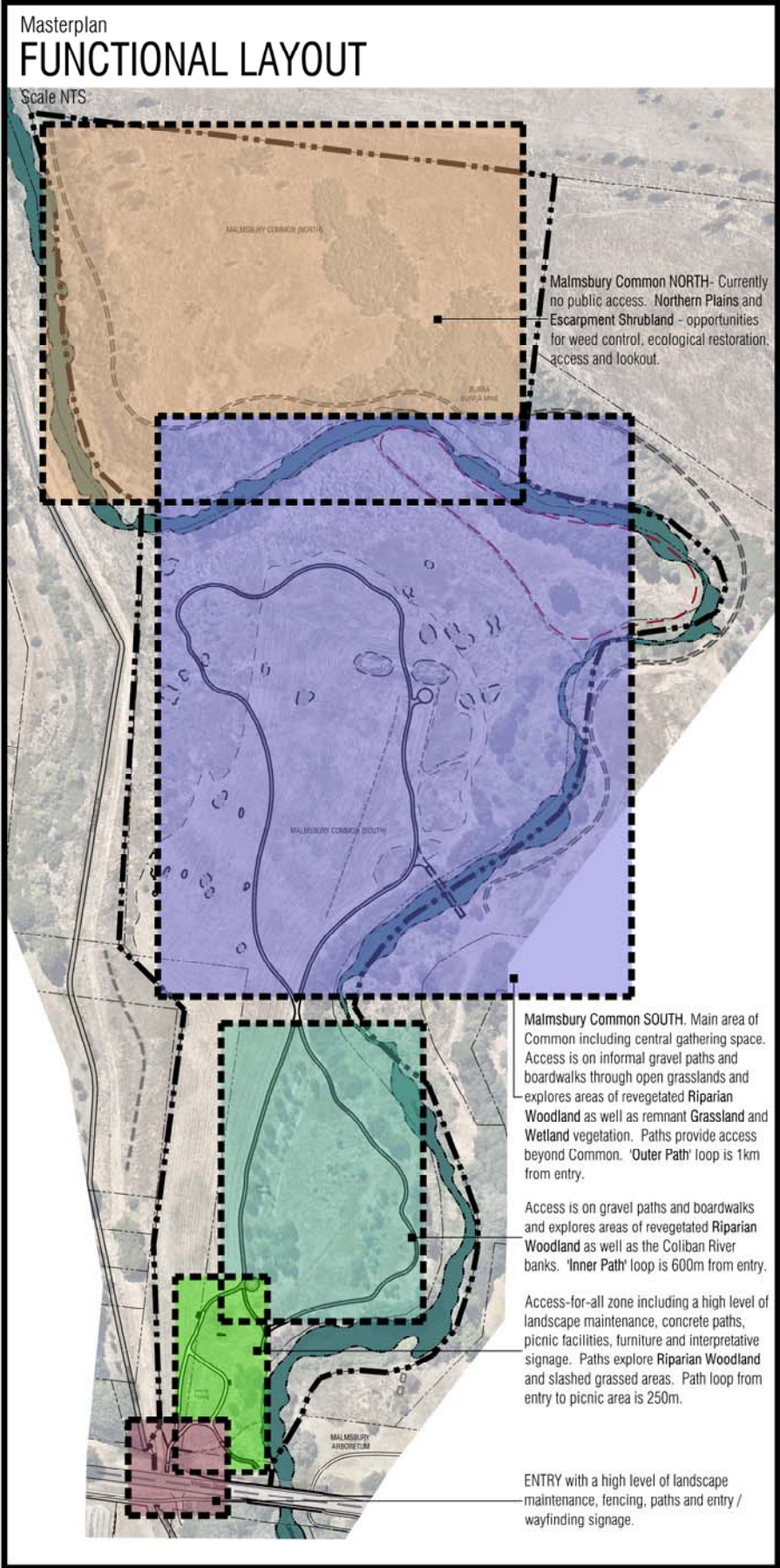
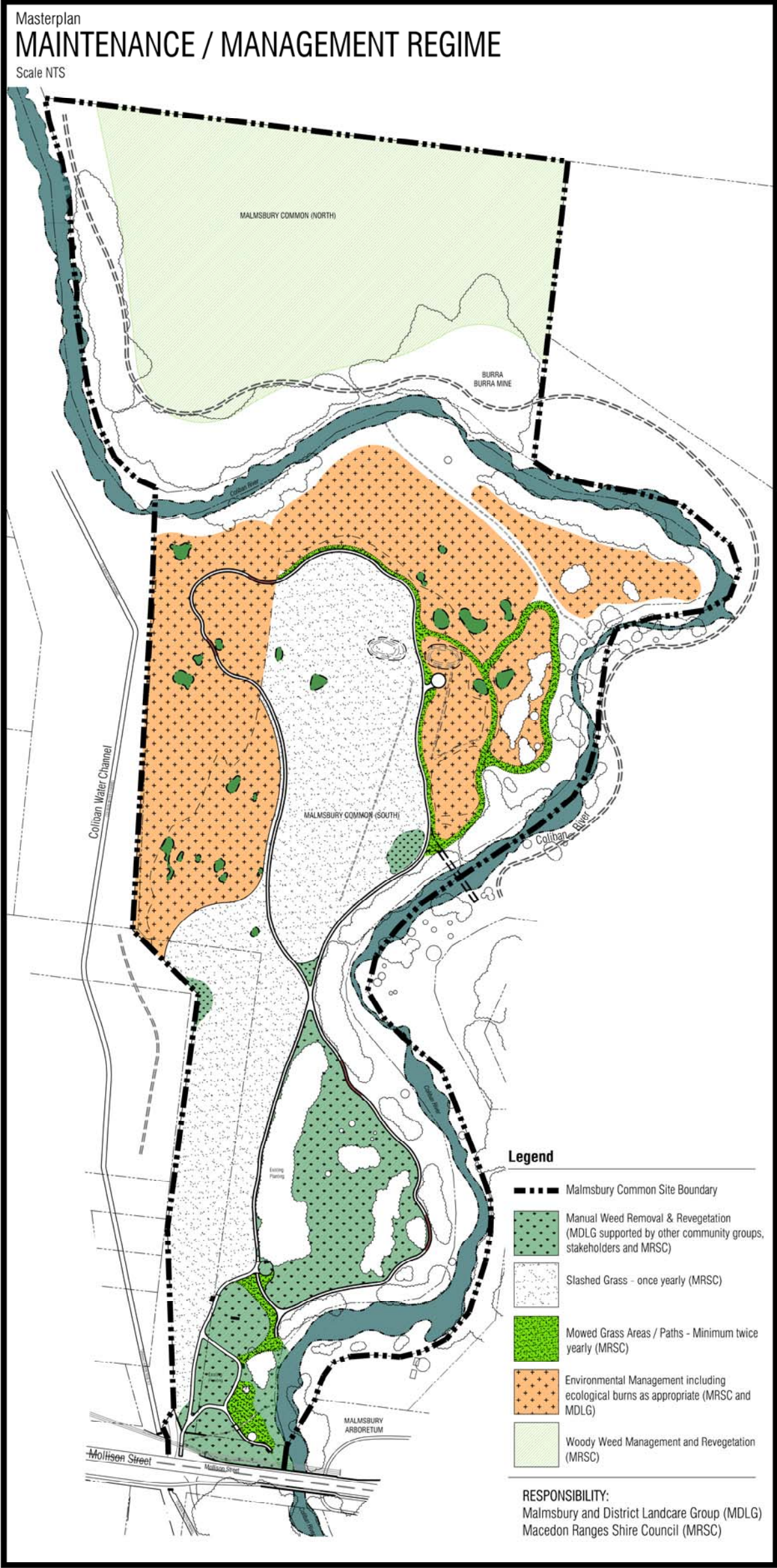
**Coliban River Crossing**  
28. Explore Coliban River crossing (bridge) to provide circuit walk (via oval and arboretum), access from public recreation reserves and car-parking on Raleigh Street road reserve. Include entry treatment including signage and vehicle control.

- ★ INTERPRETATION SIGNAGE
- RIVER VIEWING AREA
- ↔ ACCESS / CONNECTION
- ↔ POSSIBLE FUTURE ACCESS / CONNECTION
- ☀ FEATURE GATHERING AREAS
- WILDLIFE REFUGE AREA

1. This drawing is a Masterplan and is conceptual only and not for construction.
2. This plan is based on aerial photography and GIS data. The location of all paths, water course, trees and other site features is therefore indicative.
3. *All dimensions to be checked on site before commencing work. All measurements are in metres, unless otherwise shown.*
4. *The location and depth of services shall be verified on site prior to the commencement of any works.*
5. *All permits and approvals from relevant Authorities shall be sought and secured prior to any works on site.*
6. **References.** *Malmstrom Common Masterplan Preliminary comments from Daniel Young from Abzeo Consulting (22 September 2017); Minutes and notes from Malmstrom Common Masterplan Workshops of 14 September and 31 October 2017; Cultural Heritage Management Plan No. 10890 (Dr Vincent Clark & Associates) and subsequent feedback from MRSC.*











- Enlargement  
**ENTRY AREA CONCEPT**  
Scale 1:400 at A3
- Possible inclusion of Public Art at entry area (or within larger site) in accordance with MRSC public art policy.
  - Remove weeds and maintain as mowed grass.
  - Proposed indigenous groundcover plantings.
  - Proposed indigenous groundcover plantings.
  - Proposed grove of trees (such as *Allocasuarina verticillata*) to mark entry to reserve at 2.5m spacing (minimum 10m from overhead powerlines).
  - Feature fence along title boundary such as timber post and rail and entry sign. Install vehicle gate for maintenance access to Common adjacent to vehicle gate into Coliban Water Channel reserve.
  - Maintain informal maintenance access to Common and Coliban Water Channel reserve. Extend footpath to edge of road.
  - Extend path (concrete) and provide seat and interpretative signage (location to be confirmed on site).
  - Removal of weeds. Proposed indigenous shrub and groundcover plantings subject to VicRoads approval.
  - Existing overhead powerlines.
  - Explore future, informal carparking area within road reserve opposite the entrance to Common (subject to VicRoads, DEWLP / Licensee approval) with path connection to the Common. Explore with VicRoads improvements to provide safer and easier pedestrian crossing of Mollison Street.



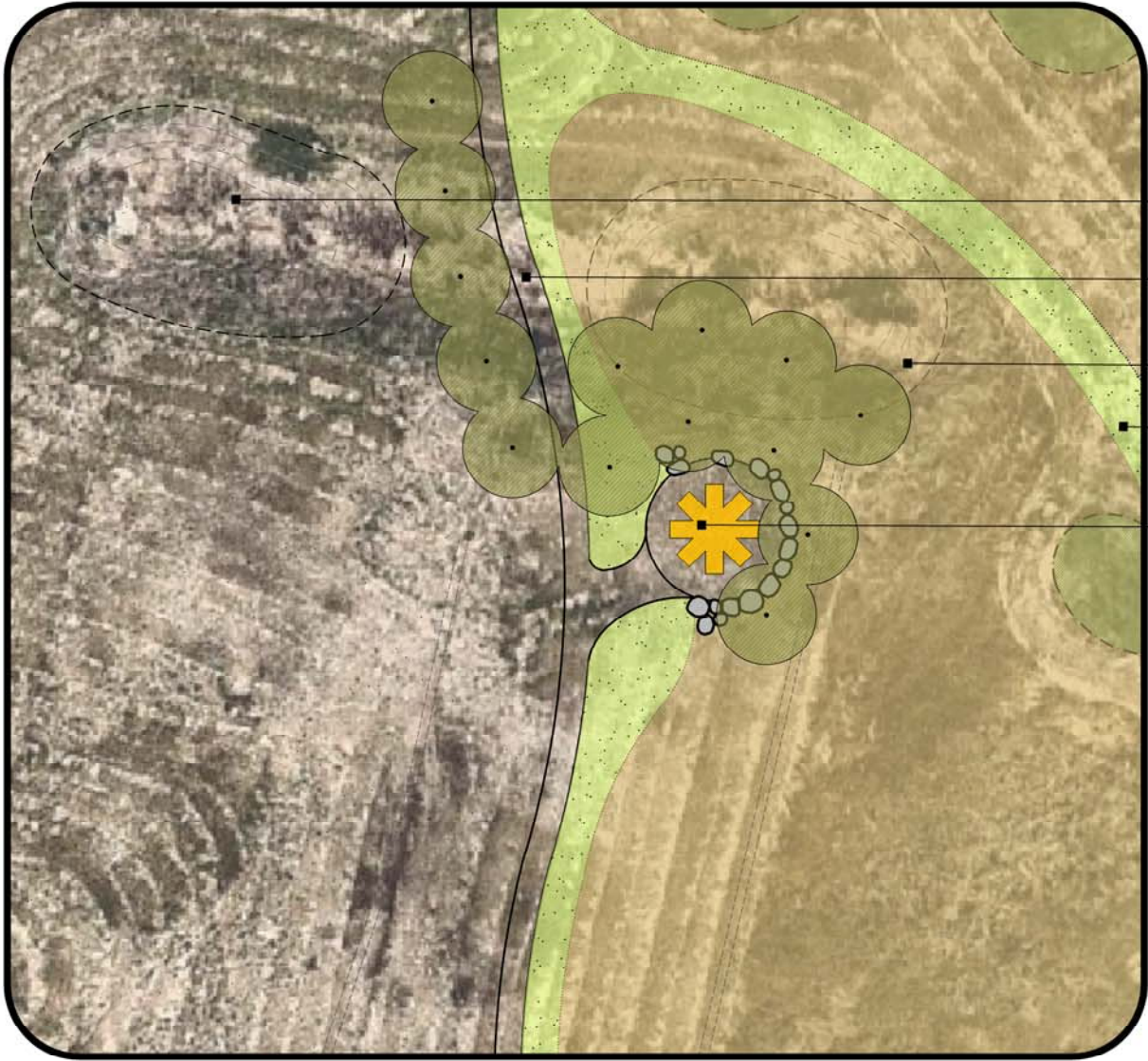
Figure 1. Large basalt boulders in granite sand paved area (possible informal seating / definition of gathering space).



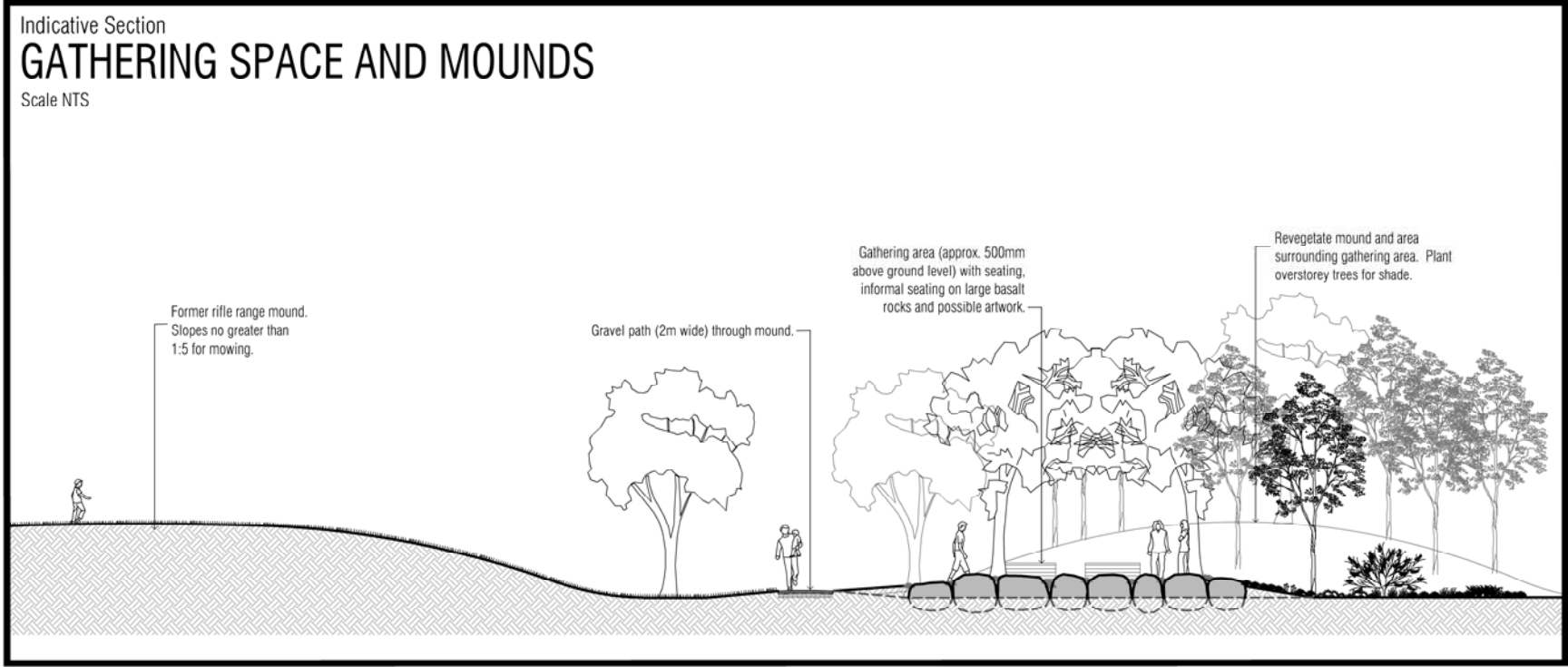
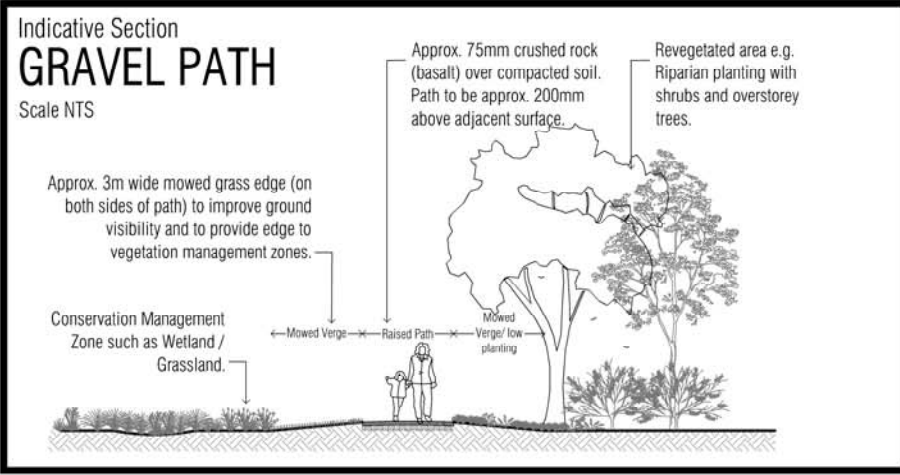
Figure 2. Feature sawn bluestone boulders (possible informal seating). Reference to sites history of sawn bluestone industry and as a local natural material.



Figure 3. Feature front fence of timber post and rails. Possible use of recycled historic decorative farm gate for maintenance access.



- Enlargement  
**GATHERING SPACE CONCEPT**  
Scale 1:400 at A3
- Reduce height and batter side to allow mowing (subject to soil contamination assessment), and able to be climbed for viewing.
  - Raised 2m wide gravel path with 3m wide mowed verges through "former rifle mound" to reduce visual barrier to north.
  - Reduce height of former "rifle mound" and revegetate. Mound provides a sheltered location for 'Gathering Space'.
  - Mowed 3m wide informal access paths.
  - Reuse suitable spoil from "rifle mound" to raise Gathering Space by 0.5m. Construct leveled, compacted, granitic sand area for gatherings / education. Plant trees for shade.
  - Provide seating including informal seating such as large, flat-topped basalt boulders. Explore interpretative signage relating to Dja Dja Wurrung use of the site and possible artwork.



Client / Project			
Macedon Ranges Shire Council			
Malmsbury Common			
Malmsbury			
Drawing Title			
Landscape Masterplan 03			
Drawn	Approved	Date	North
AD	RH	12.03.18	
Scale (A3)	Scale (A3)	Sheet	
As shown	As shown	3 of 3	
This drawing and design is protected by copyright © PLOT Landscape Architects Pty Ltd.			
Drawing Number			
Revision			
PLA204-L03			B



## Appendix 2 - Map of Interpretative Signs



# INTERPRETATIVE SIGNS

PLOT 12.03.18

## MASTERPLAN VISION

The Malmesbury Common Masterplan aims to highlight the unique natural, cultural and historical qualities of the Common and provide opportunities to increase the use and enjoyment of this place by a range of users while enhancing the environmental values.

Implementation of the Masterplan will achieve the following objectives:

1. Create a biodiverse, natural corridor along the Coliban River that connects with the broader region.
2. Use regenerative management techniques and supplementary (re)vegetation planting to improve biodiversity by promoting high quality, diverse and healthy ecosystems that support locally indigenous flora and fauna.
3. Encourage partnerships and collaboration between government organisations and the local community.
4. Facilitate education through connection with nature and history and the importance of connection to country by providing interpretative information on Aboriginal cultural heritage, European history, and environmental values (including vegetation management techniques) of the Common. Include the theme of 'water' as this site demonstrates the value and use of water and many associated natural resources by people across time. Encourage creativity and support the inclusion of Public Art at the Common.
5. Provide access to the values of the Common by developing walking trails that provide visitors with diverse site experiences such as wide open spaces, seating and picnic areas, alluvial mining pits, mining heritage and grassland, wetland and riparian natural conservation areas.

- Conservation Zone 5 - Northern Plains  
1. Explore future access from road reserve through or along axis 5, north-south Coliban River.  
1a. Continue woody weed control and implement grassy wetland management.  
1b. Implement environmental burn or other techniques to manage vegetation.

- Conservation Zone 4 - Escarpment Shrubland  
(Views south to main common, limited existing natural values, difficult to access steep sections).  
2. Continue woody weed control. Major natural regeneration and erosion. Regeneration required to restore habitat values and stabilise the bank.

- Conservation Zone 3 - Riparian Woodland  
3. Explore opportunities for future public access to Ellis Falls with Coliban Water and other land owners. Replacement fencing along Channel Reserve to consider wildlife.

- Conservation Zone 1 - Wetland Taxa  
(Historic alluvial pits, low-lying, 50% indigenous species cover, limited maintenance vehicle and people access).  
4. Continue removal of woody weeds and implement grassy weed management.  
4a. Explore Ecological Burning.  
5. Reinroduce wetland, ground-storey and mid-storey species.  
6. Construct 2m wide gravel path (Outer Loop) - alignment to avoid removal of remaining vegetation. Construct low boardwalks where ground is uneven, inundated or to avoid impact native vegetation.  
7. Provide interpretative information relating to the ecology and historic mining pits.

- Extension of Conservation Zone 1 - Wetland Taxa  
(Historic alluvial pits).  
8. Replace current slashing maintenance with environmental burning or other vegetation management to extend CZ1 zone as shown.  
9. Mark new edge with fire-proof poles / markers to define new extent of CZ1 zone and assist slasher operator.  
10. Reinroduce wetland, ground-storey and mid-storey species.

- Current extent of un-slashed area  
11. Plant groups of indigenous canopy trees to provide habitat and to shade walking path. Provide seats in shaded areas for resting.  
Maintain grass slashing regime to maintain views and reduce fire fuel load. Consider fuel reduction burn in conjunction with ecological burns of CZ1 and CZ2.

- Original Coliban Water Channel  
12. Construct 2m wide crushed rock path (part inner Loop) on raised profile along edge of existing planting - regularly mow 3m width on either side of path where grassed.  
Existing Revegetation Zone  
13. Continue planting of indigenous plants along Coliban River.  
14. Mow 3m wide informal access paths down to Coliban River edge using existing topography.  
15. Construct concrete base to shelter and install interpretative signage and walking track information in existing shelter.

- REFER ENLARGEMENT OF ENTRY AREA ON L03  
16. Construct timber rail fencing to highlight frontage and exclude unauthorised vehicle access - provide maintenance access and gate.  
17. Install entry 'Welcome to Country' wayfinding and interpretative signage. Explore possibility of Victorian 'tourist attraction' signage.  
18. Continue indigenous planting including those used by the Dja Dja Wurrung people.  
Possible future public access / connection to Railway Station, Malmesbury Reservoir and Trentham  
19. Explore informal carparking within existing road reserve.

MALMESBURY COMMON (NORTH)

MALMESBURY COMMON (SOUTH)

BURRA BLUFF MINE

MALMESBURY CRICKET GROUND FOOTBALL OVAL

MALMESBURY BOTANIC GARDENS

Possible future access to Malmesbury Common North (#1).

Conservation Zone 3 - Riparian Woodland  
(Existing planting).

Wildlife Refuge Area

Conservation Zone 2 - Grassland Taxa.  
(Existing dense sward of Kangaroo Grass, highest existing conservation values).  
20. Implement environmental burn or other techniques to manage vegetation.  
21. Explore seed collection and propagation to supplement existing vegetation.

Views of historic Burra Bluff Mine site.  
22. Install interpretative signage relating to mine and revegetation works along Coliban River.

REFER ENLARGEMENT OF GATHERING SPACE ON L03  
(existing rifle mound, open slashed grass, drainage lines).  
23. Re-grade mound (subject to contamination assessment) to raise gathering space, produce mowable slopes and provide informal pedestrian access / lookout.  
24. Construct 2m wide gravel path.  
25. Construct gathering space with seating, signage, shade & shelter, interpretative signage and planting.

26. Mow 3m wide informal access paths to avoid existing plantings, remove vegetation and alluvial mining pits / low lying areas.

River Viewing Area over 'Island' - explore construction of viewing / bird-hide structure.

Extension of Conservation Zone 2 - Grassland Taxa  
(Historic alluvial pits, low lying areas).  
27. Replace current slashing maintenance with environmental burning or other vegetation management to extend CZ2 zone as shown.

Coliban River Crossing  
28. Explore Coliban River crossing (bridge) to provide circuit walk (via river and upstream), access from public recreation reserves and car-parking on Ralagh Street road reserve. Include entry treatment including signage and vehicle control.

### Legend

- ★ INTERPRETATION SIGNAGE
- FUTURE VIEWING AREA
- ACCESS / CONNECTION
- POSSIBLE FUTURE ACCESS / CONNECTION
- FEATURE GATHERING AREAS
- WILDLIFE REFUGE AREA

### Notes

1. This drawing is a Masterplan and is conceptual only and not for construction.
2. This plan is based on aerial photography and GIS data. The location of all paths, water course, trees and other site features is indicative only.
3. All measurements are in metres, unless otherwise stated.
4. The location and depth of services shall be verified on site prior to the commencement of any works.
5. All permits and approvals from relevant authorities shall be sought and secured prior to any works on site.
6. References: Malmesbury Common Masterplan (previous versions from Council Theory from Abaco Consulting (22 September 2017), M-Notes and notes from Malmesbury Common Masterplan Workshop at 14 September and 21 October 2017, Cultural Heritage Management Plan No. 10866 (in Victoria Clark & Associates) and subsequent feedback from MRSC.

Macedon Ranges Shire Council

Malmesbury Common  
Malmesbury

Landscape Masterplan 01

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## Appendix 3 – Malmsbury Common Conservation Report



# Conservation Report for Malmsbury Common, Mollison Street, Malmsbury




Prepared for Macedon Ranges Shire  
Council

Prepared by Daniel Young

Report 17064, Version 3.0  
February 2018

## Version Control

Version	Responsibility	Name	Date	Signature
1.0	Primary Author	Daniel Young	17/01/2018	
1.0	Internal Reviewer	Matt Hatton	xx/01/2018	
1.0	Council Comments	Michelle Wyatt Beau Kent		
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# 1. Introduction

Abzeco was commissioned by Macedon Rangers Shire Council to provide ecological advice to guide the update to the Malmsbury Common Masterplan. This brief plan sets out to document the existing ecological values present within The Common and provide the basis for the on-going management and improvement of these values. The plan describes the current state of the land, and provides a detailed description of the management works required to mitigate land degradation issues which aims to support improved biodiversity and habitat values. The plan also divides the site in different management zones, sets out conservation priorities and a timetable of works for each zone.

With regard to the ecological values within the Malmsbury Common, it is expected that:

- significant weed infestations will be effectively managed and maintained at low levels, and;
- existing biodiversity values of the site will be protected and enhanced.

The information contained within this report has been used to inform the Malmsbury Common Masterplan Document (PLOT Landscape Architects, Drawing Number PLA204-L01, dated November 12, 2017). Additional information regarding the broader vision and objectives for the site can be found within the Masterplan.

## 1.1 Site background

**Title particulars:** The study area covers three separate lots at 96 Mollison Street, Malmsbury, 3446.

**Landowner:** This plan relates to land owned by Macedon Rangers Shire Council. The Coliban River runs through the site which is Crown land managed by the North Central Catchment Management Authority. The site also an aqueduct managed by Coliban Water. All parties have been consulted during the formation of the Masterplan.

**Current zoning:** The land south of the Coliban River is zoned Public Park and Recreation Zone (PPRZ). The land north of the river is zoned Rural Living Zone - Schedule 5 (RLZ5).

**Planning overlays:** The entire site is covered by an Environmental Significance Overlay – Schedule 4 (ESO4), Erosion Management Overlay – Schedule 1 (EMO1) and Heritage Overlay – Schedule 148 (HO148 – tree controls apply). The majority of the site is also covered by a Land Subject to Inundation Overlay (LSIO). Under ESO4 and HO148 a planning permit is required to remove or lop trees unless explicitly exempt.

**Aboriginal heritage:** The site is also within an identified area of Aboriginal Cultural Heritage sensitivity due to its proximity to waterway. A registered site of sensitivity also overlaps a small portion of the site to the east.

**Current and historic land use:** The study area has a long history of European utilisation including grazing, gold mining and recreational activities. The Common is currently slashed for fire risk management purposes and is otherwise being managed primarily as a conservation reserve.

**Area:** Approximately 13.8 Ha

**Property description:**

The Common consist of two distinct portions, the larger southern portion consisting of low lying commonly inundated land and a smaller elevated portion to the north. The southern portion of The Common is bounded by the Coliban River to the east and north with the western boundary bordered by land belonging to Coliban Water containing a water transfer aqueduct. The southern boundary is defined by Mollison Street with access via an existing cross over from Mollison Street. The northern portion of The Common is bounded by private property to the north and east with the Coliban River defining the southern and western boundaries.

Vegetation varies greatly across The Common, however is typically defined by a high cover of exotic species owing to the long history of disturbance across the property. Despite the disturbance The Common still retains many natural values which can be expected to improve over time with ongoing management.

The property falls within the Central Victorian Uplands bioregion, the North Central Catchment Management Authority region and the Macedon Ranges Shire Council local government area.

## 2. Site assessment and considerations

### 2.1 Site inspection

A brief site assessment was carried out on the 1st September 2017 to assess the conservation values present within the Malmsbury Common. The site was traversed on foot and general observations were made regarding the presence and condition of native vegetation wherever it was identified. Based on these observations five distinct zones have been identified which correspond to the four conservation zones and one existing revegetation zone discussed in section 2.4 (Attachment 1). A detailed floristic assessment is beyond the scope of this project, however notes were made regarding the presence of high threat weeds as well as species indicative of the various vegetation types present across The Common. This assessment was primarily focussed on identifying broad management objectives for the site and not all flora and fauna species present were in a study area due to time constraints, management regimes such as slashing or grazing pressure and seasonality. It is anticipated that over time a comprehensive list of floristic values within The Common will be compiled for the site. A detailed fauna survey was not completed, however information on habitat quality and incidental observations were opportunistically recorded when they were observed.

### 2.2 Survey limitations

Despite this site assessment being primarily focussed on identifying broad management objectives for the site, it should be noted that flora and fauna surveys commonly fail to record all species present in a study area due to time constraints, management regimes such as slashing or grazing and seasonality. The relative obscurity or cryptic nature of some flora species and the seasonal lack of identification features, especially for lilies, orchids and grasses, can result in species being absent or overlooked in short surveys. It is therefore possible, given the scale of remnant vegetation throughout the site, the brevity of the survey effort and the less than ideal timing of the survey, that The Common may support some species of conservation significance. Additional survey effort is recommended throughout this report where it is considered relevant.

### 2.3 Vegetation condition and description

#### **Ecological Vegetation Types (EVC's)**

Pre-1750 Ecological Vegetation Class (EVC) modelling indicates that the study area once supported Stream-Bank Shrubland (EVC\_851) along the riparian corridor associated with the Coliban River, with Valley Grassy Forest (EVC\_851) present east of the river in the lower lying portions of the landscape. Plains Grassy Woodland (EVC\_55) was also common throughout the landscape, however typically restricted to the higher elevations to the west and north. As a result of the long history of European utilisation of the site, many of the key attributes used to distinguish vegetation types are either absent, degraded or overwhelmed by subsequent restoration efforts such as the historic planting of non-indigenous species such as Willow *\*Salix* spp. and more recent revegetative planting. As such, the vegetation present within The Common currently bears little resemblance to the historic modelled EVC's.

The study area has been delineated into 6 separate zones based on floristic composition, five Conservation Zones (CZ1-5) and the Existing Revegetation Zone (ERZ). The remainder of the study area not attributed to a Zone (primarily through the centre of the study area and near the

entrance) is anticipated to continue to be managed via an ongoing slashing regime. Despite the presence of some scattered indigenous vegetation, these areas are considered to be of lower conservation value and as such are not discussed further in this report. The various floristic zones present within The Common are discussed below.

### **Conservation Zone 1 (CZ1) – Wetland Taxa**

CZ1 is located in the north-west and western sections of the southern portion of The Common. It is characterised by its low-lying topography and was partially inundated at the time of the site assessment. CZ1 has approximately 50% cover of indigenous species characterised by wetland taxa such as sedges and rushes, the most abundant and structurally significant being Tall Sedge *Carex appressa* and Tassel Sedge *Carex fascicularis*. This zone is devoid of any indigenous midstorey or canopy species (Image 1). The eastern and southern boundaries of this zone are delineated by the historical slashing regime, and it is anticipated that in the absence of slashing, the floristic and structural components used to define CZ1 would extend further towards the centre of The Common.



**Image 1.** Remnant indigenous vegetation common throughout CZ1 with Tall Sedge in the foreground.



**Image 2.** Southern boundary of CZ1 with the interface with the slashing zone evident.

A moderate cover of woody weeds is present throughout CZ1 primarily consisting of Gorse *\*Ulex europaeus* and low levels of Sweet Briar *\*Rosa rubiginosa* and Hawthorn *\*Crataegus monogyna* (Image 3). Pasture grasses are also common throughout CZ1, dominated by Yorkshire Fog *\*Holcus lanatus* and restricted incidences of Toowoomba Canary-grass *\*Phalaris aquatic* (Image 4). The woody weeds should be the focus of management intervention in the short term, however the pasture grasses in this context are considered high threat, and in order to facilitate natural regenerative processes it is recommended that grassy weed control be undertaken across CZ1 in the future.





**Image 3. Woody weeds including Gorse and Cherry Plum *Prunus cerasifera*.**



**Image 4. Areas of exotic grasses within CZ1 with Gorse and other woody weeds beyond.**

Revegetation works could be considered within CZ1, with the primary focus of restoring the habitat values that will be lost as a result of the woody weed removal. Several suitable midstorey species have been recommended in Table 1. Additional groundstorey plantings are unlikely to be necessary due to many wetland species present readily spreading via underground rhizomes. However, in time, the area would be suitable for the reintroduction of a range of wetland taxa such as Swamp Daisy *Allittia cardiocarpa* and Billybuttons *Craspedia* spp. whose large showy flowers would potentially add to the enjoyment of The Common by the general public alongside the intrinsic benefits of improved ecological function that is derived from increased diversity.

Whilst it is likely canopy trees would have been scattered throughout the low relief swampy areas surrounding Malmsbury, CZ1 is considered significant within the landscape due to the wetland values present. The introduction of canopy species is likely to have a detrimental effect on the values that are the target of the conservation efforts within CZ1 due to their ability to absorb large volumes of water. As such it is recommended that revegetation efforts within CZ1 focus on restoring midstorey habitat values, with a long-term goal of improving groundstorey diversity.

***Conservation Objectives for CZ1 – we want to achieve:***

- Maintenance of the zone's wetland values
- Extension of the zone to areas with similar characteristics (including to CZ1a), through beneficial management practices
- Reduction in woody and grassy weed cover
- Maintenance and enhancement to the zone's habitat values, including through replacement of lost habitat resulting from woody weed removal
- Reduction in biomass and establishment of conditions for regeneration of native species
- Increased species diversity



## ***Conservation Zone 2 (CZ2) – Grassland Taxa***

CZ2 occurs in the north east portion of the study area and is characterised by a dense, however restricted sward of Kangaroo Grass *Themeda triandra*, a key groundstorey species which would have once dominated much of the broader landscape and is now restricted to small isolated patches (Image 5). Kangaroo Grass has a low tolerance for disturbance and does not typically recolonise readily after being displaced from a site, potentially indicating that the area currently containing Kangaroo Grass may have avoided the historical soil disturbance prevalent across much of The Common. The dense thatching typically associated with unburnt Kangaroo Grass, which in time becomes a threat by smothering the species itself, has served to provide a barrier to weed invasion resulting in a relatively weed free stand (Image 6).



**Image 5.** Dense stands of Kangaroo Grass present within CZ2.



**Image 6.** Relatively weed free areas dominated by Kangaroo Grass.

CZ2 contains some of the most significant conservation values within the site and should be a priority area for management activity in order to prevent the Grassland values present from degrading beyond their current condition. Currently the floristic values of CZ2 are difficult to determine as a result of the overgrown nature of the Kangaroo Grass, however further investigation during late spring or subsequent to biomass management is likely to reveal additional species of note.

CZ2 provides a logical strategic starting point for restoration works, with opportunities for seed collection and subsequent propagation of Kangaroo Grass likely to have a significant positive impact on restoration efforts within The Common. Additionally, the area within CZ2 could be considered for supplementary planting of a range of groundstorey taxa once common, including members of the daisy, pea and lily families.

Opportunity exists to extend CZ2 in a central part of the site that also contains good coverage of Kangaroo Grass, but which has historically been slashed (identified as CZ2a).

### ***Conservation Objectives for CZ2 – we want to achieve:***

- Maintenance of the zone's native grassland values
- Maintenance of the zone's low level of weed cover
- Reduction in biomass and establishment of conditions for regeneration of native species
- Extension of the zone to areas with similar characteristics (including to CZ2a), through beneficial management practices
- Increased species diversity

### ***Conservation Zone 3 (CZ3) – Riparian Woodland***

CZ3 pertains exclusively to the riparian strip immediately adjoining the Coliban River. CZ3 includes several areas that have been the subject of previous revegetation efforts which have been highly successful, however the focus of discussion in this report will be the remnant values present in CZ3.

Vegetation bordering the creekline itself is primarily indigenous and dominated by rushes such as Cumbungi *Typha* spp., Common Reed *Phragmites australis* and Club-rush *Bolboschoenus* spp. with Water Ribbons *Cycnogeton* spp. present within areas containing deeper water towards the centre of the river (Images 7 and 8).



**Image 7.** Indigenous sedges and rushes recolonising the banks of the Coliban River subsequent to extensive weed control efforts.



**Image 8.** Indigenous aquatic vegetation growing within the Coliban River.

Remnant indigenous woody vegetation is virtually absent from the banks of the river as a result of a long history of woody weed encroachment including a dense infestation of Willow *Salix* spp. which formally spanned the length of The Common and beyond, as well as considerable infestations of Hawthorn (Image 9). Much of the high threat woody weed control work has been completed or is in the process of being completed providing opportunities for revegetation along much of the length of the river (Image 10).



**Image 9.** Small areas of Willow and other woody weeds are still present within CZ3, however are much reduced from their original extent.



**Image 10.** Open areas along the northern banks of the Coliban River provide opportunities for supplementary plantings, in particular midstorey shrubs for structural habitat and sedges to stabilise the banks and reduce the likelihood of erosion during flood events. The escarpment in Image 10 belongs in part to CZ4.

The reintroduction of a mix of midstorey species should be the priority within CZ3, with a number of examples of species considered suitable provided in Table 3. Additional plantings of canopy species should also be considered, however care should be taken to avoid the river being completely shaded as many aquatic species, both flora and fauna, thrive where there is a combination of deep shade and warmer, more open areas with direct sunlight. Additionally, the historic vegetation type modelled for the river environs is Stream-bank Shrubland, suggesting the overstorey was in all likelihood historically sparse. It is unlikely additional revegetation will be required within the river itself due to the rapidly colonising nature of aquatic vegetation. However, should supplementary planting of aquatic species be deemed necessary, the species currently present should be used as a guide to inform species selection.

***Conservation Objectives for CZ3 – we want to achieve:***

- Protection of the aquatic flora and fauna within the Coliban River
- Improvement in the stability of the river bank and prevention of erosion resulting from high flow events
- Maintenance and enhancement to the zone's habitat values, including through replacement of lost habitat resulting from woody weed removal
- Increased species diversity

***Conservation Zone 4 (CZ4) – Northern Escarpment***

CZ4 is comprised of a steep escarpment on the north side of the Coliban River that leads down to river itself. At the time of the assessment much of the escarpment was dominated by woody weeds including large stands of Hawthorn, Gorse, Sweet Briar and Common Blackberry *\*Rubus anglocandicans*, making any attempt to quantify the current floristic values of this portion of The



Common very difficult. Previous weed control efforts were evident within some areas of the escarpment with a significant portion of the Hawthorn having been treated and left standing at the time of the site visit, along with extensive areas of Gorse and Blackberry having been groomed (Images 11 and 12). Follow up spraying of the groomed areas is scheduled and possibly more grooming on the escarpment to the north. On-going management of this zone will need to incorporate reoccurring weed control, primarily focusing on follow up treatment of Gorse and Blackberry.

The exotic species within this zone are currently providing some of the best midstorey structural habitat values within the entire site. As such, the short to medium term revegetation efforts within CZ4 should be aimed at restoring the habitat values that are being lost via dense plantings of midstorey and overstorey shrubs such as Tree Violet *Melicytus dentatus* and Lightwood *Acacia implexa*, both of which are species that are currently present within CZ4 in low densities. Additional groundstorey plantings would be advantageous, however, they should only be considered after weed control has occurred and in the absence of natural regeneration.



**Images 11 and 12.** Dense stands of Hawthorn present within CZ4. Much of the Hawthorn in these images has been treated, however extensive areas of Gorse and Blackberry remain throughout much of this zone making a thorough floristic assessment difficult. This zone should be assessed for natural recruitment post weed control before commencing any revegetation works.

***Conservation Objectives for CZ4 – we want to achieve:***

- Maintenance and enhancement to the zone's habitat values, including through replacement of lost habitat resulting from woody weed removal
- Stabilisation of the escarpment / prevention of erosion
- Reduction in woody weed cover
- Reduction in biomass and establishment of conditions for regeneration of native species
- Increased species diversity

***Conservation Zone 5 (CZ5) – Northern plains***

Conservation Zone 5 is located within the elevated area within the northern portion of the study site (Image 13). The zone is defined by Conservation Zone 4 to the west and south, with freehold grazing land to the north and east. The modelled EVC for this part of the site is Plains Grassy Woodland (EVC 55).

Formally grazed, CZ5 has a high cover of exotic pasture grasses, along with patches of woody weeds such as Gorse and Blackberry, typically adjoining patches on the neighbouring escarpment, with Hawthorn and Sweet Briar also present at lower densities (Images 14 and 15). Previous weed management efforts were evident across CZ5 with Gorse and Blackberry grooming occurring in conjunction with the treatment of the neighbouring CZ4. Similar to CZ4, ongoing management of CZ5 will need to incorporate reoccurring weed control, with the primary focus being the Gorse and Blackberry.

Due to the high cover of exotic grasses, the floristic values of CZ5 are difficult to determine, however several small patches of Kangaroo Grass were observed across CZ5 (Image 16). Management of CZ5 will therefore follow similar prescriptions to the Kangaroo Grass dominated patches within Conservation Zone 2 with biomass management, preferably in the form of an ecological burn, with follow up floristic assessments required to inform the best way to proceed. It is anticipated the CZ5 will remain an open grassy area and as such no revegetation has been recommended within CZ5. However, should revegetation be deemed desirable in the future, midstorey and canopy species recommended for the neighbouring CZ4 would be suitable, as would the grassland affiliated taxa included in the species list for CZ2.



**Images 13.** View looking south across the Malmsbury Common from the elevated northern portion of the site.



**Images 14.** Areas dominated by exotic grassy and herbaceous groundstorey species.



**Images 15.** Woody weeds are common on the neighbouring escarpment and encroach upon CZ5 in places. Weed control in the form of grooming had occurred across much of the site at the time of the assessment.



**Images 16.** Kangaroo grass within CZ5. Management should seek to expand the cover of Kangaroo Grass within CZ5

***Conservation Objectives for CZ5 – we want to achieve:***

- Restoration of the zone’s native grassland or grassy woodland values
- Reduction in woody weed cover
- Increased species diversity

***Existing Revegetation Zone (ERZ)***

Existing revegetation efforts are evident across much of the southern portion of The Common as well as in several discreet patches along the length of the Coliban River. The majority of the revegetation efforts appear to have been highly successful with extensive stands of Manna Gum *Eucalyptus viminalis* established throughout the site along with several species of shrub, most notably Black Wattle *Acacia mernsii* and Wirilda *Acacia retinodes*. The Manna gum plantings are dense, serving to suppress weeds throughout these zones (Image 13). It can be expected that over time there will be some natural attrition as individual trees assume dominance, potentially opening up opportunities for increased groundstorey diversity.

In addition to the dense tree and shrub plantings that have occurred, several areas of groundstorey plantings were evident, in particular towards the southern end of The Common (Image 14). These plantings are typically dominated by tussock grasses, although some areas close to the entrance have a variety of herbaceous species interspersed throughout (Image15). Much of this work has been completed to a high standard, with little additional inputs required for these areas beyond the hand weeding that has been occurring to date.



**Image 17.** Previous revegetation with the Malmsbury Common with dense plantings of Manna Gum typical throughout the Revegetation Zone.



**Image 18.** Example of previous revegetation with a combination of groundstorey and sparse overstorey plantings providing a more natural look.





**Image 19.** Indigenous herbaceous plantings interspersed amongst tussock grasses near the southern entrance to The Common

***Conservation Objectives for ERZ – we want to achieve:***

- Maintenance of the zone's low weed cover

### 3. Management objectives and methodology

This section outlines management objectives relating to ecological issues within The Common and details actions required to further enhance biodiversity values of the site.

Priority ecological objectives for the site are:

1. reduction in the cover of high threat weeds
2. reestablishment of habitat values with local indigenous flora to compensate for the habitat lost as a result of the historic removal of exotic trees and shrubs and ongoing woody weed control

Achieving these objectives should lead to the general long-term improvement in the ecological value of The Common via a reduction in exotic species in favour of local indigenous flora.

These management objectives are discussed in more detail in the following sections. A timetable detailing management task in the order of priority is provided in Section 4.

#### 3.1 Weed control

##### 3.1.1 Management of high threat weeds

Extensive high threat weed control has already occurred across much of The Common with the focus to date being the woody weeds, primarily Willows *\*Salix* spp. and Hawthorn *\*Crataegus monogyna* have been treated along the riparian strip either side of the Coliban River. Substantial gains in the reduction of Gorse and Blackberry have been achieved by utilizing grooming and spot spraying control techniques. As a result of the woody weed removal, in particular the Willows along the river, the site has seen natural regeneration of indigenous aquatic vegetation resulting in significant improvements to ecological function throughout this portion of the study area.

Future weed management should aim to continue the works completed to date with a priority on completing the remaining Willow and Hawthorn removal along the Coliban River, along with other woody weeds such as Blackberry *\*Rubus anglocandicans* and Gorse which are also a priority for control. Beyond the riparian zone, high threat woody weeds are also present at low to moderate densities within Conservation Zone 1, primarily Gorse, Cherry Plum *\*Prunus cerasifera* and Hawthorn. Additionally, given the nature of the indigenous vegetation within CZ1 and CZ2, exotic pasture grasses are also considered to be high threat and, in the absence of intervention, likely to suppress indigenous vegetation, including recruitment, and result in a gradual loss of ecological values from these areas.

It is noted that the woody weeds at the site provide habitat for native fauna such as small birds and wallabies. This is particularly the case for Conservation Zone 4 which comprises the escarpment on the north side of the Coliban River. Consideration should be given to undertaking revegetation works at the same time or soon after woody weed treatment to ensure this habitat is replaced.

Weed management strategies should consider targeted herbicide control prior to flowering and seed-set to ensure optimum results. It is anticipated over time that the indigenous species, both naturally recruiting and planted, may provide competition to help to prevent weed species recolonising. Herbicide selection is critical to ensure off target impacts are minimised and target weeds are treated efficiently. For example, a selective broad-leaved herbicide should be used to



treat broad-leaved weeds. Caution should also be taken regarding the use of herbicides in and around waterways. Chemical specific advice can be found on the herbicide label. Non-selective herbicides may be used where damage to indigenous species is unlikely or if the application method itself is selective, such as application via a knapsack.

Timing for the control of woody weeds should be specific to the target weed and associated chemical. Most noxious woody weeds found at the site can be treated during spring and early summer prior to fruiting, with the exception of Blackberry which requires treatment in mid to late summer. Please note that mature noxious woody weeds may need alternative control methods, such as, but not limited to cut and paint. All referenced treatments should only be undertaken by suitably qualified or experienced operators.

It should be noted that many herbicides require an Agricultural Chemical User Permit (ACUP) to purchase and use for weed control. It is recommended that only people with the appropriate training undertake works where such chemicals are required.

Constant vigilance must be maintained for significant weeds that are not currently present on the property but may appear in the future due to the significant amount of soil disturbance proposed for the site.

### 3.1.2 Minimising the potential for spreading weeds

The intentional or inadvertent transport or spread of weeds by vehicles or machinery (including in soil) that are listed as 'State Prohibited', 'Regionally Prohibited', 'Regionally Controlled' or 'Restricted' under Victoria's *Catchment and Land Protection Act 1994* is prohibited.

The following vehicle and machinery hygiene measures are to be implemented to prevent the inadvertent spread of weeds:

- Allocate appropriately contained areas for cleaning down vehicles and machinery away from native vegetation, drains and waterways. Before moving into relatively weed-free areas within The Common, ensure that machinery and vehicles are adequately washed down.
- Wash down machinery and vehicles by first scraping off all soil and then thoroughly hosing down or steam cleaning, air-blasting and vacuuming. Critical contamination areas where particular thoroughness is required include tool attachments, under wheel arches, wheel axils, tyre grooves, mud guards, radiators and ledges and frames.
- Commence working with clean machinery in weed-free areas and subsequently move into weed affected areas wherever possible.

It is considered unlikely machinery or vehicles would be required to enter into areas of high conservation value within The Common. Much of the mechanical weed removal has been completed previously and major earthworks such as the proposed reshaping of the 'Rifle Butt' and earthworks associated with the proposed open space occur in areas of low conservation significance. Major works such as bridge construction should implement a Construction Environmental Management Plan (CEMP) to minimise the environmental impacts of such works.

### 3.1.3 Management of bare ground

Earthworks are anticipated to occur within The Common to facilitate the construction of the internal path network and central elevated area created by the reshaping of the large mound of soil towards the centre of the site. The following measures are intended as broad guidelines to minimise the potential for impact to remnant vegetation within The Common and to mitigate the chance of exposed soil becoming infested with exotic species:

- Schedule earthworks to be undertaken in the expected drier months of the year to minimise the possibility of soil migration due to heavy or constant rainfall.
- Avoid construction activities that involve disturbance to soil during periods of expected heavy or lengthy rainfall.
- Do not deposit excess fill on or close to any of the designated Conservation Zones.
- Erect sediment fences down slope of any soil stockpiles or freshly turned areas that are not able to be immediately removed or remediated.
- Areas of soil left exposed should be oversown with fast germinating grass species to ensure stabilisation, minimise erosion and prevent establishment of undesirable exotic species as much as possible.

## 3.2 Supplementary planting

### 3.2.1 Sourcing plants

To minimise the risk of outbreeding depression, plants should be grown from parent stock collected within the same provenance. To date, revegetation within The Common has been via the use of tubestock, with high levels of success in establishing trees, shrubs and some limited groundstorey species. The use of tubestock is anticipated to be the primary method of supplementary planting, however in some areas of the site direct seeding could be considered, in particular in Conservation Zone 2 and 5.

### 3.2.2 Planting arrangement

With the exception of the areas within Conservation Zone 4 which has recently undergone extensive woody weed treatments, most areas where supplementary planting is recommended within The Common contain some indigenous vegetation. As such specific planting locations and densities will need to be determined on a project by project basis with due consideration shown to existing indigenous species. Trees are not anticipated to feature heavily in any future plantings within The Common, however should they be considered they are to be spaced approximately 10 m apart, with shrubs ideally 2-3 m apart. Plants are to be randomly mixed together and evenly distributed to achieve a 'natural landscape' appearance. The riparian zone should be planted with a mix of sparse canopy trees and smaller tree and shrub species, with opportunities for infill planting of groundstorey taxa such as grasses, sedges and herbs abundant throughout all four conservation zones.

Species and planting densities, whilst specific to the relevant conservation zone, are intended as a guide only as the cover of native vegetation is inconsistent, rendering some low quality patches within zones able to accommodate many individual plants whilst some high quality areas may require only minimal, or no supplementary planting. Recommended species for planting within the four conservation zones are provided in Tables 1-4.

These lists are largely based on flora records in the Victorian Biodiversity Atlas within 5 km of the site as well as species observed growing within the local area, including within The Common itself. Local knowledge of the surrounding vegetation was also heavily leant upon, in particular that of John Walter, a local Malmsbury resident and keen naturalist with extensive knowledge of the local floristics.

**Table 1. Indigenous wetland species recommended for supplementary planting within Conservation Zone 1.**

Scientific name	Common name	Recommended Planting Densities
Trees and Shrubs		
<i>Acaica melanoxylon</i>	Blackwood	5 to 10 m spacing
<i>Allocasuarina littoralis</i>	Black Sheoak	
<i>Callistemon sieberi</i>	River Bottlebrush	
<i>Eucalyptus camaldulensis</i>	River Red Gum	
Groundstorey		
<i>Allittia cardiocarpa</i>	Swamp Daisy	0.5-1 m spacing
<i>Carex appressa</i>	Tall Sedge	
<i>Carex fascicularis</i>	Tassel Sedge	
<i>Centella cordifolia</i>	Centella	
<i>Craspedia variabilis</i>	Variable Billy Buttons	
<i>Eleocharis acuta</i>	Common Spike-rush	
<i>Hemarthria uncinata</i>	Matt Grass	
<i>Juncus pallidus</i>	Rush	
<i>Juncus australis</i>	Austral Rush	
<i>Juncus subsecundus</i>	Finger Rush	

**Table 2. Indigenous species suitable for supplementary planting within the Kangaroo Grass dominated Conservation Zone 2.**

Scientific name	Common name	Recommended Planting Densities
<b>Trees and Shrubs</b>		
None recommended		
<b>Groundstorey</b>		
<i>Arthropodium strictum</i>	Chocolate Lily	0.1-0.5 m spacing
<i>Acaena echinata</i>	Sheep's Burr	
<i>Austrostipa</i> spp.	Spear Grass	
<i>Bulbine bulbosa</i>	Bulbine Lily	
<i>Chrysocephalum apiculatum</i>	Common Everlasting	
<i>Chrysocephalum semipapposum</i>	Clustered Everlasting	
<i>Dianella revoluta</i>	Dianella	
<i>Leptorhynchos squamatus</i>	Scaly Buttons	
<i>Themeda triandra</i>	Kangaroo Grass	
<i>Poa labillardierei</i>	Tussock Grass	
<i>Poa sieberiana</i>	Grey Tussock-grass	
<i>Rytidosperma</i> spp.	Wallaby Grass	
<i>Wahlenbergia gracilis</i>	Sprawling Bluebell	

**Table 3. Indigenous species recommended for planting within the riparian zone – Conservation Zone 3.**

Scientific name	Common name	Recommended Planting Densities
<b>Trees and shrubs</b>		
<i>Acacia dealbata</i>	Silver Wattle	5 to 10 m spacing
<i>Acacia melanoxylon</i>	Blackwood	
<i>Allocasuarina littoralis</i>	Black Sheoak	

Scientific name	Common name	Recommended Planting Densities
<i>Banksia marginata</i> (tree form)	Silver Banksia	
<i>Callistemon sieberi</i>	River Bottlebrush	
<i>Eucalyptus camaldulensis</i>	River Red Gum	
<i>Eucalyptus viminalis</i>	Manna Gum	
Groundstorey		
<i>Carex appressa</i>	Tall Sedge	0.5-1 m spacing
<i>Carex fascicularis</i>	Tassel Sedge	
<i>Kennedia prostrata</i>	Running Postman	
<i>Leptospermum lanigerum</i>	Woolly Teatree	
<i>Poa labillardierei</i>	Tussock Grass	

**Table 4. Indigenous species recommended for planting within the Escarpment – Conservation Zone 4**

Scientific name	Common name	Recommended Planting Densities
Trees and shrubs		
<i>Acacia implexa</i>	Lightwood	5 to 10 m spacing
<i>Acacia mearnsii</i>	Black Wattle	
<i>Allocasuarina verticillata</i>	Drooping Sheoak	
<i>Bursaria spinosa</i>	Kurwan	
<i>Eucalyptus camaldulensis</i>	River Red Gum	
<i>Cassinia aculeata</i>	Common Cassinia	
<i>Melicytus dentatus</i>	Tree Violet	
Groundstorey		
<i>Cheilanthes distans</i>	Bristly Cloak-fern	0.5-1 m spacing
<i>Dichondra repens</i>	Kidney-weed	
<i>Enchylaena tomentosa</i>	Ruby Saltbush	
<i>Kennedia prostrata</i>	Running Postman	
<i>Lomandra filiformis</i>	Wattle Mat-rush	

### Revegetation for CZ5

No revegetation is anticipated to occur within CZ5, however suitable grassland affiliated groundstorey species from Table 2 and midstorey species from Table 4 would be suitable.

### 3.2.3 General revegetation guidelines

New plants must only be established in areas where weeds (including exotic pasture grasses) have been sprayed out or manually removed, as planting into areas before weeds have been controlled can lead to competition for resources that may suppress newly established seedlings.

Planting should be undertaken between mid-autumn and early spring to allow enough time for plants to establish before summer, however the low-lying nature of CZ1 may extend this window until mid to late spring. New plants will require thorough watering before and immediately after planting, and periodic (heavy but infrequent) watering may also be required in the first summer to ensure successful establishment and/or if plants show signs of drought stress.

Due to the presence of rabbits, kangaroos and wallabies, all plants should be protected with tree guards, such as plastic sleeves, wire cages, corflute or milk carton sides held in place with bamboo, hardwood or wire stakes.

### 3.3 Fire management considerations

Management which aims to achieve ongoing, long term improvement of the biodiversity and conservation values of The Common will need to be considerate of the strategic position of the site with regard the centre of the Malmsbury township. Currently, the large central portion of The Common is slashed by the Macedon Ranges Shire Council as part of their annual fire prevention slashing regime. This management technique is recommended to continue with the ongoing slashing of areas outside the identified conservation zones unlikely to degrade this portion of the study area beyond its current condition. As noted previously, the floristic assessment of the site was limited and therefore should future assessments identify conservation values within the area currently being slashed, then the extension of existing conservation zones, or the creation of new zones may be required. If this occurs it is acknowledged that variations may be required to the slashing regime.

Active management of The Common which focusses on transitioning areas, particularly within CZ1, from being exotic grass dominated to being primarily indigenous will have the dual outcome of improving biodiversity and reducing the fire threat. In addition, the implementation of the Malmsbury Common Masterplan will result in the establishment of an internal path network, providing a greatly increased level of access for management vehicles, as well as emergency services.

If the slashing regime at the site continues, in conjunction with an introduced ecological fire regime it is expected that there will be a reduction in the cover of biomass. Given the predicted increase in accessibility into the future a reduced fire threat to Malmsbury township and the Common itself will be an ongoing focus.

### 3.4 Rabbit control

It is a legal requirement under the *Catchment and Land Protection Act 1994* that landowners take all reasonable steps to prevent the spread of (and where possible, eradicate) pest animals including foxes, rabbits and hares on their land.

At the time of the site assessment to inform this report, minor rabbit activity was observed in the form of latrine sites and several warrens that appeared to be disused. The late spring timing of the assessment was sub-optimal for detecting rabbit impacts due to the lush and rapidly growing vegetation within the site, however the presence of rabbits was noted and it can be reasonably expected that browsing impacts would be more obvious in the dryer months or in dryer seasons. The site's rabbit population may also impact new plantings as discussed above, as well as regrowth after ecological burns. These impacts should be monitored and an assessment of rabbit numbers carried out to determine whether rabbit control is required.



**Images 20 and 21.** Rabbit scratching latrine sites indicating presence of rabbits within The Common.

If rabbit management is undertaken in the absence of rabbit proof fences (which is not a practical option for Malmsbury Common), it will be best achieved in cooperation with relevant neighbours in an ongoing integrated plan. Any baiting program proposed should include notification to neighbouring properties in an attempt to initiate a co-operative control program.

If undertaken, baiting should be carried out throughout the property during the summer-autumn period every year as required. This should occur before the post-summer rains that typically provide for autumn-winter pasture regeneration. Baiting during winter and spring is unlikely to be as effective due to the high availability of natural feed (reducing the desirability of baits). The use of carrot baits containing pindone can be effective but is not recommended for sites regularly frequented by native herbivores such as kangaroos, as off-target deaths can result.

It should be noted that baiting will need to be undertaken by a licensed and suitably qualified contractor due to the requirement for an Agricultural Chemical Users Permit (ACUP) enabling the purchase of 'restricted supply chemicals' and undertake control of pest plants and animals using 'restricted use' chemicals.

Patrols for rabbits should be undertaken regularly every year and if any warrens are located, these should be fumigated and blocked or destroyed. Following each warren treatment, affected areas are to be regularly monitored and re-sown with desirable pasture species as required. Follow-up weed control may also need to be undertaken.

## 4. Action plans

Due to the inconsistent nature of funding for land management works within The Malmsbury Common, a detailed works schedule outlining management requirements and timeframes for implementation in the short to medium is inappropriate. Instead, the following tables are intended as a guide to the types of management actions that are required across the site and within each conservation zone, with the highest priority actions listed initially, followed by lower priority or aspirational management actions. The order of the actions also reflects the order for carrying out these works.

Given the long timeframe of the works and allowing for changes in conditions that cannot always be anticipated, the following should be regarded as a guide only. The recommendations below pertain specifically to improving the conservation values of The Common and will need to be implemented in conjunction with the objectives and actions contained within the Malmsbury Common Masterplan document.

*Many actions, such as weed control, will require an ongoing commitment over multiple years. As such, site management should be adaptive and respond appropriately to changes in conditions, particularly the control of any new high threat weed species that appear. The works completed and their timing may also be influenced by the resources available and whether an ecological burn is undertaken that year.*

### 4.1 Site wide action plan

Council's environmental management of the site is likely to occur across two landscape units - Malmsbury Common South and Malmsbury Common North. That is, works such as ecological burning and weed control for Conservation Areas 1 to 3 are likely to be scheduled concurrently, as would works at Conservation Zone 4 and 5. As such, Tables 5 and 6 set out an overarching Action Plan for Malmsbury Common South and North to help inform the scheduling of environmental management works at the site.

**Table 5 – Environmental Management Action - Malmsbury Common South**

Action	Management action	Description of action	Timing
MCS – 1	Pre-works fauna survey	Conduct targeted surveys for rare and threatened species, particularly those that may be impacted by fire or herbicide control – e.g. Brown Toadlets and other amphibians or reptiles.	Autumn – Brown Toadlets
MCS – 2	Pre-burn flora monitoring	Establish flora monitoring quadrats and conduct a baselined flora assessment prior to implementing ecological burning	Spring



Action	Management action	Description of action	Timing
MCS - 3	Pre-burn woody weed control	Treatment of re-emerging woody weeds	Spring
MCS – 4	Brush-cutting	If ecological burning is not feasible and / or in between burns, selectively brush cutting dense infestations of exotic grasses.	Spring, prior to seed setting
MCS – 5	Ecological burn	Conduct an ecological burn across Conservation Zones 1 and 2 as detailed below <i>Note that the site's wet conditions restricts the timing of ecological burning.</i>	Summer – Autumn
MCS – 6	Post-burn flora assessment	Conduct a flora assessment of the monitoring quadrats to assess the outcomes of the burn.	Spring
MCS – 7	Post-burn weed control	Treatment of regenerating weeds	Spring – Autumn
MCS – 8	Supplementary Planting	Supplementary planting as required and as detailed below.	Late Autumn to early Spring
MCS – 9	Rabbit monitoring	On-going monitoring of rabbit presence and impacts to inform the need for rabbit control	As required, including following ecological burning

**Table 6 – Environmental Management Action - Malmsbury Common North**

Action	Management action	Description of action	Timing
MCN – 1	Woody weed control	Control of woody weeds such as Gorse, Blackberry as detailed below under Conservation Zone 4 and 5.	Spraying: Gorse (spring-autumn), Blackberry (summer). Cut and paint: Year-round
MCN – 2	Ecological burn (CZ5)	Conduct an ecological burn of Conservation Zone 5 as detailed below.	Autumn
MCN – 3	Post burn flora assessment	Conduct a flora assessment of the monitoring quadrats to assess the outcomes of the burn.	Spring

Action	Management action	Description of action	Timing
MCN – 4	Post burn weed control	Treatment of regenerating weeds following the burn in CZ5 and spot spraying in CZ5	Spring - Autumn following burn Year round in between ecological burns / when actively growing
MCN - 5	Supplementary planting (CZ4)	Supplementary plantings as required and as detailed below under CZ4	Autumn – early Spring

## 4.2 Zone specific action plans

This section provides a zone by zone breakdown of active management works at The Malmsbury Common in order of priority and scheduling.

**Table 7. Management Actions – CZ1**

Conservation Zone 1 – North west wetland area			
Action	Management action	Description of action	Timing
1.01	Woody weed control	Spray Gorse and Blackberry. Cut and paint larger weed trees such as Cherry Plum and Hawthorn.	Spraying: Gorse (spring-autumn), Blackberry (summer). Cut and paint: Year-round
1.02	Fauna survey	Consider carrying out fauna surveys to determine presence of any rare or threatened species, in particular amphibians. Potential Brown Toadlet habitat. Presence of Brown Toadlet or other significant species will impact subsequent actions due to the toxic nature of several common herbicides and wetting agents/surfactants, as well as the potentially destructive nature of vehicle movement across the site.	Autumn - ongoing

Conservation Zone 1 – North west wetland area			
Action	Management action	Description of action	Timing
1.03	Biomass management	Treat dense infestations of exotic grasses by selectively brushcutting or burning areas to assist in follow up weed control and provide opportunities for indigenous recruitment. Only treat areas that can be reasonably followed up with weed management. Use selective herbicides where necessary. Summer burning increases susceptibility to thistle invasion. Will require monitoring as Spear Thistle <i>Cirsium vulgare</i> is present on site.	Summer-Autumn. Timing of burning constrained due to likelihood of inundation for much of the year.
1.04	Herbaceous and grassy weed control	Treat grassy weeds post biomass treatment. Spraying large old tussocks is likely to confer reduced success and increase likelihood of off target damage. Methods will need to be determined on site however could involve low pressure rig-based spraying or knapsack. Multiple treatments of the same area are likely to be necessary. Spot spray herbaceous weeds opportunistically. Currently not a management concern however are likely to increase in abundance in the presence of active management.	Spring through to autumn. Treatments post biomass management are likely to be in late summer/first autumn rains. Will need to be highly responsive as once the site becomes inundated the weed control will be less effective or impractical.
1.05	Supplementary planting	Not required in the short term. Additional visually striking flowering species would add to the engagement of visitors to The Common. Planting could focus on areas which interact with the proposed walking tracks and/or boardwalks. Replacement of midstorey habitat values lost as a result of woody weed removal is a high priority, however at the site scale multiple opportunities exist to meet this requirement within other conservation zones. Additional shrub plantings are desirable, however are likely to constrain other management activities in the short term such as burning for biomass management should that approach be adopted.	Typically late autumn through to early spring, however being a wetland this window may be extended to any time except the height of summer.

Table 8. Management Actions – CZ2

Conservation Zone 2 – Kangaroo Grass dominated grassland area.			
Action	Management action	Description of action	Timing
2.01	Biomass management/ ecological burn	Treat overgrown Kangaroo Grass for excess biomass. Implementing an ecological burning regime for this area is important prevent the decline of the Kangaroo Grass, a keystone grassland species dependant on fire. Will provide opportunities for recruitment, and dependant on timing can serve a key function in weed management.	Initial burn in Autumn. Subsequent burns will depend on rate of biomass accumulation and site based practicalities i.e. spring burns likely to be challenging due to the site being inundated for much of the year. Summer could be considered.
2.02	Floristic surveys	Current floristic status impossible to determine due to overgrown conditions. Post biomass management assessment will be critical to accurately inform ongoing management. Consider preparing specific management plan for CZ2.	Late spring post biomass management. Multiple visits would be advantageous.
2.03	Herbaceous and grassy weed control	Spot spray using selective herbicides. Use specialist contractor able to identify Kangaroo Grass seedlings. A key outcome that can be anticipated to result from an ecological burn is Kangaroo Grass recruitment.	Early spring-early summer
2.04	Supplementary planting	Should be considered subsequent to a detailed floristic assessment. May not be required. Area currently occupied by the grassland community is restricted in size, providing opportunities for supplementary planting of grassland taxa in areas currently devoid of indigenous vegetation. Could focus on attractive/appealing species to engage visitors.	Autumn – Early spring

**Table 9. Management Actions – CZ3**

Conservation Zone 3 – The riparian strip adjacent to the Coliban River			
Action	Management action	Description of action	Timing
3.01	Woody weed control	Spray Gorse and Blackberry. Cut and Paint larger weed trees such as Willow, Cherry Plum and Hawthorn. Much of the mechanical heavy lifting has been completed previous to the preparation of this report.	Year-round – spray when actively growing. Common to treat Willow over winter due to the need to physically remove specimens and this being the lowest biomass time due to leaf drop.
3.02	Supplementary planting	Key location for reestablishment of midstorey habitat values lost as a result of woody weed removal. Extensive areas are open and easy to access. Existing revegetation has been highly successful, although dominated by canopy species. Opportunity to extend these areas with a more diverse range of species, in particular small and medium shrubs.	Autumn – Early spring
3.03	Herbaceous and grassy weed control	Spot spray using selective herbicides. Avoid using herbicides in close proximity to the creek.	Early spring- late autumn

**Table 10. Management priorities – CZ4**

<b>Conservation Zone 4 – Northern escarpment</b>			
<b>Action</b>	<b>Management action</b>	<b>Description of action</b>	<b>Timing</b>
4.01	Woody weed control	Much has already been completed with several areas of Hawthorn poisoned and left standing and extensive patches of gorse mechanically groomed. Blackberries and gorse will require spraying. Cut and Paint larger weed trees. Slower, more delicate treatments could be considered due to the possibility of uncovering indigenous species amongst the woody weeds and the potential mechanical damage that can occur when machinery is used on steep escarpments.	Spraying: Gorse (spring-autumn), Blackberry (summer). Cut and paint: Year-round
4.02	Floristic assessment	Area currently heavily infested with woody weeds. Impossible to gauge current floristics. Area of particular note given unique vegetation types typically present upon shallow soiled escarpments. Also, dense stands of gorse are known to protect some highly palatable species from browsing pressures.	Late spring post biomass management. Multiple visits would be advantageous.
4.03	Herbaceous and grassy weed control	Spot spray priority weeds as they emerge. Site currently has limited grassy and herbaceous weeds present due to high cover of woody weeds. Ongoing removal of woody weeds likely to result in recruitment events, both indigenous and exotic. Assisting the indigenous to assume dominance will reduce management inputs in the future.	Year-round – spray when actively growing
4.04	Supplementary planting	Extensive areas suitable for a combination of midstorey and overstorey plantings. Some discreet areas should be planted densely with shrubs to form thickets that fulfil a similar function to the Gorse currently. Existing Wombat warrens have been identified, with the area surrounding these warrens suitable for dense plantings. Natural recruitment should be encouraged, and supplementary planting only undertaken should natural recruitment not occur.	Autumn-early spring



**Table 11. Management priorities – CZ5**

<b>Conservation Zone 5 – Northern plateau</b>			
<b>Action</b>	<b>Management action</b>	<b>Description of action</b>	<b>Timing</b>
5.01	Woody weed control	Works have already commenced with large areas of Gorse groomed and some areas of Blackberry treated with herbicide. Follow up spraying of Gorse regrowth and seedlings will be required, as will the remaining areas of Blackberry and scattered Sweet Briar. Cut and Paint larger weed trees.	Spraying: Gorse (spring-autumn), Blackberry (summer). Cut and paint: Year-round
5.02	Biomass management	Treat overgrown Kangaroo Grass for excess biomass. Implementing an ecological burning regime for this area is important prevent the decline of the Kangaroo Grass, a keystone grassland species dependant on fire. Will provide opportunities for recruitment of indigenous species, and dependant on timing can serve a key function in weed management.	Initial burn in Autumn. Follow up floristic surveys will be required to inform future biomass management as management may need to be tailored to species specific requirements.
5.03	Floristic assessment	Current floristic status impossible to determine due to overgrown conditions. Post biomass management assessment will be critical to accurately inform ongoing management. Consider preparing specific management plan for CZ2.	Mid-late Spring post biomass management.
5.04	Herbaceous and grassy weed control	Spot spray using selective herbicides. Use specialist contractor able to identify Kangaroo Grass seedlings. A key outcome that can be anticipated to result from an ecological burn is Kangaroo Grass recruitment.	Year-round – spray when actively growing