AUGUST 2018

Central West Investigation

Draft Proposals Paper

For Public Comment

VICTORIA

VEAC

Victorian Environmental Assessment Council

Victorian Environmental Assessment Council

The Victorian Environmental Assessment Council (VEAC) was established in 2001 under the *Victorian Environmental Assessment Council Act 2001*. It provides the State Government of Victoria with independent advice on protection and management of the environment and natural resources of public land.

The five Council members are:

Ms Janine Haddow (Chairperson)
Ms Joanne Duncan
Ms Anna Kilborn
Dr Charles Meredith
Dr Geoffrey Wescott

Community Reference Group

The Community Reference Group for VEAC's Central West Investigation is independently chaired by Mr Ian Harris. Membership consists of:

John Petheram	*Bushwalking Victoria (Ballarat Walking Club)*
Ann McGregor	*Central Victorian Biolinks Alliance Inc.*
Wayne Hevey	*Four Wheel Drive Victoria*
Michelle Wyatt	*Macedon Ranges Shire Council*
Olly Oleszek	*Prospectors and Miners Association of Victoria*
Terry McAliece	*Pyrenees Shire Council*
Ken Gell	*Central Victorian Apiarists Association*
Tim Morrissey	*Victorian Association of Forest Industries*
John Edmonds	*Victorian Farmers Federation*
Matt Ruchel	*Victorian National Parks Association*
Wendy Radford	*Wellsford Forest Conservation Alliance*
Murray Ralph	*Wombat ForestCare*

Closing date for submissions extended to

Monday 10 December 2018

Written submissions are invited on this Draft Proposals Paper.

The closing date for submissions is **Wednesday 31 October 2018.**

You may make an online submission via VEAC's website at www. veac.vic.gov.au or send your written submission by post or by email (see contact details). Only submissions sent directly to VEAC will be treated as submissions.

There is no required format for submissions, except that you must provide your name and your contact details, including an email address if you have one. All submissions will be treated as public documents and will be published on VEAC's website. The name of each submitter will be identified as part of each published submission, but personal contact details will be removed before publishing. Confidential submissions are discouraged. If there are exceptional circumstances that require confidentiality, please contact VEAC before making your submission.

Contact details

Victorian Environmental Assessment Council
Level 39, 2 Lonsdale St
GPO Box 527
Melbourne, Victoria, 3001

Phone (03) 9637 9902 or
1800 134 803 (toll free from landline)

Email **veac@delwp.vic.gov.au**

www.veac.vic.gov.au

Published by the Victorian Environmental Assessment Council
2 Lonsdale Street, Melbourne, Victoria, 3000

August 2018

Also published on www.veac.vic.gov.au

Printed by Mercedes Waratah Group
The report is printed on Ecostar Silk, Forest Stewardship Council (FSC) accredited.

Design by Kate Mansell Design Studio

ISBN 978-1-76077-218-5 (Print)
ISBN 978-1-76077-219-2 (pdf/online/MS word)

For more information contact the Victorian Environmental Assessment Council on (03) 9637 9902 or 1800 134 803 toll free Australia-wide, or email veac@delwp.vic.gov.au

Photographic credits:
VEAC: Alex Curran, Libby Lewis, Mel Mitchell, Paul Peake, Rafe Pfitzner, Kathy Preece

Geoff Park (pages 70, 123 and 142)

Foreword

Council members (left to right): *Joanne Duncan, Anna Kilborn, Janine Haddow (Chairperson), Charles Meredith, Geoffrey Wescott*

Public land in VEAC's Central West Investigation area includes some significant areas of native forest at the southern end of Australia's Great Dividing Range and contains the headwaters of several of Victoria's major rivers, flowing both inland and to the coast.

The three blocks – the Mount Cole–Pyrenees range, Wellsford forest and the Wombat forest–Macedon area – that make up the investigation area are distinct, both in terms of their environments and the communities that use and value them. But the pressures they face are similar. The effects of Victoria's rapidly increasing population, climate change, and habitat fragmentation in the most cleared state in Australia are common to all three blocks. There is increased recognition of and partnership with Traditional Owners in contemporary land management across the state, including in the investigation area.

VEAC has been driven by the specific terms of reference for this investigation and its legislation to look at whether the protected area system (also known as the conservation reserve system) is representative of the natural biodiversity of the areas. Most of the public land in this region hasn't been reviewed by VEAC and its predecessor organisations for 30 years. This means that unlike much of the rest of the state, many ecosystems are under-represented in the protected area system. Recent work on the importance of the investigation area for threatened flora and fauna shows that it provides habitat for 375 threatened species. And the smaller vegetated blocks and strips of public land are important stepping stones in the landscape.

The draft recommendations propose a significant increase in protected areas while retaining some areas of forest in the Mount Cole–Pyrenees block for timber production. The recommendations for new national parks, conservation parks, nature reserves and bushland reserves make an important contribution to improving ecological representation of the protected area system and include a large part of the most important habitat for rare and threatened species.

VEAC is aware that there is some concern in the community about whether their access to public land will be affected by the recommendations of this investigation, if accepted by government. This report is clear about which activities will be affected by the draft recommendations, and they are fewer than is often thought. Four wheel driving, trail bike riding, mountain biking, horse riding, car rallies, camping, bee keeping, and dog walking in specific designated sites, can all be accommodated in national parks.

Some activities are affected by the recommended changes however, mostly those that extract natural resources from the forests: commercial timber harvesting, new mining and exploration, domestic firewood collection, prospecting and hunting. The state forest retained near Beaufort, including the majority of Mount Cole, and the recommended regional parks across the investigation area will provide areas for most of these activities to continue including timber harvesting, prospecting and domestic firewood collection. The recommended revocation of the game sanctuary at Mount Cole will improve deer hunting opportunities.

The draft recommendations in this report reflect the public consultation to date. VEAC's consultation process includes more than 640 written submissions, community drop-in sessions, a Community Reference Group, and meetings and field visits with public land managers and stakeholders. A partnership project with Dja Dja Wurrung Clans Aboriginal Corporation facilitated the engagement of Aboriginal Traditional Owner groups.

This draft proposals paper is being released for public comment until 31 October 2018. The draft recommendations in this report are organised into the three blocks of the investigation area to assist stakeholders who are more interested in one block than others to find the relevant chapter.

The Council is looking forward to public comments on this draft report and encourages everyone with an interest in these areas to make a submission.

Janine Haddow, Chairperson

Acknowledgement of Aboriginal Victorians

The Victorian Environmental Assessment Council pays its respects to Victoria's Aboriginal peoples, Native Title Holders and Traditional Owners and acknowledges their rich cultural and intrinsic connections to Country. Council recognises that the land is of spiritual, cultural, environmental and economic importance to Aboriginal people and values their contribution and interest in the management of land and natural resources.

Council is pleased to have been able to engage with the Dja Dja Wurrung Clans Aboriginal Corporation under the terms of their Recognition and Settlement Agreement with the State, and notes that several other Traditional Owner groups with interests in the Central West Investigation area are undertaking negotiations towards achieving similar agreements.

We would like to acknowledge the co-operation and goodwill of the Djandak project team and the representatives of Traditional Owner groups who were involved in the first round of Aboriginal community engagement for the investigation.

Council members appreciated hearing from Traditional Owners about their aspirations for Country and a range of specific land management issues. We support the implementation of Traditional Owners' agreements, Country Plans and management processes as they relate to public land in the investigation area.

Contents

Foreword 1
Executive summary 5

PART 1 9
1. Introduction 11
1.1 Background to the investigation 11
1.2 Terms of reference 13
1.3 Victorian Environmental Assessment Council 13
1.4 The investigation process 15
1.5 Commissioned work 15
1.6 Field inspections 16

2. Overview of the investigation area 17
2.1 Landscape and heritage setting 17
2.2 Traditional Owner rights and interests in public land 24
2.3 Social and economic setting 30
2.4 Public land 35

3. Consultation and community views 49
3.1 Consultation to date 49
3.2 Community Reference Group 50
3.3 Overview of input 50
3.4 Key issues for the investigation 52

PART 2 55
4. General recommendations 57
4.1 Draft policy and management recommendations 57
4.2 General recommendations for public land use categories 61

5. Mount Cole–Pyrenees block 85
5.1 Overview description 85
5.2 Traditional Owner values and interests 87
5.3 Historic values 90
5.4 Natural values 91
5.5 Resource use 97
5.6 Recreational uses 101
5.7 Licensed uses and leases of Crown land 102
5.8 Community views 102
5.9 Issues 102
5.10 Draft recommendations 103

6. Wellsford block 111
6.1 Overview description 111
6.2 Traditional Owner values and interests 111
6.3 Historic values 114
6.4 Natural values 114
6.5 Resource use 117
6.6 Recreational uses 119
6.7 Licensed uses and leases of Crown land 120
6.8 Community views 120
6.9 Issues 120
6.10 Draft recommendations 120

7. Wombat–Macedon block 124
7.1 Overview description 124
7.2 Traditional Owner values and interests 125
7.3 Historic values 129
7.4 Natural values 129
7.5 Resource use 134

7.6 Recreational uses 136
7.7 Licensed uses and leases of Crown land 138
7.8 Community views 139
7.9 Issues 140
7.10 Draft recommendations 140

8. Outcomes of draft recommendations 151
8.1 Changes in public land use 151
8.2 Traditional Owner interests 152
8.3 Threatened species 153
8.4 Ecosystem representation 154
8.5 Recreation 158
8.6 Headwaters, landscape connectivity and climate change 160
8.7 Resource uses 161

APPENDICES 163
Appendix 1 Current public land use categories 164
Appendix 2 Public authority freehold land 166
Appendix 3 Submissions received 168
Appendix 4 Information sources 176
Appendix 5 Non-Aboriginal cultural heritage sites on the Victorian Heritage Register 188
Appendix 6 Geological and geomorphological sites of significance 190
Appendix 7 Rare or threatened flora and fauna of the Central West Investigation area 192
Appendix 8 Draft recommendations for public land units 204

Acronyms 208

Maps A–J (inside back pocket)
Map A Current public land use in the Central West Investigation area
Map B Current extent of Ecological Vegetation Classes
Map C Forest management zoning
Map D Recommended public land use in the Central West Investigation area
Map E Strategic Biodiversity Values - statewide
Map F Strategic Biodiversity Values - regional
Map G Recommended public land use - Trentham
Map H Recommended public land use - Macedon
Map I Recommended public land use - Daylesford
Map J Recommended public land use - Blackwood

Executive summary

The Great Dividing Range runs south from Cape York for 3500 kilometres before ending in the Central West Investigation area where mountain ranges and low hills separate the plains of northern and southwestern Victoria. The public land on these ranges and hills supports most of the native vegetation that remains in this largely cleared landscape and the only mountain forests in western Victoria north of the Otway Ranges. As a result, public land is critical for the industries, recreational pursuits and distinctive natural values that rely on these forests.

It has been more than 30 years since most of this public land was last assessed by VEAC and its predecessors, and over that time there have been many changes:

- increased recognition of and partnership with Traditional Owners in public land use and management
- population growth in and near the investigation area and changes in leisure patterns leading to increasing recreational use of public land; Victoria's population has increased from around four million to nearly six million in the last 30 years and is projected to reach around ten million in the next 30 or so years
- declining resource uses such as mining and native timber harvesting
- increased number of threatened species and greater recognition of habitat fragmentation
- in comparison to the rest of Victoria, there is a low level of ecosystem representation in protected areas in the investigation area; the protected area system elsewhere in Victoria has doubled in the last 30 years
- effects of climate change, with impacts on public land values including on the headwaters of many of the major rivers of western Victoria.

The major uses of public land in the investigation area have shifted from resource extraction towards recreation and nature conservation. The pressures of population growth and climate change on these areas will continue to increase. No change is not an option for future public land use in the investigation area.

Scope of the investigation

In March 2017 the Victorian government asked VEAC to carry out an investigation into public land in the central west of Victoria, including the Wombat, Wellsford, Mount Cole and Pyrenees Range forests.

The purpose of the Central West Investigation is to:

- identify and evaluate the condition, natural and biodiversity values, and cultural, social and economic values and the current uses of public land
- make recommendations for the balanced use and appropriate management arrangements to conserve and enhance the natural and cultural values.

Public comment is sought on this draft proposals paper by Wednesday 31 October 2018.

A final report is required to be submitted to the Minister for Energy, Environment and Climate Change in March 2019.

What have we heard from the public consultation so far?

VEAC's public consultation process included a submission period attracting more than 640 written submissions, five community drop-in sessions across the investigation area, a Community Reference Group, and meetings and field visits with public land managers and stakeholders. VEAC also contacted 1300 holders of licences over public land. A partnership project with Dja Dja Wurrung Clans Aboriginal Corporation facilitated the engagement of Aboriginal Traditional Owner groups.

VEAC found that a variety of opinions are held about public land, and heard about the importance of the following issues for many people:

- domestic firewood for local consumers
- protection of water catchments and headwaters
- recreational access particularly prospecting, horse riding, four wheel driving, hunting, mountain biking, bushwalking and trail bike riding
- nature conservation, particularly protection of threatened and other special species and ecosystems
- land management for fire suppression and forest structure
- Traditional Owner engagement in public land management
- benefits and impacts of timber harvesting.

VEAC's approach to developing draft recommendations

VEAC's approach uses the best available science and public consultation to inform development of its draft recommendations. VEAC's processes

include mapping of public land, background analyses, commissioned research to fill key information gaps, collaborations and engagement with government agencies and stakeholders, and consideration of information from submissions and other public consultation.

VEAC has undertaken the following scientific and other analyses of the key information for the Central West Investigation:

- numerical analysis of the representativeness of the existing protected area system to quantify shortfalls against nationally agreed targets in accordance with section 18 of the VEAC Act
- an integrated analysis of the habitat distribution models of 329 threatened species to identify those public land areas that would most efficiently improve the protection of those species
- a review of recreational use of public land in the investigation area, including discussions and field visits with land managers, recreational users and associated businesses, accessing government databases on recreational use, obtaining maps and other publications with relevant information
- assessment of all available information on public land licences and leases including those for apiculture, earth resources, services and utilities, wood products and agriculture
- databases, literature and commissioned reports relating to public land values such as historic places, geological significance, biodiversity, and catchment and watersheds.

Key issues

The key issues that have emerged from VEAC's assessments and consultation analyses can be grouped into several themes.

Traditional Owner interests

Six Traditional Owner groups have been identified as having a range of cultural values, interests and rights on public land in the investigation area. The Dja Dja Wurrung Clans Aboriginal Corporation Recognition and Settlement Agreement enabled a culturally appropriate and important opportunity to run the Aboriginal community engagement partnership project for VEAC, providing Traditional Owner groups the opportunity to communicate cultural values, views and interests.

Ecosystem representation in protected areas

The public land of the investigation area is notable for its poor representation of ecosystems in protected areas. In accordance with Victoria's Biodiversity Plan and Section 18 of the VEAC Act, the creation of a comprehensive, adequate and representative system of protected areas is a major factor in the development of Council's draft recommendations. Bioregional Ecological Vegetation Classes (EVCs) are surrogates for ecosystems and are the units for assessing representativeness. Of 107 bioregional EVCs in the investigation area, there are 37 EVCs with significant shortfalls against the nationally agreed targets for protected area representation.

Threatened species

The investigation area supports a substantial proportion of Victoria's biodiversity, including approximately 375 threatened species. VEAC commissioned sophisticated analyses to rank public land areas across the investigation area according to their ability to support rare and threatened species. High-ranking areas are those that most efficiently capture the most suitable habitat for a greater number of rare and threatened species.

Recreation

Along with nature conservation, recreation – and associated tourism – is now the major use of public land in the Central West Investigation area and recreational use is likely to continue to increase.

Resource uses

Apart from tourism, the major industries on public land in the investigation area are apiculture (beekeeping), timber harvesting, mining, quarrying and licensed grazing. The main recreational and domestic activities that extract resources from public land in the investigation area are prospecting, firewood collection and hunting.

Headwaters, climate change and landscape connectivity

Public land plays a key role in maintaining biodiversity both within and outside the large forest blocks. Small and dispersed areas of native vegetation in cleared landscapes have a significant role in maintaining landscape connectivity and are under increasing pressure from the effects of habitat fragmentation and climate change.

The forests of the investigation area contain the headwaters of several of western Victoria's major rivers, such as the Loddon, Campaspe, Coliban, Maribyrnong, Moorabool and Werribee-Lerderderg rivers.

Summary of major draft recommendations

The draft recommendations and their implications are summarised below and detailed in chapters 4 to 8. They include draft recommendations for all public land in the investigation area, and 11 general recommendations. The table below summarises the changes for each public land use category.

Overall the draft recommendations provide a framework to:

- strengthen recognition of the role, cultural values and aspirations of Traditional Owners in public land use and management
- cater for increasing recreational use in a way that minimises conflicts between uses and protects the natural values on which they depend
- establish a comprehensive, adequate and representative system of protected areas, which also contain key areas for threatened species conservation
- improve landscape connectivity, the protection of key headwaters, and buffer the effects of climate change.

Summary of draft recommendations for each public land use category

Public land use category	Total area (ha)	
	Current	Recommended
National park, State park	22,967	72,833
Conservation park	0	5246
Regional park	5264	23,559
Nature reserve	6703	11,204
Bushland reserve	1047	2808
Historic reserve	1507	1507
State forest	89,278	10,180
Water frontage, beds and banks reserve	1933	1893
Water production reserve	6635	6514
Community use reserve	1607	1458
Utilities and government services reserve	3017	2940
Land leased or licensed for plantation purposes, Plantation	6724	6585
Uncategorised public land	468	423
Total	**147,150**	**147,150**

The major draft recommendations are as follows:

National parks and conservation parks

Wombat-Lerderderg National Park – establishment of a large new national park from existing state park and state forest capturing a significant amount of the largely-intact landscape of the Wombat forest.

Pyrenees National Park – establishment of a new national park from state forest over the southern flanks of the Pyrenees range.

Mount Buangor National Park – establishment of a new national park from state park and some adjoining state forest extending to the northwest.

Hepburn and Cobaw conservation parks – establishment of two new conservation parks, one from state forest northwest of Daylesford and the other from Cobaw.

Regional parks

Some 18,200 hectares of regional parks are recommended, generally in the areas of most intensive recreation use, largely in the new Wombat and Pyrenees regional parks and through the addition of 3950 hectares of the Wellsford forest to the adjoining Bendigo Regional Park.

Nature reserves and bushland reserves

The draft recommendations include 30 new and expanded nature reserves and bushland reserves comprising areas with significant natural values, or with important contributions to landscape connectivity or protected area representation, including almost half of the Wellsford forest (3160 hectares) recommended as Wellsford Nature Reserve.

State forests

State forest blocks proposed to be retained are mainly around the Mount Cole, Mount Lonarch, Beaufort and Glenmona areas including some 72 per cent of Mount Cole State Forest, all the existing Mount Lonarch, Trawalla-Andrews and Musical Gully-Camp Hill state forests, and 42 per cent of Glenmona State Forest.

Other public land

There are substantial areas of public land with well-established uses for which no changes are recommended. Notable examples are Hanging Rock Reserve and all existing historic reserves. Other widespread smaller areas of public land include water production reserves; community use reserves; and utilities and government services reserves.

Other recommendations

Eleven draft recommendations are made to address implementation and resourcing and specific policy or management issues.

Implications of the draft recommendations

Traditional Owner interests

The draft recommendations largely support Traditional Owner values and aspirations, providing significant protection for tangible and intangible cultural values associated with Country. They provide a foundation for Traditional Owners to heal and manage Country in culturally appropriate ways as well as significant mitigation of threats to cultural values.

Ecosystem representation

Of the 37 EVCs currently with significant (greater than 50 hectare) shortfalls against the nationally agreed targets for protected area representation, the draft recommendations would result in targets being met or almost met for 12 bioregional EVCs. Many of these EVCs currently have representation shortfalls of many thousands of hectares e.g. Herb-rich Foothill Forest and Grassy Dry Forest. For a further ten EVCs, while representation targets would not be met, significant additions are proposed.

For 21 EVCs ecosystem representation targets would not be met. Most of these EVCs are found along roadsides and in riparian areas in small, isolated patches.

Threatened species

The recommended Wombat-Lerderderg National Park captures a large part of the highest-ranking areas for their ability to support rare and threatened species, both from a regional and statewide perspective. Other large and mostly contiguous high-ranking areas of rare and threatened species habitat are included in the recommended Pyrenees National Park and Hepburn Conservation Park. Almost half of the Wellsford block – most of which ranks highly in the statewide analysis – would be encompassed by the recommended Wellsford Nature Reserve.

The draft recommendations would add a large part of the most important habitat for rare and threatened species in the Central West Investigation area to Victoria's protected area system.

Recreation

Many recreational uses would be unaffected by the draft recommendations. Hunting would be restricted to state forests around Beaufort and, with the recommended revocation of the game sanctuary, be allowed at Mount Cole. Prospecting would also be excluded from the small number of old goldfields that are currently used in proposed national or conservation parks. Key prospecting areas have been included in the recommended regional parks where feasible.

Resource uses

The draft recommendations have significant implications for wood product harvesting in the investigation area although the impacts vary across the investigation area.

In the Mount Cole–Beaufort area, where around 80 per cent of the current state forest is recommended to be retained, impacts are likely to be relatively low. In the box-ironbark forests of Wellsford, parts of the Pyrenees and Glenmona north – comprising around ten per cent of the box-ironbark resource in the Bendigo Forest Management Area – harvesting would cease other than for some firewood and minor forest produce in recommended regional parks. Harvesting would cease in the mixed species forests of the Pyrenees, Wombat and other smaller forests nearby other than for some subsidiary products.

While little current information is available on domestic firewood collection, the recommended state forest and new regional park areas (where domestic firewood collection would generally be permitted) amount to about 30 per cent of the current state forest area, suggesting a 70 per cent reduction in domestic firewood supply.

Existing bee sites and mining and quarry tenements would not be affected by the draft recommendations. More than 94 per cent of grazing licences in the investigation area are unaffected by the draft recommendations.

Headwaters, climate change and landscape connectivity

Across this investigation area VEAC has identified around 20 small areas for additional protection as new nature reserves or bushland reserves. These remnants support threatened species, threatened vegetation communities or have been identified as having high strategic value. In other places, existing reserves have been changed by increasing protection of natural values or enhanced by consolidation.

The draft recommendations for Wombat-Lerderderg National Park and Wombat Regional Park provide improved water supply security for the headwaters of several of western Victoria's most significant rivers.

PART 1

1

1. Introduction

In March 2017, the Minister for Energy, Environment and Climate Change, the Hon Lily D'Ambrosio MP, asked the Victorian Environmental Assessment Council (VEAC) to carry out an investigation into public land in the central west of Victoria, including the Wombat, Wellsford, Mount Cole and Pyrenees Range forests.

The purpose of the Central West Investigation is to:

- identify and evaluate the condition, natural and biodiversity values, and cultural, social and economic values and the current uses of public land
- make recommendations for the balanced use and appropriate management arrangements to conserve and enhance the natural and cultural values.

1.1 Background to the investigation

The Central West Investigation area is 403,815 hectares in total of which 161,290 hectares or 40 per cent is public land. The investigation area is made up of three separate blocks (see figure 1.1):

- the Mount Cole–Pyrenees block (165,790 hectares) covering two large tracts of public land on the Pyrenees Range to the north near Avoca and the Mount Cole Range to the south near Beaufort as well as several smaller state forest patches and various small units in the areas surrounding these ranges (especially to the east and south). Approximately 33 per cent of this block (54,740 hectares) is public land
- the Wellsford block (9,260 hectares) east of Bendigo. About 79 per cent or 7,350 hectares of this block is public land, almost all being the Wellsford State Forest
- the Wombat–Macedon block (228,770 hectares) centred on the large tract of public land extending from west of Hepburn Springs to Mount Macedon and Long Forest near Melton. Some 43 per cent (99,200 hectares) of this block is public land.

Across these blocks there are some 249,610 hectares of native vegetation, 62 per cent of the extent of native vegetation at the time of European settlement. A little over half of this remaining native vegetation (145,570 hectares) is on public land, 90 per cent of which supports native vegetation.

Over many tens of thousands of years of occupation, Aboriginal people have developed profound connections with their Country in central west Victoria. Today, Traditional Owners continue this relationship and have a cultural responsibility for Caring for Country that involves protecting land, waterways and natural resources from harm.

In their Country Plan, Dja Dja Wurrung People describe their Country as 'more than just the landscape, it is more than what is visible to the eye – it is a living entity, which holds the stories of creation and histories that cannot be erased'.

VEAC's predecessors conducted systematic studies and investigations of public land in the current investigation area between 1977 and 2001, making recommendations for all public land and providing the framework for the way in which public land is classified and used today. The major reports are:

- North Central Area final recommendations (LCC 1981)
- Ballarat Study Area final recommendations (LCC 1982)
- Melbourne Area, District 1 Review final recommendations (LCC 1987)
- Box-Ironbark Forests and Woodlands Investigation final report (ECC 2001).

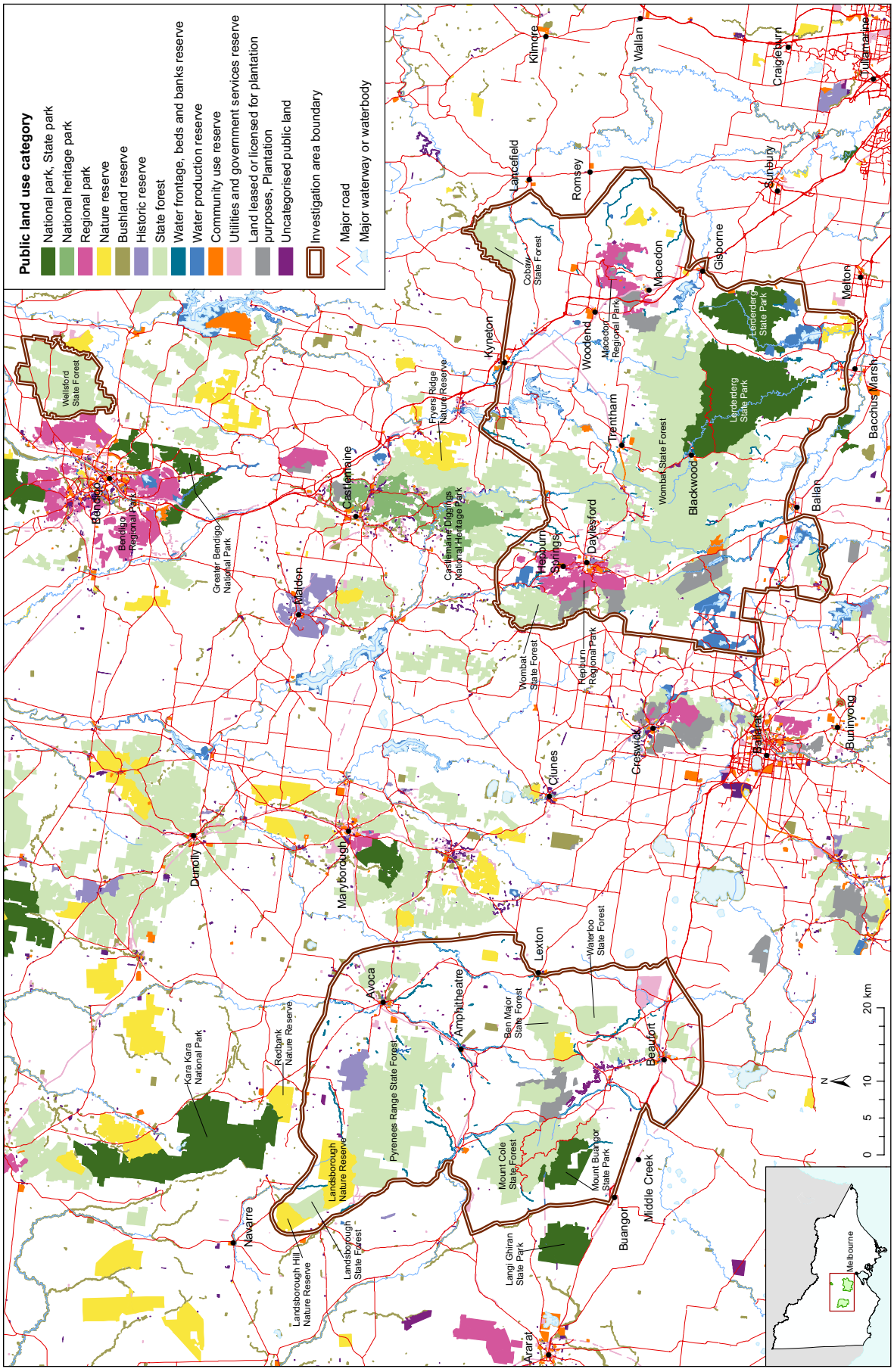
In addition, the comprehensive regional assessment for the West Victoria Regional Forest Agreement (RFA) in 2000 covers most of the forested public land in the Mount Cole–Pyrenees block and the Wombat–Macedon block. The Wellsford block is not part of the West Victoria RFA area or part of any of Victoria's other four RFA regions. The West Victoria RFA built on the LCC public land use framework and provided for the addition of some areas of forest to the conservation reserve system; in the current investigation area, for example, the Pyrete Range was added to the Lerderderg State Park.

A major community forest management initiative began for the Wombat State Forest in 2002 but was discontinued in 2006 for a variety of reasons and is generally considered to have failed.

There have been major changes in the use and management of public land since the above reviews and initiatives which make the current investigation timely. For example, legal recognition and protection of Traditional Owner rights and interests in Crown land fundamentally changed after the 1992 High Court decision overturned the concept of terra nullius. In Victoria, as well as determinations of native title, agreements under the Traditional Owner Settlement Act 2010 facilitate the formal involvement of Traditional Owners in land management, planning, access, and the use of natural resources.

Over the past 20 years, use of public land in the Central West Investigation area has shifted

Figure 1.1 Central West Investigation area



towards recreation and conservation. As Victoria's population increases, especially in nearby metropolitan Melbourne, changing patterns of use place pressure on public land. Climate change places additional pressure on biodiversity and the ecosystem services provided by public land.

1.2 Terms of reference

On 20 March 2017 the Minister for Energy, Environment and Climate Change, the Hon Lily D'Ambrosio MP, requested that VEAC carry out an investigation into public land in central west Victoria.

In November 2016, prior to the formal request, the government invited public comments on the proposed terms of reference and area for the investigation. The final terms of reference (below) were tabled in Parliament on 23 March 2017.

A business plan and budget was prepared for the investigation as required under the *Victorian Environmental Assessment Council Act 2001* and submitted to the Minister on 18 April 2017. Resources were approved by the Minister on 28 May 2017.

1.3 Victorian Environmental Assessment Council

The *Victorian Environmental Assessment Council Act 2001* (VEAC Act) came into effect in December 2001. This Act repealed the *Environment Conservation Council Act 1997* and established VEAC to conduct investigations and make recommendations relating to the protection and ecologically sustainable management of the environment and natural resources of public land.

VEAC is a successor organisation to the Land Conservation Council (LCC), established in 1971, and the Environment Conservation Council (ECC), which replaced the LCC in 1997. Several amendments to the VEAC Act came into operation in September 2016. The amendments established a process by which VEAC can provide advice and assessments, in addition to being able to carry out investigations. The amended Act allows for VEAC to provide advice or carry out assessments on matters that, because of their limited scale or scope or their technical nature, might not require an investigation.

Terms of reference

Pursuant to section 15 of the Victorian Environmental Assessment Council Act 2001, the Minister for Energy, Environment and Climate Change hereby requests the Council to carry out an investigation into public land in the vicinity of the Wombat, Wellsford, Mount Cole and Pyrenees Range Forests within the area shown on the accompanying map.

The purpose of the Central West Investigation is to:

(a) identify and evaluate the condition, natural and biodiversity values and cultural, social and economic values and the current uses of public land in the specified area; and

(b) make recommendations for the balanced use and appropriate management arrangements to conserve and enhance the natural and cultural values.

In addition to the considerations in section 18 of the Victorian Environmental Assessment Council Act 2001, the Council must take into account the following matters:

i. relevant State Government policies and strategies, Ministerial statements and reports by the Victorian Auditor-General; and

ii. relevant regional programs, strategies and plans.

The Council must also consult with the relevant Traditional Owner Group Entities and any other relevant Traditional Owner groups in the specified area, particularly where the area is subject to an agreement under the Traditional Owner Settlement Act 2010. This includes the area covered by the Dja Dja Wurrung Recognition and Settlement Agreement.

A draft proposals paper and a final report are to be prepared, allowing for two public submission periods during the investigation.

The Council must report on the completed investigation within two years from the commencement date.

A consolidated Act is available at http://www.parliament. vic.gov.au/legislation.

Public land is defined in the VEAC Act. It excludes private freehold land, land owned by local councils and Commonwealth land. VEAC does not make recommendations for private land, local council freehold land or Commonwealth land. However, VEAC reports include information on all land, where relevant, to provide a context for consideration of public land. Public land use categories and maps of freehold public authority land are shown in appendices 1 and 2 respectively.

The current five members appointed to VEAC are Ms Janine Haddow (Chairperson), Ms Joanne Duncan, Ms Anna Kilborn, Dr Charles Meredith and Dr Geoffrey Wescott. Ms Haddow commenced as Chairperson in September 2017, replacing previous Chairperson the Hon Phil Honeywood who served as Chairperson from July 2015. The current Council thanks Mr Honeywood for his significant contribution in the establishment phase of this investigation.

A brief biography of each of the current Council members can be found on VEAC's website at www.veac.vic.gov.au. Council is supported by a small research and policy team and administrative secretariat. The VEAC Act requires the Council to consult with departments and public authorities, and requires departments and public authorities to give practicable assistance to the Council in carrying out investigations. VEAC papers and reports are prepared independently.

The Council conducts its affairs in accordance with the VEAC Act. In particular, section 18 specifies that 'Council must have regard to the following considerations in carrying out an investigation and in making recommendations to the Minister –

a the principles of ecologically sustainable development;

b the need to conserve and protect biological diversity;

c the need to conserve and protect any areas which have ecological, natural, landscape or cultural interest or significance, recreational value or geological or geomorphological significance;

d the need to provide for the creation and preservation of a comprehensive, adequate and representative system of parks and reserves within the State of Victoria;

e the existence of any international treaty ratified by the Commonwealth of Australia which is relevant to the investigation;

f any agreement at a national, interstate or local government level into which the Government of Victoria has entered, or under which the Government of Victoria has undertaken any obligation in conjunction with the Commonwealth, a State, Territory or municipal council, which relates to the subject matter of the investigation;

g the potential environmental, social and economic consequences of implementing the proposed recommendations;

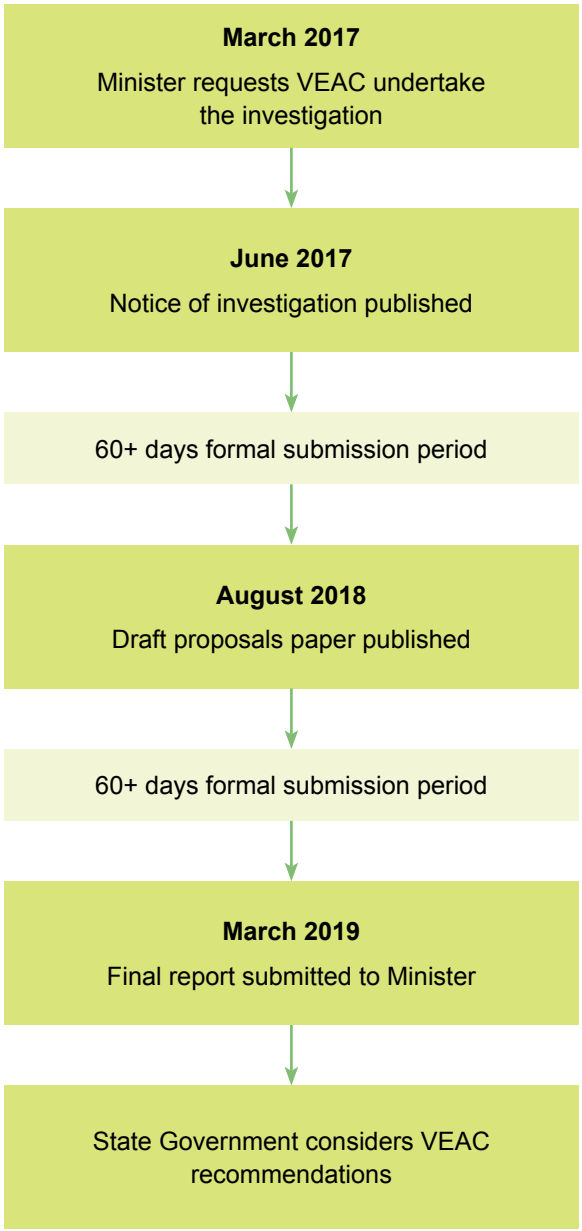
h any existing or proposed use of the environment or natural resources.'

1.4 The investigation process

The process for the Central West Investigation is formally specified in the VEAC Act and in the terms of reference for the investigation. The process and timelines are shown in figure 1.2, and include two formal submission periods, each a minimum of 60 days. The second submission period commences with the publication of this draft proposals paper. A list of written submissions received in the first submission period is provided at appendix 3.

A Community Reference Group is required to be established for each VEAC investigation (see section 3.2).

Figure 1.2 Investigation process and timelines



1.5 Commissioned work

In addition to the compilation and analysis of information from published reports, government departments, stakeholders and provided in written submissions, VEAC commissioned three projects to fill specific information gaps or to inform key aspects of the investigation. Details of, and reports generated by, these projects are provided in the appendices of this report and on the VEAC website respectively. The projects are summarised below.

Aboriginal community engagement project

For this partnership project, Dja Dja Wurrung Clans Aboriginal Corporation was engaged through their wholly-owned commercial arm Djandak (Dja Dja Wurrung Enterprises Pty Ltd) to undertake engagement with Traditional Owners with interests in the Central West Investigation area.

Led by the Dja Dja Wurrung and informed by their experiences in working with the State to date within their 2013 Recognition and Settlement Agreement, the project aim was to provide an approach to incorporating Traditional Owner interests and views on issues relevant to the Central West Investigation, including appropriate land management and ways to conserve and enhance cultural values.

The engagement methodology involved conducting workshops with Traditional Owner groups. Additionally, Country Plans and other documents were utilised both in the workshops and in the formulation of Djandak's project report.

A second stage of the Aboriginal Community Engagement Project will seek Traditional Owner and Aboriginal community feedback on the draft recommendations, for consideration by VEAC in preparation of its final recommendations.

Sites of geological significance

Wakelin Associates Pty Ltd were commissioned to compile an overview of geoheritage in the Central West Investigation area, and to identify and provide information on the currently documented sites of geological and geomorphological significance on public land. The focus was particularly on the management requirements of the most significant sites in the investigation area and an inventory with descriptions of known sites.

Strategic biodiversity values analysis

The Arthur Rylah Institute for Environmental Research was commissioned to run Strategic Biodiversity Values (SBV) analyses to identify high priority areas of threatened species habitat within the Central West Investigation area. Appendix 4 includes an outline of the method. The statewide SBV analysis shows the highest ranking areas of habitat within the Victorian context, based on the habitat distribution models for all rare and threatened species. The Central West analyses included the 329 Victorian rare or threatened species with modelled suitable habitat in the investigation area (255 vascular plants and 74 vertebrate animals).

A key analysis addressed opportunities to protect suitable habitat for these species on public land that is currently outside the protected area system. The habitat distribution modelling that underpins the SBV analyses was also used to supplement existing species distribution data (for example from the Victorian Biodiversity Atlas and local sources such as species lists for selected areas), as large parts of the Central West Investigation area do not have comprehensive biodiversity records.

Socioeconomic profiles

Gillespie Economics was commissioned to prepare a socioeconomic profile of the regions in which each of the three public land areas in the investigation area is located.

The Mount Cole and Pyrenees Range forests and public lands are located primarily within the Pyrenees Local Government Area (LGA). The Wellsford forests and public lands are located within the Greater Bendigo LGA, while Wombat forests and public lands are located primarily within the LGAs of Hepburn, Moorabool and Macedon Ranges. See figure 2.4 in chapter 2 for a map of the LGAs in the investigation area.

Demographic data for each region is primarily compared to demographic data for the Rest of Victoria Greater Capital City Statistical Area (GCCSA), although it is recognised that part of the Hepburn, Moorabool and Macedon Ranges LGAs straddle the boundary between the Rest of Victoria GCCSA and the Greater Melbourne GCCSA.

The socioeconomic profiles are based on the 2016 ABS Census of Population and Housing. The demographic profile is based on Census data for the Usual Residents of the regions while the economic profile is based on the Place of Work Census data for the regions.

Economic assessment of the current contribution of timber harvesting to local and regional economies

Midas Consulting have been commissioned to provide an economic assessment of the current contribution of the native forest timber industry to local and regional economies. This baseline work will inform part of the social and economic assessment of the implications of VEAC's final recommendations which will accompany the final report in March 2019. The report of the initial assessment will be available on VEAC's website when it is concluded.

1.6 Field inspections

To date, Council members have visited public land in the investigation area on field inspections four times. During these trips, Council met with public land managers and stakeholders and familiarised themselves with the values and uses of the area.

2. Overview of the investigation area

2.1 Landscape and heritage setting

The Great Dividing Range is the third longest mountain range in the world and the dominant geographic feature of eastern Australia. From the shores of Torres Strait – only 150 kilometres from New Guinea – the range runs 3500 kilometres along the eastern seaboard before culminating in the series of smaller ranges that make up the Central West Investigation area. Here, the mountain forests of the Macedon, Wombat, Cobaw, Pyrenees and Mount Cole ranges provide a break between the more uniform volcanic plains to the south and the dry alluvial plains and low hills to the north.

In some places the ranges rise dramatically from the surrounding country such as around Mount Macedon which rises to 1000 metres, and in the Pyrenees, the western side of Mount Cole and at Hanging Rock. In other places, the topography is gentler, especially in the ironbark country of the Wellsford block east of Bendigo where elevation varies between just 150 and 230 metres above sea level.

2.1.1 Geology and climate

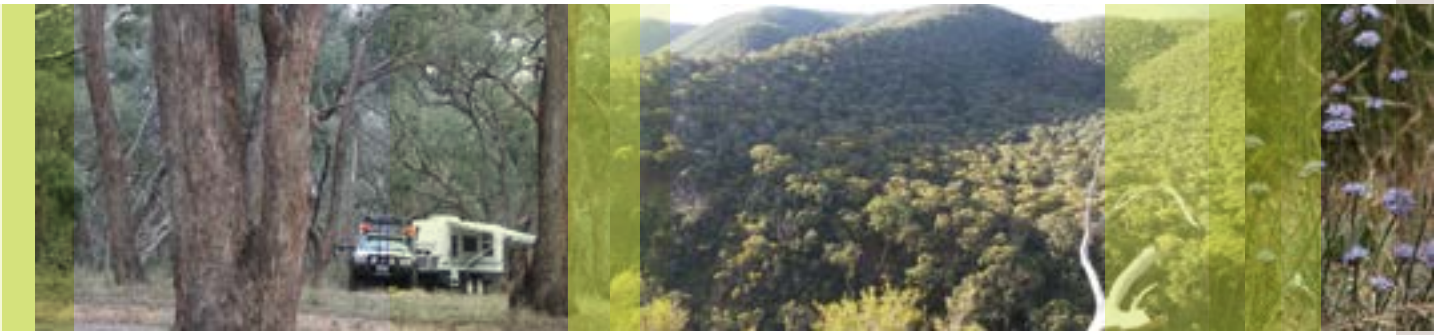
The ranges were initially formed when marine sediments that were laid down 570-460 million years ago were repeatedly uplifted, folded and faulted over many of millions of years thereafter. For most of the time since then, erosion has been the dominant geological process. As well as reducing the size of the ranges, this erosion has exposed granites – now mountain peaks – that had formed under the sedimentary rocks 420-360 million years ago, and has resulted in extensive deposition of sediments to form alluvial plains, particularly to the north of the ranges. In the last six million years volcanic eruptions south of the ranges generated lava flows that filled the valleys and formed the plains in that area.

Rainfall in the investigation area is largely a function of topography, with the highest annual averages in the more extensive elevated areas such as Mount Cole and Mount Macedon (both above 800 millimetres per annum), peaking at over 1100 millimetres a year in the area around Trentham. The driest part of the investigation area is near Bacchus Marsh (500 millimetres per annum) in the rain-shadow of these uplands, and others to the southwest. There is also a trend for areas further from the prevailing moisture-laden southwest winds to be drier; the annual average near Wellsford for example is about 550 millimetres.

2.1.2 Biodiversity

This combination of rainfall and geology – specifically the resultant soils and topography – largely determine the major natural habitats of the investigation area, which are summarised in terms of the four bioregions with which it overlaps, as shown in figure 2.1:

- Central Victorian Uplands – Two-thirds of the investigation area is in this bioregion, including most of the larger, more elevated public land blocks. From a statewide perspective, the investigation area accounts for about 22 per cent of the total extent of this bioregion; the bioregion is spread roughly evenly across western and eastern north-central Victoria so the investigation area amounts to around half of the western half of the bioregion. This bioregion is characterised by ‘mixed species’ eucalypt forests of messmate, peppermints, stringybarks and various gums. In eastern Victoria, these forests are located between the higher elevation wet forests to the south and the lower elevation slopes and plains to the north but in western Victoria these are the highest elevation forests.
- Goldfields – About a quarter of the investigation area is in this bioregion: almost all of the Wellsford block, the northern half of the Mount Cole–Pyrenees block and the area northwest of Daylesford in the Wombat–Macedon block. These areas represent about seven per cent of the statewide extent of this bioregion, the rest of which is immediately north of the investigation area. This bioregion is typified by box-ironbark forests on low hills.



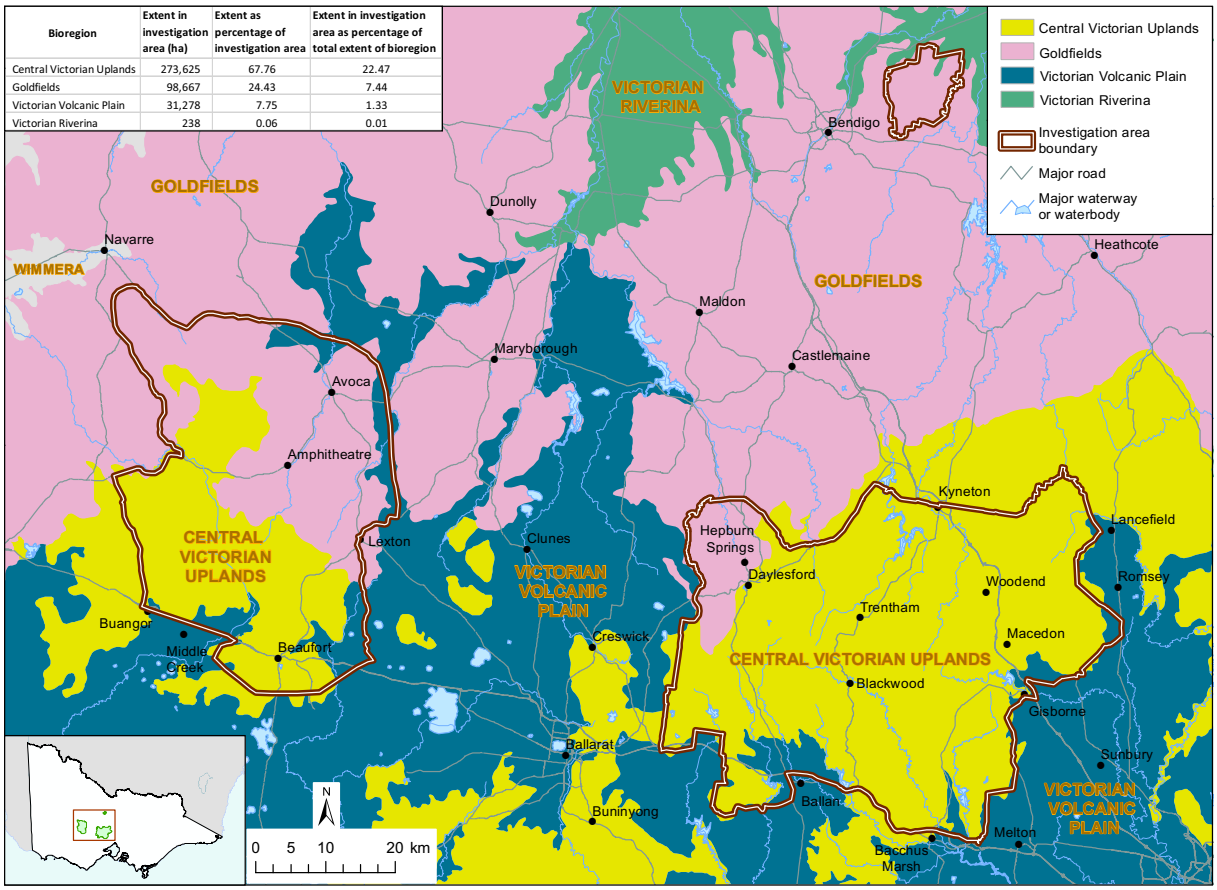
- Victorian Volcanic Plain – This bioregion occupies about eight per cent of the investigation area, mostly on the southern and eastern fringes of the Mount Cole–Pyrenees and Wombat–Macedon blocks. This is the largest Victorian bioregion and the investigation area represents barely one per cent of its total extent. Prior to European settlement, this bioregion was dominated by treeless or sparsely treed grassy plains.
- Victorian Riverina – Only a very small area of this bioregion – 0.06 per cent of the investigation area and 0.01 per cent of the bioregion's statewide extent – occurs along the Five Mile Creek in the Wellsford block. Two hundred years ago, this bioregion was a vast grassy woodland on the alluvial plains of northern Victoria.

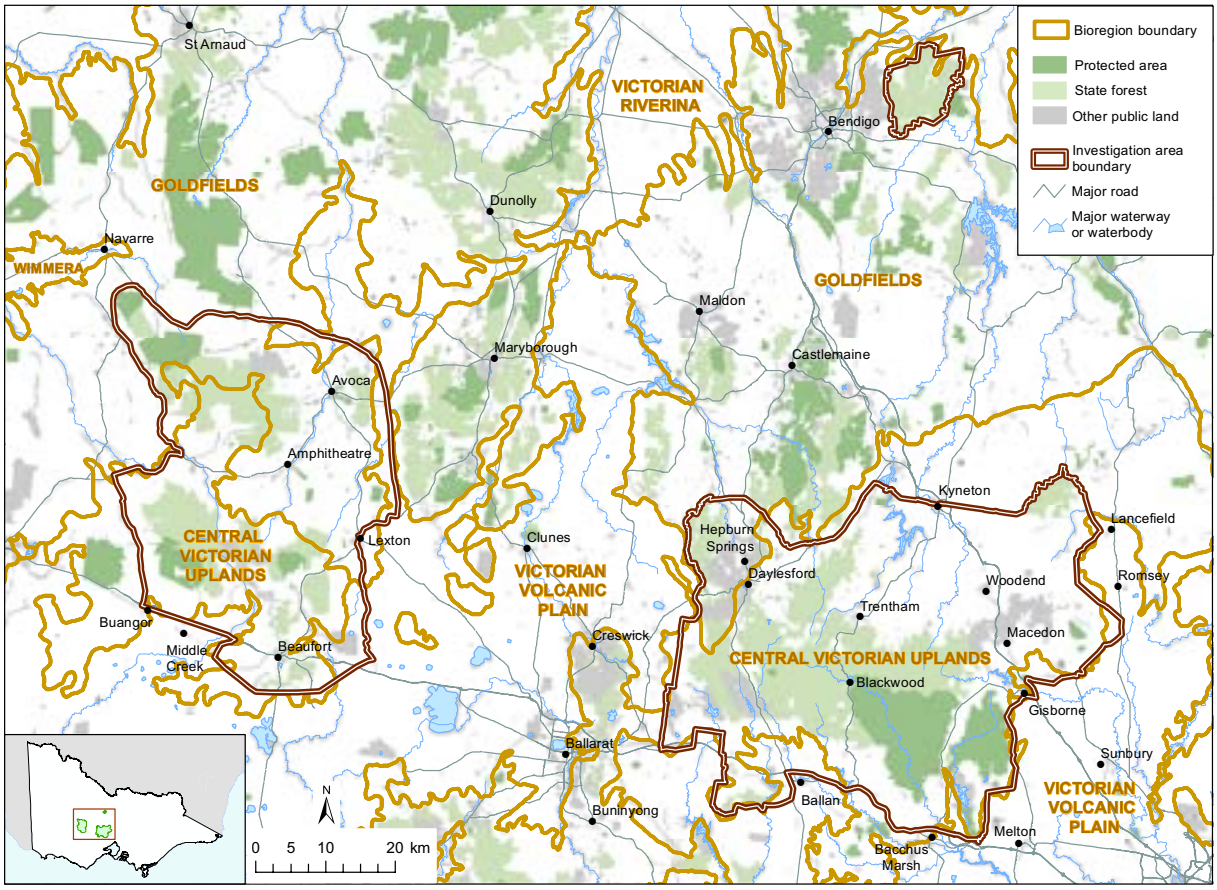
In summary, over 90 per cent of the original native vegetation in the investigation area was mixed species and box-ironbark forests, with the mixed species forests comprising a major part of the only mountain forests in western Victoria north of the Otway ranges. As a result the areas of these forests that remain now provide habitat for many species that would not otherwise be found in this part of Victoria, with some intriguing differences in the distributions of some of these mountain forest species. For example, while there are some species that occur across the mountain forests of the investigation area, the Otways and the eastern highlands (east of the Hume Highway) such as gang gang cockatoo, olive whistler and agile and dusky antechinuses, others do not occur west of the Hume Highway at all, such as superb lyrebird and wonga pigeon.

Between these two extremes are species with more puzzling distributions. Some species occur in the eastern highlands and the Otways but not in the Central West Investigation area such as long-nosed bandicoot and broad-toothed rat. If not for its occurrence in a few patches in the Macedon Ranges, mountain ash would also fit this pattern. Other species occur in the eastern highlands and the investigation area but not in the Otways, notably mountain brushtail possum, greater glider and red-browed treecreeper. The glider and the treecreeper only occur in the Wombat–Macedon block, while the possum occurs in the Mount Cole–Pyrenees block as well. These patterns presumably relate to the fragmentation of habitat patches – that is, their size and distance from each other – with potential insights for conservation biology considering the increased loss and fragmentation of habitat in the investigation area over the last 200 years. Increasing habitat fragmentation, causing larger populations to break up into smaller unviable units, is a common factor in the decline and extinction of species worldwide.

Figure 2.1 Bioregions in the investigation area

Bioregion	Extent in investigation area (ha)	Extent as percentage of investigation area	Extent in investigation area as percentage of total extent of bioregion
Central Victorian Uplands	273,625	67.76	22.47
Goldfields	98,667	24.43	7.44
Victorian Volcanic Plain	31,278	7.75	1.33
Victorian Riverina	238	0.06	0.01





The investigation area also provides a significant contribution to the distribution in western Victoria, and the state more generally, of many widespread but rare species such as square-tailed kite, brush-tailed phascogale and scentbark (a eucalypt). There are some species that are endemic to the investigation area – that is, found nowhere else – including Pyrenees gum, Wombat bossiaea, Mount Cole grevillea and Lerderderg scentbark. In addition, Ben Major grevillea and Wombat bush-pea have only a few records beyond the investigation area and the only occurrence of black gum in Victoria is in the Wombat–Macedon block of the investigation area.

BOX 2.1 Declining plants in central western Victoria – a case study of the combined effects of fire and climate change

The combination of increased fire frequency and a drier climate may be contributing to the decline of rare and threatened plants in central western Victoria.

A good example is the threatened Ben Major grevillea which occurs in the Ben Major Nature Reserve and Musical Gully and Camp Hill state forests. It appears to be an obligate seed regenerator with mature plants killed by fire and seedlings usually appearing after fire. The national recovery plan for this species (2006) stated that about 4000 plants occurred in 21 wild populations including on roadsides. The important populations tended to occur in largely intact vegetation, where inappropriate fire regimes are likely to be the major threat.

Many species require a minimum amount of time to reach reproductive maturity; the Ben Major grevillea is thought to need at least eight to ten years. Tolerable fire intervals have been identified for different vegetation types to inform fire planning. More frequent and relatively hot fuel reduction burns are likely to result in less diverse vegetation and reduced habitat condition.

A recent inspection of previously surveyed sites in Ben Major Nature Reserve and Musical Gully and Camp Hill state forests confirmed large drops in total numbers since the 1990s, with fewer than 200 plants found across 12 locations. Most burnt sites contained few, if any, seedlings. Populations appear to have declined most significantly where fires were followed by dry winters that prevented recruitment and/or very hot summers that killed many of the juvenile plants.

Two additional populations have been found, one of approximately 500 plants in 2012 (burnt in 2017) and the other of approximately 600 plants close to Beaufort.

In recent years, attempts have been made to protect some patches of mature plants in Musical Gully and Camp Hill state forests from fuel reduction burns, but these techniques have generally not been successful with the majority of plants killed. In the block burnt in autumn 2017, high numbers of seedlings were observed in spring; survival rates at the one year mark have yet to be determined.

Victoria's fuel reduction burning program on public land was greatly expanded after the 2009 Black Saturday bushfires and subsequent Royal Commission, with an average target of five per cent per year (approximately 350,000 hectares) established. The government adopted a more strategic risk-based approach in 2015, focusing on areas that could pose a greater risk to people and property. Beaufort is one of the highest priority communities in the region, with fuel reduction programs targeting the forests close to town – including Musical Gully and Camp Hill state forests.

The combined effects of these highly modified fire regimes and a changing climate – predicted to be warmer overall, with drier winters – have not yet been modelled but are likely to pose a serious threat to some of central western Victoria's flora and fauna.

The importance of habitats in the investigation area can be represented as Strategic Biodiversity Values (SBV), using an optimisation method that ranks locations for their ability to support rare and threatened species. The resulting maps identify patterns across the landscape within the Central West region; map E shows the relevant section of the statewide SBV analysis, and map F shows the regional analysis for public land outside protected areas. Appendix 4 includes an outline of the method.

Despite patchy survey effort across the investigation area, 136 rare or threatened vascular plants have been recorded and an additional 149 have modelled suitable habitat here. The fauna is also diverse with 97 threatened or near-threatened species of animals either recorded in the area (48 species) or with modelled suitable habitat (a further 49 species). The bird group is particularly significant, with the 62 species recorded or expected to occur here representing 46 per cent of Victoria's total number of threatened bird species. Appendix 7 provides details of rare and threatened species recorded in each block, and also lists the habitat distribution models that were used in the Strategic Biodiversity Values analyses.

2.1.3 Aboriginal heritage

Deeply linked to this natural environment for many tens of thousands of years are the Aboriginal peoples who have developed and maintained important and intricate cultural, spiritual and economic ties to the land and waters over that time. Broad landscape features including mountains, hills, valleys, plains, rivers and other hydrological systems and the associated flora and fauna are inextricably linked to Aboriginal existence and culture. Specific features such as scar trees, middens, mounds, occupation sites, rock shelters, rock art, trade routes, Song Lines and place names are all important markers of Aboriginal people's existence. Over thousands of years Aboriginal people amassed volumes of traditional ecological knowledge such as the use of fire as a land management tool.

The six Traditional Owner groups shown in figure 2.3 on page 28 maintained rich and complex cultures with well-developed belief systems, economic systems, land management practices, laws, kinship systems and other societal structures. Strong and special connections are apparent in Traditional Owners' descriptions of their Country. For example, Barringgi Gadyin (the Wergaia language name for the Wimmera River), which flows from headwaters near Mount Cole westward into Wotjobaluk Peoples' Country, is described as 'the life blood of the Wotjobaluk Peoples, linking everything together'. Whole landscapes, such as the Wombat and Macedon ranges, were important both as boundary and meeting areas and the diversity of natural features and resources allowed people to stay in the area for extended periods of time.

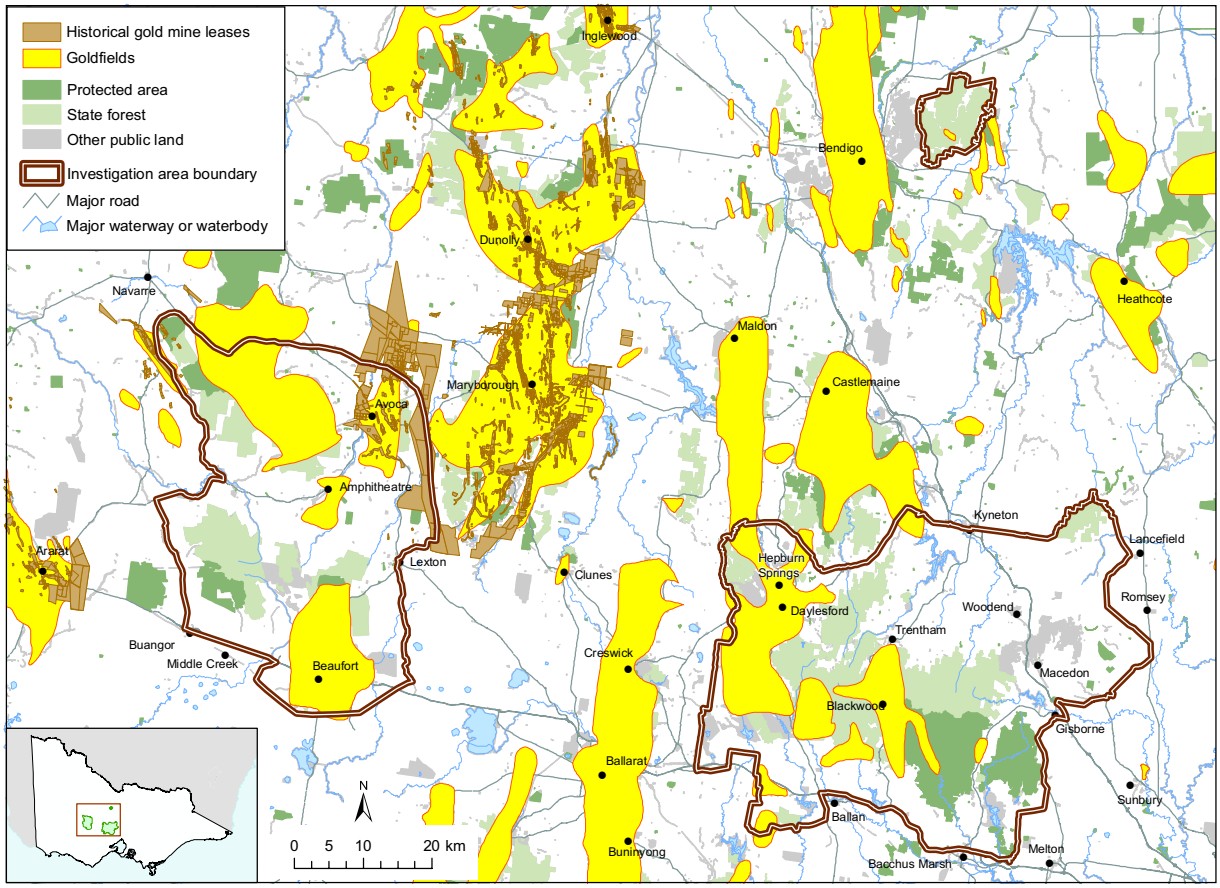
Aboriginal culture is living, dynamic and evolving – incorporating past, present and future. Contemporary Traditional Owners are striving to maintain, reinvigorate and strengthen their culture, as detailed in section 2.2.

2.1.4 Non-Aboriginal history

The first Europeans arrived in the investigation area from the mid-1830s, initiating a period of dispossession for Aboriginal people, a period that amounts to less than one per cent of the time over which they have occupied the land. The preference of European settlers for the more fertile lands – such as the rich soils of valleys and plains, and close to permanent water – resulted in the alienation (transferral from Crown to private freehold) of much of this land. Alienation was generally followed by large-scale clearing of native vegetation to facilitate cropping and stock grazing.

The pace of change accelerated dramatically with the discovery of gold from the 1850s. Tens of thousands of people descended on the goldfields of central Victoria, especially box-ironbark country but also places such as Beaufort, Daylesford and Blackwood (see figure 2.2). Even areas that turned out not to be gold-bearing were scoured by hopeful prospectors. The government of the time scurried to reserve remaining Crown land from alienation to provide access to the goldfields and to wood for products such as building and fencing timbers and firewood for the new arrivals, and for the mining itself – to line mine shafts, fuel boilers and build tramways, poppet heads, whims and so on. Some parts of the investigation area, such as the Wombat and Mount Cole forests, were very heavily logged to meet the demand.

Figure 2.2 Historic gold mining areas in the investigation area



Note: The historic gold mine leases layer (obtained from the Victorian Spatial Data Library) displays expired gold mining leases from the 1860s to 1958. The goldfields layer displays spatial information compiled by the Geological Survey of Victoria in 1993 and supplied to VEAC by the Department of Primary Industries in 2012.

Compared to the initial rushes, the end of the gold mining period was more gradual with many miners persisting well into the 20th century, supplementing or supplanting their earnings from gold with that from other forest based industries such as timber, post and firewood cutting, eucalyptus oil harvesting, stock grazing and beekeeping.

2.1.5 Public land

This history explains the distribution of public land today. Across the entire investigation area of 403,815 hectares, some 40 per cent (161,290 hectares) is public land. In all blocks, most public land is in large patches on hills and mountain ranges and, apart from pine plantations and water storages, nearly completely covered with native vegetation. Surrounding these large patches are low hills, valleys and river flats – land that is more fertile and suitable for agriculture and therefore largely privately owned. Interspersed throughout this private land are numerous small areas of public land such as road and rail reserves, recreation reserves (generally in or near towns), reserves for various services such as telecommunications, water supply and drainage, cemeteries, and reserves set aside from the 1860s to retain public access to water at springs and along waterways. Although most of these reserves are small or narrow, they total over 20,000 hectares which is around 14 per cent of public land in the investigation area. Compared to the larger patches of public land, a much lower proportion of these small reserves supports native vegetation.

The larger patches of public land are still used for extracting wood products and earth resources (see section 2.3.3) but in recent decades other uses have become more prominent, especially nature conservation, catchment protection and recreation.

The investigation area comprises the main area of mountainous and hilly country in central western Victoria and, with the public land supporting some 58 per cent of total native vegetation in the investigation area, it plays a particularly important role in conserving the biodiversity of the region – both as habitat in itself and in maintaining habitat connectivity in the region and beyond. Public land is particularly important in that it contains the largest

habitat patches, including Wombat forest which is the largest patch and the only largely-intact landscape in central western Victoria. Public land also supports the bulk of remnant native vegetation in the most cleared landscapes, with roadside vegetation and some of the small reserves providing crucial habitat 'stepping stones' in these areas.

The public land of the investigation area is notable for its poor representation of ecosystems in protected areas (national parks, nature reserves and bushland reserves). A comprehensive, adequate and representative protected area system is a fundamental component of nature conservation, reflected in the Australian and Victorian governments' commitment to establishing a representative protected area system through the international Convention on Biological Diversity. For terrestrial areas, this is largely achieved through the National Reserve System which set targets for comprehensiveness, adequacy and representativeness. Section 2.4.2 provides background on the protected area system and an overview of VEAC's approach to calculating protected area shortfalls against these targets.

The poor representativeness of the protected area system in this part of the state was identified in 2011 in VEAC's Remnant Native Vegetation Investigation, and reiterated in the 2017 Statewide Assessment of Public Land. In summary, protected areas are largely in rocky or steep areas and as a result the ecosystems that occur in these environments are likely to meet targets for representativeness. The flatter more fertile areas have very little native vegetation and almost none in protected areas. The ecosystems in these areas tend to be highly threatened with representativeness shortfalls that equate to 100 per cent of what remains; the issue here is the practicality and adequacy of any protected areas that could be established in the small narrow remaining areas of native vegetation. Between these extremes are relatively large areas of forest ecosystems that are more productive than the rocky hilltops and therefore were originally retained as public land for timber production and largely remain assigned to that purpose as state forest today – with little protected area representation. These ecosystems tend to have modest percentage representation shortfalls compared to ecosystems in agricultural landscapes, but these shortfalls are often quite extensive because of the relatively large areas remaining.

2.1.6 Catchments and water

In recent decades, these large areas of mountain forests have come to be recognised for their important roles as the source of many major rivers in western Victoria. The Wimmera, Avoca and part of the Hopkins River headwaters are in the forests of the Mount Cole–Pyrenees block. The Wombat–Macedon forests contain the headwaters of Loddon, Campaspe, Coliban, Maribyrnong, Moorabool and Werribee-Lerderderg rivers – a remarkable collection of waterways for a forest of this size. As a result, these forests play an extremely important role in riparian and wetland ecology, and in water supply for large areas of western Victoria both north and south of the investigation area. For example, the Avoca and Loddon rivers are the source of water for human use and internationally significant wetlands as far north as Swan Hill. The Coliban system is a famous example of 19th century engineering supplying water to Castlemaine and Bendigo. From Mount Cole, the Wimmera River flows over 200 kilometres northwest before finally terminating in the lakes of Wyperfeld National Park. The Moorabool, Werribee and Maribyrnong systems provide water to Ballarat, Geelong and parts of suburban Melbourne. The river basins of the Mount Cole–Pyrenees and Wombat–Macedon blocks are shown in figures 5.2 and 7.2 in chapters 5 and 7 respectively.

Several water authorities and retailers operate across the investigation area to deliver water to community and industry. These include large corporations with significant assets in the investigation area, such as Coliban Water and Southern Rural Water as well as others that deliver water from catchments in the investigation area to users largely downstream such as Melbourne Water, Barwon Water and Central Highlands Water.

The importance of these headwaters to the wetland ecology and water supplies of such a large part of western Victoria is likely to be magnified as the effects of climate change play out in coming decades.

2.2 Traditional Owner rights and interests in public land

Aboriginal people have lived in Victoria for over a thousand generations. Since European colonisation Aboriginal people have suffered a well-documented history of upheaval, suffering and dispossession. However, even in the face of this, Aboriginal people in Victoria have a proud record of standing firm, of standing up for recognition, for rights and for reconciliation. It has been this steadfastness and perseverance that has begun to see the realisation of recognition and land rights through present-day negotiations and agreements with both the Federal Government and the State of Victoria.

The 2016 discussion paper (and 2017 supplement) for VEAC's Statewide Assessment of Public Land provided a substantial discussion on a statewide level of both Traditional Owner rights and interests in public land and Aboriginal cultural heritage, including the underpinning legislative framework. This section provides key information and context for the Central West Investigation.

2.2.1 Native Title and the Traditional Owner Settlement Act

Following the 1992 Mabo High Court decision, the Australian Parliament passed the *Native Title Act 1993*, which enabled Indigenous people throughout Australia to claim traditional rights to unalienated Crown land. The Act was extensively amended in 1998 following the 1996 *Wik v Queensland* High Court native title decision.

In 2010, acknowledging the difficult nature of having native title determined under the Commonwealth *Native Title Act 1993*, the Victorian government developed an alternative system for recognising the rights of Victorian Traditional Owners. The Victorian *Traditional Owner Settlement Act 2010* (TOS Act) provides for an out-of-court settlement of native title and allows the Victorian Government to recognise Traditional Owners' relationship to land and afford them certain rights on Crown land.

Traditional Owners assert distinctive spiritual, cultural, social and economic rights in relation to their country, including land and waters. These rights are legally recognised and given effect through determinations made by the Federal Court under the *Native Title Act 1993* and agreements in the State of Victoria under the TOS Act. The TOS Act provides a framework for the State and Traditional Owner groups to agree to a comprehensive settlement.

Recognition and Settlement Agreements (RSAs) under the TOS Act are a means of reconciliation and recognition that recognise the special relationship of Aboriginal people and cultures to the land and waters. They facilitate Traditional Owner rights to access and use land and waters, rights to take and use natural resources and rights to formal participation and input into land and natural resource management and planning. RSAs may include the following types of agreements:

- a Land Agreement under which the State may enter into an agreement to grant freehold title land for cultural or economic purposes, grant Aboriginal title land to be jointly managed or just to jointly manage land
- a Land Use Activity Agreement that provides procedural rights for recognised Traditional Owner groups over certain land use activities that occur on areas of public land
- a Natural Resource Agreement that recognises Traditional Owner rights to take and use natural resources and be involved in land and natural resource management
- a Funding Agreement
- an Indigenous Land Use Agreement (ILUA) that is an important linkage to and requires registration under the Commonwealth *Native Title Act 1993.*

From November 2016, the *Traditional Owner Settlement Amendment Act 2016* has strengthened the ability of Traditional Owners to exercise rights to Crown land and natural resources for cultural, social and economic purposes. This includes rights to hunt wildlife and game, fish and gather flora and forest produce. The Victorian Civil and Administrative Tribunal was also granted greater power to resolve disputes where non-compliance with the TOS Act occurs, by making enforcement orders to protect Traditional Owner rights on Crown land. It also ensures that all existing leases, licences and other interests on Crown land are preserved after a grant of Aboriginal title (see section 2.2.2) is made, to protect essential public interests.

It is important to recognise that Traditional Owners do not want to impinge on the public's right to access parks and reserves. Traditional Owners' intentions are to care for Country and share traditional ecological knowledge, working alongside the broader public interests so that public lands can be enjoyed by everyone.

2.2.2 Aboriginal title

A Land Agreement under the TOS Act provides for certain Crown land sites in an agreement area, such as parks and reserves, to be granted to a Traditional Owner corporation in 'Aboriginal title', to be jointly managed with the State.

Aboriginal title is a highly modified type of freehold grant to the Traditional Owners, where the right to occupy, use, control and manage the land is transferred back to the State, including the authority to issue leases and licences. In all cases, the parks and reserves will continue to be managed under the same Act of Parliament they were reserved under prior to the grant of Aboriginal title but also subject to a joint management plan (see section 2.2.3). For example, a national park reserved under the *National Parks Act 1975* prior to the grant of Aboriginal title is taken to be a national park following the grant. Transfer of parks or reserves to Aboriginal title does not affect existing use and access which will continue to be managed under the relevant land act. Neither Traditional Owners nor the State can sell or transfer the land, change its use or claim exclusive possession.

To date in Victoria, Aboriginal title has been granted for 16 parks and reserves (approximately 90,000 hectares) in two separate agreements with each of the Gunaikurnai and Dja Dja Wurrung Traditional Owners.

2.2.3 Joint management

Aboriginal title is granted for the purpose of joint management and is formalised through a Traditional Owner Land Management Agreement between the Traditional Owner corporation, the Secretary of the Department for Environment, Land, Water and Planning (DELWP) and the Minister responsible for administering the *Conservation, Forests and Lands Act 1987* (i.e. the Minister for Energy, Environment and Climate Change). This agreement provides for the establishment of a Traditional Owner Land Management Board, with the objective of enabling the knowledge and culture of the Traditional Owner group to be recognised through the joint management of the Aboriginal title lands. Traditional Owner Land Management Board members are appointed by the Minister, with a majority of members nominated by the Traditional Owner corporation and the balance being general members with one Secretary nomination.

The Traditional Owner Land Management Board develops a joint management plan to set the strategic direction for and provide for the management of the Aboriginal title lands, with the assistance and guidance of the Secretary of DELWP and in consultation with the Traditional Owner corporation and joint management partner agencies such as Parks Victoria and DELWP. The joint management plan must also be consistent with legislation and policies applicable to that public land reservation. Once approved, the plan is implemented and provides the basis for ongoing joint management.

2.2.4 Aboriginal heritage

Public land is highly significant for Aboriginal cultural heritage in Victoria and often contains well preserved tangible Aboriginal heritage as well as broad Aboriginal cultural landscapes with rich intangible heritage, both of which are highly significant to Traditional Owners. This is true of the Central West Investigation area and has been addressed through VEAC's Aboriginal community engagement project (see section 1.5 and the full project report on the VEAC website). VEAC's Statewide Assessment of Public Land discussion paper also provided detailed information on the Victorian Aboriginal Heritage Council (VAHC), which was created under the *Aboriginal Heritage Act 2006*, a seminal piece of legislation for the preservation of Aboriginal cultural heritage in Victoria. The VAHC recognises Traditional Owners as the primary guardians, keepers and knowledge holders of their heritage. At a local level, Registered Aboriginal Parties (RAPs) are the voice of Aboriginal people in the management and protection of Aboriginal cultural heritage in Victoria.

2.2.5 Country Plans

Country Plans are important documents produced by Traditional Owner groups that vary in nature across different Traditional Owner groups and can incorporate and communicate many different types of culturally important information. They typically describe and provide background on cultural beliefs and relationship to Country and the post-colonisation history of dispossession and appropriation but importantly also of survival. Country Plans articulate aspirations and visions for the future; including preservation, revival and strengthening of culture. They also assert and articulate Traditional Owner rights and are utilised as key documents in negotiating agreements, including under the TOS Act. They may include strategic frameworks (for example a set of key priorities, goals or objectives) for future planning, including how these will be achieved (through management plans for example) and monitored. These plans may also form an important basis for joint management planning and implementation.

Of the Traditional Owner groups being engaged as part of the Central West Investigation, Country Plans have been produced by Dja Dja Wurrung Clans Aboriginal Corporation, Eastern Maar Aboriginal Corporation, Taungurung Clans Aboriginal Corporation and Barengi Gadjin Land Council (representing Wotjobaluk Peoples). These Country Plans have been integral to the Aboriginal community engagement project and can be found on the Traditional Owner groups' websites.

2.2.6 Dja Dja Wurrung Recognition and Settlement Agreement

Following many years of hard work by Dja Dja Wurrung people, an RSA was signed on 28 March 2013, recognising Dja Dja Wurrung People as the Traditional Owners of their Country. This was the first comprehensive settlement under the TOS Act (following the first agreement in 2010, the Gunaikurnai Settlement Agreement) and settled four native title claims in the Federal Court dating back to 1998. The RSA covers a large area of public land of which around 18 per cent (some 47,000 hectares), consisting of six parks and reserves, was granted to Dja Dja Wurrung as Aboriginal title. Within the Central West Investigation area, the RSA includes the entire Wellsford block and about half of both the Mt Cole–Pyrenees and Wombat–Macedon blocks (see figure 2.3).

BOX 2.2 Dja Dja Wurrung – Djandak Wi (traditional fire)

There is a growing number of partnership projects across Victoria involving Traditional Owners where traditional knowledge and use of fire is being reignited. This 'cultural burning' has the potential to produce a wide range of cultural, social, environmental and economic benefits for people and Country.

The Department of Environment, Land, Water and Planning (DELWP) is currently supporting the development of a statewide Aboriginal Fire Strategy and is working with the Federation of Victorian Traditional Owner Corporations to ensure the strategy reflects the aspirations of Traditional Owners and Aboriginal communities in caring for Country.

Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC), DELWP and Parks Victoria have partnered to bring Djandak Wi (meaning traditional fire) into Victoria's existing planned burning and fire management programs, including as a landscape management tool. This collaborative approach embraces Dja Dja Wurrung traditional knowledge of fire as a tool whilst also utilising established DELWP and Parks Victoria infrastructure and knowledge.

Enabled through the Dja Dja Wurrung Recognition and Settlement Agreement, in May 2017 traditional burns were conducted at sites north of Bendigo and near Maryborough by Dja Dja Wurrung firefighters from Forest Fire Management Victoria. These are thought to be the first of their kind in some 170 years. Flames from a single fire are carried into the bush in bowls and with fire sticks to transfer the fire to fuel on the forest floor. This results in a cooler, creeping fire that takes a natural path through the bush and under suitable conditions will burn gently, connecting with other fires to create a mosaic effect.

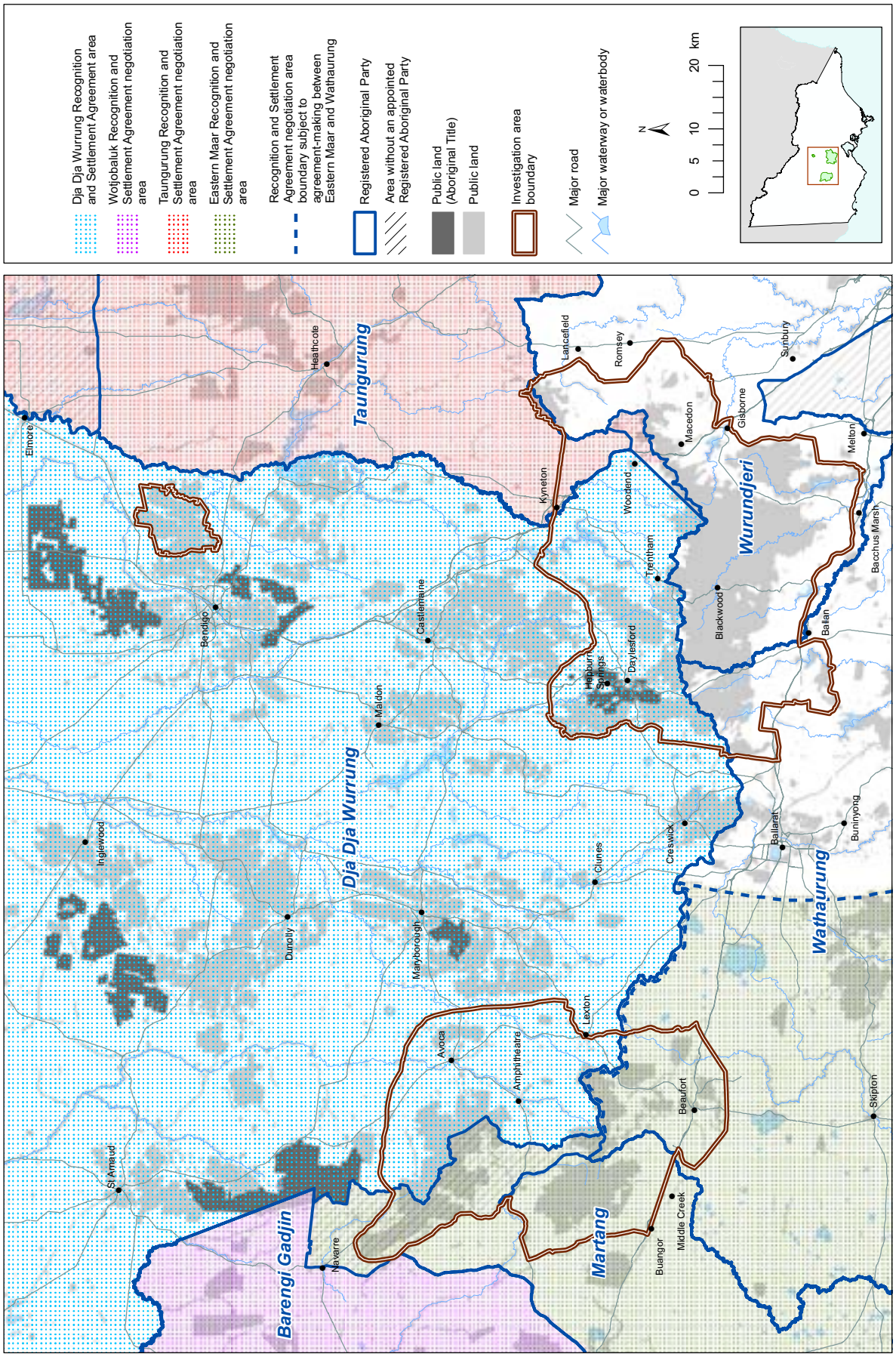
Ensuring any traditional burns undertaken accord with the *Dhelkunya Dja* Country Plan, which articulates the aspirations and vision of Dja Dja Wurrung people for their Country, is an important part of the process. The twenty-year *Dhelkunya Dja 2014-2034* Country Plan identifies fire management as one of several key natural resource management strategies.

Reviving traditional burning practices relates strongly to several aspects of *Dhelkunya Dja* and over the longer term will serve as an important indicator of Dja Dja Wurrung traditional customs and practices being kept alive and respected (a key aspiration of the Country Plan). Traditional burning is also important in terms of an alternative to changed and inappropriate fire regimes that form part of modern management practices and has important regenerative properties for ecosystems. Additionally, uptake of traditional burning as a landscape management tool has the potential to offer important economic development opportunities for Djandak (Dja Dja Wurrung Enterprises Pty Ltd), the wholly owned business of DDWCAC.

Dja Dja Wurrung man Trent Nelson is Team Leader of the Dja Dja Wurrung Rangers with Parks Victoria and with fellow Dja Dja Wurrung man and DELWP District Burn Planner Mick Bourke, has worked to develop and share traditional knowledge through their formal employment in operational and management positions. Further integration and resourcing of Dja Dja Wurrung to be involved in decision-making to promote joint understandings will be a key to future management practices.

Djandak Wi, traditional fire, needs to be recognised as being very culturally important, including within a broad landscape management context for biodiversity, traditional food and hunting, water management and 'gardening' of the landscape. Fire can also reveal previously non-visible cultural heritage sites of interest, for example artefacts or scatters. The reintroduction of Djandak Wi helps to deliver on Dja Dja Wurrung aspirations of caring for Country and offers important partnership opportunities.

Figure 2.3 Recognition and Settlement Agreement and negotiation areas



Under the Dja Dja Wurrung RSA the State has a Traditional Owner Land Management Agreement (a Land Agreement) with Dja Dja Wurrung Clans Aboriginal Corporation. A Traditional Owner Land Management Board, the Dhelkunya Dja Land Management Board (Dhelkunya Dja means Healing Land or to make good Country) was established to jointly manage the six Aboriginal title parks and reserves, of which Hepburn Regional Park occurs within the Central West Investigation area:

- Greater Bendigo National Park
- Kara Kara National Park (part of)
- Hepburn Regional Park
- Kooyoora State Park
- Wehla Nature Conservation Reserve
- Paddys Ranges State Park.

In addition, two culturally significant properties at Carisbrook (outside the investigation area) and Franklinford (inside the investigation area, north of Hepburn Regional Park) were transferred as freehold title and the agreement provides for additional transfers in the future.

The Dhelkunya Dja Land Management Board's *Draft Joint Management Plan for the Dja Dja Wurrung Parks* was published in April 2018 for a period of public comment, with a final plan expected to be released in October 2018.

2.2.7 Registered Aboriginal Parties

The Registered Aboriginal Parties of specific relevance to the Central West Investigation are:

Mount Cole–Pyrenees block

- Barengi Gadjin
- Martang
- Dja Dja Wurrung
- Wathaurung
- Eastern Maar

Wellsford block

- Dja Dja Wurrung

Wombat–Macedon block:

- Dja Dja Wurrung
- Taungurung
- Wathaurung
- Wurundjeri

2.2.8 Aboriginal treaty

In February 2016, Aboriginal people in Victoria called on the Victorian government to negotiate a treaty, following which the State of Victoria committed to working with Aboriginal Victorians towards Australia's first treaty. A treaty has no set form but may include elements such as recognition, acknowledgement, apologies, reconciliation, autonomy, self-determination and funding.

A treaty is highly significant for Aboriginal people in Victoria; however due to its in-development status it has not been a consideration for the Central West Investigation.

An initial step on the pathway to treaty is for Victorian Aboriginal people to decide who should represent the community and who can and should negotiate a treaty on their behalf – an Aboriginal Representative Body.

The Aboriginal Treaty Working Group (established in July 2016) represents Traditional Owners, Aboriginal community controlled organisations and young Aboriginal people and has led two years of engagement and consultation with Aboriginal people across Victoria, culminating in the delivery of its final report to the Victorian Treaty Advancement Commission in March 2018. The role of the Victorian Treaty Advancement Commission, which commenced operation in January 2018, is to create an Aboriginal Representative Body and the final report made key recommendations on the design of this body.

The Aboriginal Treaty Working Group's final report will inform the Victorian Treaty Advancement Commission's work over the next year. The Commission will lead further consultations with Aboriginal Victorians across the state to work on the design of the Aboriginal Representative Body (anticipated to commence in 2019) which, once established, will hold responsibility in partnership with the State of Victoria to develop a framework to progress and support future treaty negotiations.

Central to the process is the *Advancing the Treaty Process with Aboriginal Victorians Act 2018*, described by Aboriginal Victoria as a road map to treaty negotiations. This Act, in an historic moment for Victoria and Australia, passed both Houses of the Victorian Parliament in June 2018. This is the first time that legislation committing to treaty negotiations has been considered by an Australian parliament.

Further information and updates can be found on the Aboriginal Victoria website.

2.2.9 Outlook

With respect to Traditional Owner groups with interests in the Central West Investigation area, in addition to the Dja Dja Wurrung RSA, three settlement negotiations under the TOS Act are currently underway between the State of Victoria and the Eastern Maar, Wotjobaluk Peoples and Taungurung Traditional Owner groups. TOS Act negotiations with other Traditional Owner groups in Victoria are also currently underway outside the investigation and further negotiations are possible, both within and without the investigation area, in the future.

A comprehensive outline of Traditional Owner interests in the blocks comprising the investigation area (Mount Cole–Pyrenees, Wellsford and Wombat–Macedon) is presented in sections 5.2, 6.2 and 7.2 respectively. Figure 2.3 illustrates boundaries for RAPs, the Dja Dja Wurrung RSA, Aboriginal title lands within the Dja Dja Wurrung RSA and current settlement negotiation areas for the Traditional Owner groups within the investigation area.

Finalisation of current and future settlement negotiations will significantly influence the Traditional Owner landscape of recognition and rights both in the Central West Investigation area and more broadly across Victoria and have considerable significance for public land use and management. It is likely that any agreements under the TOS Act will include granting of Aboriginal title lands to be jointly managed by Traditional Owners and the State (with associated joint management plans to be developed), adding to Victoria's 16 jointly managed Aboriginal title parks and reserves (see section 2.2.2).

Aboriginal culture, heritage and relationship to Country will continue to hold strong and growing importance for public land use and management in Victoria as it is developed, strengthened and reinvigorated. Current and future agreements under the TOS Act and outcomes under the Commonwealth Native Title Act will also play a crucial role in the future health and prosperity of Aboriginal people and Traditional Owners in Victoria.

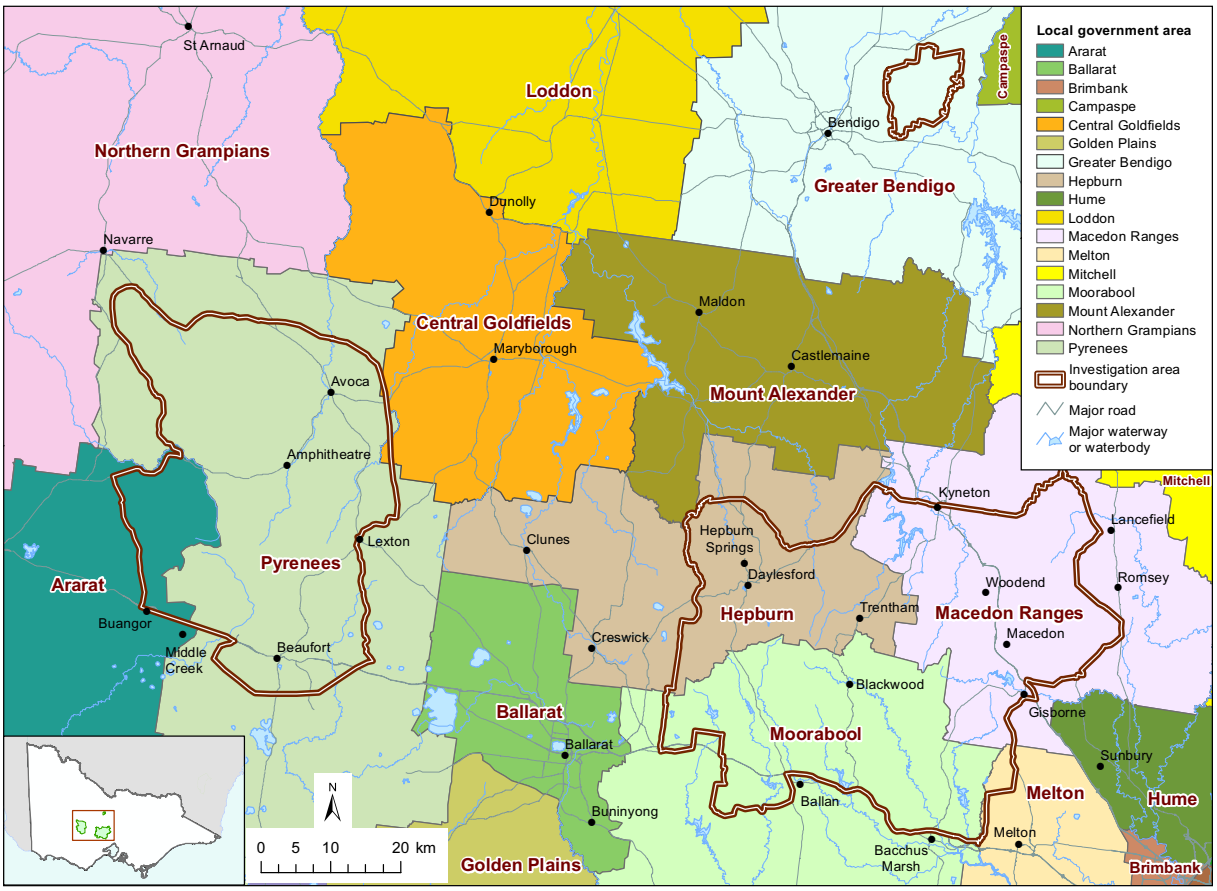
2.3 Social and economic setting

2.3.1 Socioeconomic profile

VEAC commissioned a report describing the socioeconomic profile of the regions in which each of the public land areas is located. The full report is available on VEAC's website. The Mount Cole and Pyrenees range forests and public lands are located primarily within the Pyrenees Local Government Area (LGA) (see figure 2.4). The Wellsford forests and public lands are located within the Greater Bendigo LGA, while the Wombat-Macedon forests and public lands are located primarily within the LGAs of Hepburn, Moorabool and Macedon Ranges.

Demographic data for each region is primarily compared to demographic data for the Rest of Victoria Greater Capital City Statistical Area (GCCSA), although it is recognised that part of the Hepburn, Moorabool and Macedon Ranges LGAs straddle the boundary between the Rest of Victoria GCCSA and the Greater Melbourne GCCSA.

Figure 2.4 Local government areas in the investigation area



The socioeconomic profiles are based on the 2016 ABS Census of Population and Housing, unless otherwise stated. The demographic profile is based on Census data for the Usual Residents of the regions while the economic profile is based on the Place of Work Census data for the regions.

A comparison between regions of the main socioeconomic statistics is provided in table 2.1.

2.3.2 Recreation and tourism

As the main area of mountain forests in central western Victoria, the elevated areas of the Wombat–Macedon and Mount Cole–Pyrenees blocks are also significant for many recreational users, some of whom come from as far away as Swan Hill. There are also millions of people in the western and northwestern suburbs of Melbourne for whom the forests of the investigation area are the most accessible of their type. In addition, because they are generally not as rugged, remote or wet as many parts of the eastern highlands, the forests of the investigation area are more favourable for some recreational activities. The range of popular recreational activities in the investigation area is large and includes four wheel driving and car touring, horse riding, bushwalking, mountain bike riding, picnicking, metal detecting, camping, trail bike riding, nature study, deer and other hunting, and car rallying.

Collectively, these activities are now a major use of public land. Catering for them is becoming increasingly challenging for public land managers, especially where recreational uses conflict or have the potential to conflict with each other or with other public land values such as apiculture, nature conservation, catchment protection and timber harvesting.

It seems inevitable that these pressures will continue to increase in the future and recreational activities become more popular, as access to the area from Melbourne becomes easier with improved rail services and upgraded roads, and as populations in the visitor catchment areas increase. The key areas from which visitors come include Ballarat, Bendigo, towns in the investigation area particularly those showing signs of ‘tree change’ immigration (e.g. Kyneton, Woodend, Trentham and Daylesford) and especially the western and northwestern suburbs of Melbourne. For instance, the population of the southern part of Macedon Ranges Shire (see figure 2.4 for a map of local government areas in the investigation area)

Table 2.1 Comparison of socioeconomic statistics

Statistics	Pyrenees	Greater Bendigo	Hepburn, Moorabool & Macedon Ranges
Demographic profile of usual residents			
Population			
Population 2016	7,238	110,477	93,248
Population Growth 2011-2016	8.5%	9.8%	10.5%
Population Growth Rate Projections	2.5% to 2.7%	8.7% to 10.2%	8.8% to 9.3%
Indigenous and/or Torres Strait Island Population	1.6%	1.7%	0.9%
% born in Australia	81.5%	84.5%	79.4%
% Speak a language other than English at home	3.6%	5.6%	7.1%
Main non-English Language	Dutch, French, Greek, Spanish, Vietnamese	Karen, Mandarin, Italian, Malayalam, Punjabi	Italian, German, Greek and Mandarin
Median age	50	39	43
Family composition compared to Regional Victoria	More couples without children and lone person households	More couples with children, one parent families and groups households	More couples with children and couples without children
Dwellings			
No of private dwellings	3,344	46,359	38,046
% private dwellings occupied	81.3%	89.2%	86.5%
% separate houses	98%	90%	92%
Median weekly rent	$160	$250	$279
Education and employment			
% year 12 or equivalent	31%	43%	48%
% with formal qualifications	17%	25%	29%
No. of residents employed	2,671	48,673	42,712
% growth in employed usual residents 2011 – 2016	2.6%	6.4%	6.3%
% full-time jobs	52.1%	53.2%	55.4%
% part time jobs	34.5%	34.7%	33.8%
Unemployment rate	6.2%	6.4%	5.0%
Median weekly household income	$876	$1,184	$1,441
Average wage and salary 2014-15	$41,727	$48,238	$47,107 to $59,359
Main occupations compared to Regional Victoria	More managers and labourers	More professionals, community and personal service workers, clerical and administration workers and sales workers	More professionals, technicians and trade workers and clerical and administrative workers
% of usual residents employed in the region	52%	86%	43%
Main other location of usual resident employment	Ballarat	No fixed address (Vic.)	Melbourne
Economic profile of region			
Employment in region	2,003	45,051	24,818
Growth in employment in the region 2011 to 2016	19%	19%	19%
% of jobs in the region filled by usual residents	70%	92%	73%
Main location of workers not living in the region	Ballarat	Mount Alexander	Melton
Largest employing sectors 2016	Agriculture, Forestry and Fishing	Health Care and Social Assistance	Health Care and Social Assistance
Key engines of growth	Agriculture, Forestry and Fishing Public Order, Safety and Regulatory Services Beverage Manufacturing	Health Care and Social Assistance Gold Ore Mining Poultry Processing Banking	Tourism Beef and Sheep Farming and Mushroom and Vegetable Growing Aged Care Residential Services Meat and Meat Product Manufacturing Construction Material Mining

increased by 30 per cent from 35,550 in 2001 to 46,100 in 2016, while that of the City of Greater Bendigo increased by 35 per cent (68,480 to 92,380). Over the same interval the population of the City of Melton increased by 160 per cent from 51,690 to 135,440; the increase in the last five years alone was 23 per cent.

Local and regional businesses are responding to the increasing levels of visitation and the diversity of recreational uses. In addition to accommodation, cafes, restaurants, wineries and spas, there are many specialist services targeting different users (e.g. mountain bikers, recreational prospectors) as well as a range of guides and tours.

2.3.3 Resource uses

Public land in the investigation area is utilised for a range of resource uses. These are summarised below and detailed in chapters 5, 6 and 7 for each block, with some supporting information in appendix 4.

Apiculture utilises public land for both production of honey and to rest bees before undertaking pollination of private agricultural crops, particularly almond orchards near Robinvale. There are some 273 apiculture sites on public and across the investigation area. The sites cover most forested blocks of public land, including parks and reserves, with little room for additional sites. These are utilised in rotation depending upon local flowering conditions. Wellsford forest is an important location for apiculture with the presence of unusual summer flowering ironbark trees providing an important resource for apiarists.

Gold mining was important historically across much of the investigation area (see figure 2.2). Today there are 16 mining and 11 prospecting licences current on public land in the investigation area. There are also 22 broad-scale exploration licences over most public and private land in the investigation area. There are 17 small **extractive industry** tenements on public land providing sand and gravel, and slate (near Percydale). Many more extractive tenements occur on private land. Figure 2.5 shows current earth resources tenements.

Grazing by domestic stock takes place on public land under licences administered by the Department of Environment, Land, Water and Planning. Crown land forming stream frontages, vegetated blocks and unused government roads may all be held under tenures for stock grazing.

In the investigation area some 1660 hectares of unused government road (often indistinguishable from the adjoining private freehold land) is held under 912 licences used largely for primary production, mostly grazing. Crown water frontage grazing, riparian management and a small number of conservation licences occur throughout the two larger blocks of the investigation area and are held under 240 licences extending over 900 hectares. Around 440 hectares of Crown land is held under 178 general grazing licences.

Access to water across public land is also licensed where infrastructure such as pump houses or pipelines is required. There is also a large number of miscellaneous licences for a wide range of purposes such as infrastructure for various services and utilities, local community uses and access to properties.

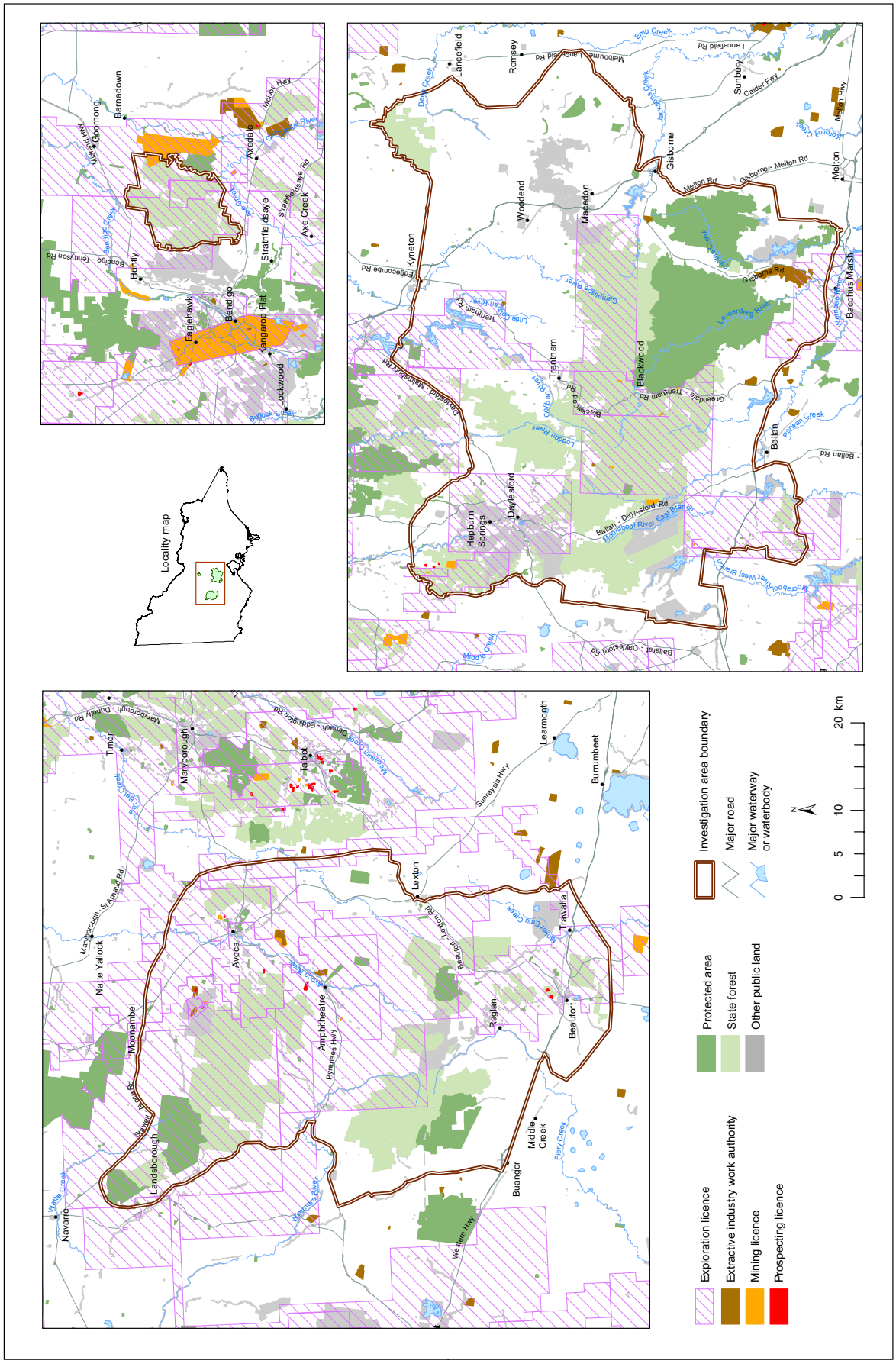
Timber and other wood products are harvested under management arrangements described in section 2.4.3 below. The history of logging in the investigation area is shown in figure 2.6.

The state forests of the investigation area are managed for commercial production of wood products by VicForests for the benefit of local communities (‘community forestry’) while domestic firewood is managed by DELWP. All three blocks of the investigation area currently provide wood for a variety of product types. The totals for all licensees who may harvest in the investigation area are currently:

- sawlogs: total volume of 2000 cubic metres per annum to six licensees
- fencing timbers: 2200 cubic metres to 12 licensees
- woodchop logs: 2200 lineal metres to two licensees
- firewood: 8000 cubic metres to 19 licensees
- firewood residual from sawlog harvesting: 2550 tonnes to one licensee
- bark: 400 cubic metres to one licensee
- wheel hub logs: 400 lineal metres to one licensee.

There are a number of background considerations with this information. For example, many licensees have licences for more than one product type and many licensees generate products in addition to those for which they have a licence, such as firewood, wood chips or sawdust from sawmill ‘waste’. An important consideration is that many licensees harvest wood from other sources (such as private land or public land outside the investigation area) and some may have income

Figure 2.5 Earth resources tenements in the investigation area



from other activities i.e. the investigation area is not the sole basis for their income. On the other hand, some licensees provide employment for several staff and contractors.

With the termination in 2011 of the permit system for domestic firewood collection no records have been kept of harvest volumes for the last six years but figures from prior to 2011 and discussions with land managers suggest an overall annual volume figure in the same order of magnitude as that for commercial firewood (see above).

2.4 Public land

2.4.1 History of public land use in the investigation area

Current public land use in the investigation area (see map A) is almost entirely the result of the work of VEAC and its predecessors since 1970 when the government established the Land Conservation Council (LCC) to conduct studies and investigations and make recommendations for the most appropriate use of public land. Cities, towns and boroughs were excluded from the LCC's studies because at that time the major land use issues in Victoria were associated with large tracts of public land in rural areas, with only one per cent of the state reserved for conservation purposes.

The LCC divided Victoria into 15 study areas and, between 1970 and 1986, undertook regional investigations covering each of these areas. Some study areas were split into districts, leading to more than 15 of these regional investigations. These studies recommended public lands be allocated to specified land use categories after extensive community consultation. Starting from 1983, the LCC also conducted six reviews of some of the original study areas, using the same investigation process to make updated recommendations.

As shown in figure 2.7, several studies of public land use carried out by the LCC and ECC covered parts of the Central West Investigation area.

An interactive map showing a summary of previous LCC, ECC and VEAC studies and investigations is available on VEAC's website.

The North Central Investigation, which was completed in 1981, included the Pyrenees and Glenmona state forests and nearby small blocks, and the Wellsford State Forest. Among other things it recommended the creation of Landsborough Flora and Fauna Reserve and Percydale Historic Area. Much of the North Central Investigation was superseded by the Environment Conservation Council's Box-Ironbark Forests and Woodlands Investigation (2001).

The Ballarat Investigation (1982) covered Mount Cole and the other state forests in the Beaufort area, and recommended the creation of Mount Buangor State Park and Ben Major Flora Reserve. The study also included the westernmost part of the Wombat State Forest.

The Melbourne District 1 Review (1987) – and the Melbourne Study (1977) that preceded it – included all the Wombat–Macedon block apart from the small area covered by the Ballarat Investigation. These studies recommended that the Lerderderg State Park, Hepburn and Macedon regional parks, Long Forest Flora and Fauna Reserve and a suite of flora reserves and bushland reserves be created or extended.

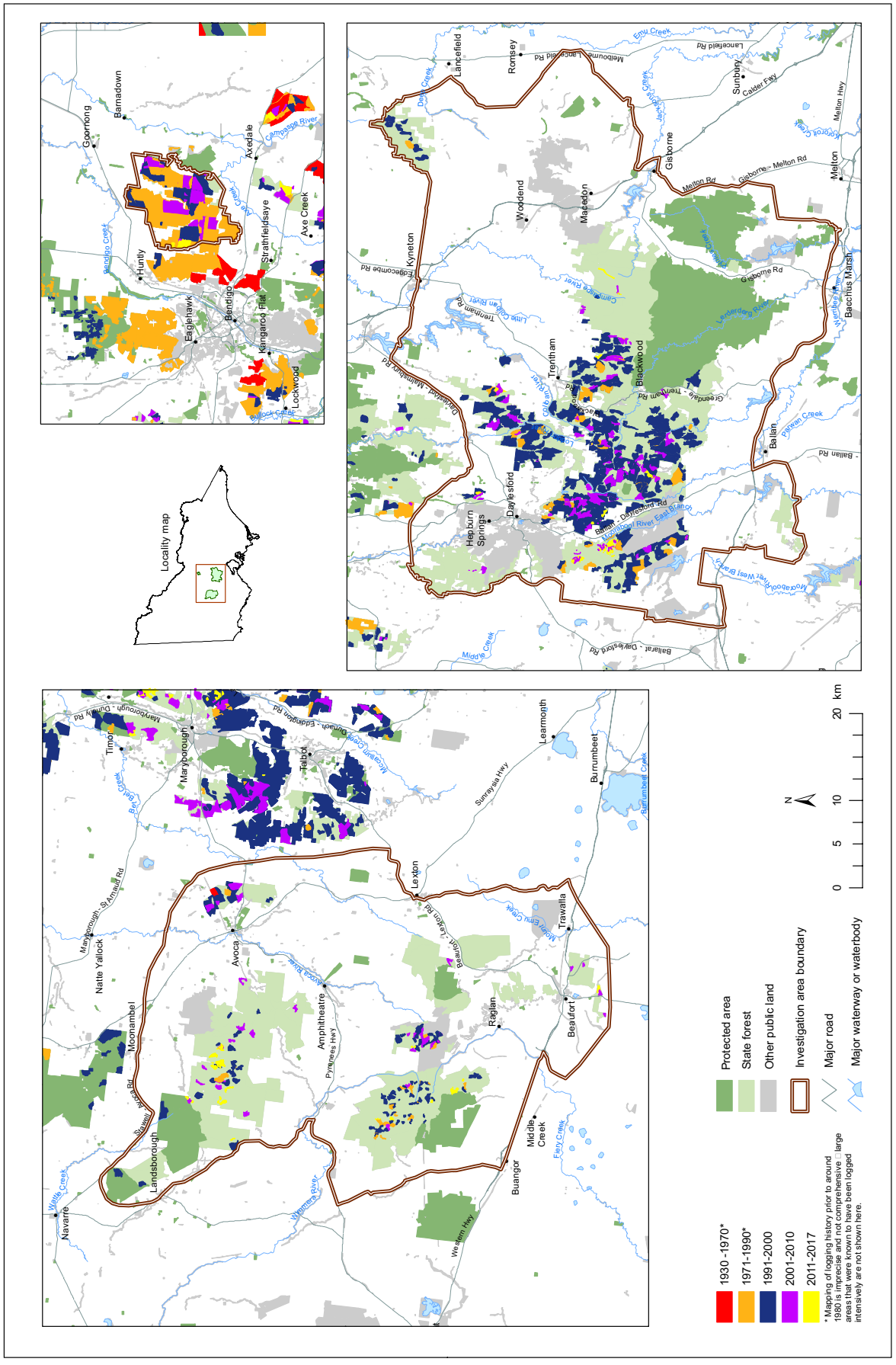
The LCC's successor body, the Environment Conservation Council, completed the Box-Ironbark Forests and Woodlands Investigation in 2001. By this time, legislative amendments enabled the inclusion of land in cities, towns and boroughs. The Box-Ironbark investigation area included the Wellsford State Forest, the northern fall of the Pyrenees, Glenmona State Forest and nearby small blocks. It recommended additions to the Landsborough Nature Conservation Reserve and the creation of several smaller reserves.

In 2011 VEAC completed the Metropolitan Melbourne Investigation which included the south eastern part of Lerderderg State Park, and recommended existing public land use continue in this small part of the Central West Investigation area.

In addition to these regional investigations, two statewide investigations had significant implications for the Central West Investigation area. The LCC Rivers and Streams Special Investigation (1991) focused on major watercourses with special values. It recommended a 63 kilometre corridor along the Lerderderg River be designated a heritage river. The investigation also made general recommendations about improving the quality, condition, protection and management of stream frontages, beds and banks.

VEAC reviewed the public land use classification system and values of public land in its Statewide Assessment of Public Land (2017). Recommendations focused on consolidating and rationalising public land use classification, particularly where categories were confusing or poorly understood. The recommendations were broadly accepted by government. Appendix 1 compares the

Figure 2.6 Logging coupe history in the investigation area



recommended system of public land use categories with the one that it replaces. These changes are reflected in the public land use categories adopted in the Central West Investigation. Appendix 1 also provides a summary description of each of the recommended public land categories and overlays relevant to the Central West Investigation.

Table 2.2 summarises the current extent of public land in each of the public land use categories in the Central West Investigation area that has resulted from these investigations, as well as some other small changes such as additional public land acquired or identified since the most recent previous investigation.

2.4.2 Approach to assessing representativeness of the protected area system

A key component of the Central West Investigation is the need for a protected area system – comprising national and state parks, conservation parks, nature reserves and bushland reserves – which addresses the national and state targets for comprehensiveness, adequacy and representativeness. These targets are set at the ecosystem level and, in Victoria, Ecological Vegetation Classes (EVCs) are used as ecosystem surrogates. EVCs are the standard unit for classifying vegetation types in Victoria. They are described through a combination of floristics, lifeforms and ecological characteristics, and through an inferred fidelity to particular environments.

A number of national targets have been set in agreements between the Commonwealth and state/territory governments to help establish a comprehensive, adequate and representative terrestrial reserve system. The first of these were developed in 1996 for forests, and are known as the JANIS criteria. More information about the JANIS targets for inclusion of ecosystems within the forest reserve system can be found in appendix 4. The national policy framework for building the National Reserve System was updated in 2009 and also included national targets (see appendix 4).

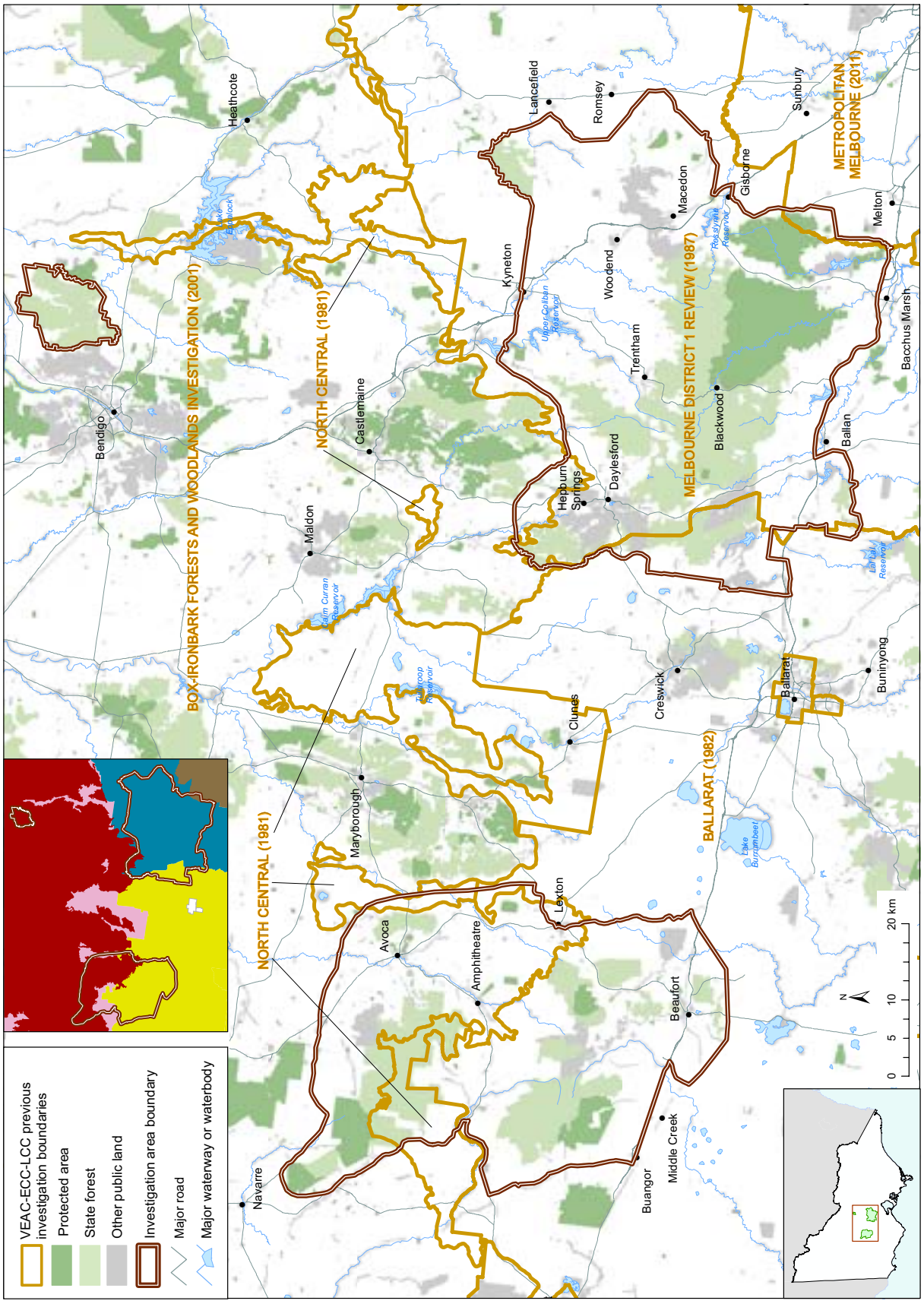
In 2010, at the tenth meeting of signatories to the Convention on Biological Diversity, a revised strategic plan for biodiversity for the 2011-2020 period was adopted. This plan is often referred to as the Aichi Biodiversity Targets and Target 11 sets targets for protected areas (see appendix 4). A translation of Target 11 to operational targets in Australia has not occurred. In the meantime, the following analyses are based on the numerical JANIS targets combined with the threat status and remaining extent of EVCs.

As part of its Statewide Assessment of Public Land (2017) VEAC assessed Victoria's terrestrial protected area system against the nationally agreed criteria, and this approach has been applied to the Central West Investigation area to identify those EVCs which currently do not meet the targets and the extent of their shortfalls. Each EVC is assessed for each of the bioregions within which it occurs (see section 2.1.2 for an introduction to the bioregions of the investigation area). The shortfall as a percentage of the public land potentially available to meet the shortfall (i.e. public land other than that already in protected areas) for each bioregional EVC within the investigation area is the same as that for the same bioregional EVC across the entire extent of the bioregion in Victoria, as documented in the 2016 discussion paper for VEAC's Statewide Assessment of Public Land. For example, if across the Central Victorian Uplands bioregion, the area required to be added to the protected area system to meet the applicable target was 20 per cent of the public land outside existing protected areas, then 20 per cent of the area of that EVC outside existing protected areas in the investigation area would be the shortfall for the investigation area. The rationale is that ecosystem (EVC) representation should be generally spread across the distribution of that ecosystem in each bioregion.

The results of this assessment are shown in table 2.3 for the 107 bioregional EVCs in the investigation area. From the perspective of addressing the representation shortfalls, the bioregional EVCs fall into three initial groups:

- The first 13 bioregional EVCs have shortfall percentages of zero. That is, current protected areas in the bioregion meet the reserve system criteria for these EVCs and so they are peripheral to the task of improving protected area representativeness. Many of these EVCs are heathy or shrubby vegetation types on rugged and rocky hilltops and ridges. They were retained as public land for their mineral potential because there was little market for them when Crown land was being alienated – mostly for agriculture – in the 19th and early 20th centuries. They were established as protected areas mostly because they produce very little merchantable timber.
- The next 57 EVCs have a shortfall percentage greater than zero and a shortfall area of less than 50 hectares, including many with no remaining extent on public land outside protected areas. Many of these EVCs occur

Figure 2.7 Previous LCC, ECC and VEAC studies and investigations



in the heavily cleared, largely private land agricultural landscapes of the investigation area. While technically the small areas of these EVCs should be added to protected areas in order to meet targets, their small extent (many occur on roadsides or in numerous patches of smaller size again) means that they need to be considered for inclusion in protected areas on an individual basis, as issues such as the management viability of such small areas come into play. As a result, most will be peripheral to the task of improving protected area representativeness.

- The last 37 EVCs – with a shortfall area greater than 50 hectares – are the focus of the effort to improve protected area representativeness. Many of these EVCs have shortfalls of 100 per cent meaning that all public land areas where they occur should be in protected areas; this will often be difficult to reconcile with other public land uses. However every effort should be made to improve representativeness even if the 100 per cent shortfall cannot be met, especially where the current extent on public land outside protected areas is large (it is as high as many thousands of hectares for some of these EVCs). Many of these EVCs occur in biologically and silviculturally productive forests and even shortfall percentages as low as 40 per cent can be difficult to achieve.

Table 2.2 Extent of land in current public land use categories for the Central West Investigation area

Public land use category	Total area (ha)	Mt Cole–Pyrenees block (ha)	Wellsford block (ha)	Wombat–Macedon block (ha)
State park	22,967	2498	0	20,469
Nature reserve	6703	5523	0	1180
Regional park	5264	0	0	5264
Bushland reserve	1047	572	0	475
Historic reserve	1507	1458	0	49
State forest[1]	89,278	33,567	7100	48,611
Water frontage, beds and banks reserve	1933	1098	0	835
Water production reserve	6635	138	0	6497
Community use reserve	1607	315	0	1292
Utilities and government services reserve[2]	17,080	7502	244	9334
Land leased or licensed for plantation purposes, Plantation[3]	6724	1760	0	4,964
Uncategorised public land	468	292	0	176
Total extent of public land	**161,290**	**54,740**	**7344**	**99,206**
Total extent of investigation area (private and public land)	**403,815**	**165,788**	**9262**	**228,765**
Heritage river overlay[1]	5166	0	0	5166
Reference area overlay[1]	1202	69	0	1133

[1] Includes area of Lerderderg River Heritage Area and reference areas that are part of the protected area (conservation reserve) system.

[2] Over 80 per cent of utilities and government services reserve (across the investigation area) is unparcellised government road reserves, the extent of which was calculated using a GIS layer. Unparcellised land is land not assigned a title or Crown allotment.

[3] Includes land licensed to Hancocks Victorian Plantations (HVP)

Table 2.3 The current extent and protected area shortfall for each bioregional EVC

Ecological Vegetation Class (EVC) and bioregion name[1]	Extent in investigation area (ha)					Shortfall (ha)[2]	Shortfall as % of other public land[3]
	Pre-1750	Current	Private land	Protected area	Other public land		
Plains Grassland GoF	0	0	0	0	0	0	0
Shrubby Foothill Forest VVP	2	2	2	0	0	0	0
Riparian Forest VVP	16	3	3	0	0	0	0
Sandstone Ridge Shrubland GoF	31	31	31	0	0	0	0
Sedgy Riparian Woodland VVP	39	12	10	0	2	0	0
Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU	263	209	33	95	81	0	0
Heathy Woodland CVU	741	627	48	386	194	0	0
Rocky Chenopod Woodland CVU	1197	802	360	374	69	0	0
Lowland Forest CVU	1240	1011	703	273	35	0	0
Rocky Outcrop Shrubland/Rocky Outcrop Herbland/Grassy Dry Forest Complex CVU	2130	1889	406	805	677	0	0
Shrubby Dry Forest CVU	6126	5621	739	3760	1121	0	0
Heathy Dry Forest GoF	10,952	8679	2926	450	5302	0	0
Heathy Dry Forest CVU	25,273	22,267	7134	10,167	4966	0	0
Plains Grassland/Plains Grassy Woodland Mosaic GoF	0	0	0	0	0	0	100
Grassy Dry Forest/Heathy Dry Forest Complex VVP	4	1	0	0	0	0	100
Plains Grassland/Plains Grassy Woodland Mosaic CVU	5	1	1	0	0	0	100
Aquatic Herbland/Plains Sedgy Wetland Mosaic VVP	6	4	4	0	0	0	100
Escarpment Shrubland VVP	13	1	1	0	0	0	100
Plains Woodland/Plains Grassland Mosaic CVU	16	12	12	0	0	0	100
Box Ironbark Forest VVP	18	4	3	0	0	0	100
Plains Woodland VRi	19	9	9	0	0	0	100
Rocky Chenopod Woodland VVP	21	14	3	10	0	0	100
Heathy Dry Forest VVP	45	23	22	0	0	0	100
Escarpment Shrubland CVU	68	38	38	0	0	0	100
Wetland Formation CVU	3	3	2	0	1	1	100
Plains Grassland/Plains Grassy Woodland Mosaic VVP	11	2	1	0	1	1	100
Plains Grassy Wetland CVU	37	12	10	0	1	1	100
Grassy Forest VVP	39	10	9	0	1	1	100
Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic GoF	227	27	26	0	1	1	100
Herb-rich Foothill Forest/Shrubby Foothill Forest Complex GoF	8	8	0	0	8	1	17
Grassy Woodland VRi	73	33	31	0	2	2	100
Plains Woodland/Plains Grassland Mosaic VVP	369	192	177	13	2	2	100
Montane Grassy Woodland/Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU	9	9	0	0	9	2	18
Montane Grassy Woodland CVU	11	11	0	0	11	2	18
Creekline Herb-rich Woodland VVP	21	7	4	0	3	3	100
Hillcrest Herb-rich Woodland CVU	39	32	26	4	3	3	99
Swamp Scrub GoF	40	18	13	1	3	3	100

Ecological Vegetation Class (EVC) and bioregion name[1]	Extent in investigation area (ha)					Shortfall (ha)[2]	Shortfall as % of other public land[3]
	Pre-1750	Current	Private land	Protected area	Other public land		
Riparian Woodland VVP	102	49	45	0	4	4	100
Red Gum Swamp VVP	152	12	8	0	4	4	100
Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic VVP	155	25	22	0	4	4	100
Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic CVU	82	18	13	0	5	5	100
Grassy Dry Forest VVP	15	9	3	0	6	6	100
Valley Grassy Forest VVP	37	21	15	0	6	6	100
Alluvial Terraces Herb-rich Woodland VVP	63	34	28	0	6	6	100
Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic VRi	70	46	41	0	6	6	100
Plains Grassland CVU	115	32	24	2	6	6	100
Hillcrest Herb-rich Woodland GoF	793	681	255	288	139	6	4
Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex VVP	87	26	18	0	8	8	100
Red Gum Swamp CVU	115	23	14	0	9	9	100
Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex GoF	157	53	44	0	9	9	100
Plains Grassy Wetland VVP	177	35	26	0	9	9	100
Stream Bank Shrubland VVP	83	65	34	17	14	14	100
Herb-rich Foothill Forest VVP	243	52	38	0	14	14	100
Swampy Riparian Woodland VVP	812	88	73	1	15	15	100
Swamp Scrub VVP	344	118	92	9	18	18	100
Grassy Woodland/Heathy Dry Forest Complex GoF	598	216	198	0	18	18	100
Scoria Cone Woodland CVU	997	456	438	0	18	18	100
Plains Woodland GoF	391	55	34	0	20	20	100
Grassy Woodland VVP	582	269	231	17	21	21	100
Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic GoF	352	313	288	0	24	24	100
Swamp Scrub CVU	357	176	152	0	25	25	100
Sedgy Riparian Woodland GoF	173	128	33	0	95	31	33
Grassy Woodland/Heathy Dry Forest Complex VVP	416	127	80	14	33	33	100
Heathy Woodland GoF	390	225	185	0	40	33	82
Riparian Woodland CVU	254	151	115	1	35	35	100
Stream Bank Shrubland CVU	1353	965	265	503	196	37	19
Shrubby Dry Forest GoF	230	164	8	0	156	41	27
Wet Forest CVU	531	516	58	49	409	41	10
Box Ironbark Forest VRi	76	75	31	0	45	45	100
Plains Sedgy Wetland VVP	227	104	17	42	45	45	100
Box Ironbark Forest GoF	12,120	10,997	1742	480	8774	363	4
Shrubby Foothill Forest CVU	38,692	36,612	4525	4129	27,958	2662	10
Herb-rich Foothill Forest GoF	2685	2331	282	146	1903	355	19
Damp Forest CVU	2293	2134	448	26	1660	324	20
Grassy Dry Forest GoF	23,814	19,913	5938	3254	10,721	2443	23

Ecological Vegetation Class (EVC) and bioregion name[1]	Extent in investigation area (ha)					Shortfall (ha)[2]	Shortfall as % of other public land[3]
	Pre-1750	Current	Private land	Protected area	Other public land		
Herb-rich Foothill Forest/Shrubby Foothill Forest Complex CVU	5989	4533	519	0	4013	1076	27
Riparian Forest CVU	1133	1010	241	214	555	182	33
Sedgy Riparian Woodland CVU	2688	2250	857	27	1366	473	35
Grassy Dry Forest/Heathy Dry Forest Complex CVU	3359	2400	772	0	1628	571	35
Grassy Dry Forest CVU	21,529	16,494	7011	1438	8045	3865	48
Herb-rich Foothill Forest CVU	71,428	42,215	20,031	1147	21,038	12,021	57
Valley Grassy Forest GoF	2271	1654	729	33	891	723	81
Creekline Herb-rich Woodland CVU	1437	791	461	10	320	265	83
Hills Herb-rich Woodland CVU	1043	574	328	17	229	193	84
Box Ironbark Forest CVU	4099	3643	1239	1697	707	684	97
Scoria Cone Woodland GoF	188	81	15	0	66	66	100
Plains Woodland VVP	2294	243	170	0	73	73	100
Creekline Grassy Woodland VVP	661	219	131	0	88	88	100
Grassy Dry Forest/Heathy Dry Forest Complex GoF	6520	2990	2734	160	96	96	100
Plains Grassy Woodland GoF	1641	505	397	0	108	108	100
Creekline Herb-rich Woodland GoF	164	163	27	0	136	136	100
Swampy Riparian Woodland CVU	2949	993	845	0	148	148	100
Stream Bank Shrubland GoF	217	192	25	7	159	159	100
Creekline Grassy Woodland CVU	1105	459	265	3	191	191	100
Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex CVU	3412	996	773	8	216	216	100
Creekline Grassy Woodland GoF	2112	986	643	15	329	329	100
Plains Grassland VVP	8623	1734	1322	42	370	370	100
Alluvial Terraces Herb-rich Woodland CVU	3751	1788	1325	87	375	375	100
Alluvial Terraces Herb-rich Woodland GoF	3763	2029	1366	224	438	438	100
Plains Grassy Woodland CVU	16,109	2630	2158	3	469	469	100
Plains Grassy Woodland VVP	15,602	3138	2632	8	498	498	100
Grassy Woodland CVU	11,026	3812	3123	70	619	619	100
Grassy Forest CVU	7481	4173	3464	0	709	709	100
Grassy Woodland/Heathy Dry Forest Complex CVU	14,354	5816	4997	33	785	785	100
Grassy Woodland GoF	15,525	6508	5477	63	968	968	100
Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic GoF	13,307	4929	3732	68	1129	1129	100
Valley Grassy Forest CVU	18,789	10,641	7619	404	2619	2619	100

[1] Bioregion abbreviations: CVU = Central Victorian Uplands; GoF = Goldfields; VVP = Victorian Volcanic Plain; VRi = Victorian Riverina

[2] Shortfall (ha) = the area in hectares that would be required to be acquired from other public land in order for the investigation area to make a proportionate contribution to meeting the shortfall across the bioregion

[3] Shortfall as % of other public land = the shortfall (ha) as a percentage of the area of other public land from which that shortfall could be met

2.4.3 Relevant legislation and policy

VEAC's Statewide Assessment of Public Land discussion paper (2016) outlined the current legislation governing public land in Victoria and the complexity of existing arrangements; the final report (2017) included recommendations to simplify, strengthen and modernise the administration and management of public land. The recommendations have been accepted by government.

Crown land is primarily administered under the following legislation and related regulations:

- *Land Act 1958*
- *Forests Act 1958*
- *National Parks Act 1975*
- *Crown Land (Reserves) Act 1978.*

There are many other acts and regulations that apply to specific activities, locations or uses such as roads, hospitals and schools (e.g. *Cemeteries Act 1958*, *Water Act 1989, Mineral Resources (Sustainable Development) Act 1990, Wildlife Act 1975, Sustainable Forests (Timber) Act 2004*, *Alpine Resorts Act 1983*).

Brief descriptions of government policies and strategies that are relevant to the Central West Investigation are included below.

State forest policy and management

Other than private land, state forest is the largest land use in the Central West Investigation area (table 2.2) occupying some 89,280 hectares across all three blocks. The Department of Environment, Land, Water and Planning (DELWP) manages state forests on behalf of the Victorian community for a variety of uses. These uses include providing timber and other wood products, conserving flora and fauna, protecting water catchments and water supply, protecting landscape, Traditional Owner and historic values, and providing recreational and educational opportunities.

VicForests

VicForests was established in 2003 as the State-owned enterprise responsible for the sustainable harvest, regeneration and commercial sale of timber from state forests in Victoria, initially in eastern Victoria. In November 2014, management of the timber harvesting operations in western Victorian forests was transferred to VicForests. VicForests refers to western Victorian operations as 'community' (rather than 'commercial') forestry to reflect their relatively small scale compared with activities in eastern Victoria.

The Minister for Agriculture, and therefore, the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) provides guidance to VicForests on operating in a framework that is consistent with Victorian government policy and priorities. The Department of Treasury and Finance supports the Treasurer as the sole shareholder of VicForests and oversees its commercial and financial performance.

Unlike for eastern Victoria, VicForests does not manage timber resources in state forest in the West Victorian RFA through an allocation order made under the *Sustainable Forests (Timber) Act 2004* but acts as a service provider managing licences under section 52 of the *Forests Act 1958*.

Legislation and planning processes

A range of state legislation and policy governs state forest management and timber harvesting in Victoria and specifies the areas that are subject to commercial activities including:

- *Forests Act 1958*
- *Sustainable Forests (Timber) Act 2004*
- *Sustainability Charter for Victoria's State Forests* (DSE 2006)
- *Criteria and Indicators for Sustainable Forest Management in Victoria* (DSE 2007) and *Australia's Sustainable Forest Management Framework of Criteria and Indicators 2008* (Commonwealth 2008) developed from the internationally recognised Montreal Process criteria
- *Code of Practice for Timber Production 2014* (the Code) and *Management Standards and Procedures for timber harvesting operations in Victoria's State forests 2014.*

The *Forests Act 1958* provides a management framework for state forests, including the protection of public land from fire, the development of forest management plans, licensed occupations including grazing and beekeeping, and the sale of forest produce. The Act delineates forest management areas (FMAs) as units for planning and managing state forest.

Two FMAs overlap with the Central West Investigation area: Glenmona (near Avoca) and Wellsford state forests are in the Bendigo FMA and all other state forests are in the Midlands FMA. Plans were published for Bendigo in 2008 and Midlands in 1996 (with revisions commenced in 2000). These plans set strategic directions for management of multiple values and uses of state forests and the protection of key attributes.

FMA plans also provide a zoning scheme for the protection and management of a range of values and uses. The zoning scheme comprises special protection zones (SPZs), special management zones (SMZs) and general management zones (GMZs). Map C presents the current forest zoning scheme for state forests in the investigation area.

SPZs are managed for the conservation of natural, cultural, recreation and amenity values, and timber harvesting is excluded. Larger components of SPZs include old-growth forest, habitat for rare and threatened species, areas of rainforest, and representative examples of ecological vegetation classes. SPZs form part of the informal reserve system, which is a key element of delivering on the conservation objectives set out in Regional Forest Agreements (described below). SPZs may be removed or amended, for example, if the values they are protecting no longer exist, or review processes demonstrate that alternative areas are a higher priority for protection.

SMZs are managed to maintain specific values while catering for some timber production and other forest produce. This zone primarily includes areas of high landscape value, the protection of which require modification to timber harvesting or other land use practices rather than their exclusion. Management of this zone is often considered on a case-by-case basis within the constraints outlined in relevant forest management plans.

The GMZ caters for a range of uses, with timber production being a high priority. Forest in this zone is managed for the sustainable production of sawlogs in accordance with the Code and more detailed local management prescriptions. Other management aims include protection of landscape and water quality, provision of recreation and educational opportunities, fire protection and conservation of natural values to complement adjacent zones.

Regional forest agreements

In addition to the forest management planning under state legislation, the National Forest Policy Statement led to regional forest agreements (RFAs) established between the federal, state and territory governments which allows the Australian government to coordinate a national approach to environmental and timber industry issues. Victoria has five such agreements intended to provide a 20-year plan for sustainable management of native forests, signed between 1997 and 2000. The foundation of each agreement is a Comprehensive Regional Assessment of the social, economic, environmental and cultural values of the region's native forests.

The West Victoria RFA was signed on 31 March 2000. It encompasses part of the Central West Investigation area including the Mount Cole and Pyrenees range state forests and Wombat State Forest. The RFA established a comprehensive, adequate and representative (CAR) reserve system based on the nationally agreed JANIS criteria for the protection of biodiversity, old growth and wilderness. The criteria included reservation of at least 15 per cent of each forest type that existed before European arrival, and at least 60 per cent of old growth forest. The heritage values of forests were also protected. This process added the Pyrete Range to Lerderderg State Park and created Special Protection Zones within other forests across the Central West Investigation area. The main objectives of the Victorian RFAs are:

- to identify a comprehensive, adequate and representative reserve system and provide for the conservation of those areas
- to provide for the ecologically sustainable management and use of forests in each RFA region, and
- to provide for the long-term stability of forests and forest industries.

The performance of all RFAs is reviewed together every five years. The first review period was from the date the RFAs were signed to 30 June 2004, and the second review period was from 1 July 2004 to 30 June 2009. These two review periods were assessed in one report, which was tabled in Parliament in 2010 (Independent Review on Progress with Implementation of the Victorian Regional Forest Agreements, 2010). The joint Commonwealth and Victorian government response to the review was tabled in Parliament in 2015. The report on progress for the subsequent period (2009 to 2014) was released for public comment in 2017 and an independent review of this report was tabled in the Australian Parliament in June 2018.

In March 2018, the Victorian government announced its intention to modernise the five RFAs including the West Victoria RFA. The conditions of all RFAs have been preserved until 2020, when the West Victoria and Gippsland RFAs are due to expire. At the same time the Victorian government announced that it will protect all large, old trees greater than 2.5 metres in diameter across Victoria.

Our Forests Our Future 2002

In 2001 the State government commissioned an independent analysis of the data and methodologies which underpinned hardwood timber resource estimates, which confirmed that the level of logging at the time was unsustainable. *Our Forests Our Future* (2002) brought in a package of measures to protect the environment and the economic viability of the timber industry on public land for the long term.

In the Midlands FMA, a 79 per cent reduction in sustainable harvest levels was put in place. The available volumes were reduced from 41,100 to 8600 cubic metres per year until 2047 after which there would be a steady increase to 38,000 cubic metres by 2127. Of the revised total 8600 cubic metres, 7000 was from Wombat forest, 800 from Mount Cole and 800 from remaining areas.

Revised sawlog estimates were not produced for the Bendigo FMA because there was no large-scale commercial timber harvesting in box-ironbark forests.

In 2003 the Victorian government established a pilot community forest management (CFM) project in the Wombat forest. The purpose of the project was to bring the many interest groups together to develop strategies for addressing environmental, social and economic outcomes. In 2006 the government bought out the last sawlog licence in the Wombat State Forest, removing the need for the CFM project to address sawlog supply issues.

Biodiversity conservation

Maintaining, protecting and enhancing biodiversity values are important priorities for public land management across the state. In addition to the intrinsic and cultural values of nature, the long-term viability of our community is dependent on ecosystem services provided by natural landscapes including healthy air, water and productive soil. Although public land covers around 40 per cent of the state, this area supports around 70 per cent of the remaining extent of native vegetation. Most biodiversity protection is achieved on public land in national parks and conservation reserves. These reserves set aside to primarily protect natural values are described as the protected area system and collectively support 40 per cent of Victoria's highest biodiversity values on less than 20 per cent of the area of the state.

As described in section 2.4.2, national and state governments have committed to the protection of a comprehensive, adequate and representative selection of natural values or ecosystems in permanent conservation reserves and parks (e.g. *Australia's Biodiversity Conservation Strategy 2010-2030*). This is known as the 'CAR' reserve system and has established criteria designed to achieve viable long-term protection of ecosystems. In Victoria, bioregions and Ecological Vegetation Classes (EVCs) are utilised as ecosystem surrogates. More recent national policy and international agreements provide a framework for prioritising actions to achieve the best conservation outcomes for retention of biodiversity. These are described in more detail in VEAC's Statewide Assessment of Public Land discussion paper (2016) together with analysis that highlights where the greatest under-representation of specific ecosystems currently exists; that is, where the greatest additional protected areas are required to meet protected area targets, expressed as 'shortfalls'.

Those public land use categories considered to be protected areas are identified in appendix 1. National parks and some other parks are the largest protected areas, but smaller nature and bushland reserves host important natural values including many threatened plants and animals.

There is an increasing role for private land in nature conservation, and for protection of smaller areas in largely cleared landscapes. Small remnants can play a disproportionately larger role in maintaining and restoring landscape connectivity. Public land along roads and streamsides are important elements of cleared landscapes such as those on the plains in the Central West Investigation area. Supporting initiatives on private land are programs of Trust for Nature, catchment management authorities (CMAs) and Landcare. The Grampians to Pyrenees Biolink (2013-16) aims to improve ecological connectivity between these areas by increasing the extent of native vegetation on private land, and protecting and enhancing remnant vegetation including riparian areas on both public and private land.

Protecting Victoria's Environment – Biodiversity 2037

This plan, released in 2017, recognises that biodiversity is in decline and promotes collaboration and alignment of actions across government, business and community. The plan restates the commitment (in *Australia's Biodiversity Conservation Strategy 2010-2030*) to national and international agreements and

outlines cross-sector partnerships such as incentives for habitat protection and management on private land. The plan also acknowledges that while Victoria has a world-class terrestrial protected area system, gaps totalling some 2.1 million hectares remain if we are to meet Australia's criteria for a comprehensive, adequate and representative reserve system. Under the Plan priority action 18 is to 'maintain and enhance a world-class system of protected areas' with initiatives listed including those to identify future reserve system priorities through strategic land use planning.

Other relevant policies and strategies

Water for Victoria

Water for Victoria is a strategic plan for the long-term management of Victoria's water resources. It was released in October 2016 and aims to ensure water security for Victoria into the future by having an efficient and innovative water system. It responds to the challenges of climate change and population growth by looking at ways to meet Victoria's water needs while using less water. The strategic plan looks at how Victoria can better utilise alternative water supplies (such as stormwater and recycled water) and supports strategic investments such as irrigation modernisation projects, rural water system upgrades (e.g. the Bacchus Marsh system), an extension of the water grid and improved health of waterways and catchments. *Water for Victoria* recognises the cultural importance of water for Traditional Owners and Aboriginal people and supports opportunities for greater Aboriginal community participation in water planning and management.

Water for Victoria identifies 36 large-scale waterways projects across the state for priority long-term investment. Of these, the upper Wimmera River, Moorabool River, Campaspe River, and Werribee River are sourced or flow through the Central West Investigation area.

The Werribee and Bacchus Marsh irrigation districts – downstream of the Wombat forest – were also identified as areas with significant water quality, salinity and water retention issues. The focus is for water security and increased production to be achieved through modernisations and savings. These savings are to be shared between an additional environmental entitlement for the Werribee River as well as benefits for irrigators and the local community.

Catchment management plans

Regional catchment strategies are prepared by each CMA as an integrated catchment planning and strategy document providing direction for management and cross-agency collaboration. While there are many differences in the goals and objectives between each regional strategy, they all aim to achieve integrated catchment management to improve land and water resources. CMAs are also working on strategies to mitigate and adapt to the impacts of climate change.

Upper catchment interventions and restoration of natural values are important water management issues for CMAs. Much of this work is achieved through partnerships between catchment management authorities, regional partners and local land owners. In many places works have been undertaken to restore riparian vegetation and fence streamsides to exclude stock, often along the narrow Crown land parcels forming water frontages. While most of these strips of public land are held under grazing licences, there are also many licensees who are working to improve water quality by fencing out stock and revegetating parts of the frontage under riparian management licences.

Melbourne Water's *Healthy Waterways Strategy* identifies forested public land as high strategic importance for the health of the Werribee and Maribyrnong catchments. Waterway improvement programs and vegetation management plans for this area aim to maintain high quality streamside vegetation and to mitigate inappropriate uses of catchment areas.

Both *Water for Victoria* and the Wimmera CMA's *Wimmera Regional Delivery Plan 2013-2018* identify the upper Wimmera River as a large-scale project and focus for investment, particularly in response to significant stream flow declines over the past two decades. The regional plan also identifies management of riparian areas – specifically controlling the erosion in the upper catchment of the Wimmera River – as a priority under the Thriving Community Rivers (2013-16) program. There is also a focus on improving ecological connectivity, notably in riparian areas on private land, for the Grampians to Pyrenees Biolink (2013-16) program and the Aboriginal Water Program – Barengi Gadjin Wimmera River Project Stage One.

VCMC's *Catchment Condition and Management Report 2017* found that inconsistency in monitoring and reporting of catchment condition

limits the ability of CMAs to demonstrate progress against priorities set in regional catchment strategies. None-the-less results over the last 20 years show that condition is declining or stable across five themes investigated and that overall management of catchments has improved.

Climate Change Framework

Victoria's Climate Change Framework is the Victorian Government's long-term plan of action to combat climate change and adapt to the impacts already being experienced. A key component of the framework is the new *Climate Change Act 2017* which includes a long-term emissions reduction target of net zero by 2050 and interim targets to be met every five years. It also requires the Victorian Government to develop a climate change strategy every five years from 2020 to outline how Victoria will meet the interim targets and adapt to the impacts of climate change. Under the new Act, from 2021 all key systems – either those that are vulnerable to climate change impacts or essential to Victoria's preparedness – require an adaptation action plan. The Victorian government has also made two kinds of pledges to reduce emissions – operational and sector pledges – and TAKE2 has been established to encourage and support all Victorians to take action on climate change and reduce their emissions. Two additional documents have been developed by the Victorian Government – the *Renewable Energy Action Plan* and *Victoria's Climate Change Adaptation Plan 2017-2020*.

Plan Melbourne 2017-2050

Plan Melbourne 2017-2050 is a formal planning document to guide decision-makers to ensure that Melbourne grows more sustainable, productive and liveable over the next three decades. Major themes include managing population growth, growing the economy, creating affordable and accessible housing, improving transport, responding to climate change and connecting communities. *Plan Melbourne 2017-2050* provides a long-term vision structured around a set of defined principles, outcomes, directions and policies which are of greater relevance as increasing numbers of visitors from Melbourne access the investigation area and utilise its resources.

Legislation protecting the Macedon Ranges region

The *Planning and Environment Amendment (Distinctive Areas and Landscapes) Act 2018* declares the Macedon Ranges a distinctive area and will strengthen the region's planning controls and prevent inappropriate development. The Act implements parts of *Plan Melbourne 2017-2050*'s commitment to strengthening planning protections for Victoria's distinctive landscapes and valued non-urban areas. A new localised planning statement for the Macedon Ranges is also being developed, with the final statement due to be released in 2018. The new localised planning statement includes the designation of long-term settlement boundaries for townships in the region that are expected to grow (Gisborne, Kyneton, Romsey, Riddells Creek, Lancefield and Woodend). The settlement boundary is intended to protect the valued natural and rural landscapes of these areas.

Clean Air for All Victorians

In May 2018, the Victorian Government released *Clean Air for All Victorians: Victoria's Air Quality Statement.* The statement is the first stage in ensuring clean air for Victoria into the future. Feedback on the statement closed at the end of June 2018 and will be used to inform the development of a Victorian Air Quality Strategy in 2019. The statement presents various ideas as to what can be done to protect air quality in the future – for example, improving protections for vulnerable Victorians living in towns in valleys that are prone to excessive wood smoke (such as Woodend and Gisborne). A growing population and economy, as well as a warming and drying climate, present challenges to Victoria's clean air future. The strategy will respond to these challenges and identify actions that can be taken to ensure Victoria's air remains clean.

2.4.4 Management arrangements

Overview

The Department of Environment, Land, Water and Planning (DELWP) has overall responsibility for the management of Victoria's Crown land, including parks and reserves, state forests and alpine resorts, often in partnership or by arrangement with other organisations. Public authorities are generally responsible for the management of public land for which they have freehold title.

DELWP administers legislation and delegates management through legislation and other formal appointment processes. For some types of Crown land, other government departments directly manage or oversee delegated managers. For example, the Department of Health and Human Services oversees cemetery trusts and hospital

boards. State government agencies and entities may also own and manage freehold title land for a public purpose. This land is included in the definition of public land under the VEAC Act. There are several state government departments, agencies, boards or committees of management that provide on-ground public land management on behalf of the State, and land is also used or managed through leases, licences and permits. In some locations, friends groups provide assistance to public land managers. Advisory committees such as the Victorian Mineral Water Committee may also provide significant assistance to public land managers.

More than three quarters of all public land is managed by either DELWP directly or by Parks Victoria. Parks Victoria manages some four million hectares of Crown land across the state comprising a range of parks and reserves including national parks, conservation parks, regional parks, historic reserves, nature and bushland reserves and a significant amount of Victoria's coastline. Approximately 37,600 hectares of the parks estate are in the Central West Investigation area. DELWP is the land manager for more than three million hectares of state forest across Victoria and many other smaller areas of public land including Crown land forming water frontages. About 89,280 hectares are in the investigation area. Legislation and policy regarding the management of state forests is outlined in section 2.4.3 above.

Government road reserves also make up a significant area of public land and are managed by VicRoads or local government.

Joint management between Traditional Owners and the State

Joint management, including the function of Traditional Owner Land Management Boards is described in section 2.2. Hepburn Regional Park (Aboriginal title) is the only jointly managed park or reserve within the Central West Investigation area and is one of six parks and reserves jointly managed by the Dja Dja Wurrung Traditional Owners and the State in the broader Dja Dja Wurrung Recognition and Settlement Agreement area.

Public authorities

Public authorities include water authorities and various public bodies relating to transport (VicRoads, VicTrack), education (schools), health (hospitals, community facilities), justice (police stations, courts) and emergency services. They use a mix of Crown land held under vested or other delegated arrangements or under licence or lease, and land held by the public authority under freehold title. Much of this land is operational, with purpose-built infrastructure or buildings.

Committees of management

Crown land reserves may also be managed by members of the public through formal appointment as a Committee of Management. The role of such a committee is to manage, improve and maintain the reserve on behalf of the Minister for Energy, Environment and Climate Change. There are more than 1500 Crown land reserves managed by around 1200 local committees of management across the state that are overseen by DELWP. Some of these are very small areas of Crown land, while others are more significant assets that require a greater level of governance and financial reporting. Typical reserves managed by local volunteer committees are sports grounds, public halls, historic buildings, mechanics institutes or local parks and gardens. Those reserves with high value assets or those that generate income are required to provide a greater level of financial reporting and are subject to a higher level of probity, oversight and governance obligations.

The popular tourist location at Mount Macedon Memorial Cross is a prominent example of a Crown land reserve managed by a local committee of management responsible for the maintenance and management of the site. Ballarat Environment Network, National Trust of Victoria, Working Heritage and local community-based groups also manage Crown land reserves in the investigation area. In a similar way, some 24 cemetery reserves across the Central West Investigation area are each managed by a local community cemetery trust overseen by the Department of Health and Human Services.

Local councils

Municipal councils also manage over 2800 Crown land reserves across the state as committees of management, including 100 reserves in the investigation area. Many local community parks and reserves may also include freehold land owned by the local council. This land is not defined as public land under the VEAC Act and so is not shown on VEAC's maps of public land.

3. Consultation and community views

This chapter provides a summary of the major issues, comments and proposals submitted to VEAC for consideration in preparing this draft proposals paper.

3.1 Consultation to date

3.1.1 Notice of investigation

Public consultation is a crucial part of VEAC's investigations and a number of measures were taken to give interested stakeholders the opportunity to be involved. The notice of investigation required under the VEAC Act was published on 21 June 2017 and advertisements were placed in metropolitan newspapers (The Age and Herald Sun) and relevant regional newspapers such as the Daylesford Advocate, Ballarat Courier, Bendigo Advertiser and Pyrenees Advocate. A mailing list of more than 700 contacts was compiled and a VEAC bulletin was circulated via email. The VEAC website and social media pages were updated. A fact sheet providing information about the first submission period and the investigation more generally was published. Information about the community drop-in sessions (see 3.1.3 below) and a copy of the first submission period fact sheet was distributed to approximately 1300 holders of licences over public land within the investigation area.

3.1.2 Written submissions

The written submission process is one of the key avenues used by VEAC to seek community views on issues and values associated with public land. The first submission period for this investigation commenced with the publication of the notice of investigation and closed on 21 August 2017. VEAC received more than 640 submissions, with some 575 submissions from interested individuals and the remainder from conservation and environment groups, local businesses, friends and Landcare groups, recreation and user groups, forest industry groups and businesses, and government bodies and agencies. Of those that could be identified with a location, around half came from the investigation area and most of the rest from Melbourne and other regional Victorian locations. Some submissions were from interstate and a few were from overseas. The submissions can be viewed at VEAC's website (www.veac.vic.gov.au).

3.1.3 Community drop-in sessions

In order to provide the opportunity for face-to-face engagement, VEAC advertised and convened community drop-in sessions at five locations across the investigation area (Bendigo, Beaufort, Woodend, Daylesford and Avoca) between 18 July and 3 August 2017. A flyer was published by VEAC providing details of the drop-in sessions. Advertisements for the sessions were placed in key regional newspapers as well as statewide in The Weekly Times. Notifications of the drop-in sessions were also included on VEAC's website and via social media.

Each drop-in session was attended by 30-50 people and most attendees focused questions and discussion on their local area. A broad range of interests and uses were covered and some members of the public came along to find out more about the investigation in general. Information and views provided at these sessions were fed into Council's deliberations in the preparation of this draft proposals paper.

3.1.4 Aboriginal community engagement project

As outlined in section 1.5, VEAC has formed a partnership with Dja Dja Wurrung Clans Aboriginal Corporation who have completed the first stage of a project seeking the input of Traditional Owners into the investigation. Details of the engagement process and outcomes are comprehensively documented in the project report which is available on the VEAC website. In summary, there are six Traditional Owner groups whose Country intersects with the investigation area to varying degrees. Where possible, workshops and other discussions were had with these groups, with engagement and input reflecting the diversity of the respective areas and nature of interest.



Key points from the engagement so far are summarised in the chapters for each of the three blocks in the investigation area: in section 5.2 for Mount Cole–Pyrenees block, section 6.2 for the Wellsford block and section 7.2 for the Wombat–Macedon block. The second stage of the project will provide further opportunities for engagement, particularly in response to the draft recommendations in this draft proposals paper.

3.1.5 Other consultation

Following the notice of investigation, VEAC was contacted by some stakeholders (such as community groups, businesses and local government) and, on request, attended a number of field visits and meetings at various locations in the investigation area. Meetings with public land managers provided detailed information about the uses and values of specific sites within the investigation area. Many other questions were raised and discussions held via phone or email.

3.2 Community Reference Group

VEAC established a Community Reference Group for the investigation in accordance with section 13 of the VEAC Act. The group is made up of representatives from a broad range of interests related to the investigation, with Mr Ian Harris as independent chair. Members are listed on the inside front cover of this draft proposals paper. The group has met twice to date, in October 2017 and February 2018, and there have been follow up discussions with several members of the group. The Community Reference Group has already greatly assisted in Council understanding the issues and stakeholders involved in the investigation.

3.3 Overview of input

This section documents the issues, comments and proposals presented in the written submissions, community drop-in sessions and other consultations that followed the publication of the notice of investigation. The issues and proposals are presented under broad headings; however many issues are interrelated.

Industry and resource utilisation

Many submitters commented on the commercial use of public land for resources such as mining, firewood, timber and forestry, apiculture and Crown land licences and leases. Views were expressed both in favour of and opposed to continued commercial resource use.

Approximately 200 submissions mentioned timber harvesting and firewood collection. Included in these submissions were a number of pro forma submissions identifying logging as a threat to the Wombat State Forest, Wellsford State Forest, Pyrenees Range State Forest and Mount Cole State Forest.

The provision of domestic firewood was an important value for many people, particularly local communities, and as part of a broader recreational experience in the forests of the region. Around 30 submissions proposed that domestic firewood collection be allowed in specific forests (mostly Wombat State Forest) or the investigation area in general, while others stated that domestic firewood collection should not be allowed in various state forests, especially Wellsford State Forest. Other submitters and drop-in session attendees proposed that only limited sawlog or firewood harvesting be allowed and a few specifically opposed clearfelling. Other comments included support for maintaining the current timber harvesting practices and for managing forests through sustainable harvesting, with almost half of these comments referring specifically to the Wombat State Forest.

Some submitters suggested that sawlog and firewood plantations should be encouraged on private land or that timber should only be sourced from plantations, not from public owned state forests. The reintroduction of firewood collection permits was supported by a number of submitters, and it was also noted that domestic firewood provided on public land is in competition with commercial operations provided by plantations and woodlots. Several people supported the management of various forests as commercial forests and some sought an expansion of the areas available for timber harvesting.

Almost 20 submissions commented on mining and mineral exploration with about half supporting mining within the investigation area and half suggesting that mineral exploration and extraction should not be allowed. The importance of retaining areas of public land for future exploration was also mentioned.

Some stakeholders were concerned about retaining access to forests for beekeeping and others did not want any more ‘red tape’ for beekeepers. A few supported the encouragement and development of nature-based and eco-tourism.

Some Crown land licence holders provided details of the values and use of their licence areas. Many stated that they wish to maintain their current

licence or sought options to purchase the licensed Crown land, particularly unused road reserves.

Natural values and biodiversity conservation

Approximately 160 submissions expressed support for greater protection of natural values and an increase in protected areas. In these submissions, the use of public land for commercial resources (such as timber and wood harvesting, mining or mineral exploration and grazing) was often characterised as destructive and damaging to the environment. Several commented on ecological vegetation classes (EVCs) and the need for conservation reserve benchmarks to be met by additions to national parks or other protected areas.

Some submitters identified important natural values specifically to be protected such as threatened flora or fauna species, water catchments, under-represented EVCs, threatened vegetation types or large old trees. Preserving and protecting the natural environment for both current and future generations was cited as a reason for increasing the area of parks and conservation reserves.

While many stakeholders emphasised the need for greater protection and increased protected areas more generally, some submissions made location-specific proposals. Approximately 60 submissions (almost half using a pro forma submission) recommended that Wellsford State Forest should be changed to national park to protect the habitat and biodiversity values present. The 'Big Trees' in the Wellsford State Forest were also recognised as needing greater protection. Landscape connectivity, biolinks and corridors were mentioned in several submissions to improve biodiversity outcomes, with habitat fragmentation and other pressures on the natural environment, such as climate change, cited as reasons.

Recreational access

A large number of submitters and drop-in session attendees were recreational users of public land concerned about any new restrictions being applied to these activities or available areas. More than 200 submissions supported various recreational activities with most of these focusing on recreational prospecting or recreational hunting. Recreational users frequently described a strong attachment to the particular activity, often attributed to shared family experiences, health and social benefits and a connection with the Australian landscape and the bush. These submissions often stated that their activities are benign or beneficial to the natural environment and their use of public land provided land management services and tourism important to maintaining the economies of the region, particularly small towns. Most stated a strong opposition to any restrictions to currently accessible public land. A few requested that more public land is made available to prospectors.

Almost 80 submissions (around half using a pro forma submission) were received in support of hunting as a recreational activity. Benefits of hunting were described, including its contribution to the Victorian economy and the contribution that it makes to biodiversity through reducing the number of feral animals, particularly foxes. Restrictions to hunting were opposed in these submissions.

Approximately 25 submissions were made in support of four wheel driving. They described the contribution of four wheel drivers to conservation efforts such as cleaning up rubbish and providing land management assistance by clearing tracks. A number of these stakeholders stated that dispersed camping was an important part of their recreation experience.

Almost 35 submissions commented on camping and requested that no restrictions be applied on where individuals can camp, and expressed concern that changing areas to national park would limit opportunities. Similarly, several other recreational users requested that no restrictions be applied to land used for their activities including dog walking (on and off lead), horse riding, trail bike riding and bushwalking. Some user groups proposed that additional areas and resources be made available to increase and improve their recreational use of public land.

Others noted that the public land close to Melbourne is in high demand for recreational activities and the intensity of use may conflict with protection of the natural environment, particularly through erosion or damage caused by off-track vehicles.

Recreational access and use was described as a threat to some natural areas in approximately 100 submissions (half using a pro forma submission) and restrictions to access and use were proposed.

Support for status quo

Some 190 submissions expressed a desire for things to continue as they are and for current activities in parks and forests to remain unchanged. Most of these referred to the investigation area in general; however some

referenced specific forests or areas, especially Wombat State Forest.

Approximately 60 submissions opposed the creation of new national parks or other conservation reserves with most referring to the investigation area in general and a few referring to the Wombat State Forest and Wellsford State Forest specifically.

Public land management and regulation

Stakeholders addressing public land management and regulation typically discussed fire, pest plants and animals, general management decisions and resourcing. Many people sought improvements in public land management in general including better maintenance of tracks for access, roadside management, increased enforcement, better fire management including fuel reduction burning practices, and pest plant or animal control. Increasing both incentives and enforcement for pest plant and animal control was suggested, and some commented on the need for management of pest plants and animals across the boundaries between public and private land to be a focus.

Many stakeholders expressed their view that there was a need for additional resources to improve public land management. Several also suggested that community awareness of public land use and values needs to be increased.

A few submissions expressed support for Aboriginal involvement in land management, and for Aboriginal hunting and cultural practices.

Other points raised included the identification of, as well as management needs for, several historical sites or features and the preservation of the gold mining history of Victoria.

Investigation process

Some 100 submissions (around half using a pro forma submission) commented on VEAC's investigation processes such as the terms of reference, information sources, scope of the investigation, advertising or notification, and the consultation approach and period. The pro forma submission which accounted for almost half of these sought to highlight that the terms of reference ask that VEAC's recommendations ensure the balanced use and appropriate management arrangements of public land and suggested potential contacts for VEAC to consult.

A few stakeholders questioned whether VEAC's investigation was necessary given that the current management practices appear appropriate and adequate, and specifically that there are already other management arrangements in place such as Regional Forest Agreements. Some suggested areas that should have been included in the investigation area.

3.4 Key issues for the investigation

After considering all the information that has been provided and obtained, Council sees the following as the key issues for the investigation.

Pressures from increasing population

The population of Victoria is expected to grow by more than 2.5 million people in 20 years and reach 8.87 million by 2037. As well as increasing housing densities, dwelling change and infill development in metropolitan Melbourne, large subdivisions and estates in greenfield areas are being developed to meet increasing housing demand. For instance, the City of Melton – a local government area with significant greenfield development – is one of Victoria's fastest growing local government areas and is predicted to more than double in size from a population of 148,800 in 2017 to 333,700 in 2037. The proximity of these northwest Melbourne subdivisions and estates to the Central West Investigation area is expected to result in increases to the number of people using the forests, parks and reserves, a pattern that is evident to land managers in the area.

Traditional Owners

Six Traditional Owner groups have been identified as having a range of cultural values, interests and rights on public land in the investigation area through the Dja Dja Wurrung Recognition and Settlement Agreement, under the Victorian *Traditional Owner Settlement Act 2010*, other settlement negotiations under that Act, outcomes under the Commonwealth *Native Title Act 1993* and as Registered Aboriginal Parties under the Victorian *Aboriginal Heritage Act 2006*. The Central West Investigation provides an exceptional opportunity to strengthen partnerships with Traditional Owners to improve the protection of these values, interests and rights and make sure that they are not impinged upon, while promoting improvement in the condition and management of Country that involves and advances the health and prosperity of Traditional Owners.

Headwaters

The forested ranges in the investigation area – particularly the Wombat–Macedon block – contain the headwaters of many of western Victoria's most significant rivers. They are particularly valuable in producing water for human

communities and industry, and providing wetter habitats for biodiversity in the investigation area and internationally significant wetlands further downstream. The protection and improvement of the condition of these headwater ecosystems will become more important in this part of Victoria as the consequences of climate change take effect over the coming decades.

Landscape connectivity and fragmentation

Although most attention has focused on the larger blocks of public land which retain native vegetation, some 38 per cent of the investigation area has been cleared, with large areas having only small public land blocks and small patches of native vegetation. This fragmentation makes the maintenance and improvement of landscape connectivity across these areas to link the larger blocks a key requirement for biodiversity conservation in the investigation area.

Threatened species

The investigation area supports a relatively large proportion of Victoria's biodiversity, including approximately 90 threatened vertebrates (of which 62 species are birds – 46 per cent of Victoria's threatened birds) and 285 rare or threatened vascular plant species (15 per cent of Victoria's total). Key strategies for reducing threats to biodiversity in the investigation area, particularly in the face of climate change, include: controlling pest animals and weeds, reducing all activities that remove current and future large old trees, managing timber and firewood harvesting, creating strategic linkages especially along waterways, and restoring appropriate fire regimes.

Ecosystem representation

The establishment of a comprehensive, adequate and representative system of protected areas is an essential element of efforts to conserve biodiversity, as reflected in the commitments of the Australian and Victorian governments – through the international Convention on Biological Diversity – to establish such a system. Section 18 of the VEAC Act also specifies that VEAC must have regard to the need to provide for the creation and preservation of a comprehensive, adequate and representative system of parks and reserves within the State in carrying out an investigation and in making recommendations to the Minister.

Accordingly, for more than 20 years Victoria has been improving the representativeness of the protected area system across the state. However, over most of the Central West Investigation area public land use has not been assessed for more than 30 years. As a result the existing protected area system in the investigation area is highly unrepresentative, largely covering only the less productive, rocky or inaccessible parts of the landscape. Only 13 of the 107 bioregional ecological vegetation classes (EVCs) in the investigation area currently meet agreed benchmarks for protection. In total at least 37,400 hectares of protected area additions would be required to meet these benchmarks, out of some 114,000 hectares of public land not already in protected areas.

Climate change

As with most of Victoria, the Central West Investigation area has already experienced some effects of climate change. For example, since the 1950s average annual rainfall in the investigation area has declined by 100 to 200 millimetres and average temperatures have increased by approximately 1.2 to 1.4 degrees. These trends are projected to continue with more hot days, increased fire weather and more frequent extreme weather events.

The environmental impacts of climate change include altered disturbance regimes (such as more and hotter fires) and changes to habitat composition and function (including earlier flowering times). Rare and threatened species that reach the limit of their tolerance to key factors will decline, and invasive species adapted to disturbance are likely to flourish. Critical landscape assets such as headwater ecosystems and smaller patches of habitat in largely cleared areas – and the connectivity between them – may also come under increasing pressure from these changes.

The investigation area contains the largest blocks of mixed species forests in western Victoria north of the Otway Ranges, and provides habitat for many species that would not otherwise be found in this part of Victoria. The wetter parts of the investigation area – especially Mount Cole and the Wombat–Macedon ranges – will provide the best opportunities for native biodiversity to persist here under drier and warmer conditions.

Climate change is also likely to impact recreational and resource uses on public land as a result of more severe and more frequent fires, floods and droughts and reduced growth rates of trees, for example.

Regional economies

The rapidly increasing populations of shires in the investigation area, nearby regional cities and

Melbourne are shifting the patterns of economic activity in the investigation area towards a wide variety of recreational activities and away from some 'traditional' resource uses such as mining and timber harvesting which – short term fluctuations notwithstanding – have been in decline over many decades. In 2016, agriculture, forestry and fishing was the largest employment sector in only one (Pyrenees Shire) of the five municipalities that overlap the investigation area. Already the key engine of economic growth in the Hepburn, Moorabool and Macedon Ranges shires is tourism, and land managers report increasing numbers of visitors seeking to experience the natural environments on public land in the investigation area. It is highly likely that these trends will continue and extend further from Melbourne over coming years, particularly as public land in the investigation area becomes more accessible.

Summary

- Most of the public land use in the investigation area has not been assessed by VEAC or its predecessors for at least 30 years.
- Many things have changed in those 30 years, with significant implications for public land use, notably:
  - greatly increased recognition of and partnership with Traditional Owners in public land use
  - rapidly expanding populations in and near the investigation area (especially in the northern and western suburbs of Melbourne) which, with greatly improved road and rail transport has led to greatly increasing recreational use of public land; this contrasts with long term decline in 'traditional' resource uses such as mining and harvesting of wood products
  - continuing increases in the number of threatened species, and greater recognition of the significance of habitat fragmentation and the unrepresentativeness of the current protected areas in the investigation area
  - intensifying effects of climate change, impacting a range of values including the key role of public land in the investigation area in the protection of the headwaters of many of the major rivers of western Victoria.
- As a result of these changes, the predominant use of public land in the investigation area has shifted from a few 'traditional' resource uses to recreation and nature conservation. These pressures are likely to continue to increase for the foreseeable future, meaning that 'no change' is not an option for future public land use in the investigation area.
- VEAC's draft recommendations in the following chapters have been formulated with a view to establishing a framework to address these major issues in the decades ahead.

VEAC looks forward to hearing views on its draft recommendations during this public consultation period. Submissions are due by Wednesday 31 October 2018.

PART 2

2

4. General recommendations

Policy and management issues identified for the investigation are addressed in this chapter in a series of draft general recommendations. Draft recommendations for specific areas of public land are presented in chapters 5, 6 and 7 for the Mount Cole–Pyrenees, Wellsford and Wombat–Macedon blocks respectively.

Section 4.1 is in two parts: implementation and resourcing draft recommendations are followed by draft recommendations addressing specific policy or management issues.

Section 4.2 provides draft general recommendations for each public land use category or public land use overlay.

4.1 Draft policy and management recommendations

4.1.1 Implementation of recommendations

There is an obligation under section 26A of the *Victorian Environmental Assessment Act 2001* for government, through its ministers, departments or public authorities, to take actions to implement government-accepted VEAC recommendations. VEAC recognises that implementation of its recommendations and ongoing management of public land will require additional resources to meet community expectations and successfully transition to new arrangements.

Additional engagement with Traditional Owners and the broader community will also be important in accomplishing the changes recommended in this report.

Aboriginal place names

Recognition and settlement agreements (RSAs) under the *Traditional Owner Settlement Act 2010* confer a range of rights and responsibilities on both government and Traditional Owners. In this investigation area, Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC) has entered into a RSA with the state. A Land Use Activity Agreement provides DDWCAC with an opportunity to have input or give their agreement to certain activities taking place on Crown land. Advisory activities include changes to land status such as declaring new parks or reserves, and management plans prepared under the *National Parks Act 1975*.

The government is in negotiation towards RSAs with other Traditional Owners across the state, including some in the Central West Investigation area. In accordance with protocols under RSAs, both with DDWCAC and other Traditional Owner groups within the investigation area in the future, VEAC supports consultation that provides the relevant Traditional Owner groups with opportunities for a role in naming any new parks and reserves in RSA areas.

DRAFT RECOMMENDATION

Aboriginal place names

R1 Government consults with relevant Traditional Owner groups regarding naming of recommended new parks and reserves.

Implementation and resourcing

In addition to resourcing for establishment of new parks and reserves (including legislation, staffing and operational funding), key implementation issues include:

- developing a process to assess and, where appropriate, assist any individuals and local businesses adversely affected by the recommendations
- detailed management planning where required especially for parks with high current or projected visitor use
- community engagement and planning for domestic firewood access and changes to the pattern and distribution of some recreation activities across the investigation area.

DRAFT RECOMMENDATION

Additional resources

R2 Government allocates adequate financial and staff resources for implementation of these recommendations and ensures that the objectives of the report and recommendations are achieved.

Assistance for adversely affected individuals and businesses

R3 Government establishes a process to evaluate the impacts on individuals and businesses of implementing recommendations in this report and provides assistance to minimise any effects where required.

Interim management and minor boundary adjustments

R4 Upon government acceptance of VEAC's recommendations, relevant land be managed in accordance with those recommendations.

R5 Implementation of recommendations allows flexibility for minor boundary adjustments.

Simplifying Crown land boundary definition

The requirement for field survey of reserve boundaries significantly impacts formal implementation of government-accepted LCC, ECC, and VEAC recommendations through to reservation, especially for areas reserved under the *Crown Land (Reserves) Act 1978*. Where the boundaries of recommendations are related to cadastral boundaries or readily identifiable natural features, the need for field survey may be minimised. However, in some instances, a further site review and field survey may be required to align the boundary of the recommendation to the cadastre, and avoid any legal ambiguity.

The Office of Surveyor-General Victoria has also implemented methods of minimising field survey, such as the use of abuttals and Global Navigation Satellite System-derived coordinates to define boundaries, and is continuing to explore other methods utilising new survey technologies and techniques thus reducing the need for field surveys to define reserve boundaries.

DRAFT RECOMMENDATION

Simplifying reservation procedures

R6 Priority be given to minimising field survey where possible and simplifying boundary definition and preparation of gazettal plans to implement government-accepted recommendations, with site survey if required to resolve specific management issues.

4.1.2 Policy and management

The draft recommendations presented below address a range of issues identified by VEAC or raised in consultation and by stakeholders.

Traditional Owner Settlement Act

The *Traditional Owner Settlement Act 2010* does not provide for future changes to Aboriginal title parks and reserves through changes to public land use classification of these areas or boundary adjustments. For example, the Act does not currently provide for the public land use classification to be changed for Hepburn Regional Park or additions to be made to the park, even with the agreement of the Traditional Owners and the state government.

Council considers that an amendment to this process would be of benefit in the future as boundary issues arise and as changes in land uses of Aboriginal title land may occur.

DRAFT RECOMMENDATION

Allowing future changes to Aboriginal title parks and reserves

R7 Government considers legislative amendments to the *Traditional Owner Settlement Act 2010* that provides for a process allowing future changes to Aboriginal title land by agreement of the parties. Such amendments should include provisions for additions, boundary adjustments and changes to public land use classification.

Game sanctuary

There is ambiguity relating to the legal status of hunting in the game sanctuary declared in the 1920s under the *Game Act 1915* (a precursor to the existing *Wildlife Act 1975*) for the Mount Cole state forests and possibly other areas. Legal opinion is divided as to whether the sanctuary was

technically revoked by provisions establishing the Game Act in 1958 and the current Wildlife Act as there are no carry over provisions for sanctuaries in current legislation. Currently public land managers do not permit recreational deer hunting in these areas because of this legal uncertainty.

There is strong anecdotal evidence that wild deer are expanding their range and increasing their density in Victoria. Hunting organisations have called for more areas of public land in Victoria to be made available for licensed recreational deer hunters. Consultation indicates that there is likely to be strong interest in expanding recreational hunting opportunities in this area.

Council recommends that the legal ambiguity be resolved by removal of game sanctuary status to permit recreational deer hunting in the state forests recommended to be retained in the Mount Cole–Pyrenees block of the investigation area. Recreational hunting of deer species is permitted in state forests recommended in this report (see general recommendation G). It is noted that land managers may undertake organised control programs for deer and other invasive species in parks and reserves.

DRAFT RECOMMENDATION

Game sanctuary revocation

R8 To ensure there is no ambiguity, any game sanctuaries in the investigation area declared under the *Game Act 1915* be revoked.

Landscape connectivity

VEAC received many submissions and other advice from stakeholders about the important role of public land in the matrix of habitats across the largely cleared landscapes of central west Victoria. Habitat fragmentation is a key threat to many species of plants and animals, particularly those that require large areas to provide food resources at the right time, such as Victoria's threatened community of woodland birds. There are many small blocks of public land, including vegetated waterways scattered across the investigation area, that help to connect patches of habitat and increase their role in nature conservation.

VEAC recognises the need to improve habitat quality and connectivity for many native species by protecting the suite of small blocks and also enhancing native vegetation on strategically important areas of private land. There is already much work being done towards this end including Trust for Nature projects, community-based initiatives such as the Central Victorian Biolinks Alliance and government programs through catchment management authorities, for example. Council considers that it is important that public land with native vegetation should play a leading role in improving landscape connectivity.

DRAFT RECOMMENDATION

Landscape connectivity

R9 That small blocks (nature reserves, bushland reserves, stream frontage, bed and banks reserves and road reserves) be managed to maximise their ecological function and value to native species that depend on habitat connectivity, through planning partnerships between community groups, government, catchment management authorities, Trust for Nature and private land managers.

Maintaining catchment condition and services

With increasing population and a warmer and drier climate, it is critical that water resources are secured into the future. *Water for Victoria* (the Water Plan) sets out a long-term strategy for management of Victoria's water resources to overcome the challenges of climate change and population growth. VEAC has heard from stakeholders and the community about the importance of water supplies across the investigation area.

Maintaining forested water supply catchments is an important way in which the goals of the Water Plan can be met. Public land forests, vegetated stream frontages and wetlands improve water quality by filtering water, thereby reducing the amount of soil sediment, pollutants and organic matter that would otherwise be released into our waterways. When ecosystems are degraded or disturbed (e.g. through loss of vegetation cover, trampling, overgrazing, weed invasion, introduction of pathogens or large-scale fires), water quality is often reduced. Some of the greatest impacts on water quality are fire and roading.

In an economic sense, maintaining or improving catchment condition also significantly lowers downstream water supply costs. Coliban Water assessed (using DTF's Investment Framework for Environmental Resources standards) the value of forested public land in the upper Coliban River using

a benefit–cost analysis method. The results showed that for every dollar spent on improving the condition of source catchments and waterways, a benefit of $1.67 is achieved, particularly in downstream treatment costs. There are also potentially significant unquantified longer-term benefits.

The Central West Investigation area contains several water supply catchments and water storage reservoirs as well as the headwaters of many rivers, particularly in the Wombat–Macedon block. The two larger blocks of the investigation area are bisected by the east-west oriented watershed of the Great Dividing Range, with some rivers flowing in a southerly direction to the coast (Werribee, Lerderderg and Moorabool rivers) and others inland into the extensive Murray-Darling Basin system (Avoca, Loddon, Campaspe and Coliban rivers). Rivers originating in parts of the Mount Cole and Pyrenees ranges also flow west into the Wimmera-Avon catchment basin which terminates with inland lakes (Lake Hindmarsh and Lake Buloke). The upper Wimmera River catchment has been identified as a high priority project for investment in both the Water Plan and the Wimmera Regional Delivery Plan (2013-2018).

Given the importance of these water supplies to this region, it is important to ensure the catchments are managed in a way that maintains a reliable supply of high quality water. Important water supply areas are included in recommended new national and regional parks and protection of water quality and yield should be explicitly recognised in the management of these new parks.

DRAFT RECOMMENDATION

Catchment management

R10 National, conservation and regional park management priorities include the protection of water quality and yield.

Domestic firewood collection

DELWP conducts two domestic firewood collection seasons (autumn and spring) in state forests each year for the public to access at no cost. The location of designated firewood collection sites in which selected trees have been felled by DELWP's paid contractors is made available through DELWP's website and at regional offices throughout the state. Each person is eligible to collect two cubic metres of firewood per day during the collection season. A total of 16 cubic metres may be collected per household each financial year. It is estimated that a typical household uses less than 6 cubic metres per year. It is illegal to remove standing trees, or sell firewood obtained from domestic collection areas, or collect firewood for use in a commercial enterprise.

In 2011 the Victorian government removed the requirement for a permit or licence to collect domestic firewood from public land. The absence of data previously derived from permit numbers makes it is difficult to determine volumes of firewood collected recently, and the demographics of people undertaking this activity in the investigation area. In addition, publication of the collection areas via the DELWP website means that there is no longer a requirement to attend a DELWP office to obtain collection site information, and regional forest staff have limited opportunity to engage with the community on issues associated with firewood collection more generally. Land managers have indicated that there has been an increasing volume of firewood taken over a shorter time period with collectors travelling some distance to access this resource.

Collection of domestic firewood was raised as an issue in written submissions, by stakeholders and in public consultation. Research undertaken by DELWP for the Northern Victoria Firewood and Home Heating Project suggests that some rural communities are reliant on firewood as a principle low-cost heating source. Several proposals were made to retain domestic firewood collection in specific forests (mostly Wombat State Forest) or the investigation area in general. Others stated that domestic firewood collection should not be allowed in various state forests, especially Wellsford State Forest. The reintroduction of domestic firewood collection permits was also proposed as a way of ensuring the local community has preferential access to this resource and as a way to monitor collection patterns on public land. It was also noted that domestic firewood provided on public land is in competition with commercial operations provided by

plantations and woodlots on private land.

Recent information about the preferences of Victorians in relation to firewood collection indicates that the majority of people choose the site to collect firewood based on proximity to where they live, and support priority access for local residents or for those without gas mains.

DRAFT RECOMMENDATION

Domestic firewood access

R11 Government establishes a policy or process that prioritises access to domestic firewood on public land to local communities most reliant on this resource.

4.2 General recommendations for public land use categories

This investigation is utilising the revised public land use categories flowing from VEAC's *Statewide Assessment of Public Land Final Report* (2017). Public land use categories shown on map A and map D and listed in table 2.2 follow the revised classification scheme as far as possible. An outline of the revised scheme is provided in appendix 1, including how it aligns with the previous categories and sub-categories. The revised classification scheme has been broadly accepted by government, together with VEAC's recommendations to rewrite Victoria's public land legislation. The revised public land use categories are expected to be included in the relevant new or amended legislation. In the meantime, where it is relevant, VEAC has indicated in the following general recommendations the current legislation for the public land use category.

Presented below and framed as general recommendations are the purposes and objectives for each public land use category together with activities that are permitted and not permitted. As part of the modernisation of public land use, each category explicitly states that one of the purposes is to protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values.

Where a change from the existing on-ground public land use is recommended for this investigation, these are identified by a unique identification code shown on map D, and listed in appendix 8. Chapters 5, 6 and 7 – corresponding to the Mount Cole–Pyrenees, Wellsford, and Wombat–Macedon blocks respectively – provide a more detailed discussion for each of the specific locations to which these recommended changes apply.

Those less well known, uncontroversial or widespread smaller areas of public land for which no change is proposed, or where the recommendation largely confirms existing use or reservation purpose (i.e. for Crown land) are generally not allocated a specific recommendation number but are clearly depicted on map D (e.g. water frontage, beds and banks reserve; water production reserves; community use reserves; utilities and government services reserves).

In addition to the public land use categories outlined above, there are two types of public land use overlays in the Central West Investigation area: reference areas and heritage river areas. These are described in detail below and cross-referenced in chapter 5 and 7. VEAC recommends that existing overlays continue for all previously identified reference areas and the Lerderderg River heritage area.

A. *National parks*

National parks, state parks and wilderness parks are the foundation of Victoria's protected area system. They are set aside primarily to protect natural values while also providing a diverse range of opportunities for enjoyment, education, recreation and inspiration in a natural setting. They are usually extensive areas, often with national significance, with outstanding natural values and diverse land types and ecological communities contributing to representativeness of Victoria's protected area system. Harvesting of forest products, grazing by domestic stock, hunting and firearms are not consistent with national park objectives and are generally not allowed. National, state and wilderness parks are exempt from exploration and mining under mineral resources legislation, except for permits and licences issued prior to the establishment of the park.

National parks can attract very high visitor numbers and a wide range of passive and active recreational activities are undertaken, including wildlife and nature observation (including birdwatching), bushwalking, orienteering, sightseeing, picnicking, camping, canoeing and kayaking, bike riding, car touring, mountain and trail biking, fishing, beekeeping at designated sites, environmental education and research. With so many uses and values to protect, careful management planning and zoning of activities in parks is usually required to minimise potential conflicts.

National parks are generally, though not always, larger than state parks but the two categories of parks are otherwise established and managed for the same objectives under the *National Parks Act 1975*. Although national and state parks have the same management intent and level of protection, the objectives of national parks are generally better understood by the public and park visitors. During its recent Statewide Assessment of Public Land, VEAC found that state parks are routinely confused with state forests. For this reason, VEAC recommended that the categories of national park and state park be consolidated. When this is fully implemented, the existing 26 state parks in Victoria will become national parks. There is no change to existing uses in this process. Existing signage and information materials are expected to gradually be updated to reflect this change as they are due for renewal, accompanied by a community information program.

In the draft recommendations for the Mount Cole–Pyrenees block and the Wombat–Macedon block, in chapters 5 and 7 respectively, the two existing state parks in the investigation area – Mount Buangor (2498 ha) and Lerderderg (20,469 ha) – are recommended to be incorporated into expanded national parks and a new national park is recommended in the Pyrenees range.

As well as the general recommendations below, which apply to all recommended national parks, specific recommendations may apply to individual parks.

DRAFT RECOMMENDATION

General recommendations for national parks

A That national parks shown on map D (numbered A1 to A3) and described in chapters 5 and 7:

(a) be used to:

(i) permanently protect the natural environment and natural biodiversity along with underlying ecological structure and supporting environmental processes

(ii) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(iii) protect historic sites and values

(iv) provide for ecologically sustainable scientific, educational, inspirational, recreational and visitor opportunities consistent with conserving those values;

(b) generally permit the following activities:

(i) bushwalking, nature observation, heritage appreciation, picnicking

(ii) camping in designated campgrounds and other areas specified by the land manager

(iii) car touring, including four wheel driving, on formed roads and vehicle tracks

(iv) trail bike riding on formed roads and vehicle tracks

(v) mountain biking and cycling on formed roads and vehicle tracks, and on other tracks and paths specified by the land manager

(vi) horse riding on roads and tracks specified by the land manager (see note 1)

(vii) recreational fishing

(viii) apiculture at existing licensed sites

(ix) research, subject to permit;

(c) exclude the following activities:

(i) harvesting of forest products (see note 2)

(ii) grazing by domestic stock

(iii) recreational hunting and use of firearms (see note 3)

(iv) exploration and mining, other than continuation of operations within existing permits and licences, as approved

(v) dog walking, except as specified in recommendations A1 to A3 (see note 4);

(d) include unused road reserves adjoining parks where appropriate; and

(e) be added to Schedule 2 to the *National Parks Act 1975*.

Notes:

1. Camping with horses, and grazing and feeding of horses is not permitted.
2. Ecological thinning may be carried out where required for ecological or management purposes: for example, subject to clearly defined, transparent and scientifically supported objectives, to restore ecosystems or to return them to a condition more closely resembling their natural condition.
3. Hunting and use of firearms may be authorised by the land manager as part of a pest animal control program.
4. Dogs on lead may be permitted in specified visitor areas and along a limited number of specified tracks, in accordance with management plans.
5. Practical access should continue to be provided to existing private land holdings surrounded by the national parks.

B. *Conservation parks*

Like national parks, conservation parks are part of the protected area system under the National Parks Act, and conserve public land with significant natural and cultural features, including threatened flora and fauna, landscape or other conservation values. In contrast with national parks, the land in conservation parks tends to be less extensive, may be linear in shape such as coastal parks and, depending on their particular character, may be more resilient to a range of compatible uses, particularly a greater range or more intensive recreation activities.

Conservation parks allow for a range of recreational activities that are consistent with the protection of their particular values: wildlife and nature observation (including birdwatching), bushwalking, orienteering, sightseeing, picnicking, camping, canoeing and kayaking, bike riding, four wheel driving, mountain and trail biking, fishing, beekeeping at designated sites, environmental education and research. Compared with national parks, activities such as horse riding (on formed roads and designated trails) may be more widely allowed in conservation parks as specified in park management plans, subject to the local circumstances.

Arising from VEAC's recent Statewide Assessment of Public Land, this public land use category groups together several parks and reserves from across the state with both high conservation and recreation or other values. This category includes 10 of the existing 18 'other parks' listed on Schedule 3 of the National Parks Act. There are no changed uses arise from this grouping of existing areas in this public land use category, and VEAC recommended that local names may be retained for many of these parks.

Resource uses generally not permitted in conservation parks include harvesting of forest products, grazing by domestic stock and recreational hunting and use of firearms. Conservation parks are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with ministerial consent required for exploration, mining and searching.

No existing conservation parks are found in the Central West Investigation area. Two new areas are recommended in the Wombat–Macedon block of the investigation area: the Hepburn Conservation Park and Cobaw Conservation Park (see chapter 7).

DRAFT RECOMMENDATION

General recommendations for conservation parks

B That conservation parks shown on map D (numbered B1 and B2) and described in chapter 7:

(a) be used to:

(i) permanently protect and restore the natural environment and natural biodiversity

(ii) protect features of natural, cultural or scientific interest

(iii) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(iv) enable public recreational and educational use consistent with conserving those values and features above;

(b) generally permit the following activities:

(i) bushwalking, nature observation, heritage appreciation, picnicking

(ii) camping in designated campgrounds and other areas specified by the land manager (see note 1)

(iii) car touring, including four wheel driving, on formed roads and vehicle tracks

(iv) trail bike riding on formed roads and vehicle tracks

(v) mountain bike riding and cycling, and on other tracks and paths specified by the land manager

(vi) horse riding on formed roads and tracks specified by the land manager (see note 2)

(vii) recreational fishing

(viii) apiculture at existing licensed sites

(ix) research, subject to permit;

(c) exclude the following activities:

(i) harvesting of forest products, including firewood collection (see note 3)

(ii) grazing by domestic stock

(iii) recreational hunting and use of firearms (see note 4)

(iv) dog walking, except as specified by the land manager (see note 5);

(d) include unused road reserves adjoining parks where appropriate; and

(e) be added to Schedule 3 to the *National Parks Act 1975.*

Notes:

1. Camping may not be provided depending on the characteristics of the park, or the level and type of day visitor use.
2. Camping with horses, and grazing and feeding of horses is not permitted.
3. Ecological thinning may be carried out where required for ecological or management purposes, for example, subject to clearly defined, transparent and scientifically supported objectives, to restore ecosystems or to return them to a condition more closely resembling their natural condition.
4. Hunting and use of firearms may be authorised by the land manager as part of a pest animal control program.
5. Dogs on lead may be permitted in specified visitor areas and along a limited number of specified tracks, in accordance with management plans.
6. Practical access should continue to be provided to existing private land holdings surrounded by the conservation parks.

C. *Regional parks*

Regional parks provide extensive areas of natural or semi-natural land close to population centres, major tourist routes or in areas otherwise easily accessible to large numbers of people. Closer to Melbourne, regional parks may also incorporate areas of highly modified open space, including revegetated areas, landscaped areas similar to parklands and gardens, former farmland and historic buildings. Regional parks provide for informal recreation for large numbers of people in natural or semi-natural surroundings. As such, recreational objectives are generally given priority over nature conservation objectives, although significant sites with high conservation values will be protected.

While regional parks vary in their specific values and characteristics, they typically provide an environment where residents and visitors can enjoy a broader range of activities (including dog walking and overnight camping with horses) than are usually allowed in national and conservation parks. Where compatible with recreation, minor resource extraction activities, such as metal detecting, prospecting and firewood collection in designated zones, may also be permitted. These extractive uses are assessed by the land manager for each park and vary depending upon local circumstances and the values present. Regional parks are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with Ministerial consent required for exploration, mining and searching.

This public land use category includes existing regional, metropolitan and forest parks, and some of the 'other parks' in Schedule 3 of the National Parks Act that were not included in conservation park category. Regional parks are not part of the protected area system because of the management priority for recreation use.

There are two existing regional parks in the Central West Investigation area: Hepburn Regional Park (Aboriginal Title) and Macedon Regional Park. Immediately adjoining the Wellsford Block to the west is Bendigo Regional Park which forms a popular parkland surrounding the city of Bendigo.

Draft recommendations presented in chapters 5, 6 and 7 describe changes relating to the three existing regional parks (including additions to the adjoining Bendigo Regional Park) and two new regional parks in the Pyrenees and Wombat forests. These new regional parks will accommodate more intensive recreation uses than would be allowed in the recommended national parks, and where designated, may provide minor forest produce including domestic firewood. Hepburn Regional Park, over which Aboriginal title has been granted, has a special status and no changes can be made to the boundaries and category of the land under current legislation (see draft recommendations R7 earlier in this chapter and C3 in chapter 7). A Joint Management Plan is currently being prepared for this park by the Traditional Owner Land Management Board.

DRAFT RECOMMENDATION

General recommendations for regional parks (see note 1)

C That regional parks shown on map D (numbered C1 to C5) and described in chapters 5, 6 and 7:

(a) be used to:

- (i) provide opportunities for informal recreation for large numbers of people associated with the enjoyment of natural or semi-natural surroundings or semi-natural open space
- (ii) protect natural and semi-natural landscapes and scenic values
- (iii) protect natural biodiversity to the extent consistent with the above
- (iv) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values
- (v) provide for minor resource extraction not incompatible with all of the above, excluding sawlog and pulpwood harvesting

(b) generally permit the following activities:

- (i) bushwalking, nature observation, heritage appreciation, picnicking
- (ii) camping (see note 2)
- (iii) car touring, including four wheel driving, on formed roads and vehicle tracks
- (iv) trail bike riding on formed roads and vehicle tracks
- (v) mountain bike riding and cycling, and on other tracks and paths specified by the land manager
- (vi) dog walking
- (vii) horse riding on formed roads and tracks specified by the land (see note 3)
- (viii) recreational fishing
- (ix) metal detecting, prospecting
- (x) apiculture at existing licensed sites
- (xi) research, subject to permit

(c) exclude the following activities:

- (i) harvesting of forest products, except where domestic firewood collection zones are specifically identified
- (ii) grazing by domestic stock
- (iii) recreational hunting and use of firearms (see note 4)

(d) unused road reserves be added to adjoining parks where appropriate

(e) a management plan be prepared for each, and

(f) the parks be reserved under the *Crown Land (Reserves) Act 1978.*

Notes:

1. The general recommendations do not apply to the existing Hepburn Regional Park, over which Aboriginal title has been granted. The Hepburn Regional Park is managed according to the provisions of the Crown Land (Reserves) Act that applied at the time of the grant of Aboriginal title; the management framework is similar to these general recommendations for regional parks.
2. While camping is generally allowed in regional parks, it may not be provided in individual parks depending on the characteristics of the land and the patterns of recreation and visitor use.
3. Camping with horses may be permitted in individual parks.
4. Hunting and use of firearms may be authorised by the land manager as part of a pest animal control program.
5. Practical access should continue to be provided to existing private land holdings surrounded by the regional parks.

D. *Nature reserves*

Some areas of public land are highly significant for threatened flora or fauna (or both), ecosystems, geology or geomorphology values, and have limited recreational use. Nature reserves as a public land use category was established in VEAC's Statewide Assessment of Public Land (2017) and includes the previous category of nature conservation reserve and two natural features reserve sub-categories of cave, and geological and geomorphological features area that host these significant natural values.

Nature reserves differ from national parks in that they are generally smaller, often protect specific features, and have a lower level of recreation. Most of the existing reserves in the Central West Investigation area were set aside to conserve nature which may comprise a small area hosting rare or threatened species, or larger areas with plant associations that have specific conservation significance. In the past these areas were generally known as flora reserves, or flora and fauna reserves.

Timber production, stock grazing and resource extraction are not permitted in nature reserves. Intensive recreation is generally excluded, although this can depend on the values of each site. Nature reserves are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with ministerial consent required for exploration, mining and searching. Compatible education, scientific study and informal recreation is permitted in some nature reserves, depending upon the resilience of the values to be protected. For example, many geological features and many caves may provide for some compatible recreation use.

There are 11 existing nature reserves in the Central West Investigation area ranging in size from Landsborough Nature Conservation Reserve (3380 hectares) to the tiny Macedon (Margaret Street) Flora Reserve. One reserve hosts a site of geological significance at the Bacchus Marsh Trench Nature Reserve (2 hectares).

The draft recommendations retain seven of the existing nature reserves unchanged and expand nature reserves at Long Forest by around 20 hectares and Ben Major significantly by around 2410 hectares to a total area of some 3230 hectares. VEAC proposes that the two areas that make up the largest existing nature reserve at Landsborough are both included in the recommended Pyrenees National Park (draft recommendation A2). There are nine new nature reserves proposed; see chapters 5, 6 and 7 for detailed descriptions of these areas.

DRAFT RECOMMENDATION

General recommendations for nature reserves

D That nature reserves shown on map D (numbered D1 to D18) and described in chapters 5, 6 and 7 according to their specific characteristics:

(a) be used to:

(i) protect significant natural ecosystems, species and/or geodiversity features

(ii) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(iii) provide for low levels of recreational use consistent with strict protection and conservation of those values

(b) generally permit the following activities, where compatible with (a):

(i) bushwalking, nature observation, heritage appreciation, picnicking

(ii) car touring, including four wheel driving, on formed roads and vehicle tracks

(iii) apiculture at existing licensed sites

(iv) exploration and mining for minerals and searching for and extraction of stone resources subject to the consent of the Crown land minister under the relevant legislation (see note 2)

(c) exclude the following activities:

(i) grazing of domestic stock (see note 3)

(ii) harvesting of forest products

(iii) recreational hunting and use of firearms (see note 4)

(iv) metal detecting, prospecting

(v) dog walking (see note 5)

(vi) horse riding, and

(d) be permanently reserved for conservation purposes under the *Crown Land (Reserves) Act 1978*.

Notes:

1. These general recommendations generally apply for the land use category. Exceptions to these may apply to specific reserves in special circumstances.
2. Exploration and mining provisions arise from nature reserves being 'restricted Crown land' under the *Mineral Resources (Sustainable Development) Act 1990*.
3. Grazing may be contracted for ecological or management purposes such as targeted weed control. Off-stream watering can be provided for, where appropriate.
4. Hunting and the use of firearms may be authorised by the land manager as part of a pest animal control program.
5. On-lead dog walking can continue at D14 Bacchus Marsh Trench Nature Reserve, in accordance with management planning.

E. *Bushland reserves*

Bushland reserves are typically small naturally-vegetated Crown land reserves in otherwise largely cleared landscapes. They often contain natural features worthy of protection or have landscape or scenic significance. The new bushland reserve category was established in VEAC's Statewide Assessment of Public Land (2017) and comprises those sub-categories of natural features reserve considered part of the protected area system: bushland area, natural and scenic features area and streamside area. Consultation with a broad range of stakeholders indicated that the category 'bushland reserve' was generally better understood than 'natural features reserve,' and captures the nature of the land more clearly. As a result of this aggregation, bushland reserves also include former streamside areas and hilltop areas with ready access, including developed lookouts, picnic areas and visitor facilities (former natural and scenic features areas).

Some of these areas were originally used to provide camping and watering areas for stock. They now play an important role in maintaining habitat connectivity in fragmented landscapes. Although individual bushland reserves are unlikely to contain highly significant natural values, they maintain the distinctive Australian character of the countryside and provide diversity in the landscape. This is particularly the case in areas of intensive agriculture and broad-scale land clearing. Where bushland reserves are accessible, they may also provide opportunities for passive recreation in relatively natural surroundings, but are generally not developed for active or intensive recreation uses. Those reserves previously comprising streamside areas are typically in scenic and accessible locations adjoining rivers and streams, often where a wider section of public land is intersected by a road or stream crossing. Originally set aside for passive recreation such as picnicking and camping, these areas are also ecologically important, protecting riparian vegetation along watercourses and providing important ecosystem services.

Bushland reserves are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with Ministerial consent required for exploration, mining and searching.

Many of the proposed and existing bushland areas in this investigation area reflect a history of past land use (e.g. stock watering or gravel reserves). Although these areas typically do not have highly significant values, remnant native vegetation and wetlands are of increasing importance for nature conservation. Ecosystem services and landscape function provided by smaller areas of vegetated public land, including bushland reserves, will be more important in the future under increasing ecosystem stresses from projected climate change and the long-lasting impacts of habitat fragmentation (see draft recommendation R9 relating to landscape connectivity).

There are 69 existing bushland reserves in the Central West Investigation area largely identified in previous LCC and ECC investigations as former natural feature reserve subcategories: 51 bushland areas, four natural and scenic reserves, and 14 streamside areas. While many of these are small reserves, most are larger than one hectare with the largest being Ben More Bushland Reserve (137 hectares) and Lauriston Bushland Reserve (210 hectares). All existing areas are retained as bushland reserves.

There are 19 recommended new bushland reserves, and these are described in chapters 5 and 7.

DRAFT RECOMMENDATION

General recommendations for bushland reserves

E That bushland reserves shown on map D (numbered E1 to E88) and described in chapters 5 and 7 according to their specific characteristics:

(a) be used to:

(i) protect and restore species and habitats including remnant vegetation and areas with value as habitat linkages

(ii) protect and maintain scenic features and landscapes

(iii) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(iv) provide for educational and recreational opportunities and controlled low-intensity exploitation of natural resources not incompatible with the above

(b) generally permit the following activities:

(i) bushwalking, nature observation, heritage appreciation, picnicking

(ii) metal detecting, prospecting

(iii) apiculture at existing licensed sites

(iv) exploration for minerals and mining, subject to decisions on particular cases (see note 2)

(v) horse riding

(vi) dog walking as specified by the land manager

(c) exclude the following activities:

(i) grazing of domestic stock (see note 3)

(ii) harvesting of forest products

(iii) recreational hunting and use of firearms (see note 4), and

(d) be permanently reserved under the *Crown Land (Reserves) Act 1978*.

Notes:

1. These general recommendations generally apply for the land use category. Exceptions to these may apply to specific reserves in special circumstances.
2. Exploration and mining provisions arise from bushland reserves being 'restricted Crown land' under the *Mineral Resources (Sustainable Development) Act 1990*.
3. Grazing may be contracted for ecological or management purposes such as targeted weed control. Off-stream watering can be provided for, where appropriate.
4. Hunting and the use of firearms may be authorised by the land manager as part of a pest animal control program.

F. *Historic reserves*

This investigation area has extensive gold mining and timber harvesting history, as well as a long and rich Aboriginal history. Many townships and settlements have rapidly appeared and disappeared in areas of abundant natural resources, and layers of cultural heritage can be seen at many sites. Work is being undertaken to identify places that share Aboriginal and non-Aboriginal significance. A joint working group of the Victorian Aboriginal Heritage Council and the Heritage Council of Victoria established in 2013 seeks to enhance the recognition of Aboriginal and shared cultural heritage values to better reflect Victoria's history.

Several studies have been undertaken across the region to identify and assess historical and cultural heritage values, including those by VEAC's predecessors. Many areas of public land host historically significant places that are managed as part of a broad range of uses and values. In an area adjoining the Central West Investigation area, Castlemaine Diggings National Heritage Park provides a unique and highly significant cultural landscape with protection and management under the National Parks Act. Both historic reserves and the national heritage park are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with ministerial consent required for exploration, mining and searching.

Historic reserves are areas of public land containing important relics or historical associations ranging from large areas with several historic themes represented to small reserves that may illustrate a single theme. This land use category permits a broad range of uses, depending upon the specific identified values and how resilient the historic fabric is to the type of use. Historic reserves generally encourage visitor use and public access and, for infrastructure or buildings, re-use for a new compatible purpose. For many of the larger historic mining landscapes across the state there is also a public safety requirement to be balanced with providing public access to view and appreciate heritage. For public land managers, heritage protection issues can also arise where historic mining areas are revisited in a search for new resources utilising more advanced exploration and extraction techniques.

VEAC's Historic Places Investigation (2016) found that collectively historic places on public land have been neglected and there is significant potential for financial liability, particularly for historic buildings and infrastructure on public land. In some circumstances, an absence of active management is an acceptable way of dealing with intangible heritage or places to be retained as ruins. In other instances, aging built assets such as historic buildings can become unsafe for re-use by the community and will readily fall further into disrepair if unoccupied.

Across this investigation area, there are 12 small township historic reserves containing historic buildings, and two larger reserves providing historic gold mining landscapes: Cornish Hill in Daylesford (46 hectares) and Percydale Historic Reserve (1457 hectares) located in the Pyrenees range comprising one of the larger historic reserves across the state. No changes are proposed for these existing historic reserves.

DRAFT RECOMMENDATION

General recommendations for historic reserves

F That historic reserves shown on map D (numbered F1 to F13) and described in chapters 5 and 7 according to their specific characteristics:

(a) be used to:

(i) protect places, features and objects of historic cultural interest

(ii) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(iii) provide for recreation and education associated with appreciation and understanding of the history of the place, feature or object

(iv) provide for controlled low-intensity exploitation of natural resources not incompatible with all the above and, where relevant (see note 1):

(b) areas with remnant natural vegetation or habitat value be protected

(c) prospecting and apiculture on licensed sites be generally permitted

(d) low impact exploration for minerals and mining be permitted, subject to consideration of the impact on values in (a) for each application or case

(e) timber harvesting be excluded

(f) grazing be excluded (see note 2)

(g) adjoining unused road reserves be included, where appropriate, and

(h) if not already appropriately reserved, be permanently reserved under the *Crown Land (Reserves) Act 1978*.

Notes:

1. Not all sites contain values suitable for recreation or other uses described above.

2. Grazing may be contracted for ecological or management purposes such as targeted weed control.

G. *State forests*

Across Victoria state forests comprise some two-thirds of public land. These extensive areas of native forest and other vegetation are a major source of hardwood timber and other forest products, as well as supporting biodiversity and a broad range of recreational uses.

State forests retain many areas with important natural and cultural values. Many of these values are identified in forest management planning through zoning or informal forest reserves, or management prescriptions. These planning tools integrate conservation of important natural or cultural values with timber harvesting and resource extraction. As large vegetated areas of public land, state forests also provide important ecosystem services including protection of water supply catchments, provision of threatened species habitat and landscape connectivity.

VEAC's Statewide Assessment of Public Land (2017) identified that state forests are currently managed under both the Forests Act and the Land Act, depending on whether the area is reserved forest or unreserved Crown land. To reduce this complexity, it was recommended that all state forest be administered under one Act and be reserved under a single land tenure with the provisions currently applying to reserved forest.

Recreation is an important use of state forests, including camping, horse riding, four wheel driving, car rallies, trail bike riding, mountain biking and recreational hunting.

Firewood for local communities was a prominent issue raised in community consultation and written submissions (see draft recommendation R11 in section 4.1 above). Domestic firewood will continue to be made available in retained state forests within the investigation area. Council acknowledges the reduction in the area of state forest arising from draft recommendations in this report will reduce the available area and volume for domestic firewood collection, and has recommended that domestic firewood may also be made available in some specified areas of the proposed new Wombat and Pyrenees regional parks.

Commercial harvesting of timber will continue in the majority of the Mount Cole State Forest and some other state forests in the Mount Cole–Pyrenees block.

DRAFT RECOMMENDATION

General recommendations for state forests

G That state forests shown on map D (numbered G1 to G5) and described in chapter 5:

(a) be used to:

- (i) provide for ecologically sustainable production of hardwood timber and other forest products
- (ii) supply water and protect catchments and streams
- (iii) protect natural biodiversity, scenic and landscape values, and historic cultural values
- (iv) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values
- (v) provide for public recreational and educational uses where this does not conflict with the above

(b) generally permit the following activities:

- (i) harvesting of forest products, including domestic firewood collection where identified by the land manager
- (ii) bushwalking, nature observation, heritage appreciation, picnicking
- (iii) camping including dispersed camping
- (iv) car touring, including four wheel driving, on formed roads and vehicle tracks
- (v) trail bike riding on formed roads and vehicle tracks
- (vi) mountain bike riding and cycling on formed roads and vehicle tracks, and on other tracks and paths specified by the land manager
- (vii) horse riding on formed roads and tracks and overnight camping with horses
- (viii) dog walking and overnight camping with dogs
- (ix) recreational hunting and use of firearms
- (x) recreational fishing
- (xi) metal detecting and prospecting
- (xii) apiculture at existing licensed sites
- (xiii) grazing by domestic stock
- (xiv) mineral exploration and mining
- (xv) extraction of gravel, sand, or road-making materials
- (xvi) research, subject to permit.

H. *Water frontage, beds and banks reserves*

Most Crown water frontages outside large blocks of public land are located in largely cleared catchments and were set aside in 1881. The water frontage generally comprises a linear area of land adjacent to a waterway or lake, and the stream bed and banks. Crown reserves are typically 20 or 40 metres average width along major rivers and their tributaries; however, some land alienated before 1881 includes stream frontages and stream beds within private land. In some areas, public land adjoining streams is within state forest or parks.

In some areas the beds and banks of watercourses (those that form a boundary between allotments) may be the only land deemed to have remained Crown land (under the *Water Act 1905* and subsequent Acts). Discontinuous public water frontages occur on several major rivers and streams across the region including the Wimmera, Avoca, Loddon, Campaspe and Coliban rivers.

The total area of Crown water frontages statewide is estimated as some 100,000 hectares. In the Central West Investigation area there are approximately 1893 hectares of Crown water frontages with much of this area held under grazing licence or, in some locations, riparian management licence. Crown land water frontage licences are typically issued for five-year periods with the next scheduled renewal due in October 2019. There are costs associated with grazing of water frontages. Unrestricted stock access to rivers is the principal cause of river degradation and damage to public land water frontages. Since 1988 there has been increased recognition of the environmental values of riparian (river or stream frontage) land and substantial changes in the management of grazing on water frontages. Water frontage licences were traditionally issued for grazing but are now also issued for riparian management, to recognise that all or part of the frontage is being managed to protect and improve the riparian environment. The condition of riparian vegetation is a major determinant of in-stream habitat and water quality.

Water frontages are a distinctive part of the landscape and are both biologically and agriculturally productive. Often the main or the only linkages between larger remnants of native vegetation in heavily cleared or degraded landscapes, these narrow corridors provide avenues for plants and animals and their populations to migrate, disperse and intermingle. In addition, stream frontages support ecosystems generally not found elsewhere, such as riparian forests and swamps, and they often support more species in greater abundance than other parts of the landscape. This may be important as climate change leads to changes in the distribution of habitats available to flora and fauna.

Water frontage, beds and banks reserves are restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990* with ministerial consent required for exploration, mining and searching.

DRAFT RECOMMENDATION

General recommendations for water frontage, beds and banks reserves

H That water frontage, beds and banks reserves shown on map D:

(a) be used to:

(i) protect and restore native vegetation and habitat for native fauna

(ii) protect adjoining land from erosion, and provide for flood passage

(iii) protect water quality

(iv) where necessary provide for the passage of artificial flows of water stored within the catchment or transferred from other catchments

(v) protect scenic and landscape values, and historic cultural values

(vi) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(vii) provide opportunities for public recreational and educational uses

(b) generally permit the following activities at a level that does not conflict with (a):

(i) grazing by domestic stock

(ii) recreational hunting of game species where appropriate

(iii) where a Riparian Conservation Licence has been issued for a Crown land frontage, recreational use by the public for activities such as walking, nature observation or fishing

(iv) sand and gravel extraction where this is consistent with (a) above, and where necessary for bed and bank stability.

(c) programs to gradually restore frontages on currently grazed, degraded, eroded or salt-affected streambanks, where frontage vegetation is degraded or not regenerating and to protect natural, cultural, recreational and scenic values or water quality be implemented by catchment management authorities, in cooperation with adjoining landholders.

(d) water frontage, beds and banks reserves be managed by the relevant catchment management authority and the Department of Environment, Land, Water and Planning.

I. *Water production reserves*

Land in the catchment of or adjacent to a water supply storage reservoir or offtake is described as water production reserve. This includes current water production areas, water storage, water distribution and some drainage areas. Across this region, areas used for water supply and production comprise a mixture of Crown land and public authority freehold land. Regardless of the underlying land tenure, these areas of public land provide an important and ongoing resource for the community. The State's water authorities and corporations manage these water supply areas to ensure the community and industry have access to high quality water. Any other uses are permitted by the manager on a case-by-case basis and only where they do not compromise the primary purpose.

The general recommendations for water production reserves presented here do not impede the site-specific decisions made by water authorities for each of these water reservoirs and catchment areas in line with relevant legislation such as the *Safe Drinking Water Act 2003*. In addition, any Crown land reserved for public purposes included in this public land use category is to be managed primarily for water supply and production.

Some of the largest water production reserves in the investigation area hosting water storage areas are located in the Wombat–Macedon Block:

- Merrimu (32,215 ML), Rosslynne (25,365 ML) and Pykes Creek (22,120 ML) reservoirs managed by Southern Rural Water
- Upper Coliban (37,770 ML), Lauriston (19,790 ML) and Malmsbury (part of 12,035 ML) reservoirs managed by Coliban Water
- Bostock (7455 ML), and Korweinguboora (2325 ML) reservoirs managed by Barwon Water
- Moorabool (5900 ML) Reservoir managed by Central Highlands Water.

Also see draft recommendation R10 in section 4.1 above, which addresses more broadly the importance of protecting forested public land in the investigation area as a means of meeting the goals of Victoria's Water Plan.

DRAFT RECOMMENDATION

General recommendations for water production reserves

I That water production reserves including storage areas, diversion works and associated facilities shown on map D:

(a) be used to:

(i) protect water supply and operation of the water supply system

(ii) protect and restore habitat for native flora and fauna

(iii) protect features of historic interest

(iv) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values

(v) provide for appropriate recreational activities and levels of use as determined by the land manager

(vi) provide for flood passage and drainage requirements of adjacent land and, where necessary provide for the passage of artificial flows of water stored within the catchment or transferred from other catchments

(vii) maintain streams in a stable condition using environmentally sound techniques

(b) adjoining unused road reserves be included, where appropriate

(c) Crown land which is not already appropriately reserved be permanently reserved under the *Crown Land (Reserves) Act 1978* for water supply or water distribution and drainage purposes and be managed by the appropriate water authority

(d) public authority freehold land be managed in accordance with the above.

J. *Community use reserves*

This broad grouping of public land uses comprises both developed facilities and open space areas for community use such as organised sports and recreation, environmental education, campgrounds including youth or school camps, rail trails, local parklands and gardens, picnic areas or roadside stops, and mineral springs. Community use reserves also include built structures in many townships such as state schools and education facilities, public halls and other publicly accessible community buildings such as libraries, mechanics institutes and scout or guide halls.

Community use reserves may be a mixture of Crown land and freehold land owned by state government agencies or departments and sometimes by local councils. In many locations these areas are managed seamlessly by local government, or by the local community as a Crown land committee of management.

Some larger or undeveloped areas of community use reserves may also contain areas of native vegetation or culturally important values. The Central West Investigation area hosts several important examples, notably Hanging Rock and the Mount Macedon Memorial Cross. These areas are excellent examples of the broad range of natural and cultural values that may be present on community use reserves and are discussed in more detail in chapter 7.

DRAFT RECOMMENDATION

General recommendations for community use reserves

J That community use reserves shown on map D, according to their specific characteristics:

(a) be used to:

- (i) promote appropriate use of the land by the community
- (ii) provide means of access by the general public where compatible with (i)
- (iii) provide facilities for community use
- (iv) protect the landscape, the natural environment and features of cultural significance where compatible with the above
- (v) protect the rights and interests of Traditional Owners, native title holders and Aboriginal Victorians, and their cultural values
- (vi) provide for a specific use (for example: parkland and garden, recreation, recreation trail, school, public building, environmental education, mineral springs)

(b) features of cultural significance, natural surroundings and the local character and quality of the landscape be maintained or restored where relevant, and where compatible with (a)

(c) harvesting of forest products, hunting, and stone extraction as defined in the *Mineral Resources (Sustainable Development) Act 1990* be excluded

(d) adjoining unused road reserves be included, where appropriate

(e) Crown land which is not already appropriately reserved be reserved under the *Crown Land (Reserves) Act 1978*

(f) public authority freehold land be managed in accordance with the above.

Note:

1. Where appropriate, a committee of management may be appointed or continue to manage community use reserves in accordance with the general recommendations J.

K. *Utilities and government services reserves*

Public land provides a major contribution to delivery of government services, particularly utilities and essential services such as transport infrastructure. Public utilities and government services include: roads and railways; electricity and gas installations; communications and survey fixtures; supply of earth resources including minerals, stone, gravel and sand; hospitals; police stations and court houses; water and sewerage services; correctional services and cemeteries.

Across the Central West Investigation area, some 17,080 hectares is currently allocated to these uses, more than 82 per cent of which are road reserves. Land used primarily for utilities and services often have significant secondary uses, particularly for nature conservation and recreation (e.g. roadside vegetation or compatible recreation uses).

DRAFT RECOMMENDATION

General recommendations for utilities and government services reserves

K That utilities and government services reserves for purposes such as transport, electricity and gas, communications, cemeteries, water, sewerage and earth resources as shown on map D:

(a) be used to:

(i) provide for the provision of the public utility or government service

(ii) provide for a specific use (for example: road, railway, port, airport, municipal building, government office or depot, hospital, prison, production of stone, gravel or sand, cemeteries and crematoria)

(b) new services, or utility sites and easements or lines, not be sited in or across national parks, conservation parks or nature reserves

(c) railways, roadsides and other service and utility sites be managed to protect natural values including remnant native vegetation and habitat, and Aboriginal cultural heritage values, as far as practical

(d) road reserves identified as supporting native vegetation of high conservation significance (including for connectivity) be managed to protect, improve and where practical enhance their biodiversity values

(e) should public land used for utilities and government service purposes no longer be required, it be assessed for its natural, recreational and cultural heritage values, and capability for other public uses.

Notes:

1. Not all roads and unused road reserves may be distinguishable on map D.
2. There are numerous government roads across the investigation area that contain remnant native vegetation. These should be managed to protect this vegetation, as required under relevant legislation, and where it does not interfere with the primary objective of the road for transport.

L. *Uncategorised public land*

Uncategorised public land is a broad category for which no specific use is recommended. It may include land with no primary use identified in the categories described above, land that is not well known and requiring assessment to determine if public land attributes are present, or it may be land no longer required for a discontinued use. It may include residual areas of plantation land not subject to a lease or licence, and revegetation areas.

Uncategorised public land is subject to assessment to determine if any public land attributes are present on the site, and either assigned to an appropriate land manager or disposed of through sale. The Department of Environment, Land, Water and Planning carries out assessments of Crown land parcels which may be unreserved or reserved for an obsolete purpose. Public land attributes are the resources (or natural, recreational, heritage or scenic values) present on a site that would generally require its retention as Crown land. Crown land that has minimal or no such values or resources is considered surplus to government needs and may be disposed of. In certain circumstances, and after native title assessments have been made, this may be undertaken as sale or as a land exchange for nearby freehold land that has high values.

The *Victorian Government Land Transactions Policy 2016* and the *Victorian Government Strategic Crown Land Assessment Policy 2016* provide the framework for the sale of surplus government land.

DRAFT RECOMMENDATION

General recommendations for uncategorised public land

L That public land other than that recommended for specific uses in this report, or subject to previous government-accepted specific land use recommendations:

(a) be uncategorised public land

(b) existing legal use and tenure continue for the time being

(c) Crown land be assessed and either:

(i) retained and assigned to a Department of Environment, Land, Water and Planning land manager if it has public land values, or

(ii) disposed of if assessed as having no public land values and as being surplus to current and future community needs

(d) surplus public authority land be:

(i) assessed for its potential to meet alternative public uses

(ii) retained as public land where certain public land values are identified, or

(iii) disposed of if assessed as having no public land values and as being surplus to current and future community needs.

M. *Land leased or licensed for plantation purposes, and plantation*

Across the investigation area there are over 6600 hectares of public land used for softwood plantations, including some small areas for school plantations.

The vast majority of the area comprises softwood plantations of the former Victorian Plantations Corporation (VPC). In 1998 VPC was sold to HVP Plantations, including a licence to the land vested with VPC granting HVP the right to operate a plantation business on that land in perpetuity. The former VPC land remains Crown land and, for completeness, the land is mapped and included in the total area of public land. However, given the perpetual nature of the licence, no recommendations are made over the land which has effectively been privatised.

Across Victoria there are many small areas, typically established as Crown land reserves but also by a range of other mechanisms, that remain as school plantations. The areas were set aside many years ago and delegated to the Minister for Education. In the Central West Investigation area there are more than a dozen school plantations occupying a total of some 65 hectares.

DRAFT RECOMMENDATION

General recommendations for land leased or licensed for plantations, and plantations

M That plantations shown on map D continue under present use and management.

Notes:

1. Former VPC land licensed to HVP Plantations with the right to operate a plantation business in perpetuity are beyond the scope of these draft recommendations.
2. Some 139 hectares of leased Macedon plantation land is to be harvested by 2020 and returned to the Crown for inclusion in Macedon Regional Park (see draft recommendation C5).

Public land use overlays

In addition to the general recommendations for public land use categories provided above, public land use overlays govern the management of specific areas and values on public land. Designations under the *Heritage Rivers Act 1992* and the *Reference Areas Act 1978* apply in the Central West Investigation area, and are described below. There are no recommended changes to the existing overlays.

N. *Reference areas*

Reference areas are relatively small areas of public land containing viable samples of one or more land types that are relatively undisturbed. Reference areas recommended by VEAC and its predecessors the LCC and ECC, and accepted by government, are proclaimed under the *Reference Areas Act 1978* to maintain natural systems as a scientific reference to enable comparative study of modified and unmodified lands. The primary management objective provides for natural processes to continue undisturbed (as far as possible). There are 144 reference areas in Victoria.

There are five existing reference areas in the investigation area, all in the Central Victorian Uplands bioregion. Four areas overlay existing state parks (see map A). Musk Creek Reference Area is within the existing Wombat State Forest and the recommended new Wombat-Lerderderg National Park (see draft recommendation A3 and map D).

Table 4.1 updates the information for the existing reference areas in the investigation area in terms the ecological vegetation classes (EVCs) represented.

DRAFT RECOMMENDATION

General recommendations for reference areas

N That the following areas totalling 1202 hectares shown on map D (numbered N1 to N5) be used as reference areas proclaimed under the *Reference Areas Act 1978*:

N1 Buangor (69 hectares)

N2 Musk Creek (91 hectares)

N3 Ruths Gully (261 hectares)

N4 Ah Kows Gully (475 hectares)

N5 Pyrete Range (306 hectares)

Table 4.1 Extent of EVCs represented in existing reference areas

Reference area (including recommendation number)	Area (hectares)	Ecological Vegetation Classes (EVCs) represented (hectares)
N1 Buangor	69	59 ha Herb-rich Foothill Forest, 10 ha Grassy Dry Forest
N2 Musk Creek	91	64 ha Shrubby Foothill Forest, 27 ha Shrubby Dry Forest
N3 Ruths Gully	261	177 ha Shrubby Foothill Forest, 82 ha Heathy Dry Forest, 1 ha Riparian Forest
N4 Ah Kows Gully	475	187 ha Heathy Dry Forest, 155 ha Shrubby Foothill Forest, 109 ha Shrubby Dry Forest, 13 ha Valley Grassy Forest, 9 ha Stream Bank Shrubland, 2 ha Grassy Dry Forest
N5 Pyrete Range	306	262 ha Heathy Dry Forest, 18 ha Shrubby Dry Forest, 16 ha Stream Bank Shrubland, 10 ha Shrubby Foothill Forest

O. *Heritage rivers*

Heritage river areas are proclaimed under the *Heritage Rivers Act 1992* to protect those river corridors with outstanding values for current and future generations. The criteria to be met are outstanding scenic, recreational, cultural and ecological values.

The LCC's Rivers and Streams Special Investigation (1991) identified the 63 kilometre Lerderderg heritage river corridor (5166 hectares) beginning at the junction of Crowley and Cooper creeks, in the Wombat State Forest upstream of Blackwood. For some 45 kilometres downstream the river flows through Lerderderg State Park to the mouth of Lerderderg Gorge near Bacchus Marsh. As the river winds its way along this corridor, the valley becomes progressively deeper with more rocky sides before flowing through the spectacular Lerderderg Gorge. Upstream the heritage river area overlays water frontage, community use reserves and state forest. This area is almost entirely forested, with narrow riparian strips on the deeper soils quickly changing to dry sclerophyll forests on the steep slopes. In some sections, the river bed is at least 300 metres below the surrounding ridge tops and exposes significant outcrops of Ordovician and Permian age rocks. Vegetation along this corridor varies substantially with blue gum and manna gum open forests as well as riparian forest transitions along the entire corridor.

The LCC's Rivers and Streams Special Investigation (1991) also recommended representative rivers including Lerderderg River (O'Briens Crossing) and Moorabool River (Morrisons) to be managed as examples of river-catchment types, and to improve stream condition and catchments.

DRAFT RECOMMENDATION

General recommendations for heritage rivers

O That the following area shown on map D be used as a heritage river area as described on Schedule 1 of the *Heritage Rivers Act 1992*.

O1 Lerderderg River Heritage Area (5166 hectares)

5. Mount Cole–Pyrenees block

5.1 Overview description

The Mount Cole–Pyrenees block lies approximately 200 kilometres west of Melbourne and is dominated by two ranges with the Pyrenees to the north and Mount Cole and Mount Buangor to the south (see figure 5.1). Between these ranges lie flatter, largely cleared land with several small areas of public land and state forests to the east and south of the block.

Mount Cole State Forest is situated northwest of Beaufort and is a one-hour drive from Ballarat. There are several picnic and camping areas throughout the forest and it is a popular location for a range of activities including bushwalking, camping, horse riding, four wheel driving and cycling. The forest abuts the Mount Buangor State Park where visitors can also enjoy low impact activities such as picnicking, bushwalking and camping at designated spots. The Pyrenees State Forest is located further north and a greater distance from regional hubs and Melbourne and so offers a more remote visitor experience while still providing many picnic and camping options. The area is increasingly recognised as a wine growing region, with visitors often combining recreation with visiting vineyards on the northern side of the range.

The southern or Mount Cole section of the block has a wetter climate and contains more productive forests for timber. Extensive timber harvesting occurred from the 1850s to the 1910s when cutting ceased due to over-harvesting. Although harvesting resumed in the 1940s, much of the regrowth from the early 1900s remains uncut. Although early prospectors worked across the landscape most gold mining has occurred in Raglan Goldfield between Beaufort and Mount Cole State Forest, and remains of this mining can be seen in this area, e.g. at Musical Gully.

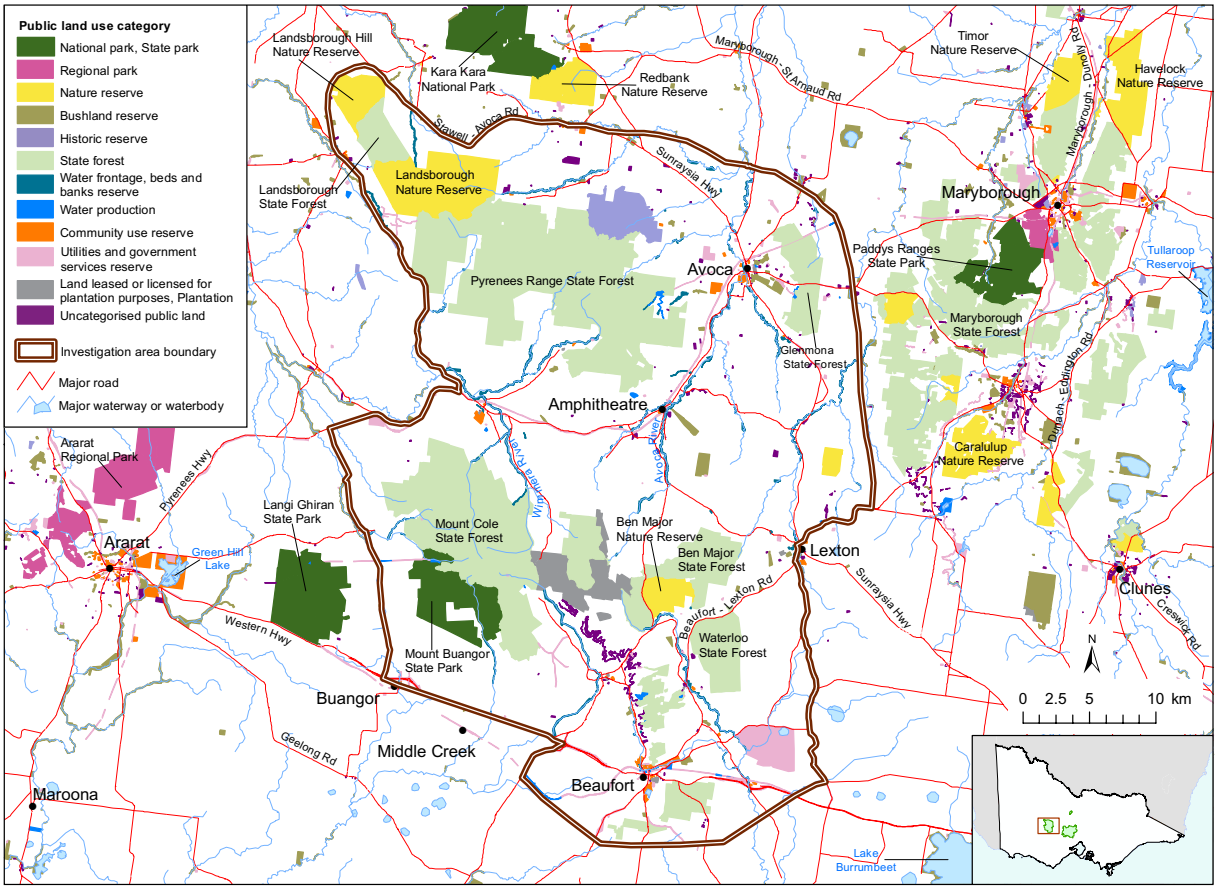
The northern part of this block is characteristic of the Goldfields bioregion with low hills and alluvial plains mixed with higher ranges such as the Pyrenees. Relatively poor soils, lower rainfall and steep slopes make this area less productive for timber, although the forests were heavily cut for gold mining from the 1850s. Many remnants of gold mining can still be found in the forest, particularly around the Percydale Historic Reserve.

The Mount Cole–Pyrenees block falls within the Rural City of Ararat, Pyrenees Shire and Central Goldfields Shire (see figure 2.4). The block has a total area of 165,788 hectares, of which approximately 49,500 hectares (30 per cent) is public land.

The main public land units of the Mount Cole–Pyrenees block are:

- Pyrenees Range State Forest (14,765 hectares)
- Mount Cole State Forest (8909 hectares)
- Landsborough Nature Reserve (3380 hectares)
- Mount Buangor State Park (2498 hectares)
- Ben Major State Forest (1852 hectares)
- Waterloo State Forest (1695 hectares)
- Glenmona State Forest (1694 hectares)
- Percydale Historic Reserve (1457 hectares)
- Mount Lonarch State Forest (1161 hectares)
- Landsborough Hill Nature Reserve (1063 hectares)
- Trawalla and Andrews state forests (1062 hectares)
- Ben Major Nature Reserve (820 hectares)
- Musical Gully and Camp Hill state forests (736 hectares).

Figure 5.1 Mount Cole–Pyrenees block: current public land use



As shown in figure 2.7, the LCC's North Central Study made recommendations over the northern section of the block including the Pyrenees and Glenmona state forests and the Percydale Historic Reserve. Mount Cole area and the surrounding forests were covered in the LCC's 1982 Ballarat Study which recommended the Mount Buangor State Park and Ben Major Flora Reserve. Much of the Pyrenees State Forest and surrounding area were reviewed in ECC's Box-Ironbark Forests and Woodlands Investigation (2001); the southern edge of the Pyrenees State Forest was not included in this investigation.

5.2 Traditional Owner values and interests

The Mount Cole–Pyrenees block is an area of interest for several Traditional Owner groups including Dja Dja Wurrung, Wotjobaluk Peoples, Eastern Maar and Wadawurrung. There is some complexity in administrative boundaries for these groups as well as significant areas of shared interests. These are shown in figure 2.3 and include:

- Dja Dja Wurrung Recognition and Settlement Agreement (2013)
- Current Wotjobaluk Peoples and Eastern Maar Recognition and Settlement Agreement negotiation areas
- Eastern Maar Registered Native Title Claim (2013) under the Commonwealth *Native Title Act 1993* (not shown in figure 2.3)
- The 2005 Federal Court Native Title Determination for certain areas of the Wimmera and Southern Mallee for Wotjobaluk, Jaadwa, Jadawadjali, Wergaia and Jupagulk (Wotjobaluk Peoples) (not shown in figure 2.3).

The following Registered Aboriginal Parties (RAPs) hold decision-making responsibilities for Aboriginal cultural heritage:

- Dja Dja Wurrung Clans Aboriginal Corporation
- Barengi Gadjin Land Council (representing Wotjobaluk Peoples)
- Eastern Maar Aboriginal Corporation
- Martang Pty Ltd
- Wathaurung Aboriginal Corporation (trading as Wadawurrung).

The State agreed to commence negotiations to enter into a Recognition and Settlement Agreement (RSA) under the *Traditional Owner Settlement Act 2010* with the Wotjobaluk Peoples in August 2017 and with Eastern Maar in November 2017. Final boundaries are currently subject to agreement-making between neighbouring Traditional Owner groups (see figure 2.3).

The Eastern Maar Registered Native Title Claim (2013) area overlaps with part of the current RSA negotiation area and part of the Central West Investigation area. The RSA negotiation area is still subject to agreement-making; however, it encompasses a significantly greater area of the Central West Investigation area than the Registered Native Title Claim (2013). Eastern Maar are entitled to procedural rights in relation to 'future acts' under the *Native Title Act 1993* on certain public land in the claim area. These procedural rights will continue to apply until a Land Use Activity Agreement under the Traditional Owner Settlement Act commences. Eastern Maar are currently negotiating for Aboriginal title and joint management arrangements with the State as part of RSA negotiations and, correspondingly, the Central West Investigation area potentially includes areas of public land of interest to Eastern Maar for joint management.

As described by the Department of Justice and Regulation, where a Traditional Owner corporation enters into a RSA under the Traditional Owner Settlement Act and applies for appointment as a RAP under the *Aboriginal Heritage Act 2006*, then the Victorian Aboriginal Heritage Council must appoint that entity and the registration of any existing RAP over the same area is revoked. The Eastern Maar negotiation area overlaps with the area over which Martang Pty Ltd was appointed the RAP in 2007. Martang Pty Ltd may remain the RAP over this area until the Eastern Maar Aboriginal Corporation is appointed. In relation to the wider settlement negotiation area, while settlement negotiations with the Eastern Maar are underway, Aboriginal Victoria (in the Department of Premier and Cabinet) will continue to exercise responsibilities relevant to the Aboriginal Heritage Act with Eastern Maar Aboriginal Corporation.

Through VEAC's Aboriginal community engagement project, Dja Dja Wurrung and the Wotjobaluk Peoples expressed their interests and views on issues relevant to the Central West Investigation, including appropriate land management and ways to conserve and enhance cultural values. Their input was informed by direct engagement with Traditional Owners and Aboriginal communities as well as the Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024, the Dja Dja Wurrung RSA (2013) and the Growing What is Good Country Plan Voices of the Wotjobaluk Nations 2017. The Eastern Maar Meerreengeeye Ngakeepoorryeeyt Country Plan

2015 was also considered in the preparation of the project report. The project report is available on the VEAC website, and makes the following key points:

Cultural heritage

- The area contains many cultural values for Dja Dja Wurrung, Wotjobaluk Peoples, Eastern Maar and Wadawurrung people.
- An extensive list of cultural values is presented in the project report for Dja Dja Wurrung and Wotjobaluk Peoples.
- The project report includes a Dja Dja Wurrung and Wathaurong word list for flora, fauna, landscape features and place names.
- Cultural values can relate to creation, burials, stone, mound/occupation sites, routes, history, and flora and fauna.
- Culturally important flora and fauna for food, fibre, medicinal and ceremonial purposes (e.g. for smoking ceremonies) are present but not always abundant in the landscape.
- There is a need to strengthen understanding of where significant sites and artefacts occur on Country.

Dja Dja Wurrung

- The area is significant for water catchments and connections to neighbouring cultural groups.
- The area is 'complicated' because of multiple classifications and Traditional Owner boundaries.
- Dja Dja Wurrung see the upper catchment area as poorly managed and the headwaters of very culturally important rivers as being in extremely poor condition, including the Avoca River, Wimmera River (Barringgi Gadyin) and Fiery Creek.
- Dja Dja Wurrung are concerned about major threats to, and impacts on, natural and cultural values including ongoing timber harvesting, mining, inappropriate fire regimes and recreational use.
- There is a need for balance between protecting Country while allowing public access.
- 'Gardening' the environment to bring back important species for food, fibre, smoking ceremony and medicines is very important.

"We are gardeners of the environment. We care for the land and it provides for us."

Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024

- The importance, historically, of the area as a refuge for Traditional Owner neighbours and a source of stone (for tools, etc.) was noted.
- Resource support by the State to manage Country is lacking; Dja Dja Wurrung require greater support, including greater resourcing for their RSA and for the group to lead or independently undertake projects.
- Dja Dja Wurrung see promotion and consideration of their Country Plan as important, including as part of the Central West Investigation.
- Country needs restoration to address the extensive landscape modification that has occurred since European settlement and requires the group's involvement in all aspects of landscape management.
- Headwaters need to be improved for Country health and upper catchment health and productivity.
- Dja Dja Wurrung prefer changes to public land use classification that limit the major threats and impacts (this also applies generally across all Dja Dja Wurrung Country).
- Grouping land units is useful and practical and that 'park' and 'reserve' categories provide better joint management and Aboriginal title opportunities.
- Joint management planning for this area could be extremely complex but could provide significant strategic benefits for landscape improvements, with many Traditional Owners involved.

Wotjobaluk Peoples

- Wotjobaluk Peoples have commenced negotiations with the State under the *Traditional Owner Settlement Act 2010* and the rights, interests and aspirations expressed in the Country Plan will be further developed and incorporated into any negotiated agreements.
- Overall, Wotjobaluk Peoples see Country as being in average condition (as part of a drastically modified landscape) with isolated areas of values; however in broad terms culturally important food and fibre is not abundant.

- Wotjobaluk Peoples see the upper catchment area as poorly managed and the headwaters of culturally important rivers as being in extremely poor condition, including the Avoca River, Wimmera River (Barringgi Gadyin in the Wergaia language) and Fiery Creek.
- The Wimmera River (Barringgi Gadyin) holds extreme cultural importance to Wotjobaluk Peoples, yet its headwaters (including in Mount Cole State Forest) are in extremely poor condition and in an area of upper catchment that is poorly managed.

"Barringgi Gadyin is the life blood of the Wotjobaluk Peoples, linking everything together."

Growing What is Good Country Plan Voices of the Wotjobaluk Nations 2017

- Fiery Creek is a significant part of the boundary between Djab Wurrung (Martang) and Wadawurrung. This is the beginning of a whole wetland area that is very culturally significant.
- Wotjobaluk Peoples are concerned about major threats to, and impacts on, natural and cultural values including ongoing timber harvesting, mining, inappropriate fire regimes and recreational use.

"The Beal trees are dying at Lake Albacutya because they are not getting enough water. If we look after the river it will run clear again, run all the way to the Teardrop lakes."

The late Uncle Jack Kennedy, quoted in the Country Plan

- Mount Cole is a significant area for Aboriginal rock art.
- Using mallee-fowl as an example (a culturally important food source that occurs outside the Central West Investigation area), the issue of cultural priorities versus government threatened species (biodiversity) priorities was raised. Although biodiversity and threatened species are important to Traditional Owners, they are not necessarily high priority. Previous external requests for Wotjobaluk Peoples to participate in voluntary monitoring activities for mallee-fowl, for threatened species management purposes, coupled with no offers of resourcing, are therefore inappropriate.
- Small reserves on Wotjobaluk Country hold patches of remnant vegetation that provide a snapshot of how Country looked prior to white settlement and clearing. They hold rare and threatened species, provide habitat to native animals and are a source of seed that can be utilised to restore surrounding Country with appropriate plant genetics. The Barengi Gadjin Land Council are in the process of establishing a seed bank for this purpose.
- Eradication of deer and goats and reducing kangaroo numbers to lessen grazing pressure are important land management priorities (that also require resourcing).
- Wotjobaluk Peoples see promotion and consideration of their Country Plan as important, including as part of the Central West Investigation.
- Wotjobaluk Peoples wish to be respected and resourced to undertake land management activities; resource support by the State to manage Country is lacking.
- Headwaters need to be improved for Country health and upper catchment health and productivity.
- Grouping land units is useful and practical and that 'park' and 'reserve' categories provide better joint management and Aboriginal title opportunities.

Eastern Maar

The Aboriginal community engagement project distilled the following points from the Eastern Maar Meerreengeeye Ngakeepoorryeeyt Country Plan 2015, with the project report (available on the VEAC website) making particular reference to Goal 4: 'Our Country is healthy and our natural resources are managed and used sustainably' (p 30):

- Eastern Maar have commenced negotiations with the State under the Traditional Owner Settlement Act.

"We started out as a free People, and we look towards a future where we are free again. We are the Eastern Maar nation; and we are proud."

Eastern Maar Meerreengeeye Ngakeepoorryeeyt Country Plan 2015

- Eastern Maar, as with other Traditional Owners, have a well-documented and difficult history of expropriation and exploitation since European settlement but continue to survive as First People and continue to maintain economic, traditional, cultural, familial and spiritual ties and connections to Country.
- The Country Plan defines Eastern Maar's vision for the future and contains Eastern Maar cultural knowledge, values, perspectives, ideas and priorities.
- The Country Plan identifies six focal goals for achieving Eastern Maar's vision including:
  - wellbeing of our citizens
  - active youth
  - strong identity
  - healthy Country
  - cultural strength
  - economic independence.
- Strengthening relationships with land managers, including local government, catchment management authorities and park managers is important to Eastern Maar.
- A resource-rich Country with reliable food sources year-round meant Eastern Maar ancestors did not have to move around a lot and allowed construction of permanent and semi-permanent settlements.
- Traditional ecological knowledge allows Eastern Maar People to read and interact with Country and plants and animals and guides identification and utilisation of resources for traditional purposes and the basics of life.
- Traditional land management practices such as the use of fire and farming practices were important to sustain local food sources.
- Contemporary land and water management needs cultural knowledge embedded (including to avoid the risk of losing thousands of years of traditional science).
- Hunting kangaroo and duck and utilising edible plants such as yam daisy and pigface are culturally important practices to this day.
- Protection of sacred sites, artefacts and significant places on Country is important, through site surveys and working with stakeholders such as government, developers, archaeologists, land managers and landholders.
- Eastern Maar wish to reclaim their rights to care for Country.

"It needs to be cared for in the right way – the respected way, the cultural way – so it does not suffer."

Eastern Maar Meerreengeeye Ngakeepoorryeeyt Country Plan 2015

- Eastern Maar see themselves as embarking on a new phase of action that builds on many years of hard work by elders and ancestors with key areas of work including:
  - a continued commitment to planning (the Country Plan is just a starting point)
  - corporation development and governance
  - Partnerships and collaboration
  - Traditional Owner Settlement negotiations and native title business
  - joint management
  - Registered Aboriginal Party business.
- Goal 4 'Our Country is healthy and our natural resources are managed and used sustainably' of the Country Plan contains important aspirations and strategies for land and water management (including through negotiations with the State).

Wadawurrung

At the time of writing, VEAC acknowledges that Wadawurrung were not given adequate opportunity to properly engage in relation to the Central West Investigation Draft Proposals Paper. VEAC appreciates that Wadawurrung is in the midst of developing its own Healthy Country Plan which in turn will provide valuable insights and information to inform VEAC and other stakeholders about Wadawurrung aspirations and goals to heal and better care for Country - inclusive of catchments, waterways, flora and fauna.

5.3 Historic values

Gold was discovered around Avoca in the 1850s and the town retains many of its historic buildings from this period, five of which are on public land and listed on the Victorian Heritage Register: the former court house, police station and lock-up, the railway station (now repurposed as an art gallery) and the primary school which continues to operate today (see appendix 5).

The Mount Cole–Pyrenees block includes Percydale Historic Reserve where the landscape is typical of that produced by the early gold mining technology of the box-ironbark forests. There are numerous shallow sinkings, the best example being the Raggedy Lead

Gold Mining Precinct of state significance, which has the relics of mines and campsites including remnants of puddling machines and fireplaces. Southeast Percydale is another place of state significance, the Number One Lead Gold Mining area with similar remains of shallow sinkings for alluvial gold. Gold was also discovered further south around Waterloo where the Baxter Lead Alluvial Gold Mining Precinct of state significance contains the remains of five small-scale deep lead mines.

Timber was needed for construction and fuel to support gold mining and the wetter forests around Mount Cole provided an ideal supply. Many mills were built deep in the forest, and today fragments of these mills remain. Approximately 20 mill sites have been identified in the Mount Cole forests including the Glut Escarpment Log Chute of state significance which features the remains of a 300 metre chute built in 1863. Another old timber mill site of state significance is Kozminskys Mill and Log Chute in the neighbouring forest at Mount Buangor State Park.

See appendix 5 for places on public land in the Mount Cole–Pyrenees block listed on the Victorian Heritage Register.

5.4 Natural values

5.4.1 Geology and geomorphology

The oldest rocks in this part of the investigation area are 570 million year old sedimentary rocks, and the steep hills and ridges of the Pyrenees range are entirely composed of these marine deep-water mudstones, siltstones and sandstones. These rocks also outcrop in parts of the Mount Cole range but more common there, particularly at and around the prominent peaks of Mount Cole and Ben Nevis, are granites emplaced into the sedimentary rocks from around 400 million years ago. Rocks surrounding the granites were heated to high temperatures and in some places these contact rocks form a ridge surrounding a basin of the more eroded granite. Significant examples of geomorphological features occur in the Mount Cole granite at Cave Hill, including a spectacular 200-metre long rock overhang in Mount Buangor State Park.

In this region there is a significant gap of around 300 million years in the geological record with no Mesozoic age rocks known to occur. In some places deep weathering has provided a more subdued topography, and deep weathering horizons are preserved below basalts. The geological record recommences around 60 million years ago when deposition of sedimentary rocks began again across the region. Major stream systems, flowing both north and south, led from the Mount Cole and Pyrenees ranges onto broad alluvial plains. Millions of years later, these river valleys were found to contain alluvial gold deposits.

The gold came from primary quartz reef gold deposits formed in fault zones in the oldest sedimentary rocks of the region, and secondary deposits were formed through erosion that shed gold from these reefs into the river systems. The gold rushes to this area were focused on the resultant numerous shallow alluvial deposits. At Percydale and Middle Creek these alluvial deposits were covered by up to 30 metres of barren sediments known as deep leads requiring more sophisticated mining operations. Subsequently alluvial deposits were traced to source quartz reefs in the ranges, although these were never as productive and encountered technical problems when shafts extended below the water table.

Current mining operations and activities here are typically reworking past mining areas. For example, mineralised reefs in the Percydale area are the focus of small scale extractive works.

Extensive lava flows and eruption centres from the last five million years occur at the southern and eastern part of the Mount Cole–Pyrenees block near Trawalla, south of Beaufort, Nerring and east of Avoca.

A total of 16 sites of geological and geomorphological significance have been identified in the Mount Cole–Pyrenees block comprising four of state significance, nine of regional significance and three of local significance (see appendix 6).

The four sites of state significance in the area are:

- Cave Hill Rock Overhang occurs in Mount Buangor State Park and is visible when looking across from the Creek Camp Ground (also in Mount Buangor State Park). The rock overhang is 200 metres long and 30 metres high.
- Cave Hill Creek Cave is a small cave (10-15 metres long) located among granite boulders along the Beeripmo Walk.
- At Waterfalls campground in the Pyrenees there is a significant outcrop easily accessible along the creek.
- View Point Road cutting shows a rock outcrop; it is an accessible site that can be seen along Main Lead Road when heading north from Beaufort.

5.4.2 Biodiversity

Ecological vegetation classes

Through the Convention on Biological Diversity, the Australian and Victorian governments are committed to establishing a representative protected area system. For terrestrial areas, this is largely achieved through the National Reserve System which, via criteria for comprehensiveness, adequacy and representativeness, sets targets at the ecosystem level. In Victoria, Ecological Vegetation Classes (EVCs) are used as ecosystem surrogates. Table 5.1 shows the extent of key EVCs in the Mount Cole–Pyrenees block, and their representation in the protected area system. Section 2.4.2 provides background on the protected area system and an overview of VEAC's approach to calculating protected area shortfalls and appendix 4 provides more detailed information.

As shown in figure 2.1, the majority of the Mount Cole–Pyrenees block is in the Central Victorian Uplands (45 per cent) and the Goldfields bioregions (45 per cent); there is a limited extent in the Victorian Volcanic Plain bioregion (10 per cent). Table 5.1 shows the extent of key EVCs in the Mount Cole–Pyrenees block from the total of 58 bioregional EVCs: 22 in the Central Victorian Uplands, 19 in the Goldfields and 17 in the Victorian Volcanic Plain. Key points from VEAC's analyses are as follows:

Central Victorian Uplands

- In the Central Victorian Uplands bioregion there are two priority EVCs with significant shortfalls, Herb-rich Foothill Forest and Grassy Dry Forest. Over 90 per cent of Herb-rich Foothill Forest in the block occurs on public land, with only 7.5 per cent in the current reserve system. To meet the shortfall of 57 per cent, 5700 hectares of public land would need to be added to the protected area system. Grassy Dry Forest has a shortfall of 48 per cent, meaning an additional 3423 hectares is required from this block.
- An additional three EVCs have moderately large area shortfalls: Alluvial Terraces Herb-rich Woodland (375 hectares), Grassy Woodland/ Heathy Dry Forest Complex (786 hectares) and Valley Grassy Forest (471 hectares). The shortfall for all these EVCs is 100 per cent of their extent on public land outside protected areas.

Goldfields

- In the Goldfields bioregion the two EVCs with the most significant shortfall are Grassy Woodland/ Alluvial Terraces Herb-rich Woodland Mosaic (1142 hectares) and Grassy Woodland (854 hectares) with percentage shortfalls of 100 per cent.
- The next largest shortfall is for the Alluvial Terraces Herb-rich Woodland which requires 100 per cent of the 435 hectares available to meet the representation target.
- Grassy Dry Forest has the largest area shortfall of 1990 hectares; however this is only 23 per cent of the area potentially available to meet this target

Victorian Volcanic Plain

- The Victorian Volcanic Plain bioregion in the Mount Cole–Pyrenees block covers just 720 hectares of public land. All the EVCs have a 100 per cent shortfall, however nine of them cover areas of between 0 and 10 hectares of public land. The highest shortfalls are Plains Grassland (289 hectares) and Plains Grassy Woodland (118 hectares).

Table 5.1 The extent and protected area shortfall for key bioregional EVCs in the Mount Cole–Pyrenees block, according to shortfall category[1]

A	B	C	D	E	F	G	H
Ecological Vegetation Class (EVC) and bioregion name[2]	**Extent in Mount Cole–Pyrenees block (ha)**					**Block shortfall (ha)[3]**	**Shortfall as % of other public land[4]**
	Pre-1750	Current	Private land	Protected area	Other public land		
Very little flexibility in meeting representation target[1]							
Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic GoF	13,307	4929	3,719	68	1142	1142	100
Grassy Woodland GoF	14,308	5749	4833	63	854	854	100
Grassy Woodland/Heathy Dry Forest Complex CVU	14,354	5816	4997	33	786	786	100
Valley Grassy Forest CVU	1985	1291	724	97	471	471	100
Alluvial Terraces Herb-rich Woodland GoF	3759	2025	1366	224	435	435	100
Alluvial Terraces Herb-rich Woodland CVU	3751	1788	1325	87	375	375	100
Creekline Grassy Woodland GoF	2112	986	643	15	329	329	100
Plains Grassland VVP	7396	1077	786	2	289	289	100
Alluvial Terraces Herb-rich Woodland/ Plains Grassy Woodland Complex CVU	3412	996	772	8	216	216	100
Hills Herb-rich Woodland CVU	1043	574	328	17	229	193	84
Creekline Grassy Woodland CVU	1105	459	265	3	191	191	100
Plains Grassy Woodland VVP	4766	1162	1041	3	118	118	100
Grassy Dry Forest/Heathy Dry Forest Complex GoF	6520	2990	2734	160	96	96	100
Creekline Grassy Woodland VVP	661	219	131	0	88	88	100
Plains Grassy Woodland CVU	1691	456	372	0	83	83	100
Plains Woodland VVP	2294	243	170	0	73	73	100
Little flexibility in meeting representation target[1]							
Herb-rich Foothill Forest CVU	12,778	11,852	1132	740	9980	5703	57
Grassy Dry Forest CVU	17,530	13,301	5086	1091	7125	3423	48
Grassy Dry Forest/Heathy Dry Forest Complex CVU	3359	2400	772	0	1628	571	35
Considerable flexibility in meeting representation target[1]							
Grassy Dry Forest GoF	20,594	17,259	5276	3251	8733	1990	23
Herb-rich Foothill Forest GoF	1211	1190	185	0	23	185	19
Box Ironbark Forest GoF	4188	3147	1010	480	1657	69	4

[1] Shortfall categories:

- Very little flexibility in meeting representation target: EVCs for which the shortfall (column G) is more than 80 per cent (column H) of the area potentially available from other public land (column F)
- Little flexibility in meeting representation target: EVCs for which the shortfall is 25-80 per cent of the area potentially available
- Considerable flexibility in meeting representation target: EVCs for which the shortfall is less than 25 per cent of the area potentially available

[2] Bioregion abbreviations: CVU = Central Victorian Uplands; GoF = Goldfields; VVP = Victorian Volcanic Plain

[3] Block shortfall (ha) = the area in hectares that would need to be acquired from other public land in order for the Mount Cole–Pyrenees block to make a proportionate contribution to meeting the shortfall across the investigation area. As outlined in section 2.4.2 and appendix 4, VEAC has considered bioregional EVC shortfalls across the investigation area rather than block-by-block

[4] Shortfall as % of other public land = the block shortfall (column G) as a percentage of the area of other public land from which that shortfall could be met (column F)

Interpreting this table

This table shows, for example, that while adding only 329 hectares of Creekline Grassy Woodland EVC in the Goldfields bioregion to protected

areas would meet the target for this EVC, this figure amounts to all of that EVC on public land. This can be difficult to achieve if those areas are fragmented, coincide with incompatible uses or do not coincide with other natural values such as threatened species habitat. On the other hand, while more than six times as much Grassy Dry Forest in the Goldfields bioregion is required to meet the target for that EVC (1990 hectares), there are 8733 hectares from which that area could be selected providing greater flexibility, particularly in avoiding uses incompatible with nature conservation and selecting practicable management boundaries.

Other EVCs

Thirty-six other EVCs not shown in table 5.1 are found in the Mount Cole–Pyrenees block. Five of these are excluded because their current protected area representation meets the notional targets: Heathy Dry Forest CVU, Heathy Woodland CVU, Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU, Rocky Outcrop Shrubland/Rocky Outcrop Herbland/Grassy Dry Forest Complex CVU and Heathy Dry Forest GoF. Another three do not occur on public land outside protected areas: Plains Grassland/Plains Grassy Woodland Mosaic GoF, Aquatic Herbland/Plains Sedgy Wetland Mosaic VVP and Grassy Dry Forest VVP. The remaining 28 EVCs have shortfalls (across the investigation area) of less than 50 hectares, and often occur in many patches of much smaller size again. As a result, these EVCs need to be considered for inclusion in protected areas on an individual basis, as issues such as the management viability of such small areas come into play. These 28 EVCs, bioregion name and their block shortfalls in hectares (ha) are listed below. Full details for all 36 EVCs across the investigation area are provided on VEAC's website.

- Plains Grassy Woodland GoF: 47 ha
- Wet Forest CVU: 38 ha
- Grassy Woodland/Heathy Dry Forest Complex VVP: 33 ha
- Plains Sedgy Wetland VVP: 33 ha
- Riparian Forest CVU: 22 ha
- Plains Woodland GoF: 20 ha
- Heathy Woodland GoF: 19 ha
- Grassy Woodland VVP: 19 ha
- Grassy Woodland/Heathy Dry Forest Complex GoF: 18 ha
- Swamp Scrub VVP: 18 ha
- Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex GoF: 9 ha
- Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex VVP: 8 ha
- Hillcrest Herb-rich Woodland GoF: 6 ha
- Alluvial Terraces Herb-rich Woodland VVP: 6 ha
- Grassy Woodland CVU: 5 ha
- Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic CVU: 5 ha
- Valley Grassy Forest GoF: 4 ha
- Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic VVP: 4 ha
- Hillcrest Herb-rich Woodland CVU: 3 ha
- Swamp Scrub GoF: 3 ha
- Plains Grassy Wetland VVP: 2 ha
- Plains Grassland CVU: 1 ha
- Plains Grassy Wetland CVU: 1 ha
- Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic GoF: 1 ha
- Plains Grassland/Plains Grassy Woodland Mosaic VVP: 1 ha
- Grassy Dry Forest/Heathy Dry Forest Complex VVP: <1 ha
- Heathy Dry Forest VVP: <1 ha
- Plains Grassland/Plains Grassy Woodland Mosaic CVU: <1 ha

Strategic biodiversity values analyses

The Strategic Biodiversity Values analyses commissioned by VEAC for this investigation are outlined in appendix 4. These analyses combine information on areas important for threatened flora and fauna, and vegetation types and condition to provide a view of relative biodiversity importance of parts of the Victorian landscape.

In the statewide analysis of biodiversity habitat values (see map E), high rankings occurred in extensive areas of the Mount Cole–Pyrenees block including much of the Pyrenees range, parts of Mount Cole State Forest, and a substantial proportion of Ben Major, Waterloo, Musical Gully and Trawalla state forests. This reflects their importance in providing habitat for many species in a heavily cleared landscape.

In the Central West analysis of public land outside protected areas (see map F), Mount Cole State Forest registered most of the high rankings in this block, mainly in scattered patches around rocky outcrops in the western half and along many of the valleys that contain wetter forest and woodland vegetation types. Small areas of high rankings occurred on the fringes of Mount Lonarch and Chute state forests, and in Ben Major and Waterloo forests. In the Pyrenees range, the section between the two nature conservation reserves was mostly high ranking. Elsewhere in the Mount Cole–Pyrenees block the rankings were generally medium. These patterns of generally lower rankings than those seen in much of the Wombat–Macedon block reflect the latter area's larger size, better connectedness with other public land, variety of habitats and suitability for many of the rare and threatened species that inhabit the Central West Investigation area – some of which do not extend as far west as Mount Cole and the Pyrenees.

Significant species

The variety of vegetation types in the Mount Cole–Pyrenees block provide habitat for a high diversity of flora and fauna with 51 rare or threatened plants and 48 threatened animal species having been recorded here. Seventeen species that are part of the threatened Victorian temperate woodland bird community have been recorded in this block.

The Mount Cole range forms the western extremity of the Great Dividing Range, and contains species and communities found more commonly in the cooler and wetter eastern highlands of Victoria. For example, there are extensive patches of montane woodland dominated by snow gum, tree ferns and the westernmost population of mountain brushtail possum. Mount Cole also provides habitat for species at the eastern or northern end of their ranges; examples include shiny tea-tree on granitic outcrops around Ben Nevis, and dwarf boronia and the nationally threatened Grampians bitter-pea which have both been recorded recently in the southeastern part of Mount Cole State Forest. The endangered Mount Cole grevillea has an extremely limited distribution mainly in the southern part of Mount Cole State Forest and the adjacent Mount Buangor State Park. Powerful owls have been recorded in Mount Cole State Forest more frequently than in other parts of the Mount Cole–Pyrenees block; this high level predator requires a large area of forest supporting good populations of possums and other prey species.

Mount Lonarch State Forest is a small extension of the Mount Cole range, with fewer known biodiversity values. The painted honeyeater, a threatened species with seasonal movements that coincide with the availability of its main food resource, mistletoe fruits, has been recorded here recently.

Chute and Ben Major state forests are drier than the Mount Cole plateau forests, and are dominated by threatened and depleted grassy forest vegetation. The rare Yarra gum has been recorded on the periphery of both state forests and also along the road reserve that connects Ben Major State Forest with Waterloo State Forest to the south. Populations of the endangered Ben Major grevillea in Ben Major Nature Reserve appear to have declined significantly in recent years, probably due to a combination of fires followed by dry winters that prevented recruitment and/or hot summers that killed juvenile plants (see box 2.1). Threatened species including the powerful owl and speckled warbler have been recorded in Ben Major State Forest in recent decades. A mature and long-unburnt stand of austral grasstrees that occurs in Ben Major State Forest was identified in the LCC Ballarat Study (1982) as a 'special value for protection'.

The Musical Gully and Camp Hill state forests are a stronghold for the endangered Ben Major grevillea, with several populations recently confirmed but other populations no longer present in areas that were subject to timber cutting or burning. One of the largest populations (500 plants recorded in 2012) occurs in an area subjected to a planned burn in autumn 2017; measures including a sprinkler system were taken to protect some patches but these were only partially successful. More

than 600 plants have recently been recorded in Camp Hill State Forest.

The threatened brush-tailed phascogale has been recorded in Camp Hill, Trawalla and Andrews state forests. The public land blocks immediately north (Musical Gully, Waterloo and Ben Major) are likely to also contain suitable habitat, but this is a cryptic and shy species that occurs at low densities and is difficult to detect. Individuals have very large home ranges with tree hollows for den sites. They forage for invertebrates on the trunks and major branches of rough-barked eucalypts, on fallen logs and amongst leaf litter on the undisturbed forest floor.

Trawalla and Andrews state forests have an outlying population of rough wattle (subspecies *parviceps*) which is essentially the only known stand outside the Brisbane Ranges.

Although the Pyrenees range is only separated from the Mount Cole range by the Avoca River valley, its biodiversity differs significantly because it includes drier Goldfields vegetation and also lacks the high wet plateau of Mount Cole. There are extensive areas of mature mixed species forest on the southern flanks and in the valleys, but access is difficult and biodiversity values have not been well documented. The Pyrenees gum is only known from the eastern side of the Pyrenees State Forest. Box-ironbark forest on the northern side of the Pyrenees range provides habitat for species in the threatened Victorian temperate woodland birds community, including painted honeyeater, black-chinned honeyeater, diamond firetail and brown treecreeper. The endangered swift parrot relies heavily on flowering box-ironbark forests in autumn and winter, and has been recorded at the Landsborough end of the Pyrenees range.

Glenmona State Forest was identified as a key site for protection of threatened species including buloke and swift parrot in the ECC Box-Ironbark Forests and Woodlands Investigation (2001). Lace monitors and the endangered lowly greenhood, which has a very limited distribution between Clunes and Maryborough, have been recorded in the northern half of this forest. Several species in the threatened Victorian Temperate Woodland Bird Community have been recorded in Glenmona State Forest: brown treecreeper, black-eared cuckoo, diamond firetail and hooded robin. The Woodland Birds for Biodiversity project showed that Glenmona has some of the highest priority habitat in the Central West Investigation area for this suite of birds, which is declining in Victoria due to habitat loss, fragmentation and degradation.

Significant sites

There are few large old trees remaining in the Mount Cole State Forest due to the heavy logging of this forest since European settlement. Surveys for large old trees have not been conducted, but some can be seen along tracks and it is likely that more remain in the steeper gullies. Granitic outcrops, particularly on the north western face of the range (including Ben Nevis) and at Mount Buangor and Mount Cole support restricted vegetation types.

Within Glenmona State Forest, two Large Old Tree Sites were identified for protection in the ECC Box-Ironbark Forests and Woodlands Investigation (2001).

Site condition

The native vegetation of the Mount Cole–Pyrenees block varies in terms of its modelled site condition largely depending on patch size and moisture. For example, the patch comprising Mount Cole State Forest and Mount Buangor State Park – a large patch, with relatively high rainfall – has the highest modelled site condition in the block. The Pyrenees is a larger patch but is drier and is generally of moderate site condition although there are many areas of high quality vegetation scattered through this patch. Similarly, even in higher rainfall areas medium-sized patches such as the state forests near Beaufort support native vegetation in moderate condition. Medium-sized patches in drier areas (e.g. Glenmona State Forest) have generally low modelled site condition typical of the Goldfields bioregion. All small patches such as bushland reserves and roadsides have poor modelled site condition.

The condition of Mount Cole's forests has been degraded as a result of the extensive logging history, which has produced dense young regrowth with little understorey over much of the area. This disadvantages species that require the original open forest structure, or rely on habitat features such as dense or diverse understorey, mature trees for hollows or food resources, or a sparse ground layer with leaf litter and fallen wood. However, there are patches of more intact open forest and woodlands on granitic outcrops particularly around Mount Cole, Mount Buangor and Ben Nevis, and in the lower stream valleys and drier fringing areas.

Root rot disease has caused extensive eucalypt dieback in parts of Mount Cole State Forest. The disease is caused by a native fungus (*Armillaria*) that spreads via root-to-root contact and rots the sapwood

of tree roots and trunks. In Victoria, Armillaria root rot disease occurs mainly in mixed species eucalypt forest, principally in the damper forests of the Mount Cole, Wombat and Macedon ranges. Mount Cole State Forest is the most severely affected of these areas with 1200 hectares reported as infected in 1982. In the 1970s, surveys at two sites in Mount Cole forest found that infected stumps of selectively harvested trees in dense regrowth forest correlated with a much higher proportion of nearby trees (presumably those with root contact) also being diseased, compared with those around uninfected stumps. Selective harvesting was assumed to be a contributing factor to the spread of Armillaria because it left infected stumps and trees in the coupe. In 1978, a small trial was established to compare clearfelling treatments at Mount Cole but these were not effective in reducing disease impacts. Today there are many patches of dead and dying trees, most easily observed along Mount Cole Road and at Victoria Mill picnic area.

A game sanctuary was declared in Mount Cole State Forest in the early 20th century to protect its population of sambar deer. The population is now so high that coupes must be fenced to keep deer out while regeneration is established post logging. Local residents and land managers also report that the feral pig population in Mount Cole forest is increasing, with impacts on native vegetation particularly in low lying damp areas.

In Mount Lonarch State Forest, regrowth following heavy logging in the late 1990s is very dense, partly because there is lower grazing pressure from deer than in Mount Cole State Forest.

In the Pyrenees range, mapped logging history shows a modest level of timber harvesting in the last 50 years, mostly on the ridges and lower slopes. The southern fall of the Pyrenees range is the least heavily logged part of the forests in the investigation area. Stands of mature forest in relatively undisturbed areas are highly valued by bee-keepers for their nectar resources.

Throughout the Mount Cole–Pyrenees block, fire frequency is generally much higher than in the past due to the prescribed burning regime that commenced after the 2009 bushfires, particularly in areas that have been identified as higher risk landscapes (for example, Musical Gully and Camp Hill north of Beaufort). In combination with the drier or unseasonal weather experienced over much of the last two decades, increased fire frequency is likely to be contributing to changes in understorey structure and the decline of some plant species (see box 2.1).

Landscape connectivity

Large areas of public land in this block, for example the Mount Cole and Pyrenees state forests, as well as the smaller forests around Mount Cole score highly for landscape context. These forests are separated by large areas of cleared land reducing connectivity between these habitats. VEAC's analysis of landscape connectivity for the investigation area shows that the important areas for maintaining ecological connectivity and resilience lie between the smaller forest blocks of Trawalla-Andrews and Musical Gully-Camp Hill, and the connection between Mount Cole and Mount Lonarch state forests.

5.5 Resource use

5.5.1 Wood products

Commercial wood products

After heavy cutting between around 1850 and 1910, the forests of this block have regrown to the point that in 2013 the then Department of Environment and Primary Industries (DEPI) estimated the sustainable harvest levels for sawlogs at around 1000 cubic metres per year for the Pyrenees and 1500 cubic metres per year for Mount Cole and Mount Lonarch state forests. The Pyrenees figure used here is derived from a figure of 1100 cubic metres for 'remaining areas' – that is, state forests in the Midlands Forest Management Area (FMA) other than Mount Cole and Wombat state forests. Apart from small state forests south of Ballarat (outside the investigation area) and around Beaufort these remaining areas are accounted for by the Pyrenees State Forest.

The then DEPI predicted that these figures would not change before the middle of this century but by its end roughly double at Mount Cole and increase by around 30 per cent in the Pyrenees. The figures were based on annual growth increments (a measure of how fast the forest grows) of 1.56 cubic metres per hectare per year for Mount Cole and 0.5 cubic metres per hectare per year for the Pyrenees. Information supplied by VicForests has nearly all the forests of Mount Cole and Mount Lonarch, and about a third of the Pyrenees (mostly along the main range and in the low foothills) as of high indicative importance for timber production. Other state forest areas are of lower importance.

In the last four years around 2000 cubic metres of sawlogs have been harvested per year from these forests, mostly from Mount Cole and supplying the sawmill at Chute. VicForests also issues licences for commercial firewood and other minor products

Table 5.2 Annual volumes of firewood that could be taken under permits issued in the Avoca district in 2009-2011

Year	Total volume (cubic metres)	Volume under permits granted (cubic metres)	
		Concession card holders	Non-concession card holders
2011	326	262 (80 per cent of Avoca total)	60 (20 per cent)
2010	250	192 (77 per cent)	58 (23 per cent)
2009	351	245 (70 per cent)	106 (30 per cent)

in these forests, both as residual from sawlog harvesting and from silvicultural treatment.

Although the Pyrenees is entirely contained in the Midlands FMA, wood product harvesting in the drier forests of its lower foothills is effectively the same as that in the Bendigo FMA. It is characterised by generally lower intensity harvesting, with the durable sawlogs being of particularly high value and lesser quality wood suitable for firewood and fencing timbers. In the rest of the Midlands FMA, harvesting is more intensive (clearfelling or shelterwood systems), with more sawlogs of a somewhat lower value produced and lower quality wood less durable and therefore not as favoured for fencing or firewood.

The 2017-2020 Timber Utilisation Plan lists 60 coupes in the Mount Cole–Pyrenees block totalling 2004 hectares. Of these coupes, 15 are scheduled for even-aged stand management (average size 19 hectares) and the remainder for multi-aged stand management (average size 37 hectares). These coupes cover much of the Mount Cole and Mount Lonarch state forests and small areas in the Pyrenees, mostly in the higher elevation forests of the south-facing slopes west of Cameron Track campground. Forest management operations include the removal and sometimes the utilisation of product resulting from natural events or forest management operations, such as storm damage or hazardous tree removal.

Domestic firewood

In the Avoca district, which includes the Pyrenees and Glenmona state forests, relatively small amounts of firewood were cut for domestic collection under the permit system that operated until 2011.

Departmental records show that an average of 400 cubic metres of timber was cut in Community Firewood Supply Areas in the years 2003 to 2008. Slightly lower volumes were recorded as having been made available under the domestic firewood permit system in its final three years of operation, and a very high proportion of this was allocated to concession card holders (see table 5.2).

Areas within the Pyrenees State Forest identified for domestic firewood cutting over the last two years are shown in table 5.3. Glenmona State Forest did not have firewood coupes mapped for this period.

Table 5.3 Areas within Pyrenees State Forest allocated for domestic firewood

Year	Total area (ha)
2018 – autumn	405
2017 – spring	228
2016-17	444

Records of the volumes of timber actually felled for domestic firewood supply from these areas are not available. The department assumed that an average of 10.7 cubic metres per hectare of timber would be available from box-ironbark forest.

Anecdotal evidence from people in the Avoca district suggests that there is now a high demand for free firewood, with many people accessing the allocated coupes early in the season.

Firewood has been provided for domestic collection from most of the forests in the Beaufort area. Prior to 2011 this was often a by-product of timber harvesting, and followed commercial firewood harvesting from logging coupes. In recent years, firewood collection has occurred in conjunction with silvicultural thinning of future logging coupes, and also from tracks where trees are removed in preparation for planned burns.

5.5.2 Earth resources

The famous goldfields region of north central Victoria extends into the northern slopes of the Pyrenees and this area was popular for gold mining in the second half of the 19th century. Within the block there are a small number of current mining licences, extractive industry tenements and prospecting licences covering a total area of approximately 500 hectares.

The locations of the various earth resource tenements in the Mount Cole–Pyrenees block can be seen in figure 2.2. The mining licences, prospecting licences and extractive industry tenements mostly occur in the north east quarter of the block around Amphitheatre, Avoca and the Percydale Historic Reserve. Two prospecting licences are also located near Beaufort in the southern part of the block.

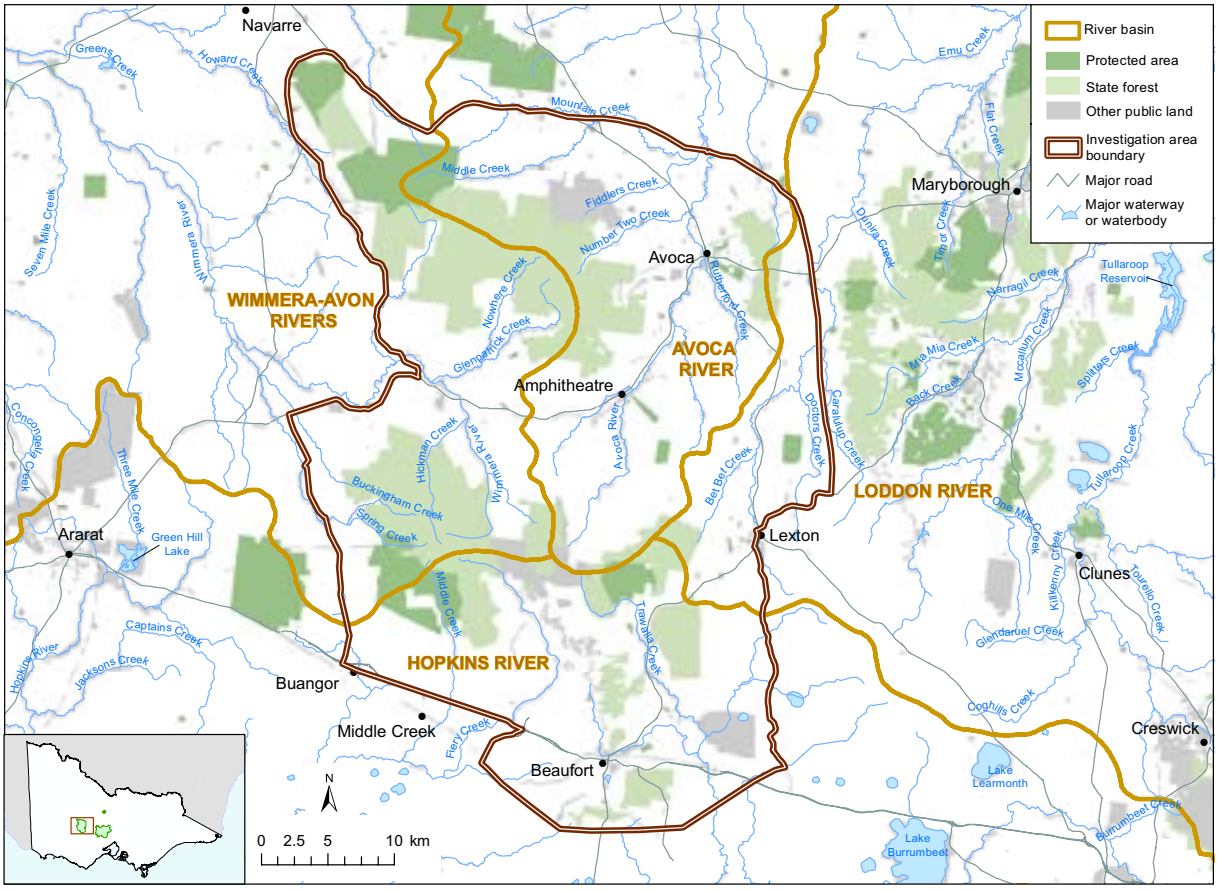
Within the block, there are five mining licences, mostly covering densely vegetated public and private land over a total area of around 200 hectares.

Ten prospecting licences are current in the block on a mix of public and private land covering a total area of around 40 hectares. Four of the licences are situated adjacent to each other just north of Amphitheatre, while the others are scattered around the old goldfields.

There are four extractive industry tenements covering a total area of approximately 270 hectares. The predominant commodity type from these tenements is sand and gravel although a slate quarry retains a licence in an historic quarry site on the northern edge of Percydale Historic Reserve. The extractive industry tenements are found mostly on private land apart from one tenement entirely within the Percydale Historic Reserve.

About two-thirds of the block, including both public and private land, is covered by 11 exploration licences (current and pending). The areas that do not have exploration licences over them are: a small area north of Lexton, another small area around Trawalla, and the south west quarter of the block around Mount Buangor State Park and Mount Cole State Forest. A number of goldfields are mapped over a large part of the Pyrenees range and areas around Avoca, Amphitheatre and Beaufort. Figure 2.2 shows the goldfields in this block and the rest of the Central West Investigation area.

Figure 5.2 River basins in the Mount Cole–Pyrenees block



There are no mapped extractive industry interest areas in the Mount Cole–Pyrenees block.

Historical mining activity in this block as well as old mine shafts (named and unnamed) are found in several clusters around Beaufort, Waterloo, Raglan, Avoca, Percydale and Landsborough. There are few records for either of these beyond these clusters.

5.5.3 Apiculture

There are 110 bee sites in this block of either 800 metres or 1600 metres radius. Approximately 80 per cent of the Pyrenees range (29 sites) is effectively covered by these base ranges; the remaining 20 per cent of the area is difficult to access. At Mount Cole (25 sites), Glenmona (three sites), Mount Lonarch (five sites) and Waterloo (four sites) state forests the bee ranges effectively cover the entire forest. Mount Buangor State Park (five sites) and Landsborough Nature Conservation Reserve (seven sites) are also well covered. The remaining sites are mainly spread across state forest and major reserves in the area with eight sites found in smaller bushland reserves or along stream frontages.

5.5.4 Water production and supply

As shown in figure 5.2, the southern half of the Mount Cole range and the nearby forests form part of the catchment for the Hopkins River, flowing south to Warrnambool.

The three other catchment basins in the Mount Cole–Pyrenees block form part of the Murray-Darling system.

The northeast slopes of the Pyrenees range form part of the catchment for the Avoca River. This river basin contains no major storages; minor storages include the Sugarloaf Reservoir and Lead Dam which supply town water to Avoca. Low rainfall and flat terrain mean that further downstream supply can be low especially in summer, causing high salinity and making the water unsuitable for irrigation. The Avoca River terminates in a series of internationally significant wetlands between Kerang and Swan Hill.

The western side of the Pyrenees range and the northern half of the Mount Cole range form part of the Wimmera River catchment including the headwaters of the river itself. Most of the surface water yield in the Wimmera River originates

from precipitation in the Pyrenees, Mount Cole and Grampians ranges. The four major water storages in this basin are all located in or near the Grampians (outside the investigation area).

The eastern side of this block forms a small part of the Bet Bet Creek catchment, itself a small part of the Loddon River catchment. The only major storages in this basin downstream of Bet Bet Creek is Laanecoorie Reservoir which contributes to maintaining summer flows for irrigation and stock and domestic use for large areas downstream to around Kerang. The Loddon River is the second longest river in Victoria and is an important habitat for many threatened species.

5.6 Recreational uses

5.6.1 Activities

Mount Cole State Forest is the most visited of the larger forests in the block offering a wide range of recreational activities such as camping, bushwalking, mountain biking and horse riding. The high peaks also offer excellent sites for hang gliding. Hunting deer is not permitted; hunting of other invasive species is allowed.

Numerous tracks, varied terrain and wet forest make Mount Cole forest a popular destination for four-wheel drivers and trail-bike riders. As well as use by local residents, there is also regular use of the forest by four-wheel drive clubs and smaller groups from Melbourne and Ballarat. Clubs often camp in groups for weekends in addition to holding annual events such as the 4WD Nav Challenge which will be held at Mount Cole in 2018. Mount Cole forest is also popular with local horse clubs who run training events, camping weekends and large equestrian events in the forest. There are facilities for camping with horses at Chinamans Camp near the western edge of the forest.

Adjoining the southern slopes of Mount Cole, Mount Buangor State Park offers three camp sites and 15 kilometres of bush walking trails; other low-impact activities can also be enjoyed.

The main area of interest for recreational prospectors in the southern half of this block is associated with the 'Fiery Creek diggings' that extends from around Beaufort through Raglan and north to Chute. Prospectors camp and go metal detecting at several sites in this area.

As well as attracting visitors from the surrounding districts, Melbourne and Ballarat, the Pyrenees is popular with visitors from northern Victoria as the forests offer the closest hilly environments enjoyed by four-wheel drivers, mountain bike and trail bike riders from as far away as Mildura.

The Pyrenees Endurance Trail attracts walkers looking for a challenging trek with steep tracks. The trail runs for 23.5 kilometres along much of the length of the Pyrenees State Forest (from Glenlofty Valley to the Waterfalls Picnic Area, near Avoca), with the Cameron Track campground making a convenient halfway overnight camping spot.

The northern slopes of the Pyrenees are more accessible and so are the location for several organised events. In recent years there have been mountain bike, car rally and endurance running events. 'Pyrenees after dark' is a four-wheel drive navigational event that will be held in the Pyrenees State Forest in 2018.The largest organised event that has been held is the George Derrick Pyrenees Rush car rally which takes place partly in Glenmona forest and in the Pyrenees where the route runs along the Main Break Track following the ridge along the range. The rally occurs over a weekend roughly every second year on average and many roads are closed for the event. It attracts hundreds of spectators and participants.

Hunting is permitted in the Pyrenees State Forest and is often combined with other activities such as four wheel driving and camping. The old goldfields region on the northern slopes of the Pyrenees is also popular with recreational prospectors.

5.6.2 Tourism

The forests in this block are popular with local residents but remain relatively unknown to most Victorians and potential interstate or international visitors. The Pyrenees Shire tourism strategy for the region aims to improve visitor numbers through raising awareness of wineries and accommodation in the Pyrenees district and developing caravan parks at Beaufort, Avoca and Landsborough to encourage visitors to stay longer in the region. Many visitors to the wineries also explore the nearby forests taking part in low-impact activities such as cycling and bushwalking but the region does not have the destination draw of other nearby areas such as the Grampians.

The Pyrenees Rush car rally mentioned above has run for the last two years and attracts several hundred visitors from outside of the region over two days, tying in with other local events such as the Avoca market.

In the longer term the effects of population growth in regional centres such as Ballarat could see an increase in recreational users of the forests, particularly around Beaufort which is less than

one hour's drive from Ballarat. This could result in increased numbers of day visitors to the public land forests of the region.

5.7 Licensed uses and leases of Crown land

There are approximately 700 licences and leases in the Mount Cole–Pyrenees block, covering some 2000 hectares of public land.

5.7.1 Water frontages

Some 150 water frontage licences are issued in the area covering around 650 hectares of land. Although most of these licences allow grazing, there is a small number of riparian licences covering almost 50 hectares.

5.7.2 Unused roads

There are more than 450 licences issued on unused roads in the area, totalling approximately 1150 hectares of Crown land.

5.7.3 Utilities and other occupations

There is a small number of current licences for utilities and communications in this block. Pyrenees Shire has four licences to operate rubbish depots in Lexton and Amphitheatre. There are eight licences for communications towers for weather, television, radio and telecommunications.

Pyrenees Shire holds one licence for a dog pound and six committees of management hold leases or licences in the block.

5.8 Community views

During the first round of public consultation Council heard from groups and individuals in the local communities who visit the Pyrenees, Mount Cole forest, Mount Buangor and the surrounding forests. In total, 110 submissions mention Mount Cole or Pyrenees state forests or more broadly the Mount Cole–Pyrenees block. Some of the popular recreational activities that people spoke about included four wheel driving, trail biking, hunting, prospecting, bushwalking and camping. Council heard about the strong attachment that users feel to the forests and its importance in family life and in the local community. Although most submitters were from local or nearby communities VEAC heard that there are recreational users traveling to Mount Cole and the surrounding forests from Melbourne and Ballarat and to the Pyrenees range from northern Victoria.

Just over one third of submissions that mentioned the block (39) proposed continued access to the forests at current levels for some commercial and recreational activities. Many people attending community drop-in sessions expressed concerns that changes to public land use might impact recreational use and could negatively affect local businesses. Council also heard from members of the local timber industry during drop-in sessions who were concerned for the impacts on local communities if logging ceased in the Mount Cole and Pyrenees state forests.

Almost two thirds of submitters (71) wanted to see an increase in protection and better management for the Pyrenees and Mount Cole forests and the surrounding public land. There were concerns that insufficient management has led to illegal tracks that cause erosion and that illegal dumping of rubbish is threatening the habitat quality in the forests. The importance of these forest areas as linking landscapes was also a common theme, especially with increasing stress being placed on natural environments through climate change.

There was significant support at community drop-in sessions for ending or significantly reducing logging in order to protect threatened species such as the powerful owl and brush-tailed phascogale in addition to preserving historic mining and forestry heritage. VEAC also received many pro forma submissions that sought to protect Mount Cole and Pyrenees forests as national parks.

Council heard at community drop-in sessions that continuing access to domestic firewood was important for some communities and that local supplies were under increasing pressure, particularly since the removal of the permit system which many, including land managers, believe has opened the system to abuse.

5.9 Issues

The forests and reserves in the Mount Cole–Pyrenees block support significant areas of high quality native vegetation that play a vital role in maintaining landscape connectivity and ecological processes in the region. They are also a place of refuge and enjoyment for many local residents and visitors from around Victoria in addition to providing timber and firewood and supporting the apiary industry. Council has taken into account these competing values and uses and has developed draft recommendations that balance protecting environmental values with supporting local industries and recreational activities. Some areas have been set aside for the conservation of native flora and fauna and other natural features.

In these areas activities will largely consist of more passive recreation such as sightseeing, nature study, bushwalking and forest driving and biking on formed tracks. Council also recognises the role that forests have in providing recreational spaces for enjoyment, health and connecting communities and has ensured that significant areas remain available for people to enjoy activities such as hunting, horse riding, recreational prospecting, car rallying and dispersed camping including with dogs.

Timber harvesting in the Pyrenees range has been operating at a low level for the last 50 years with the wetter forest around Mount Cole providing the most productive forests for timber harvesting. Mount Cole State Forest would continue to provide for this industry. At the Pyrenees, where timber values are lower, commercial harvesting operations would be removed.

5.10 Draft recommendations

The draft recommendations for the Mount Cole–Pyrenees block have been developed in order to balance conservation with the demand for recreation, continued commercial timber harvesting and some domestic firewood collection.

National parks are proposed on the southern slopes of the Pyrenees and at Mount Buangor where an addition to the current state park around Buckingham Creek will create the Mount Buangor National Park.

Significant areas of state forest are recommended to be retained at Mount Cole, Mount Lonarch, Musical Gully and Camp Hill, Trawalla and Andrews and part of Glenmona. These state forests would continue to allow for commercial timber harvesting and a wide range of recreational activities including, with the recommended removal of the sanctuary at Mount Cole, deer hunting.

On the northern side of the Pyrenees a proposed regional park would allow for most recreational activities including those not permitted in national parks such as recreational prospecting, in addition to providing for a level of harvesting of minor forest produce such as domestic firewood.

A bushland reserve of approximately 100 hectares is proposed for the northern half of Glenmona forest in addition to 16 smaller bushland reserves across the Mount Cole–Pyrenees block. These bushland reserves will provide vital linkages between the larger intact areas in the block.

These recommendations, along with draft recommendations for smaller blocks of public land in the block, are shown on map D and detailed in the section below.

The draft recommendations make a significant contribution to achieving a comprehensive, adequate and representative reserve system by increasing the protection of a number of priority Ecological Vegetation Classes (EVCs):

- in the Central Victorian Uplands bioregion – Herb-rich Foothill Forest (4778 hectares added to protected areas, mostly in the recommended Pyrenees National Park), Grassy Dry Forest (4290 hectares, mostly in the recommended Pyrenees National Park and additions to the Ben Major Nature Reserve) and Grassy Dry Forest/Heathy Dry Forest Complex (1548 hectares, mostly in the recommended Waterloo Nature Reserve)
- in the Goldfields bioregion – Grassy Dry Forest (4557 hectares, mostly in the recommended Pyrenees National Park) and Herb-rich Foothill Forest (599 hectares, mostly in the recommended Pyrenees National Park).

The draft recommendations also substantially improve protected area representation of several other priority EVCs:

- in the Central Victorian Uplands bioregion – Valley Grassy Forest (170 hectares, mostly in the recommended additions to the Ben Major Nature Reserve) and Alluvial Terraces Herb-rich Woodland (117 hectares, mostly in the recommended Waterloo Nature Reserve)
- in the Goldfields bioregion – Alluvial Terraces Herb-rich Woodland (186 hectares, mostly in the recommended Pyrenees National Park).

Most recreational activities will continue to be allowed in the recommended national parks (see table 5.4). Some high-impact recreational activities would not be allowed within the national park; however most activities will be able to continue in the recommended regional park, the existing historic reserve and remaining areas of state forest.

New national park areas would not be available for new exploration and mining. Existing mining and exploration licences in new national park areas would continue.

In 2017, the Victorian government broadly accepted the recommendation in VEAC's Statewide Assessment of Public Land for rationalising and consolidating the system of public land use categories. The new categories have been adopted in the following draft recommendations (see

appendix 1 for the current and revised categories). Of particular relevance for this investigation are the following statewide changes:

- revised national park category includes national park, state park, wilderness park
- new conservation park category includes many National Parks Act Schedule 3 'other parks'
- revised regional park category includes regional park, metropolitan park, forest park
- revised nature reserve category includes nature conservation reserve and natural features reserve sub-category geological and geomorphological features area
- revised bushland reserve category includes natural features reserve sub-categories bushland area, natural and scenic features area, and streamside area.

What can you do in national parks, regional parks and state forests?

Many recreational activities such as four wheel driving, trail bike riding, mountain biking, horse riding and camping can take place in national parks as well as in regional parks and state forests. The rules for four wheel driving and trail bike riding are the same across parks and forests.

National parks are a key part of Victoria's protected area (or conservation reserve) system. Other protected areas in Victoria include nature reserves, conservation parks and bushland reserves. Protected areas in Victoria and around Australia use an international definition that requires them to be managed mainly for the conservation of nature and associated ecosystem services (such as protecting water catchments) and cultural values. National parks are managed mainly for protection of the natural environment and compatible recreation.

Because national parks are managed for conservation and recreation, activities that extract natural resources such as recreational prospecting, firewood collection and hunting are not usually allowed. Other activities such as car rallies and horse riding on formed roads and tracks are often allowed, but controlled to reduce the impacts on the natural environment or on other recreational users. Dogs on leads or in cars may be allowed in restricted areas.

Victoria's regional parks are not protected areas according to the international definition as they are managed mainly for informal recreation for large numbers of people in natural or semi-natural surroundings. A wider range of activities is allowed than in national parks including recreational prospecting and activities can also include some harvesting of minor forest produce such as domestic firewood. Dogs and horses are allowed. Hunting is not allowed as it conflicts with use by large numbers of other recreational users.

State forests allow hunting as well as a similar range of recreational activities to regional parks. One of the purposes of state forests is to provide for commercial harvesting of sawlogs and pulpwood, subject to forest zoning.

Table 5.4 Summary of allowed activities in major recommended areas of public land in the Mount Cole–Pyrenees block

Activity	Mount Buangor National Park	Pyrenees National Park	Pyrenees Regional Park	Percydale Historic Reserve	State forest	Nature reserve	Bushland reserve
Apiculture[1]	✓	✓	✓	✓	✓	✓	✓
Bushwalking	✓	✓	✓	✓	✓	✓	✓
Camping	✓	✓	✓	0[2]	✓	0[2]	0[2]
Nature observation	✓	✓	✓	✓	✓	✓	✓
Four wheel driving[3]	✓	✓	✓	✓	✓	✓	✓
Trail bike riding[4]	✓	✓	✓	✓	✓	✓	✓
Bicycle riding (including mountain biking)[5]	✓	✓	✓	✓	✓	✓	✓
Horse riding	0[6]	0[6]	✓	✓	✓	✗	✓
Car rallies	0[7]	0[7]	✓	✓	✓	0[7]	✓
Prospecting	✗	✗	✓	✓	✓	✗	✓
Dogs	0[8]	0[8]	✓	✓	✓	✗	✓
Domestic firewood collection	✗	0[9]	✓	✗	✓	✗	0[9]
Recreational hunting[10]	✗	✗	✗	✗	✓	✗	✗
Timber harvesting	✗	✗	0[11]	✗	✓	✗	✗

✓ Allowed 0 Conditionally allowed (see notes) ✗ Not allowed

[1] Apiculture at existing licensed sites, subject to the 2013 *Apiculture (beekeeping) on public land* policy and operating procedure

[2] Camping in designated camping areas where provided and in other areas as specified by the land manager; may not be provided in smaller reserves, where there is high day visitor use or where there are ample camping opportunities on adjacent land

[3] Four wheel driving in registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road

[4] Trail bike riding on registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road

[5] Bicycle riding (including mountain biking) on formed roads and vehicle tracks open to the public, and on other roads, tracks and paths as specified by the land manager

[6] Horse riding on roads and tracks as specified by the land manager; no overnight camping with horses

[7] Competitive sections of car rallies generally not allowed in national parks and nature reserves; transport sections through these areas allowed

[8] Dogs may be allowed on lead in visitor areas, along a restricted number of tracks, or in cars as specified by the land manager in management plans; no overnight camping with dogs

[9] Current domestic firewood coupes at Pyrenees National Park and Glenmona Bushland Reserve will be allowed to be completed

[10] The recommended revocation of the sanctuary will allow for deer hunting in the Mount Cole State Forest. Recreational hunting for pest animals will be allowed on other public land if part of an authorised control program at the discretion of the land manager

[11] Harvesting of minor forest produce may be allowed such as for posts and poles, woodchop blocks, stakes, hobby wood and firewood in areas where this will promote the growth of large trees and improve ecological condition.

The draft recommendations for the Mount Cole–Pyrenees block are provided below.

A1 Mount Buangor National Park

The proposed Mount Buangor National Park covers an area of 3904 hectares and includes the existing Mount Buangor State Park (2498 hectares) and an addition of 1406 hectares (16 per cent) of adjoining Mount Cole State Forest. This would extend the area of the existing state park to the north west around Buckingham Creek and incorporate areas of the under-represented EVC Grassy Dry Forest into the new national park. The park would also protect natural values such as the endangered Mount Cole grevillea which occurs in the current Mount Buangor State Park.

DRAFT RECOMMENDATION

A1 Mount Buangor National Park

That the area of 3904 hectares shown on map D be used in accordance with the general recommendations for national parks on page 63.

A2 Pyrenees National Park

The proposed Pyrenees National Park covers 16,076 hectares of land on the southern flanks of the Pyrenees range, within the Central Victorian Uplands bioregion. The steep slopes, rugged gullies and poor vehicle access in the proposed park make for a large area of relatively undisturbed mixed species forests with extensive patches of mature eucalypts. The proposed park would protect a significant area of the under-represented Herb-rich Foothill Forest and Grassy Dry Forest EVCs, as well as a population of the highly restricted Pyrenees gum.

DRAFT RECOMMENDATION

A2 Pyrenees National Park

That:
(a) the area of 16,076 hectares shown on map D be used in accordance with the general recommendations for national parks on page 63 and
(b) domestic firewood collection cease after the current domestic firewood coupes are completed.

C1 Pyrenees Regional Park

The proposed Pyrenees Regional Park is located on the northern slopes of the current Pyrenees State Forest and consists mostly of depleted forest EVCs within the Goldfields bioregion. It will continue to provide access to a wide range of popular recreational opportunities in the area such as prospecting. The Cameron Track campground will be incorporated into the regional park to ensure that people can continue to enjoy camping with dogs.

Domestic firewood collection and some harvesting of minor forest produce would be allowed, but other commercial timber harvesting would not continue in the regional park.

DRAFT RECOMMENDATION

C1 Pyrenees Regional Park

That:
(a) the area of 4160 hectares shown on map D be used in accordance with the general recommendations for regional parks on page 67
(b) low intensity harvesting of minor forest produce be allowed, and
(c) domestic firewood collection be allowed in areas identified by the land manager in consultation with DELWP.

Note:
DELWP oversees the planning, public consultation and monitoring of domestic firewood demand and supply from state forest at a statewide and regional level. It is intended that the collection of firewood from the Pyrenees Regional Park continue to be part of this system, in consultation with the land manager. Firewood should only be cut and removed where this will promote growth of large trees and improve ecological condition.

D1 Existing nature reserve

DRAFT RECOMMENDATION

D1 Lexton Nature Reserve

That the area of 260 hectares shown on map D continue to be used in accordance with the general recommendations for nature reserves on page 69.

D2 – D7 New nature reserves and addition to existing nature reserve

D2 Ben Nevis Nature Reserve

The proposed Ben Nevis Nature Reserve contains the spectacular rocky northern flanks and peaks of the Mount Cole range. It consists of 1088 hectares (about 12 per cent) of the current Mount Cole State Forest. Most of the proposed reserve is currently designated Special Protection Zone, and there are no records of harvesting on DELWP's logging history maps.

Nearly half of the proposed nature reserve is high priority Grassy Dry Forest EVC, with smaller areas of threatened Hills Herb-rich Woodland and Alluvial Terraces Herb-rich Woodland EVCs along the lower edges. These habitats support threatened animals such as powerful owl and brush-tailed phascogale. Rare and threatened flora species include shiny tea-tree which is confined to rocky outcrops on Ben Nevis, Mount Buangor, Mount Langi Ghiran and the Grampians.

DRAFT RECOMMENDATION

D2 Ben Nevis Nature Reserve

That the area of 1088 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D3 Moonambel South Nature Reserve

The proposed 53 hectare Moonambel South Nature Reserve protects one of the largest areas of currently uncategorised public land in the Mount Cole–Pyrenees block. The proposed reserve supports good quality Goldfields dry forest vegetation on a steep, somewhat rocky ridge, with endangered Alluvial Terraces Herb-rich Woodland EVC along the lower western side.

The proposed nature reserve is well connected with other vegetated areas (including smaller bushland reserves and the Middle Creek corridor) in the landscape. It provides an important habitat 'stepping stone' between the Pyrenees range and Kara Kara National Park/Redbank Nature Conservation Reserve to the north for the threatened Victorian temperate woodland bird community.

DRAFT RECOMMENDATION

D3 Moonambel South Nature Reserve

That the area of 53 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D4 Tanwood South Nature Reserve

The proposed Tanwood South Nature Reserve is situated on the edge of an arm of the Victorian Volcanic Plains bioregion that extends along the flatter parts of the Avoca River valley. The proposed reserve contains five hectares of Grassy Woodland EVC which is endangered in this bioregion, with remnants mostly confined to productive private land in the district.

The high quality vegetation is dominated by mature eucalypts and features important habitat elements such as hollows, large fallen logs and organic litter on the forest floor. The proposed reserve is less than two kilometres from Percydale Historic Reserve, and forms part of a mosaic of remnant vegetation between the Pyrenees and Kara Kara ranges that is likely to be used by members of the threatened Victorian temperate woodland bird community.

DRAFT RECOMMENDATION

D4 Tanwood South Nature Reserve

That the area of five hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D5 Ben Major Nature Reserve

The existing 820 hectare Ben Major Flora Reserve is contiguous with Chute State Forest (also known as Fortes Bush – 557 hectares) and Ben Major State Forest (1852 hectares). Most of Ben Major State Forest is designated Special Protection Zone with the remainder Special Management Zone. The northern part of Chute State Forest is Special Protection Zone. Timber values are generally lower than on the Mount Cole and Mount Lonarch ranges to the west.

The proposed 3229 hectare Ben Major Nature Reserve adds the Chute and Ben Major state forests to the existing flora reserve. The entire area displays a consistent vegetation pattern dominated

by the high priority Grassy Dry Forest EVC with smaller areas of threatened Valley Grassy Forest. Ben Major State Forest also has one of the largest patches of threatened Hills Herb-rich Woodland remaining on public land in the district, and areas of mature forest with a very old and long-unburnt austral grasstree understorey. Rare and threatened species include Ben Major grevillea which is extremely limited in its distribution, Yarra gum and powerful owl.

DRAFT RECOMMENDATION

D5 Ben Major Nature Reserve

That the area of 3229 hectares shown on map D including additions totalling 2409 hectares be used in accordance with the general recommendations for nature reserves on page 69.

D6 Waterloo Nature Reserve

The Waterloo State Forest is a small steep range covered mainly with depleted Grassy/Heathy Dry Forest Complex vegetation. It features a suite of parallel valleys that fall west onto the plain and support the endangered Alluvial Terraces Herb-rich Woodland EVC. It forms the eastern edge of the cluster of vegetated ranges in the Beaufort district, with particularly close links to Ben Major State Forest.

The proposal to recategorise the 1695 hectare Waterloo State Forest to nature reserve reflects the current Special Protection Zone over the whole area. The forest has not been well surveyed for biodiversity but powerful owl has been recorded here.

DRAFT RECOMMENDATION

D6 Waterloo Nature Reserve

That the area of 1695 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D7 Rosyth South Nature Reserve

The proposed Rosyth South Nature Reserve contains 13 hectares of Grassy Woodland EVC which is threatened in the Goldfields bioregion; this is one of the largest blocks remaining on public land. It is in very good condition with a well-developed woodland structure, mature eucalypts with hollows, large dead hollow trees still standing, a sparse grassy understorey and a good fallen wood and litter layer on the ground. An ephemeral creek bed runs through the proposed reserve and feeds a small dam on private land adjacent to the northeast corner of the block.

The proposed reserve provides an important 'stepping stone' of mature grassy woodland in the Bet Bet Creek catchment, complementing the dry forest vegetation types to the east (Lexton Nature Reserve) and west (Ben More and Amphitheatre bushland reserves).

DRAFT RECOMMENDATION

D7 Rosyth South Nature Reserve

That the area of 13 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

E1 – E30 Existing bushland reserves

The 30 existing bushland reserves E1 to E30 (see appendix 8 for complete list) in the Mount Cole–Pyrenees block contain native vegetation and natural values in a largely cleared landscape. They range in size from 0.6 to 137 hectares and can provide valuable habitat connectivity between larger intact areas of public land.

DRAFT RECOMMENDATION

E1 – E30 Bushland reserves

That the areas totalling 572 hectares shown on map D continue to be used in accordance with the general recommendations for bushland reserves on page 71.

E31 – E48 New bushland reserves

Eighteen new bushland reserves are proposed, 16 of which are 10 hectares or smaller (see appendix 8 for complete list). The smaller proposed bushland reserves are mostly currently uncategorised public land with important natural values such as depleted EVCs and remnant vegetation.

The largest new bushland reserve is the proposed Glenmona Forest Bushland Reserve (E36) north of the Pyrenees Highway at 984 hectares. About 139 hectares of the proposed reserve is currently in three special protection zones in the state forest. The Glenmona forest area is mostly box-ironbark forest with under-represented woodland EVCs

along creek lines and two Large Old Tree Sites. The southern half of the forest is proposed to remain as state forest.

DRAFT RECOMMENDATION

E31 – E48 Bushland reserves

That the areas totalling 1081 hectares shown on map D be used in accordance with the general recommendations for bushland reserves on page 71.

F1 – F4 Existing historic reserves

There are currently four historic reserves in the Mount Cole–Pyrenees block, including the Percydale Historic Reserve (1457 hectares). The remaining three historic reserves are the Avoca and Beaufort courthouses and Avoca police residence and magazine. See appendix 8 for details.

DRAFT RECOMMENDATION

F1 – F4 Historic reserves

That the areas totalling 1458 hectares shown on map D continue to be used in accordance with the general recommendations for historic reserves on page 73.

G1 – G5 State forest

Council recommends retention of areas of state forest in the Mount Cole–Pyrenees block to provide for timber harvesting and a range of recreational activities including some, such as prospecting, that are not compatible with protected areas.

Mount Cole provides some of the most productive forests for timber harvesting in this region and is popular with many recreational users. The draft recommendations retain more than 70 per cent (or 6416 hectares) of Mount Cole State Forest and almost all of the areas zoned for timber production. The recommended revocation of the Mount Cole Sanctuary removes the prohibition on hunting and will provide increased opportunities for deer hunting in the state forest.

Other state forests that are proposed to be retained are Mount Lonarch, Musical Gully-Camp Hill, Trawalla-Andrews and the southern section of Glenmona forest. See appendix 8 for the complete list.

DRAFT RECOMMENDATION

G1 – G5 State forest

That:
(a) state forest totalling 10,181 hectares shown on map D continue to be used in accordance with the general recommendations for state forests on page 75, and
(b) in accordance with R8, the Mount Cole Sanctuary be revoked and deer hunting be allowed

H Water frontage, beds and banks reserves

These reserves are described in detail in section 4.2 on page 76, and generally comprise a linear area of land adjacent to a waterway or lake, and the stream or lake bed and banks. There are 1092 hectares of existing water frontage, beds and banks reserves in the Mount Cole–Pyrenees block which are proposed to be retained.

DRAFT RECOMMENDATION

H Water frontage, beds and banks reserves

That that the existing water frontage, beds and banks reserves shown on map D continue to be used in accordance with the general recommendations for water frontage, beds and banks reserves on page 77.

I Water production reserves

Water production reserves include water storage areas. There are 138 hectares of water production reserves in the Mount Cole–Pyrenees block which are proposed to be retained.

DRAFT RECOMMENDATION

I Water production reserves

That the existing water production reserves shown on map D continue to be used in accordance with the general recommendations for water production reserves on page 78.

J Community use reserves

Community use reserves are primarily used for recreation, education and other community purposes including buildings in public use such

as schools, public halls, libraries and museums. There are 48 existing community use areas covering a total of 308 hectares in the Mount Cole–Pyrenees block which are proposed to be retained: 20 recreation reserves, ten parklands and gardens reserves, and 18 buildings in public use. Community use areas are described in more detail in section 4.2 on page 79.

DRAFT RECOMMENDATION

J Community use reserves

That the existing community reserves shown on map D continue to be used in accordance with the general recommendations for community use reserves on page 79.

K Existing utilities and government services reserves

Public land supports public utilities and essential services such as transport, energy, water and sewerage, waste disposal, telecommunications and government services. There are numerous utilities and government services located on public land, such as roads and railway lines, government offices and depots, hospitals, prisons, cemeteries, communications installations, drainage and sewerage works. Some areas with a primary utilities or services purpose such as road and rail reserves have significant biodiversity values and make a major contribution to ecological connectivity, especially in predominantly cleared landscapes. Where practical and safe, some utilities and government services areas may also be used for recreation. For example, recreation trails may be constructed along easements, pipelines or roadsides.

In the Mount Cole–Pyrenees block, there are 2148 hectares of existing utilities and government services reserves, and an estimated 5338 hectares of government road reserves.

DRAFT RECOMMENDATION

K Utilities and government services reserves

That that the existing utilities and government services reserves shown on map D continue to be used in accordance with the general recommendations for utilities and government services reserves on page 80.

L Uncategorised public land

Uncategorised public land is public land for which no specific use is recommended (see section 4.2 on page 81). There are approximately 160 hectares of remaining uncategorised public land in the Mount Cole–Pyrenees block for which VEAC is not making specific land use draft recommendations. It includes land that, after assessment, may be disposed of if it has no public land values and is surplus to current and future community needs. It may include public authority freehold land.

DRAFT RECOMMENDATION

L Uncategorised public land

That the existing uncategorised public land shown on map D continue to be used in accordance with the general recommendations for uncategorised public land on page 81.

M Plantations

Plantations are described in section 4.2 on page 82, including a description of the status of licensed HVP Plantations land. There are 1760 hectares of plantation land in the Mount Cole–Pyrenees block, mostly licensed HVP land. There are seven school plantations ranging in size from less than one hectare to 17 hectares.

DRAFT RECOMMENDATION

M Plantations

That the existing plantations shown on map D continue to be used in accordance with the general recommendations for plantations on page 82.

Note: The draft recommendation does not apply to licensed HVP plantation land (see section 4.2 on page 82).

Public land use overlays: reference area

There is one existing reference area in the Mount Cole–Pyrenees block of 69 hectares located in the Mount Buangor State Park (see map D). Recommendations for existing reference areas are in section 4.2 on page 82.

6. Wellsford block

6.1 Overview description

Land use history in the Wellsford block is typical of that across the goldfields of northern Victoria: alienation of Crown land to private ownership of the flatter, wetter areas with better soils, predominantly for agriculture, and retention as Crown land of the areas with poorer soils – generally drier, not as flat, rockier or more gravelly and often gold-bearing. Apart from being of lesser interest for farming, initially areas were retained as Crown land to mitigate over-cutting of forests needed to supply wood for mining purposes, to line shafts, power boilers and so on. With the decline of mining, the forests were principally used to produce wood for a wider range of uses such as sawlogs, railway sleepers and firewood. Recent decades have seen recreation and nature conservation emerge as major uses of these public lands.

As a result of this history, public land in the Wellsford block sits on the slightly more elevated terrain in the middle of the block, surrounded by private land on the flatter, more fertile terrain, and extending up the creek valleys that drain from the forest such as Yankee and Five Mile creeks to the north and Kangaroo Creek to the south. Public land and native vegetation in the block are largely coincident, with little native vegetation on private land – mostly adjoining the public land, particularly in the upper reaches of the incising creek valleys.

The Wellsford block (see figure 6.1) covers 9262 hectares, as follows:

- Wellsford State Forest (7100 hectares)
- Bagshot Water Reserve (3 hectares)
- various road reserves (241 hectares)
- private land (1918 hectares)

The current categorisation of public land units is as recommended in the ECC Box-Ironbark final report in 2001 (although the uncategorised public land and road reserves were not specifically identified), reaffirming the LCC North Central final recommendations of 1981. In other parts of the Bendigo area ECC recommendations resulted in significant changes to public land use, notably the establishment of Greater Bendigo National Park (17,000 hectares) and Bendigo Regional Park (8800 hectares), as well as a variety of state forests, nature reserves and other smaller units (see figure 6.1).

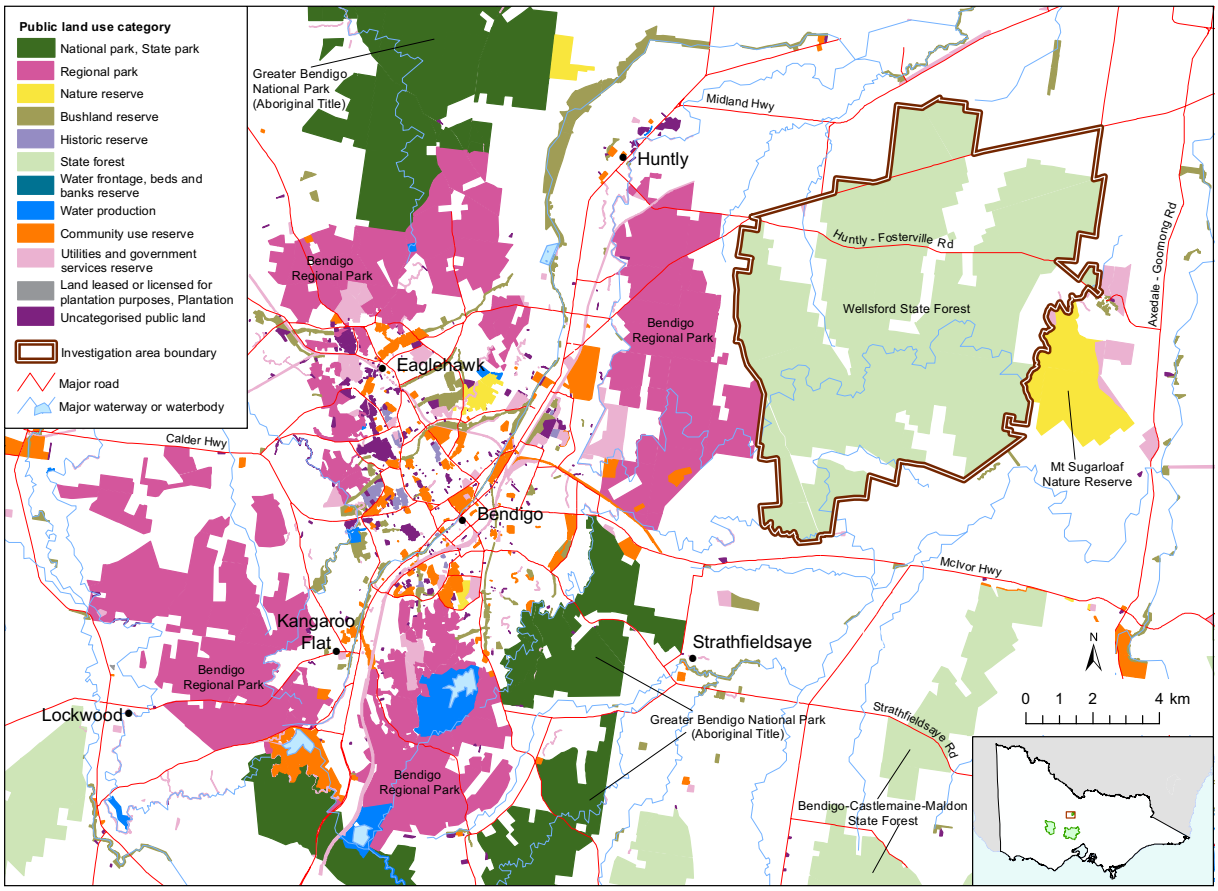
The Wellsford block lies within the City of Greater Bendigo.

6.2 Traditional Owner values and interests

The Wellsford block is situated entirely within the Dja Dja Wurrung Recognition and Settlement Agreement (RSA) area – see figure 2.3. Dja Dja Wurrung hold Aboriginal title over the nearby Greater Bendigo National Park, one of six parks and reserves granted as Aboriginal title to be jointly managed in partnership with the State. Dja Dja Wurrung do not hold Aboriginal title over the adjoining Bendigo Regional Park, Wellsford State Forest or Mount Sugarloaf Nature Reserve.

Dja Dja Wurrung Clans Aboriginal Corporation is also the Registered Aboriginal Party (RAP) with decision-making responsibilities for Aboriginal cultural heritage across their Country, including the Wellsford block.

Figure 6.1 Wellsford block in the context of the public lands surrounding Bendigo



Dja Dja Wurrung Traditional Owners acknowledge that the Wellsford block is close to the boundary with their neighbours the Taungurung people who also have interests in this area, and that Dja Dja Wurrung would manage other interests in this area as the land management group.

Through the Aboriginal community engagement project (see section 1.5), Dja Dja Wurrung expressed their interests and views on issues relevant to the Central West Investigation, including appropriate land management and ways to conserve and enhance cultural values. Their input was informed by direct engagement with Traditional Owners and Aboriginal communities as well as the Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024 and the RSA. The following key points are taken from the project report which is available on the VEAC website.

- Dja Dja Wurrung see Country as being in average condition, understanding that since contact a great degree of landscape modification has taken place, most notably from gold mining.
- Dja Dja Wurrung are concerned about major threats to and impacts on natural and cultural values in Wellsford State Forest including ongoing timber harvesting, mining, inappropriate fire regimes and recreational use.
- There is a need for balance between protecting Country while allowing public access.
- 'Gardening' the environment to bring back important species for food, fibre, smoking ceremony and medicines is very important.

> *"We are gardeners of the environment. We care for the land and it provides for us."*
>
> *Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024*

- Through Djandak (Dja Dja Wurrung Enterprises Pty Ltd) the group currently participates in forest management, as part of the RSA. This includes thinning for coupe management but the Country Plan objective of 'gardening the environment' is also applied. Thinning is applied in a mosaic manner by selecting trees suitable for achieving old growth and the creation of open woodlands.
- Wellsford State Forest contains many cultural values for Dja Dja Wurrung people and an extensive list of cultural values is presented in the project report.
- The project report includes a Dja Dja Wurrung and Wathaurong word list for flora, fauna, landscape features and place names.
- Cultural values can relate to creation, burials, stone, mound/occupation sites, routes, history, and flora and fauna.
- Quarries and artefact scatters in surrounding areas suggest that the Wellsford area was possibly a trade route.
- Culturally important flora and fauna for food, fibre, medicinal and ceremonial purposes (e.g. for smoking ceremonies) is present but not always abundant in the landscape.
- There is a need to strengthen understanding of where significant sites and artefacts occur on Country.
- Dja Dja Wurrung aspire to have greater support for their RSA, including aspects such as greater resourcing.
- Dja Dja Wurrung see promotion and consideration of their Country Plan as important, including as part of the Central West Investigation.
- Dja Dja Wurrung require greater resourcing for the group to lead or independently undertake projects.
- Resource support by the State to manage Country is generally lacking.
- Wellsford State Forest needs restoration to address the extensive landscape modification that has occurred since European settlement and the area requires the group's involvement in all aspects of landscape management.
- Dja Dja Wurrung prefer changes to public land use that limit the major threats and impacts (this also applies generally across all Dja Dja Wurrung Country).
- Grouping land units is useful and practical and 'park' and 'reserve' categories provide better joint management and Aboriginal title opportunities.
- Dja Dja Wurrung see potential for alignment with and inclusion into the Greater Bendigo National Park Joint Management Plan if a change in public land use occurs.

6.3 Historic values

Compared to many nearby areas such as Bendigo and Fosterville, Wellsford forest has little history as a goldfield. There is one documented site of cultural heritage significance: the regionally significant former eucalyptus oil distillery close to Gunyah picnic area near the centre of the block. Eleven old mine shafts (two named) are mapped within the block and there are likely to be artefacts and other signs of historical interest distributed around the forest.

6.4 Natural values

6.4.1 Geology and geomorphology

The geology of the Wellsford block is dominated by Ordovician sediments, originally deposited on the ocean floor more than 400 million years ago and then uplifted and folded to form mountains, a process which also generated gold-bearing reefs in many places. This was followed by hundreds of millions of years of erosion – punctuated by further episodes of uplifting and folding – that reduced the height of the mountains by thousands of metres and formed valleys where streams cut into the hills. In the last few millions of years, waterways and wetlands in the Murray riverine plain have deposited sediments in these valleys. The valleys are now mostly cleared, flat privately-owned farmland while the hills mostly remain as public land with native vegetation.

There is one documented site of geological or geomorphological significance in the Wellsford block: the regionally significant Sugarloaf Range which comprises the best example of strike ridges of Ordovician sandstone near Bendigo. The edge of the range extends into the eastern edge of the Wellsford block; most of it is further east.

6.4.2 Biodiversity

Ecological vegetation classes

Through the Convention on Biological Diversity, the Australian and Victorian governments are committed to establishing a representative protected area system. For terrestrial areas, this is largely achieved through the National Reserve System which, via criteria for comprehensiveness, adequacy and representativeness, sets targets at the ecosystem level. In Victoria, Ecological Vegetation Classes (EVCs) are used as ecosystem surrogates. Table 6.1 shows the extent of key EVCs in the Wellsford block, and their representation in the protected area system. Section 2.4.2 provides background on the protected area system and an overview of VEAC's approach to calculating protected area shortfalls and appendix 4 provides further information.

Key points from the analysis of the extent of and protected area shortfalls for each bioregional EVC in the Wellsford block are:

- All of the Wellsford block is in the Goldfields bioregion, apart from an area of around 240 hectares (2.6 per cent of the block) along the Five Mile Creek valley in the Victorian Riverina bioregion (see figure 2.1).
- More than 85 per cent of the original and current native vegetation in the block is Box Ironbark Forest EVC in the Goldfields bioregion, for which the protected area shortfall is only four per cent of the 7118 hectares on other public land. However, as noted in appendix 4, the relatively high proportion (for a non-threatened EVC) of this EVC which has been lost to clearing, and the high level of fragmentation and historic and ongoing modification of what remains, provide a strong rationale for protecting more than the minimal shortfall for this EVC.
- Within the Wellsford block, all native vegetation on public land in the Victorian Riverina bioregion would contribute to overcoming under-representation in the protected area system. There are four Goldfields EVCs that have 100 per cent protected area shortfalls but which are relatively small areas located on the margins of public land that would not be practicable to include in the protected area system.

Strategic Biodiversity Values analyses

The Strategic Biodiversity Values analyses commissioned by VEAC for this investigation are outlined in appendix 4. These analyses combine information on areas important for threatened flora and fauna, and vegetation types and condition to provide a view of relative biodiversity importance of parts of the Victorian landscape.

The Wellsford State Forest ranks highly in the statewide analysis of biodiversity habitat values (see map E), reflecting the large number of rare and threatened species it supports. This is typical of box-ironbark forests where at least 83 per cent of the original vegetation has been cleared and the remainder is fragmented and degraded. In the Central West analysis of public land outside protected areas (see map F), northern parts of the Wellsford State Forest had higher rankings, while the central and southern parts had medium rankings. The local patterns within Wellsford forest were largely influenced by a diversity of habitats in the

Table 6.1 The extent and protected area shortfall for key bioregional EVCs in the Wellsford block, according to shortfall category[1]

A	B	C	D	E	F	G	H
Ecological Vegetation Class (EVC) and bioregion name[2]	Extent in Wellsford block (ha)					Block shortfall (ha)[3]	Shortfall as % of other public land[4]
	Pre-1750	Current	Private land	Protected area	Other public land		
Very little flexibility in meeting representation target[1]							
Grassy Woodland GoF	644	466	378	0	87	87	100
Alluvial Terraces Herb-rich Woodland GoF	3	3	0	0	3	3	100
Heathy Woodland GoF	17	17	1	0	17	14	82
Little flexibility in meeting representation target[1]							
There are no EVCs in this shortfall category in the Wellsford block							
Considerable flexibility in meeting representation target[1]							
Box Ironbark Forest GoF	7932	7850	732	0	7118	295	4

[1] Shortfall categories:

- Very little flexibility in meeting representation target: EVCs for which the shortfall (column G) is more than 80 per cent (column H) of the area potentially available from other public land (column F)
- Little flexibility in meeting representation target: EVCs for which the shortfall is 25-80 per cent of the area potentially available
- Considerable flexibility in meeting representation target: EVCs for which the shortfall is less than 25 per cent of the area potentially available

[2] Bioregion abbreviations: GoF = Goldfields; VRi = Victorian Riverina

[3] Block shortfall (ha) = the area in hectares that would be required to be acquired from other public land in order for the Wellsford block to make a proportionate contribution to meeting the shortfall across the investigation area. As outlined in section 2.4.2 and appendix 4, VEAC has considered bioregional EVC shortfalls across the investigation area rather than block-by-block

[4] Shortfall as % of other public land = the block shortfall (column G) as a percentage of the area of other public land from which that shortfall could be met (column F)

Interpreting this table

This table shows, for example, that while adding only 87 hectares of Grassy Woodland EVC in the Goldfields bioregion to protected areas would meet the target for this EVC, this figure amounts to all of that EVC on public land. This can be difficult to achieve if those areas are fragmented, coincide with incompatible uses and do not coincide with other natural values such as threatened species habitat. On the other hand, while more than three time as much Box Ironbark Forest EVC in the Goldfields bioregion is required to meet the target of 295 hectares for that EVC, there are 7118 hectares from which that area could be selected providing greater flexibility, particularly in avoiding uses incompatible with nature conservation and selecting practicable management boundaries.

Other EVCs

Eight other EVCs not shown in table 6.1 are found in the Wellsford block. Two of these are excluded because their current protected area representation meets the notional targets: Heathy Dry Forest and Sandstone Ridge Shrubland both in the Goldfields bioregion. Another two do not occur on public land: Plains Woodland in the Goldfields and in the Victorian Riverina bioregion. The other four EVCs have shortfalls across the investigation area of less than 50 hectares, and often occur in many patches of much smaller size again. As a result, protected area inclusion for these EVCs needs to be considered on an individual basis as issues such as the management viability of such small areas come into play. These four EVCs, bioregion name and their block shortfalls in hectares (ha) are listed below. Full details for these eight EVCs across the investigation area are provided on VEAC's website.

- Box Ironbark Forest VRi: 45 ha
- Alluvial Terraces Herb-rich Woodland/ Creekline Grassy Woodland Mosaic GoF: 24 ha
- Alluvial Terraces Herb-rich Woodland/ Creekline Grassy Woodland Mosaic VRi: 6 ha
- Grassy Woodland VRi: 2 ha.

north, including less common vegetation types such as dense heathy understorey on sandy soils and remnants of grassy woodlands around the fringes.

Significant species

The Wellsford block provides habitat for a high diversity of flora and fauna including 32 rare or threatened species and a further seven members of the threatened woodland bird community. Hollow-dependent species including the threatened brush-tailed phascogale and barking owl have been recorded in the Wellsford State Forest.

Of the approximately 165 bird species recorded in the Wellsford forest and its immediate surrounds, there are many nomadic species which vary greatly in abundance and location between years, reflecting fluctuations in food availability. The nectar provided by several winter-flowering eucalypts and summer-flowering red ironbarks is a crucial food resource for many of these birds and the insects that they prey upon.

One of the best-known migrants is the threatened swift parrot which travels from its breeding grounds in Tasmania to feed on grey box in autumn and then red ironbark and yellow gum over winter. Research has shown that swift parrots feed preferentially on clumps of the largest and most intensely flowering trees, which are also used by a higher diversity and abundance of other nectarivores. Often these sites are on low-lying, fertile ground that are used by many species of fauna as drought refuges.

Other threatened birds recorded in the Wellsford forest, such as the speckled warbler and chestnut-rumped heathwren, forage mainly on the ground and require patches of dense understorey, fallen wood and leaf litter on the forest floor.

Research has shown that many previously common woodland species are declining in Victoria due to habitat loss, fragmentation and degradation. More than half of the 24 species that constitute the threatened Victorian temperate woodland bird community have been recorded in the Wellsford forest in recent years including the threatened grey-crowned babbler and painted honeyeater, and near-threatened species such as the diamond firetail, crested bellbird and hooded robin. The Woodland Birds for Biodiversity project identified the Bendigo box-ironbark forests including Wellsford forest as one of the most important areas for woodland bird communities.

Threatened plant species include Ausfeld's and whirrakee wattles. Some rare and threatened species including the sand rush are at the southern edge of their distribution. The northern half of Wellsford is also suitable habitat for the rare cane spear-grass which has a distribution in Victoria centred on the Bendigo area.

Significant sites

Prior to the 1850s, the vegetation in the Wellsford block was mainly open grassy forests or woodlands with a small number, perhaps 30, trees per hectare, reaching diameters of 120 to 150 centimetres. There are very few large old trees in the Wellsford block today due to the heavy logging of this forest since European settlement. Tree hollows and the surrounding areas of mature habitat are used by many species of birds, mammals and reptiles in the Wellsford State Forest. Large old trees provide more and larger fallen logs than younger trees and this fallen timber is important habitat for many species including brush-tailed phascogales, lace monitors, brown treecreepers and several species of robins. The fallen wood provides shelter for these species, habitat for their prey, and some protection from grazing for small plants that grow amongst it. The more open and diverse forest structure provided by these forests allow predators such as barking owls to access this greater abundance of prey. These old trees are vulnerable to damage by fire, and the surrounding habitat complexity is degraded by firewood collection, timber harvesting and too-frequent burning.

The nine red ironbarks in the southeast corner of the Wellsford State Forest, close to the Mount Sugarloaf Nature Reserve, are the only known remaining pre-European ironbark trees on public land in the City of Greater Bendigo. There are also several large old yellow gum and grey box trees in this patch.

In addition, there is a mature tree site associated with a drought refuge area in the north eastern corner of the Wellsford block. Drought refuge areas have been mapped in the northern lobe and in eastern parts of the forest where lower lying areas support damper, more productive and valuable habitats for a wide range of species.

Summer-flowering red ironbarks are particularly important for a range of species that feed on their nectar, and subsequently for their predators. They are also very valuable to the apiary industry. Large patches of summer-flowering red ironbarks have been recorded in the northern lobe, central eastern section and western side of the Wellsford forest.

Site condition

The native vegetation of the Wellsford block generally scores well for modelled site condition. This evaluation accords with the general pattern in the Goldfields bioregion, where most of the areas of highest site condition are in the largest patches of native vegetation, all of which are almost entirely on public land. However, not all of the largest patches of native vegetation are in good condition so the Wellsford block is exceptional in this regard and especially in the context of the forests around Bendigo, where it supports the best condition Box Ironbark Forest EVC in an area with a long history of intensive disturbance of native vegetation.

Through much of the 20th century, management of Wellsford forest was strongly focused on the production of tall, straight, solid, evenly spaced trees of the most merchantable species. This changed the forest from an open mixed-age structure with grassy or shrubby understorey to denser stands of smaller and straighter trees. The forest now has a relatively uniform structure with a better mix of small and medium sized trees than most box-ironbark forests, but very few large trees; these are mostly of poor silvicultural form but high biodiversity value (see above). Large areas were thinned in the past but understorey development is still poor in many areas due to the slow growth in this ecosystem and probably also the millennium drought. Prescribed burns reduce understorey structure for some years and can encourage weed growth in a forest that is otherwise relatively weed-free.

Dodder laurel is a native parasitic vine promoted by timber harvesting as it targets and kills young coppice growth and seedlings. In the Wellsford forest dodder laurel has been a serious problem at various times. Up to 5000 hectares per annum were treated in the 1920s, with infected trees felled and the vines heaped and sometimes burnt. Control operations started again in 1948 with over 3000 hectares treated annually in the early 1950s. Nevertheless by 1961, 3200 hectares of the Wellsford State Forest were recorded as heavily infested. A combination of control methods including thinning and sheep grazing was found to be effective at that time. In the early 1990s timber cutting operations were restricted to relatively uninfested areas with good results, but dodder laurel has returned in some coupes that were selectively harvested over the past 15 years.

Landscape connectivity

The Wellsford block generally scores highly for landscape context. VEAC's analysis of landscape connectivity reveals important areas for maintaining connectivity on the northwest fringes of the block (supporting the tenuous roadsides-private land links with native vegetation in the Whipstick-Kamarooka public lands) and at 'pinch-points', such as where the upper reaches of the cleared valleys of the Yankee, Five Mile and Kangaroo creeks come closest near the Gunyah picnic area.

6.5 Resource uses

6.5.1 Wood products

Commercial wood products

As well as 'historical' logging conducted from the earliest days of European settlement described in section 6.1, mapped coupe history shows that the entire forest has been logged since 1970 including, at various locations, around 30 per cent of the forest since 1990 – see figure 2.6. Unlike the early logging which may have cut nearly all trees, more recent harvesting has typically been more selective, moving progressively through relatively large coupes over several years targeting larger straight trees for sawlogs and/or smaller trees of poorer silvicultural form, to leave medium-sized trees to grow into sawlogs in future decades.

Around three-quarters of Wellsford State Forest is of high value for timber and the remainder has not been assessed but is likely to be high value as is the case across much of the box-ironbark country. Recently, around six licensees have operated across the Wellsford forest and the box-ironbark forests of the Pyrenees, with Talbot Timbers being the primary producer of high value-added sawn products.

In recent years, commercial harvesting of minor products such as fence posts has been as a by-product of sawlog harvesting and silvicultural management and therefore volumes of those products are a function of that harvesting and management. Firewood resulting from this harvesting and management has almost all gone to domestic supply with little if any made available for commercial use.

It is difficult to reliably quantify the importance of individual forests in the absence of productivity analyses. Recent or planned harvesting, for example, gives only a snapshot of the decades-long life cycle of these slow-growing trees. High recent harvest volumes could just as easily

result in local reductions in harvest volumes in coming decades as be indicative of high ongoing sustainable volumes. Wellsford forest accounts for approximately six per cent of the entire box-ironbark state forest area from which totals of 450 cubic metres of grade one sawlogs and 3000 cubic metres of grade two sawlogs are harvested annually. Figures in the 2001 ECC Box-Ironbark final report suggest that forest productivity and structure in the Bendigo area were at best average for the whole box-ironbark estate, suggesting that translating six per cent of area to volume i.e., about 30 cubic metres grade one sawlogs is unlikely to be a significant underestimation.

The 2017-2020 Timber Utilisation Plan has seven coupes scheduled for multi-aged stand management: five coupes totalling 370 hectares in the northwest lobe and two coupes totalling 206 hectares in the central east of the forest (south of Ellesmere Road).

Domestic firewood

Prior to the cessation of the domestic firewood permit system in 2011, extensive areas were cut for firewood collection in the eastern third of Wellsford State Forest. A total of 2121 hectares were recorded on DELWP's mapping system as having been available for domestic firewood harvesting up to and including 2011. Volumes of domestic firewood that could be taken from the Wellsford State Forest under permits for the three years to 2011 are shown in table 6.2.

Areas within Wellsford State Forest allocated for domestic firewood cutting since the permit system ceased are shown in table 6.3.

Table 6.2 Annual volumes of firewood that could be taken under permits in Wellsford forest

Year	Total volume (m^3)	Volume under permits granted to concession card holders volume (m^3)	Volume under permits granted to non-concession card holders volume (m^3)
2011	2599 (of Bendigo district total 9,000)	1147 (44 per cent of Wellsford total)	1452 (56 per cent)
2010	978	448 (46 per cent)	530 (54 per cent)
2009	2438	946 (39 per cent)	1492 (61 per cent)

Table 6.3 Areas allocated for domestic firewood since 2012 in Wellsford forest

Year	Total area (ha)	Coupes
2018 – autumn	506	Harper Rd – Quinns Rd, Tresize Track – Wellsford Rd, Lewis Lane, Winzar – Jay tracks
2017	274	Harper Rd – Quinns Rd, Tresize Track – Wellsford Rd
2012 – 2016	312	

Records of the volumes of timber actually felled for domestic firewood supply from these areas are not available. The department assumed that an average of 10.7 cubic metres per hectare of timber would be available from box-ironbark forest.

Anecdotal evidence from local residents suggests that more people have been accessing free firewood since the permit system ceased, and that more may be going to firewood sellers in Melbourne. However, record-keeping and compliance activities are minimal in the absence of a permit system, so the levels of legal and illegal activity cannot be ascertained.

DELWP advises that other state forests within 10 kilometres of central Bendigo are not expected to return to firewood production for around 40 years.

6.5.2 Earth resources

The Wellsford block is close to major goldfields at Fosterville (containing the largest current gold mine in Victoria) and Bendigo. One small old goldfield is mapped in the Wellsford block: a 140-hectare patch over the upper reaches of the Yankee and Kangaroo Creek catchments containing six old mine shafts (two named). There are five other unnamed old mine shafts mapped in this block and no mapped alluvial diggings.

All but a small part of the southwest corner of the block is covered by current exploration licences. Part of the Fosterville mining licence extends into the northeast corner of the block, although this section is not currently used for mining or processing.

There is a current extractive tenement for a quarry immediately abutting the eastern boundary of the Wellsford block; the quarry is on public land but the adjoining land inside the Wellsford block is privately owned. Extractive industry interest areas are mapped over approximately 20 per cent of the northern lobes of the state forest.

6.5.3 Apiculture

There are 20 bee sites located in Wellsford State Forest, accessed by nine licensees. The ranges around these sites effectively cover the entire forest. The locations of these sites have not changed for at least ten years. Wellsford forest is particularly valued by beekeepers for its summer-flowering ironbarks which are important resource in favourable seasons.

6.5.4 Water production and supply

Two channels flow through the state forest from Spring Gully Reservoir (west of the block). The Ellesmere-Goornong channel runs through the middle of the forest to seasonally deliver water to rural customers to the east of the forest. The Kangaroo-Axe Creek channel runs near the edge of the southern ‘promontory’ of the forest to seasonally deliver water to rural customers to the south and southeast of the forest, including a 0.7-hectare water supply licence on the south edge of the southern promontory.

6.6 Recreational uses

6.6.1 Activities

Wellsford forest has relatively modest levels of recreational use, partly because there are substantial opportunities in the nearby Bendigo Regional Park and Greater Bendigo National Park many of which are closer than Wellsford forest to the major residential areas of Bendigo.

Wellsford forest is used occasionally for large organised recreational events such as two-day dog sledding (which are also sometimes held in other state forests) and an annual car rally usually held in the Bendigo area. It is also used for defence training, rogaining and orienteering activities. A moderate to high level of trailbike riding is dispersed throughout the forest, with frequent use of a lengthy informal single track created by trailbikes and not legally available for use by motorised vehicles.

Most recreational users go to the Wellsford forest for low-impact activities such as forest drives, picnics, walking and cycling. The Wellsford forest is popular with local residents and visitors for nature study and bird watching, and activities are organised in the Wellsford forest by various local groups. Parts of the forest are well known for spring wildflowers and visitors to the annual Bendigo Wildflower Show who want to see striking displays in the bush are often directed there.

There is a moderate to low level of horse riding and dog walking, mainly by local residents.

There are very small, old surface goldfields and few old shafts mapped in the Wellsford block (see section 6.5.2), and little recreational prospecting activity.

6.6.2 Tourism

Many of these recreational activities may encourage visitors to stay overnight in the region, thereby contributing to the local economy. However, relative to other blocks in the investigation area, Wellsford forest is closer to its main source of visitors (Bendigo) and has fewer of the recreational

activities (e.g. camping, extended bushwalking or four wheel driving) that encourage overnight compared to day visits.

6.6.3 Education

La Trobe University makes use of the Wellsford forest for its outdoor education courses. Otherwise no formal educational uses are located there.

6.6.4 Patterns of use

The multiple access points and well-formed dirt roads through the forest make for very dispersed patterns of use in the Wellsford block. Gunyah picnic area is the only formal visitor node and features historical information about the old eucalyptus oil distillery that used to operate at that site but has no other facilities. Recreational use overall is likely to be limited by the lack of visitor facilities, especially toilets.

6.7 Licensed uses and leases of Crown land

6.7.1 Unused roads

There are two current unused road licences held by two licensees, covering a total of 4.8 hectares. One retains some native tree cover and both are in similar condition to the surrounding private land.

6.7.2 Other licences

Two licensees each hold a current grazing licence (7.2 hectares and 37.6 hectares) on the western edge of the northeast lobe of the state forest.

There are no current water frontage licences, utilities or other occupations in the Wellsford block.

6.8 Community views

Around 140 submissions specifically mentioned Wellsford forest, of which almost 90 per cent proposed adding it to the Greater Bendigo National Park (or similar category) in order to better protect natural values, particularly from timber harvesting and prospecting. They included 26 pro-forma submissions exclusively about Wellsford forest. These submissions outlined the importance of landscape health and connectivity and highlighted the location of Wellsford State Forest between the existing Bendigo Regional Park and Mount Sugarloaf Nature Reserve.

Fifteen submissions proposed that the status quo be maintained in Wellsford State Forest. Seven of these referred to allowing horse riding, dog walking and the Siberian husky sledding events to continue. Two submissions specifically supported commercial timber harvesting, and another two requested continued access for domestic firewood collection.

6.9 Issues

Wellsford forest is one of the largest, best condition box-ironbark forests in Victoria and is an important area for many of the numerous threatened species found in this forest type. It is also an important connection in the network of forests that surround Bendigo and in linking them with the Campaspe River to the east. There is strong community support for the forest to be protected in a national park. At the same time the forest is popular for many recreational activities, not all of which conform with national park status. It is also currently the main public land source of domestic firewood for Bendigo.

6.10 Draft recommendations

There is considerable overlap of the key areas for natural values with recreational uses in the Wellsford block, making it challenging to accommodate the range of interests and community views. After detailed consideration, VEAC is recommending a relatively large nature reserve over the eastern and northern parts of the existing Wellsford State Forest, and recommending that the larger remaining area of the state forest be added to the existing Bendigo Regional Park which immediately abuts this part of the state forest to the west of the investigation area. The draft recommendation for this new area of regional park includes an exception to the usual uses of regional parks to allow some domestic firewood collection restricted to areas carefully selected to contribute to improving the ecological structure of the forest with collection targeted to local users.

The intention of these draft recommendations is to focus protection of key natural values in the recommended nature reserve and recreational activities in the recommended regional park. Activities such as trail bike riding (including on existing single lane tracks), recreational prospecting, horse riding, car rallying, defence training, domestic firewood collection, dog walking and the dog sledding event would continue to be able to take place in the recommended regional park (see table 6.4 for further information).

These draft recommendations would improve protection of a range of natural values, focusing on those that are most under threat and most difficult to protect by other means: the most concentrated areas of habitat for many key threatened species,

all mapped large old tree sites and fauna refuge sites and all individually identified large old trees (and their surrounding habitat). The draft recommendations improve protected area representation in the Goldfields bioregion of Box Ironbark Forest (addition of 3050 hectares) and Grassy Woodland (40 hectares) EVCs. See VEAC's website for a full account of EVC representation in relation to the draft recommendations. This increased protection of natural values accords with the aspirations of the Dja Dja Wurrung Traditional Owners.

By separating key areas with high natural values to some extent in the recommended nature reserve, these draft recommendations facilitate focusing recreational activities in the recommended regional park. Future planning and resultant changes in on-ground management and infrastructure would lead to increased and better appreciated recreational use of the forest and reduce conflict with natural values and between recreational users.

Other than the shifting of some recreational activities as mentioned above, the main impacts of these recommendations would be the cessation of commercial timber harvesting (sawlogs and minor forest products), a reduction in the availability of domestic firewood, removal of licensed grazing from two areas (45 hectares in total), and the cessation of recreational hunting.

New earth resource tenements would be subject to the provisions applying to restricted Crown land, that is, Ministerial approval. The recommendations would have no impact on water production, unused road licences, educational uses and a range of uses compatible with nature reserve, such as bushwalking and nature study.

As the medium sized trees in the regional park and nature reserve mature over the long term, there would be benefits from increased nectar production for apiarists as well as the diverse range of nectarivorous animals that depend on this resource.

What can you do in regional parks and nature reserves?

National parks and nature reserves are key parts of Victoria's protected area (or conservation reserve) system. Other protected areas in Victoria include conservation parks and bushland reserves. Protected areas in Victoria and around Australia use an international definition that requires them to be managed mainly for the conservation of nature and associated ecosystem services (such as protecting water catchments) and cultural values. Nature reserves are often small areas with specific flora, fauna, geology or habitat values. They are usually strictly managed to protect their special features.

Recreation is allowed in nature reserves, if it is compatible with protection of the special values. Because nature reserves are managed for conservation, activities that extract natural resources such as recreational prospecting, firewood collection and hunting are not allowed. Other activities may also be more strictly controlled in nature reserves than in the larger national parks, because of their generally smaller size or the sensitivity of the flora and fauna or other features to disturbance. For example, while low level visitor use is allowed, visitor facilities such as campgrounds are not usually provided to the same level as in larger parks.

Victoria's regional parks are managed mainly for informal recreation for large numbers of people in natural or semi-natural surroundings. They are not protected areas according to the international definition and a wider range of activities is allowed than in national parks including recreational prospecting. Activities can also include some harvesting of minor forest produce such as domestic firewood. Dogs and horses are allowed. Hunting is not allowed as it conflicts with use by large numbers of other recreational users.

In 2017, the Victorian government broadly accepted the recommendation in VEAC's Statewide Assessment of Public Land for rationalising and consolidating the system of public land use categories. The new categories have been adopted in the following draft recommendations (see appendix 1 for the revised categories). Of particular relevance for this investigation are the following statewide changes:

- revised national park category includes national park, state park, wilderness park
- new conservation park category includes many National Parks Act Schedule 3 'other parks'
- revised regional park category includes regional park, metropolitan park, forest park
- revised nature reserve category includes nature conservation reserve and natural features reserve sub-category geological and geomorphological features area
- revised bushland reserve category includes natural features reserve sub-categories bushland area, natural and scenic features area, and streamside area.

C2 Bendigo Regional Park (addition)

The recommended addition of a large part of Wellsford forest to the adjoining Bendigo Regional Park would expand the recreational opportunities of this popular regional park into an area that, while already popular, has the potential to expand recreational opportunities, integrate planning with the existing regional park, provide additional facilities, and increase promotion, interpretation and education. All existing recreational uses would be accommodated, and some domestic firewood collection would occur from areas carefully selected to improve the ecological structure of the forest. Supply would be prioritised for local consumers (see draft recommendation R11).

The recommended regional park also includes several important natural and historic values such as habitat for threatened species, under-represented EVCs and the Gunyah old distillery site. The regional park would require careful planning, particularly to protect values susceptible to disturbance from the recreational activities for which the regional park is recommended.

Table 6.4 Summary of allowed activities in major recommended areas of public land in the Wellsford block

Activity	Addition to Bendigo Regional Park	Wellsford Nature Reserve
Apiculture[1]	✓	✓
Bushwalking	✓	✓
Camping	✓	0[2]
Nature observation	✓	✓
Four wheel driving[3]	✓	✓
Trail bike riding[4]	✓	✓
Bicycle riding (including mountain biking)[5]	✓	✓
Horse riding	✓	✗
Car rallies	✓	0[6]
Prospecting	✓	✗
Dogs	✓	✗
Domestic firewood collection	0[7]	✗
Recreational hunting[8]	✗	✗
Timber harvesting	✗	✗

✓ Allowed 0 Conditionally allowed (see notes) ✗ Not allowed

[1] Apiculture at existing licensed sites, subject to the 2013 *Apiculture (beekeeping) on public land* policy and operating procedure

[2] Camping in designated camping areas where provided and in other areas as specified by the land manager; may not be provided in smaller reserves, where there is high day visitor use or where there are ample camping opportunities on adjacent land

[3] Four wheel driving in registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road

[4] Trail bike riding by licensed riders on registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road

[5] Bicycle riding (including mountain biking) on formed roads and vehicle tracks open to the public, and on other roads, tracks and paths as specified by the land manager

[6] Competitive sections of car rallies generally not allowed in nature reserves; transport sections may be allowed

[7] Domestic firewood collection should be in areas where it will promote the growth of large trees and improve ecological condition

[8] Recreational hunting for pest animals will be allowed if part of an authorised control program at the discretion of the land manager.

DRAFT RECOMMENDATION

C2 Bendigo Regional Park (addition)

That
(a) the area of 3950 hectares shown on map D be added to the existing Bendigo Regional Park beyond the investigation area and be used in accordance with the general recommendations for regional parks on page 67
and
(b) domestic firewood collection be allowed in areas where this will promote the growth of large trees and improve ecological condition, but not be extended to existing parts of the Bendigo Regional Park beyond the Central West Investigation area.

D8 Wellsford Nature Reserve

The recommended Wellsford Nature Reserve encompasses most of the highest strategic biodiversity values in this block, enabling the most effective protection of threatened species habitat for a consolidated area of this size. Key species include the brush-tailed phascogale, pink-tailed worm-lizard, lace monitor, Ausfeld's and whirrakee wattles and a range of woodland birds such as swift parrot, chestnut-rumped heathwren, brown treecreeper, hooded robin, speckled warbler and crested bellbird. The reserve would also protect the few remaining large trees in this block and their associated habitat features especially fallen timber and open, patchy forest structure. The addition of large areas of Box Ironbark Forest EVC to the protected area system through this nature reserve would meet the notional targets for this widespread EVC. Importantly, it would do so in one of the largest, best condition box-ironbark forests in Victoria. The recommended nature reserve would also improve protected area representation of several highly depleted EVCs that occur in small patches near the periphery of the forest.

DRAFT RECOMMENDATION

D8 Wellsford Nature Reserve

That the area of 3160 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

M Existing utilities and government services reserves

There are 244 hectares of existing utilities and government services reserves in the Wellsford block: 241 hectares of road reserves (used and unused) and the 3.3 hectare Bagshot Water Reserve. VEAC is recommending that existing public land use continue in these areas.

DRAFT RECOMMENDATION

M Utilities and government services reserves

That the utilities and government services reserves shown on map D be used in accordance with the general recommendations for utilities and government services reserves on page 80.

7. Wombat–Macedon block

7.1 Overview description

The public land in the Wombat–Macedon block includes the largest and most varied of the forests scattered between the Grampians and eastern highlands, all of which are now separated from each other by cleared private land. The Wombat–Macedon block is linked to Mount Disappointment to the east, and a number of species in the block are at their extreme western limit.

The Wombat–Macedon block is an important water catchment and supply area. The Great Dividing Range forms the watershed or boundary between the drainage basins of rivers which drain inland to the Murray-Darling system or southward to Bass Strait, with the Loddon, Coliban and Campaspe rivers flowing inland and the Moorabool, Werribee, Lerderderg and Maribyrnong rivers flowing south to the coast.

The Victorian gold rush was significant in the history of the Wombat–Macedon block. The Wombat State Forest was heavily logged during the gold rush and by the 1880s there were 36 sawmills in operation in the Wombat and Bullengarook forests. These mills supplied the timber for building tramways, lining mine shafts and fuelling boilers and in the years following the gold rush they continued to supply timber for other uses, such as the construction of houses in Melbourne.

While much of the forested area in the Wombat–Macedon block has been heavily logged in the past, there are areas within the block – especially the Wombat State Forest – along creeks, rivers and in gullies or on crests that were too steep or too wet to be logged. These areas have acted as refuge sites for a range of threatened species by providing high value habitat. Large, old trees in these areas provide hollows for birds, possums and gliders and higher volumes of nectar (than that from younger trees) for nectar-feeding native fauna and European honey bees. In recent years, forest regrowth in the surrounding areas and some re-establishment of the natural ecology of the area has made the Wombat–Macedon block valuable as habitat for many species.

The Wombat–Macedon block (see figure 7.1) has a total area of 288,765 hectares and makes up more than half of the Central West Investigation area. Of this total, 34.5 per cent or 99,205 hectares is public land, mostly contained in the following land units:

- Wombat State Forest (45,170 hectares)
- Lerderderg State Park (20,470 hectares)
- Hepburn Regional Park (3105 hectares)
- Cobaw State Forest (2530 hectares)
- Macedon Regional Park (2160 hectares)
- Bungal State Forest (675 hectares)
- Long Forest Nature Conservation Reserve (610 hectares)
- Mount Charlie Flora Reserve (385 hectares)
- Dry Diggings State Forest (230 hectares).

Road reserves make up an additional 8560 hectares of public land in the Wombat–Macedon block and more than 6000 hectares of public land are set aside for water production. Water production areas include the Lauriston, Upper Coliban, Rosslynne, Merrimu, Pykes Creek and Bostock reservoirs as well as a number of smaller reservoirs, weirs and diversions.

Softwood plantations are found in three clusters located west of Daylesford (1530 hectares), south of Korweinguboora (1900 hectares) and near Macedon (some 1500 hectares). Other than 140 hectares of leased Crown land forming inliers to the Macedon Regional Park, all the land is former Victorian Plantations Corporation (VPC) land licensed to HVP Plantations with the right to operate a plantation business on that land in perpetuity. Former VPC plantation land remains Crown land and, for completeness, is included in the total areas of public land in table 2.2, and mapped in figures 1.1 and 7.1. However, given the perpetual nature of the rights no recommendations will be made for the licensed land.

Community use areas (including three education areas), bushland reserves, stream frontages, nature reserves and various other small blocks of land comprise the balance of public land in the Wombat–Macedon block. Public land use overlays in the block include four reference areas and the Lerderderg River Heritage Area. A comprehensive account of public land use categories is provided in appendix 1.

Current government-accepted recommendations over the Wombat–Macedon block are mostly from the LCC Melbourne District 1 Review (1987), with some small areas covered by recommendations from the LCC Ballarat Study (1982), the ECC Box-Ironbark Forests and Woodlands Investigation (2001) and the VEAC Metropolitan Melbourne Investigation (2011), see figure 2.7. In addition to these studies and investigations, the West Victoria Regional Forest Agreement (2000) resulted in the Pyrete Range in the Wombat State Forest (on the

eastern side of the Gisborne to Bacchus Marsh Road, east of Bullengarook) being added to the Lerderderg State Park.

Four local government areas cover the Wombat–Macedon block (see figure 2.4): Hepburn Shire Council (in the northwest of the block), Macedon Ranges Shire Council (in the northeast), Moorabool Shire Council (most of the southern half) and Melton City Council (a very small area in the southeast corner).

7.2 Traditional Owner values and interests

The Wombat–Macedon block is an area of interest for several Traditional Owner groups including Dja Dja Wurrung, Taungurung, Wurundjeri and Wadawurrung. Several corresponding boundaries exist for these groups within the Central West Investigation area as well as significant areas of shared interests. These are shown in figure 2.3 and include:

- Dja Dja Wurrung Recognition and Settlement Agreement (RSA) (2013)
- The current Taungurung RSA negotiation area.

The following Registered Aboriginal Parties hold decision-making responsibilities for Aboriginal cultural heritage:

- Dja Dja Wurrung Clans Aboriginal Corporation
- Taungurung Clans Aboriginal Corporation
- Wurundjeri Land and Compensation Cultural Heritage Council Aboriginal Corporation
- Wathaurung Aboriginal Corporation (trading as Wadawurrung).

Dja Dja Wurrung hold Aboriginal title over Hepburn Regional Park, one of six parks and reserves granted as Aboriginal title to be jointly managed in partnership with the State. Of these parks and reserves Hepburn Regional Park is the only one within the Central West Investigation area. A culturally significant property within the Wombat–Macedon block at Franklinford was also transferred to Dja Dja Wurrung as freehold title (a former mission site of approximately one hectare).

The State agreed to commence negotiations to enter into a RSA under the *Traditional Owner Settlement Act 2010* with the Taungurung People in May 2015. The final boundary is subject to agreement-making with neighbouring Traditional Owners.

The current master planning process for Hanging Rock between the Victorian Government and Macedon Ranges Shire Council incorporates consideration of the outcomes of the Connection to Country project currently being undertaken by the Wurundjeri, Dja Dja Wurrung and Taungurung in conjunction with Aboriginal Victoria's Right People for Country Program.

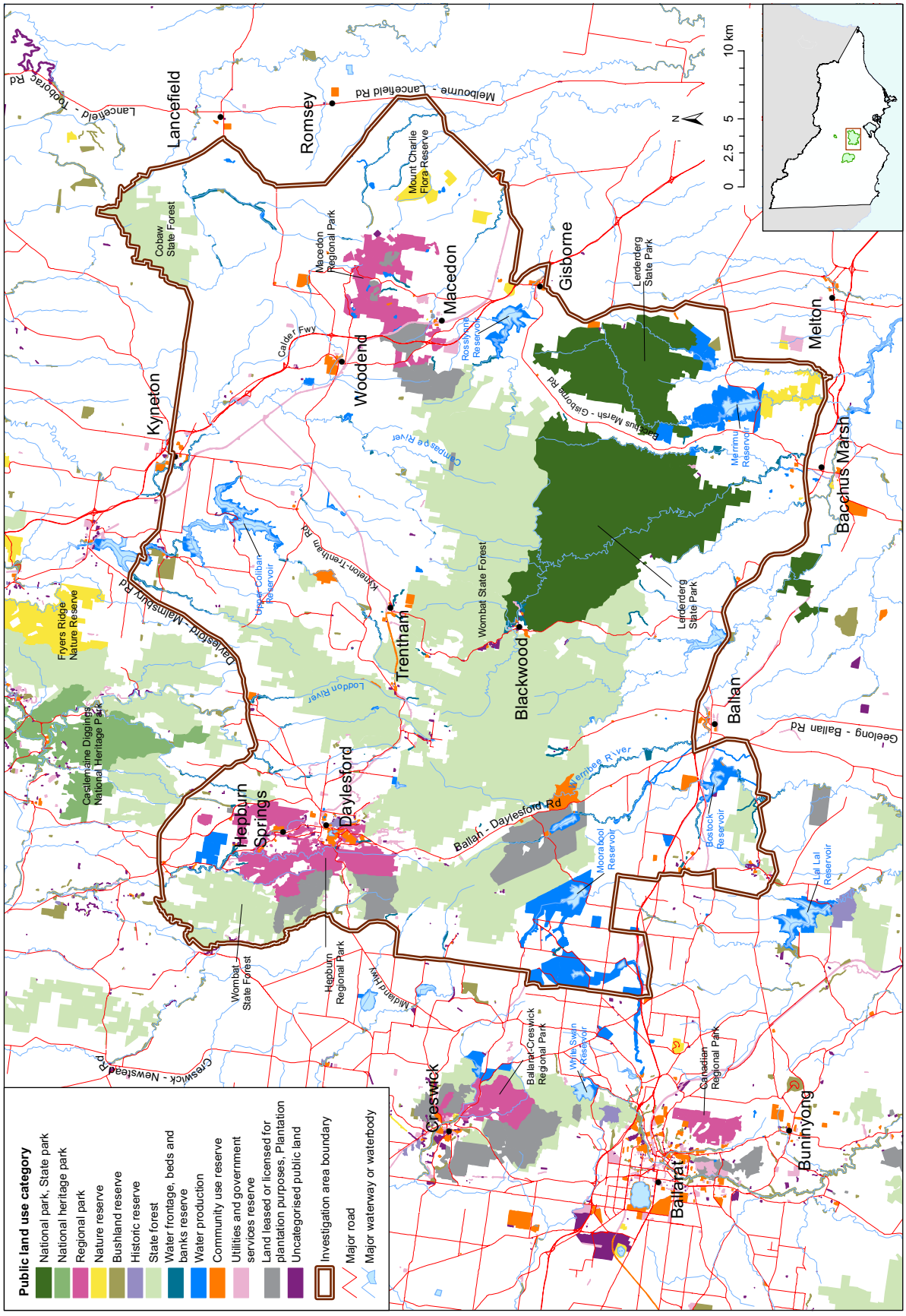
Through VEAC's Aboriginal community engagement project described in section 2.2, Dja Dja Wurrung and Wurundjeri expressed their interests and views on issues relevant to the Central West Investigation, including appropriate land management and ways to conserve and enhance cultural values. Their input was informed by direct engagement with Traditional Owners and Aboriginal communities as well as the Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024, the Dja Dja Wurrung RSA (2013) and, for Wurundjeri, the Merri Creek Aboriginal Cultural Values Report for Melbourne Water 2012. The 'Taungurung Buk Dadbagi' Taungurung Country Plan 2016 was also considered.

The Aboriginal community engagement project report is available on the VEAC website, and makes the following key points:

Cultural heritage

- The area contains many cultural values for Dja Dja Wurrung, Wurundjeri, Taungurung and Wadawurrung people.
- An extensive list of cultural values is presented in the project report for Dja Dja Wurrung and Wurundjeri.

Figure 7.1 Wombat–Macedon block: current public land use



- The project report includes a Dja Dja Wurrung and Wadawurrung word list for flora, fauna, landscape features and place names.
- Cultural values can relate to creation, burials, stone, mound/occupation sites, routes, history, and flora and fauna.
- Culturally important flora and fauna for food, fibre, medicinal and ceremonial purposes (e.g. for smoking ceremonies) are present but not always abundant in the landscape.
- There is a need to strengthen understanding of where significant sites and artefacts occur on country.

Dja Dja Wurrung

- The area is highly valued by Dja Dja Wurrung people and is significant for water catchments and connections to neighbouring cultural groups.
- The area is 'complicated' because of multiple classifications and Traditional Owner boundaries.
- Dja Dja Wurrung see that overall Country is in average condition with isolated areas of values; however broadly food and fibre are not abundant.
- The health of headwaters is seen as being in generally poor condition.
- The area is so diverse that historically it enabled people to stay there for long periods of time.
- Mineral water and the natural springs in the area are culturally important, including for ceremonial purposes and sustaining medicinal plants.
- The area is important for tourism and this may present potential economic development opportunities for Dja Dja Wurrung (and other Traditional Owners) in the future.
- Dja Dja Wurrung are concerned about major threats to, and impacts on, natural and cultural values including ongoing timber harvesting, mining, inappropriate fire regimes and recreational use.
- There is a need for balance between protecting Country while allowing public access.
- 'Gardening' the environment to bring back important species for food, fibre, smoking ceremony and medicines is very important.

"We are gardeners of the environment. We care for the land and it provides for us."

Dja Dja Wurrung Country Plan Dhelkunya Dja 2014-2024

- Dja Dja Wurrung aspire to have greater support for their RSA, including greater resourcing.
- Dja Dja Wurrung require greater resourcing for the group to lead or independently undertake projects.
- Resource support by the State to manage Country is lacking.
- Dja Dja Wurrung see promotion and consideration of their Country Plan as important, including as part of the Central West Investigation.
- Country needs restoration to address the extensive landscape modification that has occurred since European settlement and requires the group's involvement in all aspects of landscape management.
- Headwaters need to be improved for Country health and upper catchment health and productivity.
- Dja Dja Wurrung prefer changes to public land use classification that limit the major threats and impacts (this also applies generally across all Dja Dja Wurrung Country).
- Grouping land units is useful and practical and that 'park' and 'reserve' categories provide better joint management and Aboriginal title opportunities.
- Dja Dja Wurrung people see strengthening the protection of this area as very important as culturally it is very significant.
- Joint management planning for this area could be extremely complex but could provide significant strategic benefits for landscape improvements, with many Traditional Owners involved.
- Dja Dja Wurrung see potential for surrounding state forest to be aligned with and included into the Hepburn Regional Park Joint Management Plan area, with a change in public land use classification.

Wurundjeri

- Wurundjeri have begun negotiations with the State under the *Traditional Owner Settlement Act 2010*.
- Wurundjeri see that overall Country is in average condition with isolated areas of values; however broadly food and fibre not abundant.
- The health of headwaters is seen as being in generally poor condition.

"Water is a significant element in the Indigenous customary economy, as it is the source of creation stories, resources traditionally used by Aboriginal people, and carries with it long traditions of cultural practices and history."

Merri Creek Aboriginal Cultural Values Report

- Wurundjeri are concerned about major threats to, and impacts on, natural and cultural values including from timber harvesting and mining.
- There is support for ongoing timber production and utilisation but not upon native forests.
- There is Wurundjeri support for 'park type' public land use classifications that will not impede the groups' cultural rights and their potential future uses.
- Wurundjeri expressed qualified support for national park classification.
- Wurundjeri do not want reclassification of existing parks to inhibit what they do now or in the future.
- Wurundjeri want to be respected, and resourced, to undertake land management activities.
- Wurundjeri need government land managers to involve the group in activities by supporting them with resources.
- A key Wurundjeri aspiration is to provide a holistic approach to working on traditional Country. Wurundjeri have an established Natural Resource Management team, called the Narrap Team, to support this aspiration.
- The engagement methodology described in the Merri Creek Aboriginal Cultural Values Report for Melbourne Water December 2012 is a preferred model to be considered in future engagement, including with VEAC. This includes several components including desktop reviews, community engagement, engagement of Wurundjeri Elders and members, on-Country visits, workshops and other face-to-face meetings and discussions.

Wadawurrung

At the time of writing, VEAC acknowledges that Wadawurrung were not given adequate opportunity to properly engage in relation to the Central West Investigation Draft Proposals Paper. VEAC appreciates that Wadawurrung is in the midst of developing its own Healthy Country Plan which in turn will provide valuable insights and information to inform VEAC and other stakeholders about Wadawurrung aspirations and goals to heal and better care for Country - inclusive of catchments, waterways, flora and fauna.

Taungurung

The Aboriginal community engagement project distilled the following points from the 'Taungurung Buk Dadbagi' Taungurung Country Plan 2016, with the project report making particular reference to the Caring for Our Country section (p 27, one of six key priorities for action):

- Taungurung People have commenced negotiations with the State under the *Traditional Owner Settlement Act 2010* and the rights, interests and aspirations expressed in the Country Plan are key to any negotiated agreements.
- The Country Plan is key to guiding and promoting broad awareness of Taungurung cultural values, rights and interests in Country.
- One important purpose of the Country Plan is to educate and guide those making decisions about Taungurung Country, such as government authorities.
- Taungurung, through their Country Plan, have specific aims to strengthen relationships with land and water management agencies and community organisations that care for Country.
- Rock art sites are currently a key priority for Taungurung.
- Language is at the core of identity and culture for Taungurung People and a Taungurung language dictionary has been produced with over 200 pages of carefully researched translations.
- A Taungurung language application has also been developed, available on the Apple App store.
- Taking care of waterways is important.
- The Campaspe River forms part of the boundary between Taungurung and Dja Dja Wurrung.

"Country is the heart of Taungurung identity. The right and responsibility to care for Country, Culture and People are critical to the identity and wellbeing of Taungurung People now and into the future."

Taungurung Country Plan

- Re-vegetation with traditional plants, bush foods and medicines is an important aspiration.
- Taungurung cultural heritage, as evidenced by the array of information in the Country Plan, contains many broad similarities to the headings-based lists developed with Dja Dja Wurrung, Wotjobaluk and Wurundjeri.
- Further resourcing to gather, protect and preserve cultural heritage is urgently required.
- Taungurung traditional ecological knowledge (acquired over thousands of years) is very valuable and powerful as a natural resource management tool.
- It is a goal of Taungurung People to be leading threatened species monitoring, mapping, identification and protection.
- Taungurung expect hand back and to be active joint managers of parks and reserves, including as part of the *Traditional Owner Settlement Act 2010* outcomes. They also maintain their right to veto activities harmful to Country in parks.

7.3 Historic values

There are 28 sites in the Wombat–Macedon block listed on the Victorian Heritage Register, all of which are on public land (see appendix 5). These include:

- 11 buildings and gardens in townships: three court houses, three railway stations, two botanic gardens, one school, one hospital and one mechanics institute
- five timber mill sites: four in the Wombat State Forest and one in Macedon Regional Park
- three gold mining sites in Hepburn Regional Park
- two mineral springs in Hepburn Mineral Springs Reserve
- Woodend and Macedon avenues of honour
- one road bridge and one railway bridge at Riddells Creek
- the Coliban water supply system
- Hanging Rock Reserve
- Cameron Memorial Cross in the Macedon Memorial Cross Reserve.

In addition to these sites, there is a large number of sites of local and regional significance in the Wombat–Macedon block following a similar set of themes as the sites of state significance. These sites mostly occur in two main clusters in the old goldfields around Daylesford and Blackwood.

7.4 Natural values

7.4.1 Geology and geomorphology

The long geological history of the Wombat–Macedon block has resulted in many impressive and significant geological sites. The oldest rocks in the block are Ordovician to Silurian age (490-440 million years ago) sedimentary rocks which outcrop throughout the Wombat range and are exposed at the base of the spectacular river cutting at Lerderderg Gorge.

Devonian age (420-360 million years ago) granites have been emplaced in the Ordovician rocks and later erosion has exposed these as the prominent elevated landscape features of the Macedon and Cobaw ranges.

The area around Bacchus Marsh-Pykes Creek is host to many important outcrops of Permian age (300-250 million years ago) glacial sedimentary rocks and features. These sites have provided important evidence used to reconstruct the history of the ancient supercontinent of Gondwanaland.

Although many of these sites are on private land or difficult to access locations along streams, water reservoirs and roadside cuttings, there are other sites where glacial rocks are at least partly accessible, particularly along the Lerderderg River. In the past, Permian age rocks from this area were used for buildings such as the Old Treasury and Parliament House in Melbourne.

A small nature reserve near Bacchus Marsh, known as the Council Trench, has exposures of sedimentary rocks that are the only known Triassic age (250-200 million years ago) rocks in Victoria.

Over the last six million years, volcanoes erupted across southwestern Victoria and the remains of these eruption centres and their resultant lava flows are scattered around the much older sedimentary and granitic ranges. These volcanoes include the notable pinnacles at Hanging Rock and the nearby Camels Hump, both with unusual geochemistry, and the more typical basaltic volcanics at Mount Bullengarook, Mount Franklin, Mount Gisborne and Wombat Hill in Daylesford. Trentham Falls provides an excellent location to view a cross-section of a basaltic lava flow with a 15-metre cliff face at the falls exposing columnar jointing. Mineral springs waters that the Hepburn region is famous for are thought to be derived from carbon dioxide entering groundwater during these Newer Volcanics eruptions.

A total of 47 sites of geological and geomorphological significance have been identified in the Wombat–Macedon block comprising one

site of national significance (Hanging Rock near Woodend), nine of state significance, 19 of regional significance and 17 of local significance (see appendix 6). One site of unknown significance, the Upper Coliban Dam quarry xenolith site, has been destroyed and specimens are held by Museum Victoria. The nine sites of state significance are:

- Camels Hump, Woodend
- Willeys quarry, Macedon
- Mount Franklin, Daylesford
- Lerderderg Gorge, Bacchus Marsh
- Lerderderg River Permian sequence, Bacchus Marsh
- Korkuperrimul Creek, Myrniong
- Bacchus Marsh Council Trench
- Hepburn Springs
- Pykes Creek Permian glacial features, Greendale.

7.4.2 Biodiversity

Ecological vegetation classes

Through the Convention on Biological Diversity, the Australian and Victorian governments are committed to establishing a representative protected area system. For terrestrial areas, this is largely achieved through the National Reserve System which, via criteria for comprehensiveness, adequacy and representativeness, sets targets at the ecosystem level. In Victoria, Ecological Vegetation Classes (EVCs) are used as ecosystem surrogates. Table 7.1 shows the extent of key EVCs in the Wombat–Macedon block, and their representation in the protected area system. Section 2.4.2 provides background on the protected area system and an overview of VEAC's approach to calculating protected area shortfalls and appendix 4 provides more detailed information.

As shown in figure 2.1, the majority of the Wombat–Macedon block is in the Central Victorian Uplands bioregion (87 per cent) with the remaining areas in the Goldfields bioregion (seven per cent) located northwest of Daylesford, and the Victorian Volcanic Plain bioregion (six per cent) along the southern and eastern edges of the block. Table 7.1 shows the extent of the key EVCs in the block, from the total of 66 bioregional EVCs in the block: 32 in the Central Victorian Uplands, 12 in the Goldfields and 22 in the Victorian Volcanic Plain.

Key points from VEAC's analyses are as follows:

Victorian Volcanic Plain

- There is little opportunity to improve protected area representation of EVCs in the Victorian Volcanic Plain because, while the original extent of Victorian Volcanic Plain within the Wombat–Macedon block is 14,330 hectares, only two EVCs in this bioregion have more than 15 hectares on public land in the investigation area that is not already in protected areas: 380 hectares of Plains Grassy Woodland and 81 hectares of Plains Grassland. Nearly all the remaining extent of these EVCs is in numerous small, often narrow patches (e.g. roadsides). Such patches are often in poor condition and present management problems as potential protected areas.

Central Victorian Uplands

- In the Central Victorian Uplands bioregion, four EVCs have large shortfalls in protected area representation (more than 700 hectares) as a percentage of the area of public land available (larger than 25 per cent shortfalls): Valley Grassy Forest, Grassy Forest, Herb-rich Foothill Forest and Herb-rich Foothill Forest/Shrubby Foothill Forest Complex. Shortfalls for these EVCs in the Wombat–Macedon block are 2148, 709, 6319 and 1076 hectares respectively.
- Swampy Riparian Woodland and Creekline Herb-rich Woodland have smaller shortfalls (148 and 265 hectares) but have high shortfall percentages of 100 and 83 per cent resulting in the representation targets for these two EVCs being relatively difficult to meet.
- An additional four EVCs have moderately large shortfalls (between 386 and 684 hectares) compared to the area of public land available (shortfall percentages of 48 per cent or higher). These four EVCs are: Box Ironbark Forest, Grassy Woodland, Grassy Dry Forest and Plains Grassy Woodland with shortfalls of 684, 614, 442 and 386 hectares respectively. The representation targets for these EVCs are likely to be moderately difficult to meet.
- Some EVCs are not found in the other two blocks of the Central West Investigation area; e.g. Herb-rich Foothill Forest/Shrubby Foothill Forest Complex is only found in the Wombat–Macedon block.

Goldfields

- In the part of the Goldfields bioregion within the Wombat–Macedon block, the EVC with the third largest extent is Valley Grassy Forest. The shortfall for this EVC is large (719 hectares) compared to the area of public land available (81 per cent).
- Two EVCs are moderately extensive and have shortfalls (relative to available public land) of 100 per cent: Stream Bank Shrubland (159 hectares) and Creekline Herb-rich Woodland (136 hectares).
- Only three of 12 EVCs in the Goldfields bioregion within the block have public land in protected areas. The amounts for each are small: 33, 7 and 3 hectares.
- Two EVCs are moderately extensive and have lower shortfalls of 19 and 23 per cent: Herb-rich Foothill Forest and Grassy Dry Forest. These represent an opportunity for relative flexibility for the representation of these EVCs to be increased in the investigation area.

Strategic Biodiversity Values analyses

The Strategic Biodiversity Values analyses commissioned by VEAC for this investigation are outlined in appendix 4. These analyses combine information on areas important for threatened flora and fauna, and vegetation types and condition to provide a view of relative biodiversity importance of parts of the Victorian landscape.

In the statewide analysis of biodiversity habitat values (see map E), the Wombat–Macedon block has mostly medium to high rankings, particularly across the northern slopes, northwest of Daylesford and in Long Forest mallee.

In the Central West analysis of public land outside protected areas (see map F), the Wombat forest contained the most extensive areas of high rankings. Rankings in the Goldfields bioregion northwest of Daylesford were generally medium. Mount Macedon and the Cobaw and Bungal state forests had patches of high values. The local patterns within the Wombat–Macedon block are influenced by the habitat value of damper forests and riparian vegetation to a wider variety of rare and threatened species.

Significant species

The variety of vegetation types in the Wombat–Macedon block provide habitat for a high diversity of flora and fauna, and 99 rare or threatened species have been recorded here, with a further eight species that form part of the threatened woodland bird community.

Of particular interest are hollow-dependent species which rely on the remaining patches of old trees and mature habitat in a forest that is mostly young regrowth. For example, there have been many recent records of the threatened brush-tailed phascogale in the heathy dry forest northwest of Daylesford. Good numbers of greater glider are also being recorded in the wetter forests of the central Wombat ranges; this constitutes the only population of this threatened species west of the Hume Highway. The presence of breeding powerful owls is significant, as this species requires very extensive areas of forest to provide an adequate food source of possums and gliders, and usually nests in large hollows high up in old living eucalypts.

Threatened flora species in the Wombat range include the small sickle greenhood orchid found near Trentham, Brooker's gum and the endemic Wombat bossiaea (a leafless pea bush) which appears to be a colonial species. The Wombat range is also a stronghold for rare species including the Wombat bush-pea, wiry bossiaea, dwarf silver wattle and creeping grevillea.

The Long Forest Nature Conservation Reserve of approximately 600 hectares has a disproportionately high diversity of plants (approximately 400 species) and birds (174 species recorded over a 24 year study) because it contains habitats that are much drier and less fertile than the nearby Wombat range forests. The dominant rocky chenopod woodland vegetation in the reserve and adjacent land owned by Southern Rural Water is listed as a threatened community. It is dominated by bull mallee, in the only occurrence of mallee south of the Great Dividing Range, and features many species of saltbush which are usually associated with more arid vegetation types. More than half of the threatened Victorian temperate woodland bird community have been recorded here, and its importance as a flyway for various species moving between the ranges and the plains has been established.

The Cobaw range is mainly covered with damp mixed-species herb-rich forest in various stages of regrowth after logging that occurred until the 1990s, and fires over most of the central and eastern sections of the forest. Despite this history, there are few significant weed infestations. A survey carried out in autumn 2017 for mammals (other than bats) recorded 12 native species

Table 7.1 The extent and protected area shortfall for key bioregional EVCs in the Wombat–Macedon block, according to shortfall category[1]

A	B	C	D	E	F	G	H
Ecological Vegetation Class (EVC) and bioregion name[2]	**Extent in Wombat–Macedon block (ha)**					**Block shortfall (ha)[3]**	**Shortfall as % of other public land[4]**
	Pre-1750	Current	Private land	Protected area	Other public land		
Very little flexibility in meeting representation target[1]							
Valley Grassy Forest CVU	16,804	9350	6895	307	2148	2148	100
Valley Grassy Forest GoF	2158	1632	712	33	886	719	81
Grassy Forest CVU	7481	4173	3464	<1	709	709	100
Box Ironbark Forest CVU	4099	3643	1239	1697	707	684	97
Grassy Woodland CVU	10,613	3628	2944	70	614	614	100
Plains Grassy Woodland CVU	14,418	2174	1785	2.9	386	386	100
Plains Grassy Woodland VVP	10,836	1976	1591	5	380	380	100
Creekline Herb-rich Woodland CVU	1437	791	461	10	320	265	83
Stream Bank Shrubland GoF	217	192	25	7	159	159	100
Swampy Riparian Woodland CVU	2949	993	845	0.4	148	148	100
Creekline Herb-rich Woodland GoF	164	163	27	0	136	136	100
Plains Grassland VVP	1227	657	535	41	81	81	100
Scoria Cone Woodland GoF	188	81	15	0	66	66	100
Plains Grassy Woodland GoF	1173	349	288	0	61	61	100
Little flexibility in meeting representation target[1]							
Herb-rich Foothill Forest CVU	58,650	30,363	18,899	407	11,058	6319	57
Grassy Dry Forest CVU	3999	3193	1925	347	920	442	48
Sedgy Riparian Woodland CVU	2688	2250	856	27	1366	473	35
Riparian Forest CVU	974	885	205	197	483	158	33
Herb-rich Foothill Forest/Shrubby Foothill Forest Complex CVU	5989	4533	519	0	4013	1076	27
Considerable flexibility in meeting representation target[1]							
Shrubby Foothill Forest CVU	38,692	36,674	4520	4139	28,015	2668	10
Grassy Dry Forest GoF	3220	2654	662	3	1988	453	23
Damp Forest CVU	2293	2134	448	26	1,660	324	20
Herb-rich Foothill Forest GoF	1474	1141	230	0	911	170	19

[1] Shortfall categories:

- Very little flexibility in meeting representation target: EVCs for which the shortfall (column G) is more than 80 per cent (column H) of the area potentially available from other public land (column F)
- Little flexibility in meeting representation target: EVCs for which the shortfall is 25-80 per cent of the area potentially available
- Considerable flexibility in meeting representation target: EVCs for which the shortfall is less than 25 per cent of the area potentially available

[2] Bioregion abbreviations: CVU = Central Victorian Uplands; GoF = Goldfields; VVP = Victorian Volcanic Plain

[3] Block shortfall (ha) = the area in hectares that would be required to be acquired from other public land in order for the Wombat–Macedon block to make a proportionate contribution to meeting the shortfall across the investigation area. As outlined in section 2.4.2 and appendix 4, VEAC has considered bioregional EVC shortfalls across the investigation area rather than block-by-block

[4] Shortfall as % of other public land = the block shortfall (column G) as a percentage of the area of other public land from which that shortfall could be met (column F)

Interpreting this table

This table shows, for example, that while adding only 614 hectares of Grassy Woodland EVC in the Central Victorian Uplands bioregion to protected areas would meet the target for this EVC, this figure amounts to all of that EVC on public land. This can be difficult to achieve if those areas are fragmented, coincide with incompatible uses or do not coincide with other natural values such as threatened species habitat. On the other hand, while more than four time as much Shrubby Foothill Forest in the same bioregion is required to meet the target for that EVC (2668 hectares), there are 28,015 hectares from which that area could be selected providing greater flexibility, particularly in avoiding uses incompatible with nature conservation and selecting practicable management boundaries.

Other EVCs

Forty-three other EVCs not shown in table 7.1 are found in the Wombat–Macedon block. Seven of these are excluded because their current protected area representation meets the notional targets: Heathy Dry Forest CVU, Heathy Woodland CVU, Lowland Forest CVU, Rocky Chenopod Woodland CVU, Shrubby Dry Forest CVU, Heathy Dry Forest GoF and Sedgy Riparian Woodland VVP. Another five do not occur on public land outside protected areas: Escarpment Shrubland CVU, Plains Grassy Wetland CVU, Plains Woodland/Plains Grassland Mosaic CVU, Escarpment Shrubland VVP and Shrubby Foothill Forest VVP. The other 31 EVCs have shortfalls across the investigation area of less than 50 hectares, and often occur in many patches of much smaller size again. As a result, protected area inclusion for these EVCs needs to be considered on an individual basis as issues such as the management viability of such small areas come into play. These 31 EVCs, bioregion name[2] and their block shortfalls[3] in hectares (ha) are listed below. Full details for all 43 EVCs across the investigation area are provided on VEAC's website.

- Grassy Woodland GoF: 41 ha
- Shrubby Dry Forest GoF: 41 ha
- Stream Bank Shrubland CVU: 37 ha
- Riparian Woodland CVU: 35 ha
- Sedgy Riparian Woodland GoF: 31 ha
- Swamp Scrub CVU: 25 ha
- Scoria Cone Woodland CVU: 18 ha
- Swampy Riparian Woodland VVP: 15 ha
- Herb-rich Foothill Forest VVP: 14 ha
- Stream Bank Shrubland VVP: 14 ha
- Plains Sedgy Wetland VVP: 12 ha
- Red Gum Swamp CVU: 9 ha
- Plains Grassy Wetland VVP: 7 ha
- Grassy Dry Forest VVP: 6 ha
- Valley Grassy Forest VVP: 6 ha
- Plains Grassland CVU: 4 ha
- Red Gum Swamp VVP: 4 ha
- Riparian Woodland VVP: 4 ha
- Wet Forest CVU: 3 ha
- Creekline Herb-rich Woodland VVP: 3 ha
- Grassy Woodland VVP: 3 ha
- Montane Grassy Woodland CVU: 2 ha
- Montane Grassy Woodland/Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU: 2 ha
- Plains Woodland/Plains Grassland Mosaic VVP: 2 ha
- Wetland Formation CVU: 1 ha
- Herb-rich Foothill Forest/Shrubby Foothill Forest Complex GoF: 1 ha
- Grassy Forest VVP: 1 ha
- Box Ironbark Forest VVP: <1 ha
- Heathy Dry Forest VVP: <1 ha
- Riparian Forest VVP: <1 ha
- Rocky Chenopod Woodland VVP: <1 ha

including, for the first time, the brush-tailed phascogale, mountain brush-tailed possum and feathertail glider. The high density of agile antechinus (despite the lack of fox control in the forest) was very positive, as this species forms a significant part of the diet of larger animals including owls and reptiles. Koalas were absent, although they were recorded in a previous 1980 survey. The Cobaw range is sufficiently large to provide effective habitat for populations of many woodland birds and threatened species such as the powerful owl. The effectiveness of this intact habitat is increased by the network of native vegetation remnants connecting to other public land blocks including Macedon Regional Park. Several habitat restoration projects linking the Cobaw range to other areas of forest have been underway for many years.

Significant sites

Patches of mature forest and large old trees are rare and important habitat elements in the Wombat–Macedon block as they provide nesting hollows, high roosting sites and larger volumes of nectar than do young regrowth trees. Many of these sites occur in swampy riparian areas and gullies in the suite of headwaters that characterises the main Wombat range, where conditions were too wet or steep for large scale timber harvesting, and they include threatened riparian and creekline EVCs. Trees retained under the shelterwood harvesting system introduced in the mid 1970s are also important as they will form the next generation of large old trees.

The higher elevation at Mount Macedon supports mountain ash forest with patches of snow gum, more typical of the cooler wetter forests in eastern Victoria.

Site condition

The native vegetation of the Wombat–Macedon block scores highly for modelled site condition with the Wombat State Forest and the western block of the Lerderderg State Park having medium-high site condition. Peripheral forests (e.g. the Pyrete Ranges, Cobaw, Macedon, Dry Diggings and the Wombat State Forest near Barkstead) are generally in poorer condition around their edges than in the central parts of each forest. Generally, drier forests north of Daylesford are noticeably poorer in condition.

Recent timber harvesting history is only incidentally incorporated into DELWP's site condition modelling, largely on the basis that the period of its impacts on site condition are considered to be relatively short term. Even if that is the case, the current site condition of much of the Wombat State Forest is clearly showing evidence of the impacts of the intensive timber harvesting between 1991 and 2010 (see figure 2.6).

Timber harvesting and regeneration methods since European settlement have changed much of the Wombat–Macedon state forests from mixed-age forests to more uniform dense stands of smaller and straighter trees. In the Wombat forest, the over-cutting that occurred during the goldrush was followed by a long period of selective harvesting and thinning from the 1930s until the 1970s that aimed to protect water production values. Subsequently a combination of high intensity logging and hot regeneration burns has resulted in dense regeneration over much of the forest.

Most of the Cobaw forest, apart from the western side, has been burnt in recent years, including by escaped fuel reduction burns in 2010 and 2015.

Pest plants such as blackberries and feral animals including goats, pigs and deer are a serious problem in some parts of the Wombat–Macedon block.

Landscape connectivity

The Wombat–Macedon block generally scores highly for landscape context. As in the site condition modelling, the Wombat State Forest and the western block of the Lerderderg State Park have a high landscape context score and are identified as a largely-intact landscape – the only such landscape between the Grampians and the eastern highlands.

VEAC's analysis of landscape connectivity reveals areas of particular importance for maintaining connectivity between the smaller, more fragmented areas of land (such as areas around Hepburn and Macedon regional parks, the plantations near Korweinguboora, Bungal State Forest and Long Forest Nature Reserve). These narrow strips of vegetation are important to the movement of less mobile species and so are the highest priorities to be corridors of connectivity.

7.5 Resource uses

7.5.1 Wood products

Commercial wood products

After harvesting in the earliest years of European colonisation associated with the gold rush and subsequent settlement, the Wombat forests recovered sufficiently to enable an unusually intensive level of harvesting between 1990 and 2006. Figure 2.6 shows around half the forest as

having been logged in this period. In the western two-thirds of the forest, about three-quarters of the forest was harvested. This harvesting supplied sawlogs to local and other mills, some minor forest products and wood chips, including for export from Geelong.

The harvesting was not only spatially intensive but also intensive at the coupe level with clearfelling or shelterwood harvesting (effectively clearfelling in two stages) being the predominant methods. Strong community opposition to such harvesting has seen it cease since 2006, with subsequent harvesting restricted to minor forest produce – including domestic and commercial firewood – usually with the aim of improving the silvicultural value of the forest in anticipation of a return to sawlog harvesting in the future.

In 2013 the then Department of Environment and Primary Industries estimated the sustainable sawlog harvest volume at 10,600 cubic metres per year through until 2035, compared to an earlier figure of around 5000 cubic metres per year for the same period. Both the 2013 and earlier estimates had the volume gradually increasing to around 22,000 cubic metres per hectare towards the end of the century. All these estimates were derived using the same relatively high annual growth increment as Mount Cole State Forest (1.56 cubic metres per hectare per year).

VicForests advises that currently the Wombat State Forest sustains a number of commercial firewood cutting operations, varying in scale from 200 to 1000 cubic metres per annum, currently taken from regrowth coupes across the forests using thinning systems.

VicForests advice indicates about two-thirds of the forest to be of high relative value, mostly mixed species forests and that, at the 10,600 cubic metres per year volume referred to above, the forests could support one or more small sawmills similar to that currently operating with timber sourced from the Mount Cole area.

The 2017-2020 Timber Utilisation Plan has 62 coupes in the Wombat–Macedon block totalling 4115 hectares. Of these, 59 coupes are scheduled for multi-aged stand management, two are scheduled for forest management operations, and one is scheduled for even-aged stand management. The coupes are mostly distributed in the west of the block around Korweinguboora and in the part of the Wombat State Forest north of Bullarto. The two coupes scheduled for forest management operations – located southeast of Korweinguboora near Blakeville – are large compared to the other coupes, totalling 1140 hectares (almost a quarter of the area identified as coupes in the Wombat–Macedon block). Forest management operations include the removal and sometimes the utilisation of product resulting from natural events or forest management operations, such as storm damage or hazardous tree removal.

Domestic firewood

Coupes in the Wombat forest have been thinned for silvicultural purposes and to produce firewood for commercial markets and domestic use for decades. Usually this occurs in regrowth that is approximately 40 years old, and often results in coppicing from the stumps that remain after harvesting. Since the cessation of the domestic firewood permit system in 2011, anecdotal evidence from land managers and local residents suggests that there has been a large increase in the volumes taken from domestic firewood coupes, and also wood theft from parks as well as state forest in the Wombat–Macedon block.

7.5.2 Earth resources

Gold mining is central to the land use history of the Wombat–Macedon block, and exploration and mining activities in the Central West Investigation area continue to focus on gold. Within the block there are a small number of current mining licences, extractive industry tenements and prospecting licences covering a total area of 1033 hectares.

Figure 2.5 shows the locations of the various earth resource licences and tenements in the Wombat–Macedon block. There are ten mining licences in the Wombat–Macedon block, mostly on public land and all located in the west of the block covering a total area of 124 hectares. They are mostly found in densely forested parts of the Wombat State Forest. The 13 extractive industry tenements are almost exclusively on private land other than small parts of one tenement near Tylden extending on to Crown land. Of the 13 tenements, eight are clustered together covering a large sand and gravel operation between the Lerderderg River and Gisborne-Bacchus Marsh Road. The five remaining tenements are located near Myrniong (two), Bullengarook, Tylden and Bullarto South. A four hectare prospecting licence is held mostly on private land near the far northwest corner of the block.

Eight exploration licences (current and pending) with a total area of around 40,000 hectares cover almost a quarter of the Wombat–Macedon block across both public and private land. Two exploration licences cover most of the eastern half of the Wombat State Forest north of Lerderderg

State Park and another two exploration licences cover the northwest part of the Wombat State Forest, parts of Hepburn Regional Park and some of the plantation land near Daylesford. Figure 2.2 shows the goldfields in the Central West Investigation area and surrounds. A number of goldfields are mapped in the Wombat–Macedon block covering a significant amount of the western half of the block.

There are few mapped extractive industry interest areas in the Wombat–Macedon block, with some smaller ones near the western and the southern boundaries of the block.

Historical mining activity is concentrated in two clusters, one around Daylesford and one between Trentham and Greendale especially around Blackwood. Mapped alluvial diggings and old mine shafts (named and unnamed) mostly occur in the same two clusters. Few records of mining activity, alluvial diggings or mine shafts are found east of the Trentham-Greendale cluster.

7.5.3 Apiculture

There are 143 bee sites located in the Wombat–Macedon block. Bee sites are densely distributed across the block except for plantation land, Lerderderg State Park and Macedon Regional Park. All are category one bee sites (smaller ranges with a radius of 800 metres) and most are relatively recently designated, largely to accommodate bees in the lead up to the almond pollination season in northern Victoria.

7.5.4 Water production and supply

The Wombat–Macedon block makes significant contributions to water production, catchment and supply for the surrounding regional towns and for agricultural and horticultural industries. The block is bisected by the watershed of the Great Dividing Range, where on one side the rivers and streams flow inland to the Murray-Darling system and on the other side they flow south towards the coast.

The Wombat–Macedon block contains the headwaters of six major rivers within five catchment basins – the Loddon River, Campaspe (includes the Coliban River), Maribyrnong, Werribee (includes the Lerderderg River) and Moorabool River catchment basins (see figure 7.2).

The Werribee and Bacchus Marsh Irrigation Districts rely on three major storages in the Werribee River catchment basin: the Melton Reservoir (14,340 ML), the Pykes Creek Reservoir (22,119 ML) and the Merrimu Reservoir (32,215 ML). The latter two are located within and sourced largely from the Wombat–Macedon block. While the Pykes Creek Reservoir and Melton Reservoir mainly store water for irrigation, the primary use of the Merrimu Reservoir is to supply drinking water to Melton and Bacchus Marsh, and the remaining water is used for irrigation and the environment.

The Moorabool River contributes significantly to supply for Geelong and Ballarat.

The Loddon River is the second longest river in Victoria, flowing from the Wombat–Macedon block through Cairn Curran and Laanecoorie reservoirs, Kerang and ending at its confluence with the Little Murray River near Swan Hill. The Loddon River contributes to rural and irrigation supplies for a large part of northern Victoria as well as town supply for many regional towns including Bealiba, Dunolly, Tarnagulla, Laanecoorie, Inglewood and Bridgewater. Tributaries in the Upper Loddon catchment also provide supply for Daylesford and Maryborough. Additionally, the Loddon River (along with the Avoca River) is a significant water source for important wetlands in northern Victoria, including the Boort District Wetlands and the Ramsar-listed Kerang Wetlands.

The Coliban River flows north through the Upper Coliban, Lauriston and Malmsbury reservoirs and then into Lake Eppalock. The Campaspe River also flows into Lake Eppalock where it then continues north to Echuca and joins the Murray River. The Coliban and Campaspe contribute substantially to the water supplies of many regional towns (including Bendigo, Heathcote, Castlemaine, Kyneton, Maldon, Malmsbury and Harcourt) as well as some irrigation supplies further downstream.

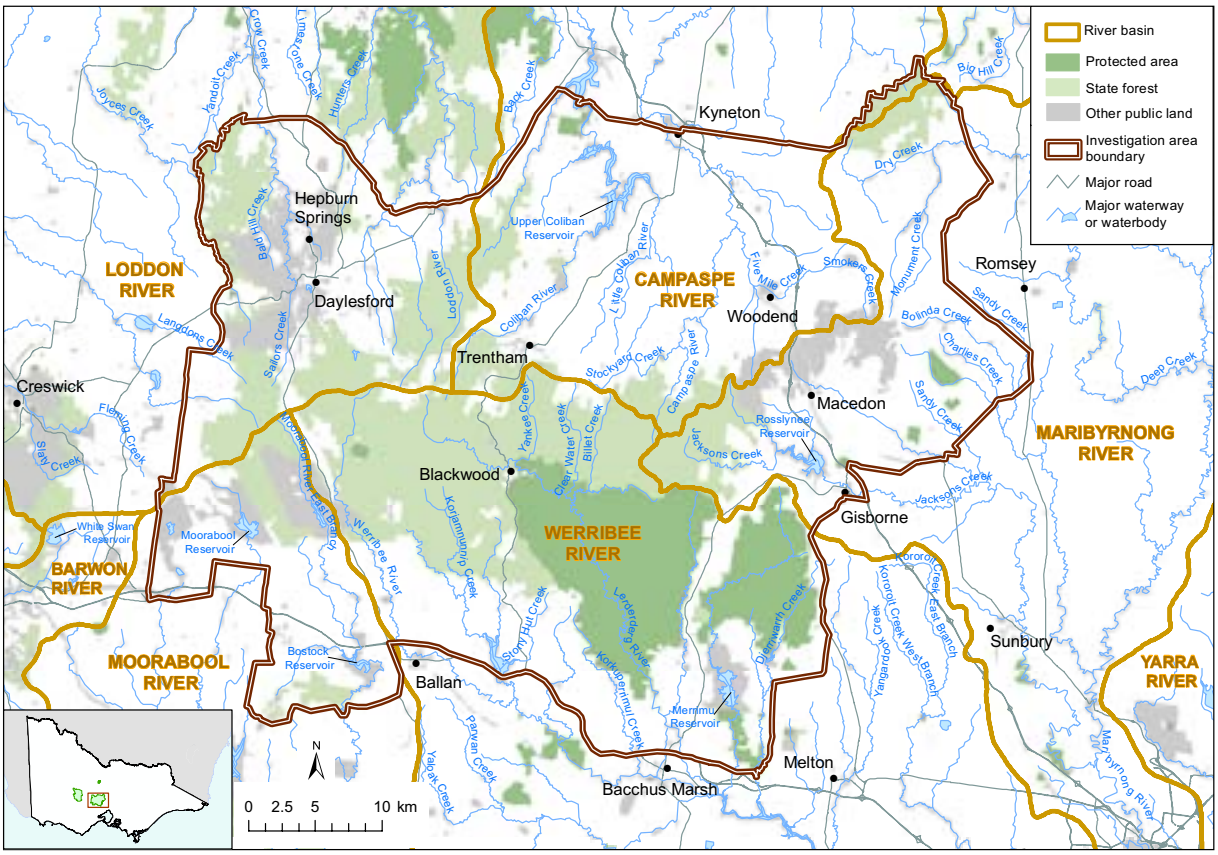
7.6 Recreational uses

7.6.1 Activities

The Wombat–Macedon block is used for a range of recreational activities by local residents, and the block's proximity to Melbourne – especially the northern and western suburbs – adds to the visitor levels making it a heavily used area of public land. Recreational uses include bushwalking, camping, nature study, picnicking, prospecting, trail bike riding, four wheel driving, mountain biking, horse riding and hunting. Other less prominent uses of the Wombat State Forest include the training of sled dogs and alpacas, and radio transmission competitions.

Some local residents walk their dogs on public land within the Wombat–Macedon block and visitors might bring their dogs with them on picnics or walks in the bush. There are many

Figure 7.2 River basins in the Wombat–Macedon block



popular day and multi-day walking trails that pass through the Wombat–Macedon block including the Goldfields Track (the main section of the 297-kilometre Great Dividing Trail).

Organised events are held regularly on public land in the Wombat–Macedon block, especially in the Wombat State Forest. These events require a permit from the respective land manager. A large number of the event permits issued for the Wombat State Forest are for orienteering or mountain bike events, or a combination of the two (orienteering while riding mountain bikes). Orienteering and rogaining events often take place around Daylesford, Barkstead and Bullengarook.

The areas around Fingerpost Road near the Macedon softwood plantations are frequently used for mountain bike endurance events, notably the Wombat 100 (or the Wombat 25, 50 and 75), a popular event offering various course lengths of 25 to 100 kilometres. There are well known tracks in this area, including the Wombat Loop tracks, and it can act as an easy entry point to the Wombat State Forest. Fingerpost Road and the surrounding areas are also popular with trail bike riders and four wheel drivers.

Firth Park, east of Trentham, is an important focus for recreation in the Wombat State Forest. It has parking areas for vehicles transporting trail bikes and horse floats. It also has temporary horse yards at the campground. Nearby accommodation options with horse facilities allow horse riders to stay in the area overnight with their horses.

Other event permits issued are for car rallies, four wheel driving events, music or dance festivals, wilderness experience and training, and defence force training. Two horse riding event permits were issued in recent years for the Wombat State Forest, one near Bullengarook and the other near Colbrook. Local pony clubs organise events and fundraisers and might use public land or a combination of public and private land. Scouts groups also sometimes hold events, such as hikes or navigation activities, on public land.

In 2017 the Eureka car rally returned to the Ballarat area after almost 50 years. Part of the annual event takes place on forest roads in the Wombat forest east of Blackwood and south of Bullarto requiring daytime road closures for these closed forest stages. The rally is the first round of the Australian Rally Championship and is a significant event for the region attracting around 50 competitors and hundreds of spectators.

Few events or activities requiring permits are held in the smaller public land units in the block, with only research permits and a commercial advertisement permit in Cobaw State Forest and orienteering in the Bungal State Forest.

7.6.2 Tourism

Natural assets such as extensive areas of forest, mineral springs and the volcanic history of the area together provide many natural attractions in the Wombat–Macedon block. Hanging Rock, Trentham Falls, Lerderderg Gorge and many multi-use forest tracks are highly visited sites. Mineral springs and spas, spa treatments and wellness therapies are popular in the Hepburn and Daylesford area.

Historic buildings and gold mining heritage are found in the townships. Unused railway tracks have been converted into walking and riding trails, such as the Domino Trail. The Wombat trail incorporates the old Trentham Racecourse into its route. Reservoirs are utilised for fishing and water sports and there are a number of campgrounds.

Day trips to local restaurants, wineries and farm-stays are popular as are overnight stays with a wide range of available accommodation options. Art galleries, studios and cultural heritage sites are visited by those interested in art and history. Various parks and gardens are also found in the area, including botanic gardens, orchards and a lavender farm.

Llama treks, hot air balloon flights and opportunities for the Japanese-inspired therapy of forest bathing also attract people to the Wombat–Macedon block.

Some recreational activities, such as mountain bike riding, road cycling and horse riding are a source of tourism for the area as they may be paired with overnight stays and associated dining.

Most of Australia's mineral springs are located in Victoria. The concentration of mineral springs around Daylesford and Hepburn Springs, which discharge from the fractured Ordovician bedrock aquifer, is unique in Australia. Mineral springs have long been valued for their health benefits, commercial bottling and as tourist attractions.

In 2015, the Victorian Mineral Water Committee finalised its *Victorian Mineral Springs Strategic Master Plan 2015-2024,* which provides a framework for the management and enhancement of 46 mineral springs located on Crown land in the Central Highlands and Geelong areas of Victoria. Most of these (41) are within the Wombat–Macedon block.

Hanging Rock is a famous landmark and tourist attraction on public land in the Wombat–Macedon block, with a long and significant cultural history and high environmental and recreational values. Macedon Ranges Shire Council and the Victorian government are working together on a new Master Plan for the Hanging Rock precinct.

The Daylesford and Macedon Ranges Regional Tourism Board is the peak tourism body for the area.

7.6.3 Education

There are three education areas in the Wombat–Macedon block: Spargo Creek (309 hectares), Tylden South (111 hectares) and Blackwood Youth Camp (7.4 hectares) education areas. The Spargo Creek and Blackwood education areas are used for various organised activities, such as use of the Blackwood education area by the Blackwood Outdoor Specialist School. The Tylden South Education Area has no infrastructure or facilities and is difficult to access; it does not appear to be used by the community as an education area.

7.7 Licensed uses and leases of Crown land

7.7.1 Water frontages

There is a relatively small amount of public land water frontage in the Wombat–Macedon block. Parts of these water frontages are covered by some 90 water frontage licences totalling around 250 hectares. These licences are mainly distributed around townships along minor waterways in areas surrounded by private land. Most of the licences allow grazing with a small number issued for riparian management and conservation. Key areas where there are several licences are along Korweinguboora Creek and Werribee River near Blakeville; Jim Crow Creek and Long Gully between Franklinford and Hepburn; the Coliban River near Trentham; Deep Creek near Cobaw and Charlies Creek east of Macedon; and Jacksons Creek and Gisborne Creek north of Bullengarook.

7.7.2 Unused roads

There are about 460 unused road licences (covering some 510 hectares) in the Wombat–Macedon block, most of which are for primary production, with a small number for afforestation and non-production uses. These licences are largely located around townships with a cluster between the main area of the Wombat State Forest and the area north of Bullarto – around towns such as Glenlyon, Musk, Bullarto, Bullarto South, Lyonville and Newbury. Other clusters of unused

road licences occur around Blakeville, Colbrook and Bunding in the southwest corner of the block and Woodend in the northeast corner of the block.

7.7.3 Utilities and other occupations

There are five water supply licences (covering about 20 hectares) in the Wombat–Macedon block, two of which are issued to water authorities for various purposes: weirs, pump house and pipelines near Blackwood (Central Highlands Water) and water supply near Cobaw (Western Water). The remaining three are near Bullarto, Korweinguboora and Trentham. Central Highlands Water also has a sewerage easement for Gordon near Ballan.

There are eight licences and one lease for radio, television and telecom sites across the block. Three rubbish depot licences are issued in the block with a total area of around 10 hectares: one to Macedon Ranges Shire Council (Woodend Transfer Station) and two to Hepburn Shire Council (Trentham Transfer Station and Daylesford Transfer Station).

There are two scout group licences in the block, one near Barrys Reef and another near Lauriston.

7.7.4 Other licences

There are 87 miscellaneous licences and leases in the Wombat–Macedon block covering some 70 hectares. There are various purposes, but examples include curtilage to a dwelling, conservation, vehicle parking, access and weed control.

7.8 Community views

Nearly one third (about 180) of submissions mentioned the Wombat–Macedon block specifically. Approximately half of these supported increased protection of the natural values of the area, or of natural values in general, and many, including some pro forma submissions, sought protection of the Wombat State Forest under the National Parks Act. About 40 submissions opposed more parks being created or opposed change in general.

About ten submissions requested that the Wombat State Forest be managed through sustainable harvesting and a few submissions supported it being managed as a commercial forest. Those requesting that the Wombat State Forest be protected under the National Parks Act stated that over-logging, gold mining and prospecting, and management issues were a threat to the Wombat State Forest.

Some 30 submissions proposed that domestic firewood collection be allowed to continue in the Wombat State Forest. Five submissions opposed this and a few supported reinstating the firewood collection permits or the use of private land for firewood plantations. A few submissions commented that access for beekeepers should be retained. Some submissions also suggested that there should be improved land management and maintenance of tracks.

Other submitters and attendees at community drop-in sessions commented on specific recreational activities, usually requesting that the activity not be restricted, e.g. prospecting, mountain bike riding, horse riding, four wheel driving, dog walking, camping, hunting and trail bike riding. Attendees at community drop-in sessions also commented frequently on land management issues such as planned burn regimes and pest plant and animal control.

There was widespread community support for increased protection of the natural values present in the Wombat–Macedon block. Stakeholders from most perspectives opposed intensive timber harvesting methods such as clearfell and shelterwood systems. In recent years, there has been significant community pressure to prevent sawlog harvesting and mining operations from taking place in the Wombat State Forest. Emphasis has been on the preservation of high value habitat with community groups opposing the removal of large, old trees which either already contain hollows or are likely to be hollow bearing in the future.

A common theme in submissions and other consultations was the awareness of increasing pressures on public land in the Wombat–Macedon block. The increasing numbers of people moving from Melbourne to towns such as Kyneton, Trentham and Daylesford, combined with the Wombat–Macedon block's proximity to Melbourne make it a popular day visitor destination, and there was concern that this is likely to continue increasing into the future.

Some members of the local community also argued for the protection of the water catchment and supply values of the Wombat State Forest. There are concerns that the removal of trees around the headwaters of major rivers in Victoria will significantly impact water quality and supply, as well as concerns about the risk of contamination from mining operations and associated works.

7.9 Issues

The high natural values of the Wombat–Macedon block were described by stakeholders and referred to in submissions and at the community drop-in sessions. VEAC's finding that this block generally has the highest strategic biodiversity values in the investigation area, as well as significant areas of under-represented ecosystems, aligns with this assessment.

The land use history of the area, including intensive timber harvesting in the Wombat–Macedon block during the gold rush and then again in subsequent years particularly between 1990 and 2010, has resulted in forest with limited capacity to supply timber in the near future. As a result of this history, and of what is seen by much of the local community as over-use of the natural resources of the area, there is significant opposition to further intensive timber harvesting methods and earth resource operations on public land.

There is community support for the Wombat State Forest to be protected in either a national park or state park. At the same time the forest is popular for many recreational activities, not all of which conform with national park status. Some submissions described a desire for greater protection but were concerned that if it were given park status, it would not be actively managed. They expressed concern that the forest would be left as is and the dense regrowth (following years of intensive harvesting) would remain, resulting in an altered forest structure.

State forests in the Wombat–Macedon block are also the main public land source of domestic firewood on public land for a number of towns in the area at present (Daylesford, Bullarto, Trentham, Blackwood and others). There are concerns around the availability of heating to some households in the area if the collection of domestic firewood on public land is not able to continue.

There are some local community concerns about the potential impacts of recreational uses e.g. trail bike riding, recreational prospecting and four wheel driving relating to environmental degradation and waterway sedimentation. The water catchment and supply values of the area are recognised by many in the community who oppose uses of the land that threaten these values. Recreational hunting has caused some concern, mostly in forested areas that are close to houses, such as Bullengarook and Barkstead; signs put up by land managers have asked hunters to hunt elsewhere in some areas.

Compliance operations relating to illegal uses of public land are an increasing issue for land managers.

It is likely that community concerns and conflicting land uses will increase as towns in the Wombat–Macedon block grow with people continuing to move into the area to live or to visit.

7.10 Draft recommendations

The draft recommendations for the Wombat–Macedon block have been developed in response to the combination of high natural values in a largely-intact landscape, widespread community opposition to a resumption of sawlog harvesting, and a rapid intensification of some recreational activities. Pressures on public land in the Wombat–Macedon block – given its proximity to Melbourne – are likely to continue increasing as Victoria's population grows.

The draft recommendations include:

- a large national park (comprising the existing Lerderderg State Park and much of the existing Wombat State Forest)
- two new conservation parks (one north of Daylesford and the other for the existing Cobaw State Forest)
- a new regional park that includes areas of the existing Wombat State Forest around Trentham and Blackwood and around Woodend and Bullengarook
- small additions to Macedon and Hepburn regional parks.

These recommendations, along with draft recommendations for smaller blocks of public land in the block, are shown on map D and inset maps G, H, I and J, and detailed in the section below.

The intention of these draft recommendations is to focus protection of threatened species and under-represented Ecological Vegetation Classes (EVCs) in the recommended national park and conservation parks along with compatible recreation, and manage the existing and recommended regional parks for the widest range of recreational activities. Most recreational activities, apart from some high-impact activities, will continue to be allowed in the recommended national parks (see table 7.2). The conservation parks proposed at Hepburn and Cobaw provide more scope for some recreational activities than national parks. The overall increased protection of natural values is consistent with the aspirations of Aboriginal Traditional Owners.

The draft recommendations comprise an essential component in eliminating shortfalls in protected area representation for the following priority EVCs:

- in the Central Victorian Uplands bioregion – Herb-rich Foothill Forest (7080 hectares added to protected areas, mostly in the recommended Wombat-Lerderderg National Park and Cobaw Conservation Park), Shrubby Foothill Forest (18,419 hectares mostly in the recommended Wombat-Lerderderg National Park), Shrubby Foothill Forest (3301 hectares in the Wombat-Lerderderg National Park), and three EVCs found in moist areas of Wombat-Lerderderg National Park: Sedgy Riparian Woodland (490 hectares), Riparian Forest (274 hectares) and Damp Forest (640 hectares)
- in the Goldfields bioregion – Herb-rich Foothill Forest (783 hectares, mostly in the recommended Wombat-Lerderderg National Park).

The draft recommendations would also substantially improve protected area representation of several other priority EVCs:

- in the Central Victorian Uplands bioregion – Valley Grassy Forest (704 hectares in the Cobaw Conservation Park and Black Forest Nature Reserve)
- in the Goldfields bioregion – Valley Grassy Forest (280 hectares in the Hepburn Conservation Park).

Protection of mature trees in the Wombat–Macedon block would provide increased nectar production for apiarists as well as the diverse range of nectarivorous animals that depend on this resource. Over the long term, it would increase the number of hollows available for hollow-dependent species.

Activities such as dog walking and recreational prospecting would be able to continue in the

What can you do in national parks, conservation parks and regional parks?

Many recreational activities such as four wheel driving, trail bike riding, mountain biking, horse riding and camping can take place in national parks as well as in conservation parks, regional parks and state forests. The rules for four wheel driving and trail bike riding are the same across parks, forests and other public land.

National parks are a key part of Victoria's protected area (or conservation reserve) system. Other protected areas in Victoria include nature reserves, conservation parks and bushland reserves. Protected areas in Victoria and around Australia use an international definition that requires them to be managed mainly for the conservation of nature and associated ecosystem services (such as protecting water catchments) and cultural values. National parks are managed mainly for protection of the natural environment and nature-based recreation.

Because national parks are managed for conservation and compatible recreation, activities that extract natural resources such as recreational prospecting, firewood collection and hunting are not usually allowed. Other activities such as car rallies and horse riding on formed roads and tracks are often allowed, but controlled to reduce the impacts on the natural environment or on other recreational users. Dogs on leads or in cars may be allowed in restricted areas.

The conservation parks provide more scope for some activities than do national parks while still being managed primarily for conservation as part of the protected area system.

Victoria's regional parks are not protected areas according to the international definition as they are managed mainly for informal recreation for large numbers of people in natural or semi-natural surroundings. A wider range of activities is allowed than in national parks including recreational prospecting, and activities can also include some harvesting of minor forest produce such as domestic firewood. Dogs and horses are allowed. Hunting is not allowed as it conflicts with use by large numbers of other recreational users.

recommended regional parks. They are located where these recreational activities are already occurring, and aim to accommodate an increasing demand close to major towns. It is proposed that domestic firewood be available to supply local communities from ecological management of the recommended new regional parks or recommended additions to existing regional parks.

Impacts of these draft recommendations for the Wombat–Macedon block include the cessation of commercial timber harvesting (other than for minor forest produce in the recommended regional parks). Recreational hunting in the Wombat–Macedon block would be restricted to hunting for pest animals as part of authorised control programs at the discretion of the land manager.

Recommended new national park areas would not be available for new exploration and mining. Existing mining and exploration licences in new national park areas would continue, and mining following such exploration may be approved by Government.

No major changes are proposed to the land use classification for the mineral springs reserves in the Wombat–Macedon block. The springs should continue to be managed for a range of natural and recreational values and the ongoing availability of safe mineral water from the mineral spring in accordance with their individual character and setting.

No changes are recommended for the Hanging Rock Reserve. Council notes however the pressures on the natural and cultural values of the reserve from increasing visitor use.

In 2017, the Victorian government broadly accepted the recommendation in VEAC's Statewide Assessment of Public Land for rationalising and consolidating the system of public land use categories. The new categories have been adopted in the following draft recommendations (see appendix 1 for the revised categories). Of particular relevance for this investigation are the following statewide changes:

- revised national park category includes national park, state park, wilderness park
- new conservation park category includes many National Parks Act Schedule 3 'other parks'
- revised regional park category includes regional park, metropolitan park, forest park
- revised nature reserve category includes nature conservation reserve and natural features reserve sub-category geological and geomorphological features area
- revised bushland reserve category includes natural features reserve sub-categories bushland area, natural and scenic features area, and streamside area.

Table 7.2 Summary of allowed activities in major recommended areas of public land in the Wombat–Macedon block

Activity	Wombat-Lerderderg National Park	Hepburn Conservation Park	Cobaw Conservation Park	Hepburn Regional Park	Wombat Regional Park	Macedon Regional Park	Nature reserve	Bushland reserve
Apiculture[1]	✓	✓	✓	✓	✓	✓	✓	✓
Bushwalking	✓	✓	✓	✓	✓	✓	✓	✓
Camping	✓	✓	✗	✓	✓	✗	0[3]	0[3]
Nature observation	✓	✓	✓	✓	✓	✓	✓	✓
Four wheel driving[4]	✓	✓	✓	✓	✓	✓	✓	✓
Trail bike riding[5]	✓	✓	✓	✓	✓	✓	✓	✓
Bicycle riding (including mountain biking)[6]	✓	✓	✓	✓	✓	✓	✓	✓
Horse riding	0[7]	0[7]	0[7]	✓	✓	✓	✗	✓
Car rallies	0[8]	0[8]	0[8]	✓	✓	✓	0[8]	✓
Prospecting	✗	✗	✗	✓	✓	✓	✗	✓
Dogs	0[9]	0[9]	0[9]	✓	✓	✓	✗	✓
Domestic firewood collection	✗	✗	✗	✗	✓	✗	✗	✗
Recreational hunting[10]	✗	✗	✗	✗	✗	✗	✗	✗
Timber harvesting	✗	✗	✗	✗	0[11]	✗	✗	✗

✓ Allowed 0 Conditionally allowed (see notes) ✗ Not allowed

[1] Apiculture at existing licensed sites, subject to the 2013 *Apiculture (beekeeping) on public land* policy and operating procedure

[2] Camping not currently provided in these areas

[3] Camping in designated camping areas where provided and in other areas as specified by the land manager; may not be provided in smaller reserves, where there is high day visitor use or where there are ample camping opportunities on adjacent land

[4] Four wheel driving in registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road

[5] Trail bike riding by licensed riders on registered vehicles on formed roads and vehicle tracks open to the public, and on other roads and tracks as specified by the land manager; not allowed off road. The Cobaw trail bike visitor area will be retained

[6] Bicycle riding (including mountain biking) on formed roads and vehicle tracks open to the public, and on other roads, tracks and paths as specified by the land manager

[7] Horse riding on roads and tracks as specified by the land manager; no overnight camping with horses

[8] Competitive sections of car rallies generally not allowed in national parks, conservation parks and nature reserves; transport sections through these areas allowed

[9] Dogs may be allowed on lead in visitor areas, along a limited number of tracks, or in cars as specified by the land manager in management plans; no overnight camping with dogs. Dogs on lead will continue to be allowed at the Bacchus Marsh Trench Reserve

[10] Recreational hunting for pest animals will be allowed on public land if part of an authorised control program at the discretion of the land manager

[11] Harvesting of minor forest produce may be allowed such as for posts and poles, woodchop blocks, stakes, hobby wood and firewood in areas where this will promote the growth of large trees and improve ecological condition.

The draft recommendations for the Wombat–Macedon block are detailed below.

A3 Wombat–Lerderderg National Park

The proposed Wombat–Lerderderg National Park covers 52,853 hectares comprised of a large part of the existing Wombat State Forest and the Lerderderg State Park (20,469 hectares). It contains much of the only largely-intact landscape between the Grampians and the eastern highlands. The proposed park contains large amounts of under-represented EVCs (most notably, Herb-rich Foothill Forest and Herb-rich Foothill Forest/Shrubby Foothill Forest Complex) and high value habitat for many threatened species such as the small sickle greenhood orchid, wombat bossiaea, square-tailed kite, powerful owl, brush-tailed phascogale and greater glider. It is the largest block of habitat in western Victoria for species such as the red-browed treecreeper, common wombat and mountain brushtail possum.

The headwaters of five of the six major rivers in the existing state forest are included in the proposed Wombat-Lerderderg National Park.

State parks and national parks are managed in a similar way under the *National Parks Act 1975*. Inclusion of the Lerderderg State Park into the proposed Wombat–Lerderderg National Park would maintain existing management and improve public understanding of allowed uses.

Approximately 26 per cent (7420 hectares) of state forest proposed to be added to the Lerderderg State Park to create the new national park is Special Protection Zone. Commercial timber harvesting (sawlogs and all minor forest products) and domestic firewood collection would not be permitted in the new national park.

DRAFT RECOMMENDATION

A3 Wombat–Lerderderg National Park

That the area of 52,853 hectares shown on map D including additions of 28,629 hectares to the existing Lerderderg State Park be used in accordance with the general recommendations for national parks on page 63.

B1 Hepburn Conservation Park

The proposed Hepburn Conservation Park, covering an area of 2714 hectares, contains high natural values including significant amounts of two under-represented EVCs (Grassy Dry Forest and Valley Grassy Forest) scattered throughout the area, and a number of records of the threatened brush-tailed phascogale. Seventy per cent (1903 hectares) of the existing state forest recommended as conservation park is Special Protection Zone.

The park is contiguous with the Hepburn Regional Park over which Aboriginal title has been granted. Consideration could be given to managing the recommended Hepburn Conservation Park in the context of the joint management plan for the Dja Dja Wurrung appointed land. A future grant of Aboriginal title would be subject to the agreement processes in the *Traditional Owner Settlement Act 2010* and is outside the scope of VEAC's recommendations.

DRAFT RECOMMENDATION

B1 Hepburn Conservation Park

That the area of 2714 hectares shown on map D be used in accordance with the general recommendations for conservation parks on page 65.

B2 Cobaw Conservation Park

The proposed Cobaw Conservation Park will protect an area of public land surrounded mostly by cleared land that is sufficiently large (2532 hectares) to provide effective habitat for many woodland birds and threatened species, while also allowing some recreational activities to continue. The area is important for landscape connectivity between central west Victoria and the eastern highlands.

Several under-represented EVCs are present in the proposed park including significant amounts of Herb-rich Foothill Forest and Valley Grassy Forest. Recent surveys recorded high numbers of agile antechinus (an important part of the diet of larger animals like owls and reptiles). Other species recorded include the brush-tailed phascogale, mountain brush-tailed possum and feathertail glider.

Existing earth resource tenements and licences would continue unchanged but new exploration or mining operations will not be allowed. The whole area of existing state forest is currently Special Protection Zone and timber harvesting is not permitted.

The roads and tracks in the Cobaw forest are popular for trail bike riding and a visitor area is

provided with facilities to park and unload trail bikes, and obtain information on where to ride. These facilities will continue to be provided.

DRAFT RECOMMENDATION

B2 Cobaw Conservation Park

That the area of 2532 hectares shown on map D be used in accordance with the general recommendations for conservation parks on page 65.

C3 Hepburn Regional Park

The proposed changes to Hepburn Regional Park include four small areas of public land being added to the existing park: the Dry Diggings State Forest, two narrow sections located between the Hepburn plantations, and an area south of Daylesford near the Jubilee Lake Holiday Park and Wombat Dam.

The existing Hepburn Regional Park has been granted in Aboriginal title to the Dja Dja Wurrung Clans Aboriginal Corporation. Granting of Aboriginal title to the park additions would be subject to the agreement processes in the *Traditional Owner Settlement Act 2010* (TOS Act). As an interim step, VEAC proposes that the recommended additions be managed as part of the regional park in the context of the joint management plan for the five parks (including the existing Hepburn Regional Park) and one reserve that currently make up the Dja Dja Wurrung appointed land.

More generally, VEAC has recommended an amendment to the TOS Act that would provide for a process allowing future changes to Aboriginal title land by agreement (see draft recommendation R7).

DRAFT RECOMMENDATION

C3 Hepburn Regional Park

That the area of 4162 hectares including additions totalling 740 hectares shown on map D be used in accordance with the general recommendations for regional parks on page 67 and the joint management plan for the Dja Dja Wurrung appointed land.

C4 Wombat Regional Park

The recommended new Wombat Regional Park (9149 hectares) will cater for a broad range of uses including recreational uses such as prospecting and dog walking in addition to all the recreational uses allowed in the recommended Wombat–Lerderderg National Park.

Approximately 26 per cent (2345 hectares) of the recommended regional park is Special Protection Zone. Domestic firewood collection and some harvesting of minor forest produce would be allowed, but other commercial timber harvesting would not continue in the regional park.

The proposed Wombat Regional Park is in two parts, each near towns and areas of current high recreational use such as Firth Park campground and the Wombat Loop mountain bike riding tracks.

DRAFT RECOMMENDATION

C4 Wombat Regional Park

That the area of 9149 hectares shown on map D (located in two parts) be used in accordance with the general recommendations for regional parks on page 67.

C5 Macedon Regional Park

The existing Macedon Regional Park is the centrepiece of the Macedon Ranges tourism region – a major hub for visitors from the surrounding area, elsewhere in Victoria and Australia, and overseas. The landscape and history of the area lend a distinctive character to the visitor experience based around a diversity of attractions on private and public land, including other well-known public land sites such as Hanging Rock and the Memorial Cross.

The existing regional park is proposed to be retained, except for 177 hectares to become the new Black Forest Nature Reserve (see D17). After the completion of harvesting and expiry of current leases in 2020, 139 hectares of former pine plantation are proposed to be added to the regional park as well as 14 hectares of currently uncategorised public land.

Retaining the regional park allows the current high levels of recreational use to continue including sightseeing, picnicking, walking, cycling and horse riding.

A Strategic Management Statement was prepared for the park in 2009. To plan for increasing visitor use VEAC is recommending, as a high priority, that a landscape-focused management plan be developed for the regional park and surrounding

areas, through an integrated, multi-agency planning process. The plan should address the following key matters: amenity value and fire management of the monument area (currently managed by a committee of management), management of the pine plantation areas to be handed back to the government, protection of specific areas with high natural values (e.g. very large old trees), Aboriginal cultural heritage, weed management, visitor facilities, visitor management and trails.

DRAFT RECOMMENDATION

C5 Macedon Regional Park

That:
(a) the area of 2134 hectares shown on map D including additions of 14 hectares be used in accordance with the general recommendations for regional parks on page 67, and

(b) 139 hectares of pine plantations be added to the regional park once harvesting has been completed and the lease expires in 2020, and

(c) by March 2021, a management plan be prepared in the context of other key sites in the area.

D9 – D14 Existing nature reserves

There are six existing nature reserves in the Wombat–Macedon block which are proposed to be retained, ranging in size from less than a hectare to the Mount Charlie Nature Reserve at 386 hectares (see appendix 8 for the full list). A small addition is proposed for a seventh existing nature reserve (see D18 below).

DRAFT RECOMMENDATION

D9 – D14 Existing nature reserves

That the areas totalling 570 hectares shown on map D continue to be used in accordance with the general recommendations for nature reserves on page 69.

D15 – D18 New nature reserves and addition to existing nature reserve

D15 Tylden Nature Reserve

This proposed new nature reserve comprises the current Tylden South Education Area (111 hectares) and the adjoining area of state forest (131 hectares). The state forest and education area have limited access with few forest tracks and no apparent facilities or infrastructure.

The education area contains high quality mature forest and there is little sign of logging or other recreational use or access. Both the education area and state forest are covered in the significantly under-represented Herb-rich Foothill Forest EVC and smaller corridors of Riparian Forest and Creekline Herb-rich Woodland EVCs along the Coliban River stream frontage and minor waterways.

DRAFT RECOMMENDATION

D15 Tylden Nature Reserve

That the area of 243 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D16 Black Forest Nature Reserve

The proposed 262 hectare Black Forest Nature Reserve runs north-south along Black Forest Drive and lies between softwood plantations to the east and west. The proposed nature reserve comprises 177 hectares of public land currently part of the Macedon Regional Park and 85 hectares of VicRoads land classified as utilities and government services.

The proposed nature reserve will protect under-represented Valley Grassy Forest, Grassy Forest and Sedgy Riparian Woodland EVCs (Central Victorian Uplands bioregion), of which it is chiefly comprised and for which the protected area representation target is 100 per cent. It would also protect habitat for threatened species such as the common dunnart, black gum, Yarra gum, wiry bossiaea and dwarf silver-wattle.

DRAFT RECOMMENDATION

D16 Black Forest Nature Reserve

That the area of 262 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69.

D17 Lerderderg River Nature Reserve

The proposed Lerderderg River Nature Reserve (4.7 hectares) will protect an important outcrop of Permian age rock in the cliffs, bed and banks downstream of the existing Lerderderg State Park.

The Permian glacial rocks exposed along the Lerderderg River beds at Morven farm, Darley are one of the best places to view rocks of this type on public land in the region. The exposures are of state significance with outcrops extending discontinuously for over 800 metres along the river beds and banks. Although there are other outcrops of Permian age rocks of national and international geological significance in this region, they are either on private land or difficult to access. Due to its accessibility this site has been frequently visited by geologists from overseas.

Melbourne Water has expressed an interest in developing a recreation trail to connect MacKenzie's Flat picnic area in the current Lerderderg State Park to Bacchus Marsh township along the river frontage. A disused recreation trail exists along part of the frontage adjoining a private golf course. A new section of the trail would be required between the golf course and the picnic area.

DRAFT RECOMMENDATION

D17 Lerderderg River Nature Reserve

That:
(a) the area of 4.7 hectares shown on map D be used in accordance with the general recommendations for nature reserves on page 69

(b) grazing not be permitted

(c) infrastructure related to the current water extraction and pumphouse be accommodated.

Note: VEAC supports the development of the recreation trail by Melbourne Water and trail signage highlighting the geological values of this area.

D18 Long Forest Nature Reserve

Twenty-five hectares of Southern Rural Water land that has been identified as surplus to their operational requirements is proposed to be added to the existing Long Forest Nature Reserve (currently 609 hectares). The proposed addition includes an area of native vegetation with high strategic biodiversity value. A number of threatened flora and fauna species have been recorded at Long Forest including more than half of the threatened Victorian temperate woodland bird community.

DRAFT RECOMMENDATION

D18 Long Forest Nature Reserve

That the area of 620 hectares, including the additional area of 25 hectares, shown on map D, be used in accordance with the general recommendations for nature reserves on page 69.

E49 – E87 Existing bushland reserves

The 39 existing bushland reserves E49 to E87 (see appendix 8 for complete list) in the Wombat–Macedon block contain significant remnants of native vegetation situated amongst areas of cleared land or along streams and water frontages. They range in size from 0.3 to 210 hectares and provide vital linkages between larger intact areas as well as valuable habitat in a fragmented landscape.

DRAFT RECOMMENDATION

E49 – E87 Existing bushland reserves

That the areas totalling 475 hectares shown on map D be used in accordance with the general recommendations for bushland reserves on page 71.

E88 New bushland reserve

The proposed Bungal Bushland Reserve covering 679 hectares is an isolated area of public land comprising the existing Bungal and Mount Egerton state forests and 0.8 hectares of uncategorised public land in the Mount Egerton township. It is located in the southwest corner of the Wombat–Macedon block, west of Ballan and the Bostock Reservoir. Most of the existing state forest (573 hectares) is in Special Protection Zones.

The area is mostly covered by the significantly under-represented Grassy Dry Forest EVC. There are also small areas of Creekline Herb-rich Woodland and Valley Grassy Forest EVCs (both vulnerable) in areas around the Moorabool River (east branch) and the Green Hill Gully.

DRAFT RECOMMENDATION

E88 Bungal Bushland Reserve

That the area of 679 hectares shown on map D be used in accordance with the general recommendations for bushland reserves on page 71.

F5 – F13 Existing historic reserves

There are currently 13 historic reserves in the investigation area, nine of which are in the Wombat–Macedon block. Historic reserves protect important relics or historical associations. The largest existing historic reserve in this block is the Cornish Hill Historic Reserve (46 hectares). The remaining eight reserves range in size from 0.04 hectares to 1.2 hectares and include several court houses (see appendix 8 for details).

DRAFT RECOMMENDATION

F5 – F13 Historic reserves

That the existing historic reserves shown on map D continue to be used in accordance with the general recommendations for historic reserves on page 73.

H Water frontage, beds and banks reserves

These reserves are described in detail in section 4.2 on page 76, and generally comprise a linear area of land adjacent to a waterway or lake, and the stream bed and banks. There are 801 hectares of existing water frontage, beds and banks reserves in the Wombat–Macedon block which are proposed to be retained.

DRAFT RECOMMENDATION

H Water frontage, beds and banks reserves

That the existing water frontage, beds and banks reserves shown on map D and on inset maps G, H, I and J continue to be used in accordance with the general recommendations for water frontage, beds and banks reserves on page 77.

I Water production reserves

Some of the largest water production areas in the investigation area are in the Wombat–Macedon block including nine reservoirs managed by Southern Rural Water, Coliban Water, Barwon Water and Central Highlands Water. Water production reserves are described in detail in section 4.2 on page 78. There are 6497 hectares of water production reserves in the Wombat–Macedon block which are largely proposed to be retained.

DRAFT RECOMMENDATION

I Water production reserves

That the existing water production reserves shown on map D and on inset maps H, I and J continue to be used in accordance with the general recommendations for water production reserves on page 78.

J Community use reserves

Community use reserves are primarily used for recreation, education and other community purposes including mineral springs and buildings in public use such as schools, public halls, libraries and museums. There are more than 120 existing community use reserves covering a total of 1292 hectares in the Wombat–Macedon block which are largely proposed to be retained: 11 mineral springs reserves, 37 recreation reserves including Hanging Rock, the Domino (Trentham-Lyonville) rail trail, 22 parklands and gardens reserves including the Macedon Memorial Cross, and many buildings in public use. Community use areas are described in more detail in section 4.2 on page 79.

Hanging Rock Reserve

The Hanging Rock Reserve (69 hectares) is a recreation reserve that has long provided for recreation uses, such as picnicking, bushwalking and horse-racing, as well as retaining areas of high natural values. The rock massif is a prominent landscape feature and has Aboriginal cultural significance. The site is of national geological significance recognising the unusual volcanic composition and form of the site as well as the outstanding examples of radial cooling joints which subsequently formed the characteristic pinnacles. Ecological values are also important and the reserve contributes to landscape connectivity between the Mount Macedon and Cobaw ranges.

For such a small area, there is a broad range of community uses and values. VEAC considered whether a different land use classification could provide better protection of the natural and cultural values from perceived expanding visitor and tourism uses. On balance, it is proposed that the community use (recreation) reserve classification be retained for Hanging Rock Reserve. VEAC acknowledges that there are a range of natural and cultural values at the site that need to be appropriately managed. This fine-scale management may be effectively achieved through the current master planning process being undertaken by the Macedon Ranges Shire Council, in close consultation with the community and stakeholders, and through the environmental management plan for the site.

It is expected that this planning will provide zoning of uses and values, with guidance for future recreation and tourism development and protection of natural and cultural values.

DRAFT RECOMMENDATION

J Community use reserves

That the existing community use reserves shown on map D and inset maps G, H, I and J continue to be used in accordance with the general recommendations for community use reserves on page 79.

K Utilities and government services reserves

Public land supports public utilities and essential services such as transport, energy, water and sewerage, waste disposal, telecommunications and government services. There are numerous utilities and government services located on public land, such as roads and railway lines, government offices and depots, hospitals, prisons, cemeteries, communications installations, drainage and sewerage works. Some areas with a primary utilities or services purpose such as road and rail reserves have significant biodiversity values and make a major contribution to ecological connectivity, especially in predominantly cleared landscapes. Where practical and safe, some utilities and government services areas may also be used for recreation. For example, recreation trails may be constructed along easements, pipelines or roadsides.

In the Wombat–Macedon block, there are 833 hectares of existing utilities and government services reserves, and an estimated 8561 hectares of government road reserves.

DRAFT RECOMMENDATION

K Utilities and government services reserves

That the existing utilities and government services reserves shown on map D and inset maps G, H, I and J continue to be used in accordance with the general recommendations for utilities and government services reserves on page 80.

L Uncategorised public land

Uncategorised public land is public land for which no specific use is recommended (see page 81). There are approximately 263 hectares of remaining uncategorised public land in the Wombat–Macedon block for which VEAC is not making specific land use draft recommendations. It includes land that, after assessment, may be disposed of if it has no public land values and is surplus to current and future community needs. It may include public authority freehold land.

DRAFT RECOMMENDATION

L Uncategorised public land

That the existing uncategorised public land shown on map D and inset maps G, H, I and J continue to be used in accordance with the general recommendations for uncategorised public land on page 81.

L1 Merrimu Reservoir surplus land

Two areas of land owned by Southern Rural Water and located near the southern end of Merrimu Reservoir, currently categorised as water production areas, have been identified by Southern Rural Water as surplus to operational requirements.

DRAFT RECOMMENDATION

L1 Uncategorised public land

That the areas totalling approximately 100 hectares shown on map D be used in accordance with the general recommendations for uncategorised public land on page 81.

M Plantations

Plantations are described in section 4.2 on page 82, including a description of the status of licensed HVP Plantations land. There are 4825 hectares of plantation land in the Wombat–Macedon block, mostly licensed HVP land. There are six school plantations ranging in size from about one hectare to 12 hectares.

HVP currently leases Crown land for four pine plantations (totalling 139 hectares) which form inliers in the Macedon Regional Park. The leased Crown land is distinct from the licensed HVP land described in section 4.2 on page 82. HVP will not be continuing the leases on these plantations once harvesting has been completed. Harvesting of these plantations is expected to be undertaken in stages over the next two years and completed by 2020. Upon completion of harvesting, VEAC is recommending that the land be included in the Macedon Regional Park (see draft recommendation C5).

DRAFT RECOMMENDATION

M Plantations

That the existing plantations shown on map D continue to be used in accordance with the general recommendations for plantations on page 82.

Note: The draft recommendation does not apply to licensed HVP plantation land (see section 4.2 on page 82).

Public land use overlays

Reference areas

There are five reference areas in the investigation area, four of which occur in the Wombat–Macedon block: Musk Creek (91 hectares), Ruths Gully (261 hectares), Ah Kows Gully (475 hectares) and Pyrete Range (306 hectares). Recommendations for existing reference areas are in section 4.2 on page 82.

Heritage rivers

The Lerderderg River Heritage Area is the only heritage river in the investigation area. It extends from the downstream end of Lerderderg State Park, through the township of Blackwood and upstream into the proposed Wombat-Lerderderg National Park (currently Wombat State Forest). Recommendations for existing heritage rivers are in section 4.2 on page 84.

8. Outcomes of draft recommendations

This chapter summarises the outcomes of the draft recommendations outlined in chapters 4 to 7. The draft recommendations respond to the key issues that emerged in written submissions and during consultation, and in VEAC's analyses of scientific and other information. They address the requirements of the VEAC Act and the terms of reference, which specify the purpose of this investigation is to:

- identify and evaluate the condition, natural and biodiversity values, and cultural, social and economic values and the current uses of public land in the investigation area
- make recommendations for the balanced use and appropriate management arrangements to conserve and enhance the natural and cultural values.

The full terms of reference are provided in section 1.2 of this report.

There have been many changes in the 30 or more years since the public land use in most of the Central West Investigation area was last assessed by VEAC's predecessors, the Land Conservation Council and the Environment Conservation Council. Victoria's increasing population – especially in the outer fringes of metropolitan Melbourne and around some regional centres – has changed and will continue to change the use of public land in the investigation area, and in Victoria more generally. Leisure patterns have changed as a result of socio-economic changes and the digital revolution in entertainment and information. While there are some significant resource uses remaining in the area, the uses of public land in the investigation area have shifted towards nature conservation and recreation in natural areas.

Climate change has placed additional pressure on natural values, and the ecosystem services and recreational opportunities they underpin. Climate change highlights the critical role that the forested public lands of the investigation area play in protecting the headwaters of eight major river systems that supply water to significant wetlands and human consumers across a large part of western Victoria.

Following the High Court's 1992 'Mabo' decision, there has been a fundamental change in perceptions about public land and its use and management, and increased recognition and protection of Traditional Owner rights and interests in Crown land in Victoria.

The draft recommendations are intended to establish a framework to address these major challenges in the decades ahead.

8.1 Changes in public land use

The net result of the draft recommendations for each public land use category is shown in table 8.1.

The additional areas of national park in the recommended new Pyrenees and Wombat–Lerderderg national parks, and the expanded Mount Buangor National Park (currently a state park) total almost 50,000 hectares, which would more than triple the extent of national parks in the investigation area. These new national park areas have many of the highest natural values in western Victoria. The two recommended new conservation parks at Hepburn and Cobaw – with a total area of 5246 hectares – also contain outstanding natural values but are smaller than the recommended national parks and will accommodate more recreational use.

The draft recommendations also include many new and expanded nature reserves and bushland reserves which would increase the extent of land in these categories by around 4500 hectares and 1800 hectares respectively. These are mostly smaller blocks with high natural values or which make important contributions to landscape connectivity.

Table 8.1 Summary of draft recommendations for each public land use category

Public land use category	Total area (hectares)		Change (hectares)
	Current	Proposed	
National park, State park	22,967	72,833	49,866
Conservation park	0	5246	5246
Regional park	5264	23,559	18,295
Nature reserve	6703	11,204	4501
Bushland reserve	1047	2808	1761
Historic reserve	1507	1507	0
State forest	89,278	10,180	-79,098
Water frontage, beds and banks reserve	1933	1893	-40
Water production reserve	6635	6514	-121
Community use reserve	1607	1458	-149
Utilities and government services reserve	3017	2940	-77
Land leased or licensed for plantation purposes, Plantation	6724	6585	-139
Uncategorised public land	468	423	-45
Total	147,150	147,150	0

Overall, the draft recommendations propose an increase of 61,000 hectares in protected areas (national park, conservation park, nature reserve, bushland reserve). This is a major step towards a comprehensive, adequate and representative protected area system in Victoria – a key consideration for the investigation and specified in section 18 of the VEAC Act.

An addition of 18,300 hectares of regional park would increase the amount of public land being managed primarily for recreational use. Areas of highest recreational activity are mostly included in recommended regional parks. These areas would continue to support existing recreational uses. Domestic firewood collection would also be allowed to remain in some of the recommended new regional parks.

The draft recommendations would reduce the amount of state forest in the investigation area by 79,000 hectares, with the remaining 10,000 hectares of state forest available for timber harvesting and a wider range of recreational uses, mainly around the Mount Cole, Mount Lonarch, Beaufort and Glenmona areas.

While there are many recommended changes to public land use in this report described in chapters 5, 6 and 7, there are also substantial areas of unchanged public land with well-established uses. These include many smaller areas of public land across the investigation area, and dedicated uses such as water production reserves, community use reserves, and utilities and government services reserves.

This investigation represents an opportunity to acknowledge and respond to the changes of the past 30 years and to offer a way forward for the balanced use and appropriate management of public land in the Central West Investigation area. The draft recommendations are informed by the existing patterns of use and protection of identified areas of high natural and cultural value.

The sections below summarise the outcomes of the draft recommendations in terms of key issues.

8.2 Traditional Owner interests

The milestone 2013 Dja Dja Wurrung Recognition and Settlement Agreement enabled the Aboriginal community engagement partnership project between Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC) and VEAC. This partnership has provided a culturally appropriate and important opportunity for Djandak (DDWCAC's commercial arm) to be engaged as consultants to run the project, and also represents a good example of contributing to DDWCAC's overall economic development and self-determination. This partnership has been a positive, shared outcome of the investigation.

The Aboriginal community engagement project provided Traditional Owner groups with interests in the Central West Investigation area with the opportunity to communicate their cultural values, views and interests, including views on appropriate land management and ways to conserve and enhance cultural values. The information gathered through the project, including from the project report (available on the VEAC website) and Traditional Owner Country Plans, was considered in VEAC's formulation of draft recommendations, in accordance with the terms of reference relating to Traditional Owners.

The proposed new parks and reserves would provide significant protection for tangible and intangible cultural values associated with Country, and communicated through the engagement project. To achieve this protection, the proposed parks and reserves – through their recommended uses (see section 4.2) and associated management arrangements – would provide significant mitigation of specific threats identified by Traditional Owners. These threats include the destructive impacts on cultural values and the health of Country and people by detrimental past, present and future land use activities. These include mining, vegetation clearance, timber harvesting and inappropriate recreation along with a range of broader land management issues such as invasive plants and animals, climate change, water and catchment management and inappropriate non-culturally inclusive land management such as inappropriate fire regimes and a lack of cultural burning within the landscape (also see box 2.2 on page 27).

The addition of the recommended parks and reserves to the protected area system provides a foundation to heal and manage Country in culturally appropriate ways, involving Traditional Owners, into the future (for example, through joint management).

Traditional Owner values are not divorced from the natural values and broader cultural, social and economic values that form part of VEAC's assessment. Traditional Owner values are necessarily intertwined and often congruous with these, albeit with an additional 'layer' of cultural and traditional perspectives and constructs. VEAC notes that Traditional Owners support public access to parks and reserves while also having their culture, rights and aspirations recognised and respected in how they use and manage the land.

VEAC is also recommending government consultation with Traditional Owners on the naming of the proposed parks and reserves as an important measure of recognition and inclusion (see draft recommendation R1 on page 57), and that government consider legislative changes permitting future changes to Aboriginal title parks and reserves, where this is agreed (see draft recommendation R7 on page 58).

'Healthy Country, healthy people' is a maxim that encapsulates cultural values and aspirations across all Traditional Owner groups. To achieve this, the solid foundation that VEAC's draft land use recommendations would provide will need to be accompanied by appropriate involvement and resourcing of Traditional Owners in the policy, planning and management of these parks and reserves (and public land in general), including through any outcomes under the Victorian Traditional Owner Settlement Act and Commonwealth Native Title Act and, potentially, the current treaty negotiation process between the State and Aboriginal Victorians.

8.3 Threatened species

Strategic Biodiversity Values (SBV) analyses (as outlined in appendix 4 and shown in maps E and F) ranked all relevant locations for their ability to support rare and threatened species. The high-ranking areas represent the places that efficiently capture the most suitable habitat for a greater number of rare and threatened species. As a result, these areas have been prioritised as additions to the protected area system with the intention of protecting the most important habitats and supporting the conservation of the greatest number of rare and threatened species.

The draft recommendations would result in most of the highest-ranking areas across the investigation area, identified in both the statewide and regional SBV analyses, being added to the protected area system.

The recommended Wombat–Lerderderg National Park captures a large part of the highest-ranking areas of rare and threatened species habitat. The statewide analysis (map E) shows the area to be among the most important for Victoria's biodiversity with large and mostly contiguous areas of high value. It is also the most important habitat according to the regional analysis (map F) which considers only the public land outside protected areas and highlights opportunities to most efficiently capture additional habitat.

Other large and mostly contiguous high-ranking areas of rare and threatened species habitat identified in the statewide analysis are included in the recommended Pyrenees National Park and Hepburn Conservation Park. Almost half of the Wellsford block – most of which ranks highly in the statewide analysis – would also be encompassed by the proposed Wellsford Nature Reserve.

The recommended Bungal Bushland Reserve near Ballan contains a small area identified as high-ranking, particularly in the regional SBV analysis. Several recommended nature reserves, such as Ben Nevis, Waterloo and the additions to Ben Major, capture some other smaller but similarly high priority areas. Another smaller yet high-ranking area is in the recommended Glenmona Forest Bushland Reserve.

Some of the higher-ranking areas that have not been added to protected areas are included in the recommended Pyrenees and Wombat regional parks, and the recommended additions to the Bendigo Regional Park. While these areas provide important habitat for rare and threatened species, they also attract high levels of recreational use and are therefore recommended to be managed primarily for recreation as regional parks. Although Victoria's regional parks are not protected areas according to the international definition, they offer protection from some of the major threats to biodiversity conservation such as timber harvesting.

Some areas that the analyses identified as high-ranking areas of rare and threatened species habitat are recommended to remain state forest. These areas include parts of the Mount Cole, Musical Gully-Camp Hill and Trawalla-Andrews state forests. These areas are relatively small and dispersed and would be difficult to capture in protected areas without either adding the entire area to protected areas or establishing a network of smaller protected areas throughout the broader area.

Overall, the draft recommendations would almost triple the protected areas in the Central West Investigation area and would add a large part of the most important habitat for rare and threatened species to Victoria's protected area system.

8.4 Ecosystem representation

In accordance with section 18 of the VEAC Act, the creation of a comprehensive, adequate and representative system of protected areas is a key consideration for the Central West Investigation and has been a major factor in the development of Council's draft recommendations. Priority 18 of Victoria's biodiversity plan *Protecting Victoria's Environment – Biodiversity 2037* also addresses the requirement for a comprehensive, adequate and representative protected area system.

This section reports on the outcomes of the draft recommendations in meeting the nationally agreed targets for protected areas, using Ecological Vegetation Classes (EVCs) within bioregions as surrogates for ecosystems (see appendix 4 for details of this analysis).

Overall, 107 bioregional EVCs are found in the investigation area. The draft recommendations have significant implications for the protected area representation of 43 of these EVCs; these implications are summarised in table 8.2.

Table 8.2 Implications of draft recommendations for ecosystem (EVC) representation

A	B	C	D	E	F	G	H
Ecological Vegetation Class (EVC) and bioregion name[1]	Extent in Central West Investigation area (ha)				Shortfall (ha)[2]	Shortfall as % of other public land[3]	Proposed protected area increase (ha)
	Pre-1750	Private land	Protected area	Other public land			
Ecosystem representation targets met or exceeded							
Herb-rich Foothill Forest GoF	2685	282	146	1903	355	19	1382
Herb-rich Foothill Forest/Shrubby Foothill Forest Complex CVU	5989	519	0	4013	1076	27	3301
Grassy Dry Forest GoF	23,814	5938	3254	10,721	2443	23	5161
Box Ironbark Forest GoF	12,120	1742	480	8774	363	4	4042
Shrubby Foothill Forest CVU	38,692	4525	4129	27,958	2662	10	18,419
Grassy Dry Forest/Heathy Dry Forest Complex CVU	3359	772	0	1628	571	35	1548
Grassy Dry Forest CVU	21,529	7011	1438	8045	3865	48	4947
Sedgy Riparian Woodland GoF	173	33	0	95	31	33	85
Shrubby Dry Forest GoF	230	8	0	156	41	27	134
Hillcrest Herb-rich Woodland GoF	793	255	288	139	6	4	131
Sedgy Riparian Woodland CVU	2688	857	27	1366	473	35	490
Riparian Forest CVU	1133	241	214	555	182	33	274
Damp Forest CVU	2293	448	26	1660	324	20	641
Herb-rich Foothill Forest CVU	71,428	20,031	1147	21,038	12,021	57	11,859
Hills Herb-rich Woodland CVU	1043	328	17	229	193	84	134
Box Ironbark Forest VRi	76	31	0	45	45	100	41
Significant improvements made to ecosystem representation							
Valley Grassy Forest CVU	18,789	7619	404	2619	2619	100	874
Valley Grassy Forest GoF	2271	729	33	891	723	81	281
Alluvial Terraces Herb-rich Woodland CVU	3751	1325	87	375	375	100	117
Alluvial Terraces Herb-rich Woodland GoF	3763	1366	224	438	438	100	186
Stream Bank Shrubland CVU	1353	265	503	196	37	19	19
Creekline Herb-rich Woodland CVU	1437	461	10	320	265	83	119
Ecosystem targets not met							
Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic GoF	13,307	3732	68	1129	1129	100	40
Grassy Woodland/Heathy Dry Forest Complex CVU	14,354	4997	33	785	785	100	1
Box Ironbark Forest CVU	4099	1239	1697	707	684	97	1
Grassy Forest CVU	7481	3464	0	709	709	100	65
Grassy Woodland CVU	11,026	3123	70	619	619	100	3
Plains Grassy Woodland VVP	15,602	2632	8	498	498	100	0
Plains Grassy Woodland CVU	16,109	2158	3	469	469	100	0

A	B	C	D	E	F	G	H
Ecological Vegetation Class (EVC) and bioregion name[1]	Extent in Central West Investigation area (ha)				Shortfall (ha)[2]	Shortfall as % of other public land[3]	Proposed protected area increase (ha)
	Pre-1750	Private land	Protected area	Other public land			
Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex CVU	3412	773	8	216	216	100	0
Stream Bank Shrubland GoF	217	25	7	159	159	100	3
Swampy Riparian Woodland CVU	2949	845	0	148	148	100	0
Creekline Herb-rich Woodland GoF	164	27	0	136	136	100	0
Plains Grassy Woodland GoF	1641	397	0	108	108	100	0
Grassy Dry Forest/Heathy Dry Forest Complex GoF	6520	2734	160	96	96	100	2
Creekline Grassy Woodland VVP	661	131	0	88	88	100	0
Plains Woodland VVP	2294	170	0	73	73	100	4
Scoria Cone Woodland GoF	188	15	0	66	66	100	0
Grassy Woodland GoF	15,525	5477	63	968	968	100	185
Plains Grassland VVP	8623	1322	42	370	370	100	0
Creekline Grassy Woodland GoF	2112	643	15	329	329	100	23
Creekline Grassy Woodland CVU	1105	265	3	191	191	100	12
Wet Forest CVU	531	58	49	409	41	10	9

[1] Bioregion abbreviations: CVU = Central Victorian Uplands; GoF = Goldfields; VVP = Victorian Volcanic Plain; VRi = Victorian Riverina

[2] Shortfall (ha) = the area in hectares that would be required to be acquired from other public land in order for the investigation area to make a proportionate contribution to meeting the shortfall across the bioregion

[3] Shortfall as % of other public land = the shortfall (ha) as a percentage of the area of other public land from which that shortfall could be met

Table 8.2 shows that the increase in the protected area system proposed in these draft recommendations would result in representation targets being met, or nearly met, for 16 bioregional EVCs. Many of the EVCs in this group currently have large representation shortfalls, including Herb-rich Foothill Forest Central Victorian Uplands (CVU), Grassy Dry Forest CVU, Shrubby Foothill Forest CVU and Grassy Dry Forest Goldfields (GoF) with respective current shortfalls of 12,021 hectares, 3865 hectares, 2662 hectares and 2443 hectares. Other key EVCs in this group are Sedgy Riparian Woodland, Riparian Forest and Damp Forest in the proposed Wombat–Lerderderg National Park (CVU) which were a key focus for local stakeholders during public consultation.

While the targets were not quite achieved for Herb-rich Foothill Forest and Hills Herb-rich Woodland in the Central Victorian Uplands, there are extensive areas of these EVCs in the recommended Wombat and existing Macedon regional parks.

For all these ecosystems, the draft recommendations would be a significant advance in their long-term conservation and that of the species they contain.

For a further six EVCs, representation targets would not be met but significant additions are proposed. These include the addition of 117 hectares of Alluvial Terraces Herb-rich Woodland in the Central Victorian Uplands bioregion (most of which would be achieved through the proposed Waterloo Nature Reserve and Ben Nevis Nature Reserve) and another 186 hectares of the same EVC in the Goldfields bioregion (in the proposed Pyrenees National Park).

Important protected area additions to Valley Grassy Forest in both the Central Victorian Uplands (874 hectares) and Goldfields bioregions (281 hectares) are also proposed. Elsewhere, these EVCs – and Stream Bank Shrubland GoF – are found almost entirely in Hepburn Regional Park. Although recommended regional parks are not part of the protected

area system, they can also deliver biodiversity conservation outcomes through reduction of potential threats such as timber harvesting and complement the protected area system.

For the other 21 EVCs shown in table 8.2, ecosystem representation targets would not be met through these draft recommendations. Often this is due to the distribution of the EVC across the investigation area. For instance, a number of these EVCs are found mostly along roadsides and in riparian areas in small, isolated patches. An example of this is Plains Grassy Woodland CVU which covers 469 hectares on public land outside protected areas but is mostly located on road reserves around Woodend, Kyneton and Raglan which would generally not be suitable as protected areas. As a result, few additions to protected areas are proposed for these EVCs.

In cases where under-represented EVCs occur in larger or more consolidated areas than roadsides and riparian patches, VEAC has endeavoured to recommend them as protected areas. For example, Plains Woodland in the Victorian Volcanic Plain bioregion is mostly found along water frontages and on roadsides between Avoca and Moonambel; however, the largest consolidated patch of this EVC on public land – a 4.3 hectare triangle – is proposed as a bushland reserve.

There are a few instances where ecosystem representation targets would not be achieved under the draft recommendations for EVCs that occur in larger patches. For instance, out of 409 hectares of Wet Forest CVU on public land outside of recommended protected areas, a modest shortfall area of 32 hectares remains. While some of this EVC is found in Macedon Regional Park, most of it is in Mount Cole State Forest (not part of the protected area system) for which no change is proposed.

Apart from those mentioned above, there are 64 EVCs for which the draft recommendations have no significant implications. They fall into three main groups corresponding to the reasons why they are not included in table 8.2, as follows:

Seven excluded because their current protected area representation meets the notional targets

- Rocky Chenopod Woodland CVU
- Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU
- Shrubby Dry Forest CVU
- Heathy Dry Forest CVU
- Heathy Woodland CVU
- Rocky Outcrop Shrubland/Rocky Outcrop Herbland/Grassy Dry Forest Complex CVU
- Heathy Dry Forest GoF

15 excluded because their extent on public land outside protected areas is less than one hectare

- Plains Woodland/Plains Grassland Mosaic CVU
- Plains Grassland/Plains Grassy Woodland Mosaic GoF
- Escarpment Shrubland CVU
- Shrubby Foothill Forest VVP
- Aquatic Herbland/Plains Sedgy Wetland Mosaic VVP
- Escarpment Shrubland VVP
- Plains Grassland GoF
- Riparian Forest VVP
- Sandstone Ridge Shrubland GoF
- Box Ironbark Forest VVP
- Rocky Chenopod Woodland VVP
- Heathy Dry Forest VVP
- Grassy Dry Forest/Heathy Dry Forest Complex VVP
- Plains Woodland VRi
- Plains Grassland/Plains Grassy Woodland Mosaic CVU

42 excluded because their representation shortfalls are less than 50 hectares (and more than one hectare)

- Lowland Forest CVU
- Valley Grassy Forest VVP
- Sedgy Riparian Woodland VVP
- Plains Grassland CVU
- Plains Sedgy Wetland VVP
- Alluvial Terraces Herb-rich Woodland VVP
- Riparian Woodland CVU
- Grassy Dry Forest VVP
- Grassy Woodland/Heathy Dry Forest Complex VVP
- Red Gum Swamp VVP
- Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic GoF
- Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic VVP
- Swamp Scrub CVU
- Riparian Woodland VVP
- Plains Woodland GoF

- Swamp Scrub GoF
- Scoria Cone Woodland CVU
- Hillcrest Herb-rich Woodland CVU
- Grassy Woodland/Heathy Dry Forest Complex GoF
- Plains Woodland/Plains Grassland Mosaic VVP
- Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex GoF
- Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic VRi
- Swamp Scrub VVP
- Creekline Herb-rich Woodland VVP
- Grassy Woodland VVP
- Montane Grassy Woodland CVU
- Alluvial Terraces Herb-rich Woodland/Plains Grassy Woodland Complex VVP
- Montane Grassy Woodland/Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic CVU
- Swampy Riparian Woodland VVP
- Plains Grassy Wetland CVU
- Heathy Woodland GoF
- Grassy Woodland VRi
- Grassy Woodland/Alluvial Terraces Herb-rich Woodland Mosaic CVU
- Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic GoF
- Herb-rich Foothill Forest VVP
- Plains Grassland/Plains Grassy Woodland Mosaic VVP
- Stream Bank Shrubland VVP
- Grassy Forest VVP
- Red Gum Swamp CVU
- Wetland Formation CVU
- Plains Grassy Wetland VVP
- Herb-rich Foothill Forest/Shrubby Foothill Forest Complex GoF

8.5 Recreation

Along with nature conservation, recreation is now the major use of public land in the Central West Investigation area and recreational use is likely to continue to increase in the future. Establishing a platform from which to provide for this use, without undermining the natural values upon which it depends, has been a major focus for VEAC in developing its draft recommendations.

The draft recommendations would amount to some 80,000 hectares of new protected areas and regional parks in places that are currently state forest. The existing protected areas are relatively small (around 20 per cent of the investigation area), so the focus for current management of these small parks and reserves is protection of the natural values rather than heavy recreational use, particularly when there are alternatives in the large areas of state forest nearby. The larger protected area system recommended in this draft proposals paper would provide more flexibility to accommodate uses than the current small parks and reserves, such as dispersed camping in parks, horse riding or dogs in specific designated visitor areas. The relatively tight constraints of the current small protected areas would be unlikely to apply across the much more extensive recommended areas.

Balancing increasing recreation use with natural values in an enlarged protected area system would lead to changes for some recreational activities. VEAC has endeavoured to minimise impacts by, for example, recommending regional parks in areas of intensive recreation use (especially uses not usually allowed in protected areas) such as around towns. Regional parks are not part of the protected area system and have a management focus on recreation for large numbers of people in a natural or semi-natural setting.

A summary of the allowed activities in the main parks, reserves and state forests recommended in each of the three blocks in the investigation area is provided in tables 5.4, 6.4 and 7.2. The remainder of this section provides information about the overall implications of the draft recommendations for key recreational uses. One of the benefits for all recreational users is the increased planning for recreation that will accompany the new reserve system. This can improve recreation through better facilities and ensure activities are organised or located to minimise potential conflicts.

In explaining the implications many examples are given of specific uses at particular locations. It should be noted that, in the long term, these are subject to land management decisions. For example, if a campsite is repeatedly damaged by flooding land managers would need to reassess and plan the future of the site, regardless of the site's assigned public land use category.

Bushwalking

Bushwalking is a popular activity and can be enjoyed across virtually all public land, with the exception of reference areas and some closed catchments. The draft recommendations are unlikely to have any significant implications for bushwalking. Some bushwalkers propose

an increase to the areas of national park, as bushwalking is considered to align better with the management objectives of national parks.

Car rallying

Car rallies are significant events held on public land and because of their potential impacts and disruptions to other users, they are better suited to state forests than national parks, depending on the specific characteristics of the area. Sections of a rally occurring in national parks are generally, but not always, limited to transport stages.

Courses can vary from year to year but where routes have remained relatively consistent VEAC considered these in its recommendations. For example, the Pyrenees Rush Car Rally would be able to continue in the recommended Glenmona Forest Bushland Reserve and the remaining Glenmona State Forest. The recommended Pyrenees Regional Park also allows for this event with the regional park boundary lying south of Main Break Track which is a key section for this rally.

Camping

Existing campgrounds in the investigation area would continue to be available, subject to the usual land management considerations. In addition to these areas, subject to management planning, dispersed camping would be permitted in the proposed Mount Buangor, Pyrenees and Wombat–Lerderderg national parks. There are no proposed changes to camping at existing regional parks, including Macedon, Hepburn and the recommended addition to the Bendigo Regional Park at Wellsford. Some of these areas may provide limited or no camping opportunities at present, because of the existing patterns of visitor use. Camping would not be permitted in the recommended Wellsford Nature Reserve.

Subject to management planning and the specific characteristics of the area, the recommended new Hepburn and Cobaw conservation parks and Wombat and Pyrenees regional parks would also allow for dispersed camping.

There are no proposed changes to camping in state forests where existing sites would remain and dispersed camping would continue.

Cycling

In addition to specifically designed bike trails, cycling can occur in national parks, regional parks and state forests on forest roads and existing designated single tracks.

The growing popularity of cycling has led to an increase in designated cycling tracks and facilities around regional towns, for example around Woodend and Macedon. Arrangements for established cycling tracks in the existing Macedon Regional Park would remained unchanged. Other tracks in the nearby Wombat forest would be included in the recommended Wombat Regional Park, including the Wombat Loop tracks at Fingerpost Road.

Extensions to existing regional parks are also proposed around other regional towns and popular tourist areas, for example around Daylesford and Jubilee Lake. The recommended Pyrenees Regional Park covers the northern Pyrenees ranges where the combination of wineries and cycling is important for the tourism industry.

Dog walking

Dog walking is generally permitted widely in regional parks, bushland reserves and state forests. Dog walking is allowed in relatively small designated areas in some national parks. Subject to management planning, the proposed Pyrenees, Mount Buangor and Wombat–Lerderderg national parks could include specified areas where dog walking would be permitted, such as near townships and picnic grounds.

Regional parks are proposed close to many towns and around some residential areas allowing continued access for dog walking, for example at Blackwood and Trentham. Some popular camping and picnicking areas have also been included into recommended regional parks, such as the Cameron Track and Waterfalls campgrounds in the recommended Pyrenees Regional Park. In the Wombat forest key recreation areas incorporated into recommended regional parks include Firth Park and Werribee River picnic areas.

Four wheel driving

Four wheel driving is permitted on formed roads and vehicle tracks open to the public, and on other roads and tracks specified by the land manager. The provisions for four wheel driving are the same across parks and forests, including national parks.

The forests in the investigation area are popular with individuals, groups and for organised events and these activities would be able to continue under the draft recommendations.

Horse riding

Horse riding, from casual to competitive, currently occurs in many parts of the Wombat, Pyrenees and Mount Cole state forests. Individual riding and organised endurance rides that use roads in the Mount Cole State Forest and Mount Buangor State Park would continue in the recommended

Mount Buangor National Park and Mount Cole State Forest.

In the recommended Wombat and Pyrenees regional parks and recommended bushland reserves, current arrangements would continue. There would also be opportunities for continued access in designated areas of the recommended Wombat–Lerderderg and Pyrenees national parks and Hepburn and Cobaw conservation parks, subject to management planning.

Recreational hunting

Significant areas of state forest would remain for hunting at Mount Cole and nearby state forests. In addition, the recommended revocation of the game sanctuary at Mount Cole would open up the area for deer hunting.

Recreational hunting would no longer be permitted in the recommended new national, conservation and regional parks, or in nature reserves and bushland reserves. Hunting for pest animals will be allowed in these areas if part of an authorised control program at the discretion of the land manager.

Nature study

Nature study and birdwatching can occur across all categories of public land and the draft recommendations are unlikely to have any significant implications for these activities. As with other recreational activities, better planning for and management of potentially conflicting uses will be beneficial for nature study in the investigation area.

Recreational prospecting

Prospecting generally takes place at historic goldfield sites or where gold has been identified – fine gold in waterways and nugget gold elsewhere. In the investigation area, old goldfields are concentrated on the northern and eastern slopes of the Pyrenees, and around Avoca, Beaufort, Blackwood and Daylesford.

The recommended Pyrenees Regional Park is situated next to an historic gold mining settlement at the Percydale Historic Reserve and would allow for prospecting to continue in this area. Glenmona Forest Bushland Reserve and Glenmona State Forest east of Avoca also provide opportunities for prospecting. Much of the area of historic goldfields around Beaufort would also have continued access for prospecting in the surrounding state forests.

In the recommended Wombat–Lerderderg National Park some goldfield areas will no longer be accessible. However, many goldfields in regional parks would remain available for prospecting, notably along the lower reaches of the Lerderderg River near Blackwood.

Relatively small gold-bearing areas would no longer be available for prospecting in the recommended Pyrenees National Park, Hepburn Conservation Park and the various recommended nature reserves.

Trail bike riding

Trail bike riding is permitted on formed roads and vehicle tracks across all public land. Registered bikes and licensed riders can continue to use tracks throughout the recommended new regional parks and throughout the recommended Wombat–Lerderderg, Mount Buangor and Pyrenees national parks, as well as the recommended new Hepburn and Cobaw conservation parks and state forest at Mount Cole and around Beaufort.

Other popular locations for trail bike riding in the investigation area include the Wellsford State Forest where users will be able to continue to ride established paths in the recommended addition to the Bendigo Regional Park.

8.6 Headwaters, landscape connectivity and climate change

As private land has been largely cleared, public land plays a key role in maintaining biodiversity particularly outside the large forest blocks. Small and dispersed areas of native vegetation in cleared landscapes play a disproportionately greater role in maintaining landscape connectivity and are under increasing pressure from the effects of habitat fragmentation and climate change.

Across the investigation area VEAC has identified around 20 small areas for additional protection as new nature reserves or bushland reserves. These remnants support threatened species or threatened vegetation communities or have been identified as having high strategic habitat value. In other places, existing reserves have been changed by increasing protection of natural values or enhanced by consolidation. While many of these smaller isolated areas will remain under pressure, they are critical landscape assets.

The draft recommendations for Wombat–Lerderderg National Park and Wombat Regional Park provide improved water supply security for the headwaters of several of western Victoria's most significant rivers. This recommended change in public land use reduces disturbance of both vegetation and soil in the catchment area, enhancing water supply and quality, and delivering

potentially significant savings for water supply managers. Protection of water supply catchments is particularly important as the effects of climate change alter future rainfall and temperature patterns, and Victoria's population continues to grow. Additionally, the best opportunities for native biodiversity to persist under drier and warmer conditions of climate change will be in the most intact and wetter parts of the landscape.

8.7 Resource uses

Apiculture

Apiculture is a generally permitted activity in all public land use categories other than reference areas and would continue at existing licensed sites in the recommended new national parks, conservation parks, regional parks, nature reserves and state forests across the investigation area. In any of these categories, management requirements in the future may necessitate changes at specific locations, particularly where recreational uses may conflict with beekeeping.

Earth resources

All current earth resource tenements (extractive industry work authorities, and mining, prospecting and exploration licences) would be able to continue and be renewed under the draft recommendations. Where new national parks are recommended, while existing tenements would continue and could be renewed, and mining following exploration could be approved by government, no new exploration or mining would be allowed. Recommended new nature reserves, conservation parks, regional parks and bushland reserves would become restricted Crown land under the *Mineral Resources (Sustainable Development) Act 1990*, requiring ministerial approvals for new tenements.

Crown land licences

Overall, the draft recommendations would have a relatively small effect on the large numbers of Crown land licences across the investigation area. As outlined in table 8.3, the draft recommendations would result in the termination of all or part of 85 licences over an area of some 188 hectares, or less than six per cent by area or number of current licences. Affected licences are located in the recommended new national parks, conservation parks, regional parks, bushland reserves or nature reserves. Around 60 of these licences are held for grazing (including water frontage grazing) or primary production purposes but it is unlikely that all are actually used for grazing.

Water production and supply

The draft recommendations would have significant water production benefits particularly in the Wombat forest, which includes part of the headwaters for six major rivers in five catchment basins. These rivers supply water for environmental, industrial, domestic and agricultural uses over a large part of western Victoria from the western suburbs of Melbourne to irrigation districts as far apart as Werribee and Kerang. The economic benefits of catchment protection for water production and supply can be substantial, as explained on pages 59 and 60 in chapter 4.

The draft recommendations would strengthen the protection of these catchments through the establishment of the recommended Wombat–Lerderderg National Park and Wombat Regional Park, and recommendation R10 to prioritise the protection of water quality and yield in the management of all national, conservation and regional parks. The Pyrenees National Park and Pyrenees Regional Park would also provide similar benefits for parts of the Avoca and Wimmera river catchments.

Table 8.3 Implications of draft recommendations for grazing licences

Current Crown land licences	Central West Investigation area	Mount Cole–Pyrenees block	Wellsford block	Wombat–Macedon block
Number and area of all licences	1,988 3,375 ha	1,041 2,041 ha	4 50 ha	940 1,283 ha
Grazing and primary production licences	1,682 2,800 ha	965 1,900 ha	4 50 ha	714 943 ha
Licences affected	85 188 ha	7 17 ha	2 45 ha	76 126 ha

Wood products

The implications of the draft recommendations for wood products are difficult to quantify without spatially explicit information about sustainable harvest levels in the years and decades ahead. Assessment is further complicated by unpredictable variations in markets (particularly home heating) and the large areas beyond the investigation area from which both commercial and domestic operators may also source wood.

Most of the 10,180 hectares recommended to remain as state forest is in the Mount Cole–Beaufort area. This amounts to about 80 per cent of the current extent of state forest in that area. The recommended sustainable harvest level of 1500 cubic metres of sawlogs per year in the 2013 DEPI review of forestry management indicates that there will be close to sufficient supply to the mill at Chute. In terms of fencing and firewood (commercial and domestic) in this area, there is insufficient information to determine the implications of the draft recommendations. Applying pro rata the reduction in state forest area, there would be a 20 per cent reduction in availability of these products.

Elsewhere, the implications are clearer in that all commercial harvesting would cease across the Pyrenees, Wombat and Wellsford forests, other than minor forest produce in the recommended new regional parks where this will promote the growth of large trees and improve ecological condition. Precise figures are not available but the draft recommendations would result in reductions of harvest volumes in the order of several hundreds of cubic metres of fencing timbers and several thousands of cubic metres of commercial firewood. VicForests advice is that there would be limited opportunity to relocate. There would also be similar relative levels of reductions for several other products sourced in these areas including bark and wood chop logs.

In terms of sawlogs, there has been very little production of sawlogs from the Pyrenees and none from Wombat forest in recent years. In terms of box-ironbark sawlogs from Wellsford forest and potentially the lower slopes of the Pyrenees, harvesting would cease in these areas. They comprise less than ten per cent of the total box-ironbark state forest estate in Victoria from which licensees can potentially harvest, suggesting a comparable level of reduction in timber volumes produced.

Given that no data have been collected on domestic firewood collection in recent years, it is again necessary to estimate implications on a pro rata basis from the extent of reduction in potential harvest area. The recommended state forest and new regional park areas (where domestic firewood collection would generally be permitted) amount to about 30 per cent of the current state forest estate, suggesting a 70 per cent reduction in domestic firewood supply.

APPENDICES

Appendix 1

Current public land use categories

The table below shows the revised classification of public land for land within or adjacent to the Central West Investigation area. For a full list of revised public land categories see VEAC's Statewide Assessment of Public Land final report (2017), table 3.2. The purposes of each public land use category from that report have been incorporated into the general recommendations in section 4.2 of this report. The letters at the start of some categories correspond to those of the recommendations in section 4.2.

Pre-existing public land use overlays (including reference areas and heritage rivers) were retained without amendment.

Category and description	Former LCC, ECC or VEAC categories and sub-categories
***A. National park** Extensive area or areas often with national significance with outstanding natural values and diverse land types contributing to representativeness of parks and reserves in the state	• national park • state park • wilderness park
***B. Conservation park** Land often linear in shape with natural features, flora and fauna of landscape or conservation significance	• coastal park • includes many *National Parks Act 1975* Schedule 3 'other parks'
*** National heritage park** Landscapes with outstanding cultural and natural values	• national heritage park
C. Regional park Extensive areas of natural or semi-natural land close to population centres or major tourist routes or easily accessible	• regional park • metropolitan park • forest park • some other parks on Schedule 3 of *National Parks Act 1975*
***D. Nature reserve** An area of land or wetland of particular importance for its significant flora, fauna, natural habitat, geology or geomorphology	• nature conservation reserve • flora reserve • flora and fauna reserve • natural features reserve: – cave – geological and geomorphological features area
***E. Bushland reserve** An area of land containing important elements of the natural environment or landscape of habitat or scenic significance	• natural features reserve: – bushland area or reserve – streamside area or reserve – natural and scenic features area – scenic area
F. Historic reserve An area of land containing important relics or historical associations ranging from large areas with several historic themes to small reserves with one theme	• historic and cultural features reserve: – historic area or reserve – historic parks listed on Schedule 3 of *National Parks Act 1975*
G. State forest Extensive areas of land supporting native forest and other native vegetation with a range of diverse conservation and recreational values, and containing a range of resources to supply community demands	• state forest • hardwood production • uncommitted land • forest area • eucalyptus oil production
H. Water frontage, beds and banks reserve Generally linear area of land adjacent to a waterway or lake, and beds and banks	• natural features reserve: – stream frontage – public land water frontage reserve – stream beds and banks – lake reserve
I. Water production reserve Land in the catchment of or adjacent to a water supply storage or offtake; storage areas; water distribution and drainage areas	• water production (reservoirs and buffers) • water supply – regulation and drainage

Category and description	Former LCC, ECC or VEAC categories and sub-categories
J. Community use reserve Land developed or appropriate for particular community use such as: environmental education; organised sports and recreation; campgrounds; rail trails; schools; public halls and other buildings; local parklands and gardens; libraries	• community use area: – parklands and gardens – education area – mineral springs – recreation reserve – buildings in public use (schools, public halls, other buildings in public use) – highway park – recreation trails – rifle and other ranges
K. Utilities and government services reserve Land developed or appropriate for public utilities or government services: e.g. transport infrastructure including roads; electricity and gas installations; communications and survey fixtures; supply of minerals, stone, gravel and sand; hospitals; police stations; water and sewerage services; cemeteries	• earth resources • mineral and stone production – 'stone' area • services and utilities: – transport (roads) – transport (railway) – municipal buildings and services – hospitals, public offices and justice – water and sewerage services – utilities and survey – cemeteries – communications and survey – other utility uses • roadside conservation
L. Uncategorised public land Land not included in any of the above primary land categories, not well known, requiring assessment or no longer required for a discontinued use	• uncategorised public land • land not required for public purposes • township land (some) • agriculture • revegetation area
M. Land leased or licensed for plantation purposes, Plantation	• softwood production • softwood plantation • school plantation
Overlay	
***N. Reference area** An area of public land of ecological interest and significance (particularly for its relatively undisturbed condition) proclaimed under the Victorian *Reference Areas Act 1978*	• reference area
***O. Heritage river** An area of public land along a river with significant nature conservation, recreation, scenic or cultural heritage attributes, included in Schedule 1 of Victoria's *Heritage Rivers Act 1992*	• heritage river

* denotes protected area

Appendix 2

Public authority freehold land

The following maps show identified blocks of public authority freehold land held by public authorities such as the Country Fire Authority, VicRoads, VicTrack, water corporations, health services, and education and training authorities. Some public land, such as public housing sites, are not shown for privacy reasons.

Note that there is no public authority freehold land identified in the Wellsford block.

The maps are also available on VEAC's website, where the smaller blocks are more easily visible. The source of the data is DELWP Land Use Victoria Application and Survey Unit 2017.

Figure A2.1 Public authority freehold land in the Mount Cole–Pyrenees block

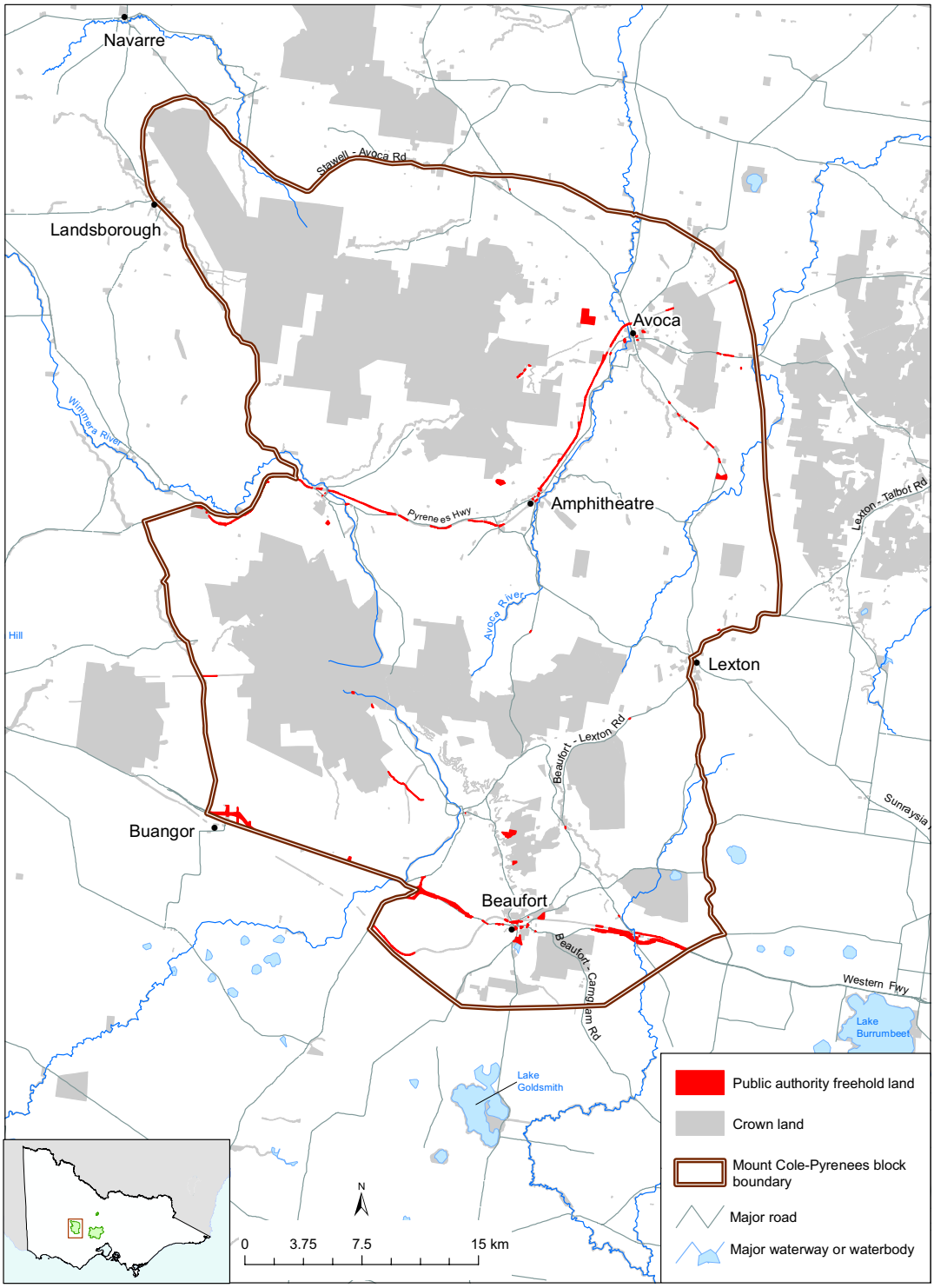
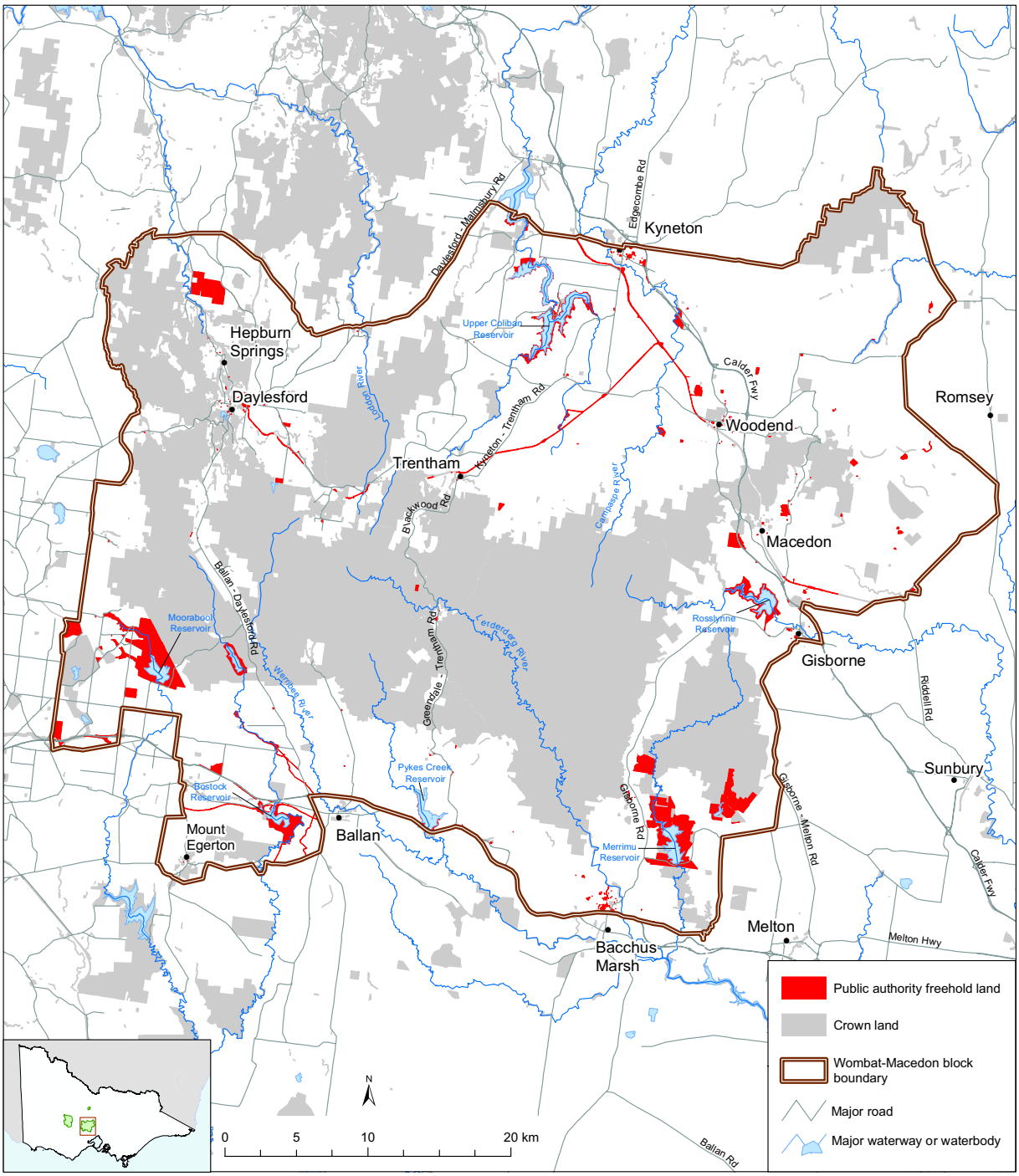


Figure A2.2 Public authority freehold land in the Wombat–Macedon block



Appendix 3

Submissions received

Individuals
Mr Robert Ackroyd
Ms Claire Agnew
Mr Anthony Ahearne
Mr Rod Allen
Miss Courtney Anders
Mr & Mrs Jim & Bernice Anders
Ms Beverley Anderson
Mr Bruce Anderson
Mr Charles Anderson
Ms Emily Anderson
Mr Forrest Anderson
Mr Matt Anderson
Mr Tim Anderson
Ms Deidre Andrews
Ms Maxine Andrews
Mr Joel Arber
Ms Sarah Armstrong
Ms Karolina artist
Mr Adam Ashley
Mr Robert Ashman
Mr Graham Ashton
Mr Wayne Atkinson
Mr Arie Baelde
Mr Jonathan Bahr
Mr Brendan Baker
Mr Mark Baker
Mr Matt Baker
Mr Peter Baker & Ms Christine Powell
Ms Rosie Baker
Mr Andrew Bales
Dr Robyn Ballinger
Mr Janos Balogh
Ms Helen Bardsley
Dr John Bardsley
Mr Rod Barford
Mr Graham Barnes
Mrs Sharon Barnes
Mr Stuart Barro
Mr Pat Baskett
Mr Gary Bateman
Mr James Beatty
Mr Simon Beazley
Ms Emma Bennett
Mr David Bentley
Ms Rita Bentley

Individuals
Mr Jonathon Berry-Porter
Mr Geoff Bevan
Mr Sean Bishop
Mr Kenneth Blackwell
Mr James Blyth
Ms Bridget Bodenham
Mr Will Bodenham
Mr Nick Booniface
Mr Rowena Booth
Mr Robert Broadbent
Mr Adrian Borg
Mr Daryl Bowker
Mrs Judy Bragg
Mr Walter Braun & Ms Ruth Enders
Ms Sharon Brennan
Mr Darren Brereton
Mr Don Brereton
Miss Matilda Brereton
Mr Rod Bricknell
Mr Tim Bridson
Mr Daniel Brooks
Mr Rod Brooks
Dr Phil Brotchie
Mr Chris Brown
Ms Kylie Brown
Mr Gary Buckland
Mrs Carley Burdon
Mr Mark Burrows
Mr Mark Busch
Mr Anthony Buttigieg
Ms Lorri Buttner
Mr John Campbell
Ms Marilyn Campbell
Mr Scott Campbell
Mr J. Carboneti
Mr Peter Cardilini
Ms Bernadette Carroll
Mr Ivan Carter
Ms Marita Carter
Mrs Robyn Carver
Mr William Cawood
Mr Rod Chapman
Mr David Charles
Mr Rob Charles
Mr Matthew Chojnacki

Individuals
Mr Giancarlo Cipolla
Mrs Liz Clancy
Mr Roger Clarke
Mr Louis Clarke-Hodge
Ms Joy Clusker
Mr Jack Cohn
Ms Shelley Cohn
Ms Eveline Collins
Ms Delene Commerford
Mr Paul Connellan
M- Pat Connor
Mr Nicholas Cook
Mr Brian Cooke
Mr Rob Copsey
Mr Kent Cordell
Mr Jason Cornish
Mr Sean Corrigan
Mr Damian Croatto
Mr Peter Crooks
Mr Lindsay Dale
M- Sparrow Daley
Mr James Darragh
Mr Brian Davis
Mr Nathan Dawkins
Mr Chris Dawson
Mr Mark Day
Mr Ian Dean
Mr Trevor Dean
M- C.P. Deans
Mr Neil Dempster
Mr Hugh Denton
Mr Frank Deutsch
Mr Caleb Di Biase
Mr Costa Di Biase
Mrs Shelley Di Biase
Mr Jerry Dieben
Mr Mark Divito
Ms Diane Donsdottir
Mrs Marie Doody
Mr Dennis Dorman
Mr & Ms Ken & Anitra Dowling
Mr Aaron Duckman
Mr Kane Duclos
Ms Loris Duclos
Mr Paul Dudley

Individuals
Mr Michael Duffy
Mr Ross Dunstan
Mr Stephen Eagles
Mr Daniel Easom
Mr Bruce Eckart
Mrs Sindy Edebohls
Mr Guy Edgar
Mr Clive Edington
Mr & Ms Norm & Barb Edwards
Mr Phillip Elford
Mr David Endacott
Mr John Endacott
Ms Mandy Evans
Mr Matt Evans
Mr Simmo Evans
Mr Peter Fagg
Mr Angelo Falsone
Ms Elizabeth Feast
Mr Michael Feldman
Ms & Mr Rita & Peter Fellows
Mr David Ferreira
Mr John Field
Mr Andrew Fischer
Mr Lester Fisher
Mr Paul FitzSimons
Mrs Alyce Flannery
Mr Sean Flannery
Ms Robyn Flentjar
Mr James Flynn
Ms Lauretta Foran
Ms Frances Ford
Mr Troy Ford
Ms & Ms John & Lorraine Forden
Ms Carmel Fraser
M- Kelsey Fraser
Mr John Frigo
Ms Maree Frost
Mr Neil Frost
Mr Trevor Frost
Mr Brett Gallie
Mrs Isabelle Gay
Mr Ken Gell
Mr Adrian Gentile
M- & M- J.N. & J.A Gervasoni
Mr Tim Gibson

Submissions received (continued)

Individuals
Mr Russ Gillies
Mr Bill Gleeson
Mr Robert Goddard
Ms Michelle Goldsmith
Ms Shelley Goldsmith
Mr Chris Goodman
Mr Josh Goodman
Mr Neil Gook
Ms Ann Grant
Mr R. Grassecker
Mr Matthew Gray
Mr Kevin Greene
Mr Brendan Greenwood
Mr Patrick Gregurke
Mr Britt Greogry
Mr Daniel Grey
Mr John Griffin
Mrs Kathrine Griffith
Mr Frank Grimaldi
Ms Karen Grulke, Mr Zenip Charles & Mr Steve Willmette
Mr Chris Hale
Ms Janet Hall
Mr Mark Hallett
Ms Natalie Hallett
Mr John Hand and Ms May Wang
M- Hanson
Mr James Harker
Ms Raeleen Harper
Mr Mark Harwood
Mr Edward Havers
Mr Simon Hays
Ms Ramona Headifen
Ms Jan Heald
Mr Tom Hedjes
Mr James Heinjus
M- Shae Hellstedt
Mr Stuart Henery
Mr Alan Heritage
Mr Ross Herman
Mr Craig Hinton
Ms Tracey Hinton
Mr Glynn Hobbs
Mr Graeme Hocking
Mr Leigh Hodgson
Mr Jake Hodkinson

Individuals
Mr Mark Holly
Mr Christopher Holmes
Dr Bill Holsworth
Ms Christine Hooper
Mr Bruce Howe
Ms Lorraine Huddle
Mr Ken Hudson
Mr Jack Hughes
Ms Merran Hughes
Mr Clyde Hulme
Mr Raymond Humm
Mr & Ms Jamie & Carol Hutchings
Mr Ottrey Jackson
Mr Garth James
Mr Rudy Jaros
Mr Alan Jeffries
Dr Lea Jellinek
Mr Trav Johns
Mr Bruce Johnson
Ms Donna Johnston
Mr Les Johnston
Ms Sandra Johnston
Mr Keith Jonas
Dr Patrick Jones
Mr Barend Jonker
Ms Alison Joseph
Ms Janet Justin
Ms Helen Kalajdzic
Ms Fiona Kealy
Ms Catherine Keil
Mr Lee Kelly
Mr Nathan Kelly
Mr Noel Kelly
Mr Trevor Kelly
Mr Theo Kemna
M- J.D. Kennedy
Mr Luke Kennedy
Mr Geoff Kervarec
Ms Ellen Kessler
Ms Susan Kidd
Mr Scott King
Prof Peter Kluge
Mr Brett Knight
Ms Janette Kodaih
Mr Vladimir Kondratiev

Individuals
Ms Leanne Kovach
Mr Len Krois
Mr John Laity
Ms Stephanie Lancaster
Mr Greg Lean
Mr Mark Learmonth
Mr Patrick Leddin
Mr Martin Leenders
Mr Bernard Lellyett
Mr Lars Lennartsson
Mr Ashley Leopoldseder
Mrs Hayley Liddicoat
Mr John Lindner
Mr Ron Liversidge
Mr Don Lomas
Mr Geoffrey Loosmore
Mr Ian Lovejoy
Mr Chris Lyons
Mr Graeme Mackenzie
Mr Doug Macrae
Mr Peter Maffey
Mr Patrick Maguire
Ms Dimsie Maitland
Mr Toloumu Malota
Mr Richard Marley
Ms Liz Martin
Ms Max
Ms Stacey Maynard
Ms Ann McAlpin
Mr David McCoy
Ms Madeleine McCristal
Ms Leoni McDonald
Miss Margaret McDonald
Mr Peter McDonald
Mr Robert McDonald
Ms Theresa McEwen
Ms & Mr Ann & Bruce McGregor
Ms Jill McHutchison
Mr Gary McIntosh
Ms Robyn McKay
Mr Simon McKenzie
Mr Dale McKissack
Ms Kate McLaren
Mr Rob McLaren
Mr Andrew McMahon

Individuals
Mr Peter McMahon
Mr & Ms Kenneth & Lynette McMaster
Mr Robert Meadows
Ms Heather Merrylees
Mr Cody Michael
Mr Nik Mijatovic
Mr Jeremy Milhuisen
Mr Jarrod Miller
Mr Grant Millington
Mr Allan Milne
Mr Craig Mitchell
Ms Jan Mitchell
Mrs Dianne Moiler
Mr Jarrod Moiler
Mr Shane Moiler
M- Mali Moir
Mr John Moloney
Mr Russell Momm
Mr Peter Montgomery
Mr David Moore
Mr John Moreland
Mr Craig Morley
M- Pat Morris
Mr Shane Morrison
Mr Neil Motton
Mr Andrew Moysey
Mr & Ms Mark & Sue Mudford
Mr Ken Mudie
Mr Kevin Mulrooney
Mr Neil Mulvaney
Mr Paul Mulvaney
Mr Deon Mundell
Mr Graeme Munro
Mr John Murphy
Ms Melissa Murphy
Mr Brendan Murray
Mr Ron Murray
Ms Sharon Murray
Mr Peter Murrell
Mr David Myer
Ms Anna Myers
Mr Luke Myers
Ms Tania Nally
Mr H. Naude
Ms Anne Newton

Submissions received (continued)

Individuals
Mr Daniel Nicoletti
Mr Stjepan Nikolic
Mr Geoff Ninnes
Mr Chris Nixon
Ms Julie Nixon
Mr Robert Nixon
Ms Tegan Nixon
Ms Kim Noblet
M- Leigh Nolan
Mr Colin Norris
Ms Kerrie Norris
Mr Ivan Novacic
Mr Rod Novak
Ms Deanne O'Donoghue
Mr Ollie Oleszek
Mr Peter O'Mara
Mrs Annette O'Mealley
Mr Peter O'Meara
Mr John Oost
Mrs Jenny Oper
Mr Jarrod O'Reilly
Mr Graeme Orr
Ms Jan O'Sullivan
Mr David Owen
Mr Bradley Page
Mr Nicholas Pavlis
Dr Phillip Payne
Mr Colin Pearce
M- K. Pedretti
Mr Stanislaw Pelczynski & Ms Barbara Pelczynska
Mr Aldo Penbrook
Mr Andro Peric
Dr Simon Perrin
Ms Jennifer Petersen
Mr Ethan Phillips
Mr Murray Phillips
Ms Linda Philpott
Mr Gerald Piccione
Mr Anthony Pollard
Ms Zoe Polson
Mr Dominic Portelli
Ms Bev Porteous
Ms Rosemary Porter & Messrs Graham, Daniel, William & Matthew MacDonald
M- Powell
Ms Leah Powell

Individuals
Mr Ned Powell
Mr & Ms G.J. & M.T. Power
Mr Roy Preece
Mr David Pregara
Mr Paul Prendergast
Mr Douglas Robert Prestidge
Mr Greg Pridmore
Mr Drew Prince
Mr Geoff Proctor
Dr Jim Radford
Ms Helen Radnedge
Mr Duane Rafferty
Mr Alan Ramsdale
Mr Andree Randall
Mr Jeff Rasmussen
Mr Baden Reade
Mrs Regina Reade
Mr Gabrielle Rebbechi
Mr Guy Redway
Ms Jill Redwood
Mr & Ms Graeme & Lucy Reed
Dr Ern Reeders
Mr Stuart Reeve
Mr Derek Reid
Ms Jocelyn Reid
Mr Michael Reidy
Mr Charlie Reissis
Mr Harley Reynolds
Mr Peter Rice
Mr Kevan Richards
Mr Peter Richards
Ms Joanna Richardson
Mr Rohan Richardson
Mr Brad Rippon
Ms Gretchen Rittberger
Mr Brenton Rittberger
Mr Simon Robbins
Mr Ian Roberts
Mr Peter Robinson
Mr Philip Robinson
Mr Paul Rogers
Mr David Rose
Mr & Ms Gill & Michael Rosier
Mr Darryl Rowley
Miss Emmy Ryan

Individuals
Mr John Sallows
Mr Robert Salmen
Mr Mark Sargeant
Mr Hugh Sarjeant
Mr Craig Scandrett
Ms Sandra Scheltema
Mr John Schembi
Ms Margory Schembri
Mr Ron Schmal
Mr Scott Schubert
Mr Anthony Scott
Mr William Seddon
Prof Peter Seligman
Mr Clint Sellars
Ms Alison Sexton-Green
Mr & Ms Graeme & Bronwyn Shalders
Ms Robyn Shallard
Mr Darren Shaw
Miss Jazmyn Shaw
Dr Jennifer Shield
Mr Stuart Shuttleworth
Mr Graeme Simmons
Mr Peter Slatter
Mr Bruce Smith
Ms Caro Smith
Mr G. Smith
Mr Howard Smith
Mr James Smith
Mr Michael Smith
Mr Simon Smith
Mr Troy Smith
Mr Steve Smitham
Mr Ian Snibson
Mr Luke Sorensen
Mr Terry South
Mr Trevor Speirs
Mr Ray Spencer
Ms Louise Staley
Mr Joe Stasse
Mr Duncan Stebbing
Mr David Stephens
Mr Clyde Sterry
Mr Alan Stewart
Mr Aven Stewart
Mr Norm Stimson

Individuals
Mr Douglas Stone
Mr Rodney Stone
Mr Simon Strachan
Mr Nick Street
Ms Carla Styles
Ms Lynn Sunderland
Mr Stuart Sutterby
Mr Robert Suttie
Ms Tanya Swan
Mr Richard Taube
Mr Lintt Taylor
Miss Sarah Taylor
Ms Angela Teach
Mr Daniel Tebecis
Mr Daniel Thatcher
Miss Emily Thatcher
Mr Anthony Thomas
Mr Alex Thompson
Ms Cassandra Thorburn
Mr Robert Thorne
Mr Chris Thornhill
Mr Dale Tiley
Mr Scott Tilley
Mr Julius Timmerman
Mr Ian Tinetti
Ms Trish Tinetti
Mr Hedley Trotman
M- Lou Truda
Mr David Tunks
Ms Glenys Tuohey
Mr Darren Tyrrell
Mr Ken Unsted
Mr Gavin Valko
Ms Dianne van Baalen
Mrs Sandra Van Baar
Ms Anna van Tatenhove
Mr Paul Vary
Mrs Sharon Vawser
Mr Paul Vella
M- Blair Venn
Mr Joseph Verhaar
Dr Glenda Verrinder
Ms Jacky Vincent
Mr Daniel Vrbovski
Mr Michael Wade

Submissions received (continued)

Individuals
Mr David Wallace
Mr Ray Wallace
Ms Sarah Wallace-Smith
Mr & Ms Frank & Nola Wallis
Mr Jeff Walter
Mr Anthony Warwick
Mr Dale Watts
Mr Craig Webb
Ms Sandy West
Mr John Weston
Mr Kenneth Weymouth
Mr Richard Wheatland
Ms Margaret Whipp
Mr Chris White
Mr Mark Whiteley
Mr Travis Whitfield
Mrs Elizabeth Whittaker
Mr Ken Whittaker
Mr Colin Wiese
Mr Kevin Wilde
Ms Beverley Williams
Ms Linda Williams
Mr Peter Williams
Mr Warwick Williams
Mr John Williamson
Mr Russell Willis
Ms Carol Wilmink
Mr Stephen Wilson
Mr John Winchcomb
Mr Brenton Woda
Mr John Wolfs
Ms Sharon Wolfs
Mr Bernie Wright
Mr Brendan Wright
Mr Jim Wright
Mr Peter Wright
Mr Ronnie Yap
Ms Catherine Young
Mr Wallace Young
Dr Deborah Zinn

Organisations
Alaskan Malamute Club, Victoria Inc
Axedale Our Town Our Future
Bacchus Marsh Council Trench Reserve COM
Ballarat Environment Network
Bendigo & District Environment Council Inc
Bendigo Field Naturalists' Club
Bendigo Sustainability Group
BirdLife Australia
Broken Creek Field Naturalists Club Inc
Cave Hill Creek
Central Murray Apiaries
Central Victorian Apiarists Association Inc
Central Victorian Biolinks Alliance Inc
Coiltek Gold Centre
Coliban Region Water Authority
Core Prospecting Pty Ltd
Deep Creek Landcare Group
Doug Stone Gold Maps Pty Ltd Outdoor Press
Federation Environment Horticulture Macedon Ranges
Field Naturalists Club of Ballarat
Four Wheel Drive Victoria
Friends of Canadian Corridor
Friends of Hanging Rock
Friends of Werribee Gorge & Long Forest Mallee Inc
Gisborne Vintage Machinery Society Inc
Gold and Relics
Greater Bendigo City Council
Junortoun Community Action Group
Lawyers for Forests
Lucky Strike Gold
Macedon Ranges Shire Council
Margaret Alicia Pty Ltd
Melbourne Water
Mountain Bike Australia
National Timber Councils Association
Newham & District Landcare Group
Northern Bendigo Landcare Group
NSW & ACT Prospectors and Fossickers Association
PNL 4WDriving
Prospectors & Miners Association of Victoria
Prospectors & Miners Association of Victoria, Central
Prospectors and Miners Association of Tasmania Inc
Pyrenees Timber Pty Ltd
Pyrenees Shire Council
Siberian Husky Club of Victoria Inc

Organisations
Sporting Shooters' Association of Australia (Victoria) Ltd
St Arnaud Field Naturalists' Club Inc
Talbot Timbers
The Bendigo Greens
Trentham Golf Club
Trust for Nature (Vic)
Turk's Agriculture
Upper Campaspe Landcare Network
VicForests
Victorian Association of Forest Industries
Victorian National Parks Association
Victorian Seekers Club Inc
Vintage Enduro Riders Inc
Wellsford Forest Conservation Alliance
Werribee River Association
Wombat ForestCare
Wombat MTB Club

Appendix 4

Information sources

This appendix presents details on information sources for major topics and analyses in this draft proposals paper.

Aboriginal values and interests

Information about Aboriginal values and interests in the Central West Investigation area was primarily gathered through VEAC's partnership with the Dja Dja Wurrung Clans Aboriginal Corporation, who were engaged as consultants to conduct the Aboriginal community engagement project through their wholly-owned commercial arm Djandak (Dja Dja Wurrung Enterprises Pty Ltd).

Through the project Traditional Owners were invited to share their interests, cultural values, views and other relevant information with VEAC to inform the development of the draft proposals paper.

Workshops were held with representatives of Barengi Gadjin (Wotjobaluk Peoples), Dja Dja Wurrung and Wurundjeri Traditional Owner groups, but could not be facilitated with the other Traditional Owner groups at this stage of the project (Eastern Maar, Martang, Wathaurung and Taungurung). A second round of engagement, following publication of the draft proposals paper, will provide an opportunity for the Aboriginal community and Traditional Owners to provide more targeted input to the investigation.

The project report (available on the VEAC website) emphasised the importance of Country Plans and related documents in providing guidance on cultural values and how Aboriginal people view management of their land. These resources included:

- *Growing What Is Good Country Plan – Voices of the Wotjobaluk Nations* (2017) https://www.bglc.com.au/images/stories/DownloadPDF/Native-Title-Discussion/GrowingWhatIsGoodCountryPlan-WotjobalukNations.pdf
- *Dhelkunya Dja – Dja Dja Wurrung Country Plan 2014-2034* www.djadjawurrung.com.au/wp-content/uploads/2015/11/Dja-Dja-Wurrung-Country-Plan.pdf
- *Draft Joint Management Plan for the Dja Dja Wurrung Parks*; released by the Dhelkunya Dja Land Management Board in April 2018. http://dhelkunyadja.org.au/files/Strategy.pdf
- *Meerreengeeye ngakeepoorryeeyt – Eastern Maar Country Plan* (2015) http://easternmaar.com.au/wp-content/uploads/2012/10/EM_CountryPlan_FINAL.pdf
- *Taungurung Buk Dadbagi – Taungurung Country Plan* (2016) www.gbcma.vic.gov.au/downloads/Traditional_Owners/Taungurung_CountryPlan_WEB.pdf
- *Merri Creek Cultural Values Report*, prepared by the Wurundjeri Tribe Land and Compensation Cultural Heritage Council for Melbourne Water in 2012, provided information on cultural values and caring for Country of relevance to the Central West Investigation. A copy was provided for use in the Central West Investigation with the permission of the Traditional Owner group.

VEAC also obtained broader knowledge about Aboriginal cultural values and interests from government agencies including:

- Department of Environment, Land, Water and Planning (DELWP) www.delwp.vic.gov.au.
- Aboriginal Victoria www.vic.gov.au/aboriginalvictoria.html which includes the Victorian Aboriginal Heritage Council www.dpc.vic.gov.au/index.php/aboriginal-affairs/victorian-aboriginal-heritage-council.
- Department of Justice and Regulation www.justice.vic.gov.au.

Figure 2.3 illustrates boundaries for Registered Aboriginal Parties (RAPs), the Dja Dja Wurrung Recognition and Settlement Agreement (RSA), Aboriginal title lands within the Dja Dja Wurrung RSA and current RSA negotiation areas for several other Traditional Owner groups. Source spatial data for this map was obtained from Aboriginal Victoria and the Victorian spatial data library (DELWP). A version of figure 2.3 was also supplied to Djandak for use in the Aboriginal community engagement project report.

Historic values

Victorian Heritage Register and Inventory

38 historic sites on public land in the investigation area were identified as listed on the Victorian Heritage Register (VHR). https://heritagecouncil.vic.gov.au/heritage-protection/levels-of-protection. A full list of VHR sites is provided at appendix 5.

There are also many sites of regional and local significance. Information on these sites was obtained from the Victorian Heritage Inventory http://vhd.heritagecouncil.vic.gov.au.

Local government

Local government heritage studies provided background information on heritage values and themes in the investigation area, including:

- City of Greater Bendigo has several heritage studies for the region which are available at www.bendigo.vic.gov.au/Services/Heritage/Heritage-studies
- Macedon Ranges heritage studies – http://www.mrsc.vic.gov.au/Build-Plan/Our-Heritage
- Moorabool Heritage Stategy 2016-2020 https://www.moorabool.vic.gov.au/sites/default/files/Moorabool-Heritage-Study-2016-2020_0.pdf
- Pyrenees Shire / Avoca Shire Heritage Study 1864 – 1994
- Pyrenees Shire Heritage Precinct Study www.pyrenees.vic.gov.au/files/202d20b5-82cb.../Heritage_Precinct_Study_1.pdf
- Rural Ararat Heritage Study https://www.ararat.vic.gov.au/property-development/planning/heritage

Other information

Reports undertaken as part of the Comprehensive Regional Assessment leading to the West Victoria Regional Forest Agreement (2000) provided details on historical forestry sites in the investigation area.

Information on forestry sites in Mount Cole forest were also taken from the Land Conservation Council Historic Places Report (1997), available at www.veac.vic.gov.au/investigation/historic-places-special-investigation-lcc

Not all Victoria has been assessed for heritage; in particular there are parts of the investigation area where gold mining history has not been assessed. VEAC met with staff from Heritage Victoria to identify potential sites of significance that have not been formally assessed.

Geology and geomorphology

VEAC engaged Wakelin Associates to prepare a desktop report detailing known geological and geomorphological sites of significance on public land in the Central West Investigation area. Sites of state-level significance or higher were described with additional material provided on the management and conservation of these sites. The report is available on the VEAC website at www.veac.vic.gov.au and appendix 6 provides a summary listing of sites.

Biodiversity

Conservation status

The conservation status of taxa (such as species, subspecies and varieties) and ecological communities was obtained from the following sources.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The Commonwealth government publishes the taxa listed under the act at www.environment.gov.au/epbc/about/epbc-act-lists#species. The relevant threatened categories at a national level are:

CR	Critically endangered	A taxon is critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.
EN	Endangered	A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.
VU	Vulnerable	A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.
CD	Conservation dependent	A taxon is conservation dependent when it is the focus of a specific conservation program, the cessation of which would result in the taxon becoming vulnerable, endangered or critically endangered within a period of five years.

Victorian rare and threatened species advisory lists

These lists are published by the Department of Environment Land Water and Planning (DELWP) at www.environment.vic.gov.au/conserving-threatened-species/threatened-species-advisory-lists. The current lists are:

- Advisory List of Rare or Threatened Plants in Victoria (2014)
- Advisory List of Threatened Invertebrate Fauna in Victoria (2009)
- Advisory List of Threatened Vertebrate Fauna in Victoria (2013)

The conservation status categories used in the Victorian advisory lists are:

x	Presumed extinct in Victoria	A taxon is extinct when there is no reasonable doubt that the last individual has died, or it has failed to be recorded from Victoria during the past 50 years despite intensive field searches at previously known sites and/or expected habitat.
cr	Critically endangered	A taxon is critically endangered when the best available evidence indicates that it is facing an extremely high risk of extinction in the wild.
e	Endangered	A taxon is endangered when the best available evidence indicates that it is at very high risk of extinction from the wild particularly if present land-use and other causal factors continue to operate.
v	Vulnerable	Not presently endangered but likely to become so soon due to continued depletion; considered to be facing a high risk of extinction in the wild; occurring mainly on sites likely to experience changes in land-use which would threaten survival in the wild; or total population is so small that the likelihood of recovery from disturbance, including localised natural events such as drought, fire or landslip, is doubtful.
nt	Near threatened	A taxon is near threatened when it is presently close to qualifying for a threatened category (critically endangered, endangered or vulnerable), or is likely to qualify in the near future.
r	Rare	A taxon is rare when there are relatively few known populations or the taxon is restricted to a relatively small area, but is not considered otherwise threatened.
k	Poorly known/ data deficient	A taxon is suspected, but not definitely known, to belong to one of the above categories within Victoria. At present, distribution or abundance information is deficient or inadequate to make a direct or indirect assessment of extinction risk. Generally referred to as data deficient when used to describe fauna.

Flora and Fauna Guarantee Act 1988

The relevant threatened species and communities and potentially threatening processes listed under the Victorian *Flora and Fauna Guarantee Act 1988* were obtained from www.environment.vic.gov.au/conserving-threatened-species/flora-and-fauna-guarantee-act-1988. The criteria for listing under the Act are:

1. A taxon or community of flora or fauna is eligible to be listed if it is in a demonstrable state of decline which is likely to result in extinction or if it is significantly prone to future threats which are likely to result in extinction.
2. A taxon of flora or fauna which is below the level of sub-species and a community of flora or fauna which is narrowly defined because of its taxonomic composition, environmental conditions or geography is only eligible for listing if in addition to the requirements of sub-section (1) there is a special need to conserve it.
3. A potentially threatening process is eligible for listing if, in the absence of appropriate management, it poses or has the potential to pose a significant threat to the evolutionary development of a range of flora and fauna.

The following ecological communities have been listed as threatened under the Flora and Fauna Guarantee Act and occur in the Central West Investigation area. See https://www.environment.vic.gov.au/__data/assets/pdf_file/0018/50418/Flora-and-Fauna-Guarantee-Characteristics-of-Threatened-Communities-.pdf for descriptions of the communities.

- Creekline grassy woodland (Goldfields) community
- Victorian temperate-woodland bird community. (Nineteen of the 24 species that make up this community have been recorded in the Central West Investigation area – see appendix 7)
- Western (basalt) plains grasslands community.

Potentially threatening processes that are listed under the Flora and Fauna Guarantee Act and are applicable in parts of the Central West Investigation area include:

- High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition
- Inappropriate fire regimes causing disruption to sustainable ecosystem processes and resultant loss of biodiversity
- Loss of hollow-bearing trees from Victorian native forests – see Action Statement at https://www.environment.vic.gov.au/__data/assets/pdf_file/0025/32488/Loss_of_hollow-bearing_trees_from_Victorian_native_forests.pdf
- Reduction in biodiversity of native vegetation by Sambar (*Cervus unicolor*)
- Soil degradation and reduction of biodiversity through browsing and competition by feral goats (*Capra hircus*).

Distribution records

Flora and fauna distribution information in the Central West Investigation region, including historical as well as more recent records, was obtained from a variety of sources including:

Atlas of Living Australia
A collaborative, national project that aggregates biodiversity data from multiple sources (including the Victorian Biodiversity Atlas, Museums Victoria and Royal Botanic Gardens Victoria) and makes it freely available and usable online. https://www.ala.org.au/

BirdLife Australia
The *Woodland Birds for Biodiversity* project developed a landscape prioritisation tool to identify Key Biodiversity Areas for woodland birds. http://birdlife.org.au

Flora and Fauna Guarantee Action Statements
www.environment.vic.gov.au/conserving-threatened-species/flora-and-fauna-guarantee-act-1988/action-statements

VicFlora
The Royal Botanic Gardens Victoria's comprehensive and current guide to the wild plants of Victoria. https://vicflora.rbg.vic.gov.au

SWIFFT website
A partnership between the community, conservation, education and government sectors containing information from experts in their field. www.swifft.net.au/

Victorian Biodiversity Atlas
A collection of species distribution data from many contributors, managed by DELWP. Includes a dynamic list of all species found in Victoria with details including numbers and dates of records. www.environment.vic.gov.au/biodiversity/victorian-biodiversity-atlas. This information can also be accessed through the mapping tool NatureKit at http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit

Habitat suitability modelling

Habitat models developed for many species by DELWP were used to help understand the distribution of rare and threatened species across the Central West Investigation region, particularly where occurrence records appeared to be patchy. This can happen for many reasons. A key issue in the Central West Investigation area is that survey effort is very uneven, with few records in remote or less popular areas. Some species are very hard to see or hear, and many others move around the landscape in response to habitat conditions – for example the nectar-feeding birds that are usually only resident in the occasional years that their preferred eucalypt species flower heavily.

Habitat distribution modelling predicts where suitable habitat may exist for a species, based on verified observations of the species and the biophysical attributes of those locations. The resulting maps show the relative suitability of habitat across Victoria, from high to low. Whether or not a species currently occurs in the apparently suitable habitat at a particular location depends on many factors including size of the habitat patch and distance from other suitable habitat, seasonal factors and natural disturbance cycles, and the impact of predators or disease.

The habitat distribution models for most rare and threatened species can be accessed via NatureKit http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit or downloaded through the Victorian Government Data Directory https://www.data.vic.gov.au.

Strategic biodiversity values

VEAC considered Strategic Biodiversity Values (SBV) analyses for rare and threatened species – along with the species occurrence and habitat information outlined above – to help inform options for land use within the Central West Investigation area.

The Arthur Rylah Institute for Environmental Research uses Zonation optimisation software to analyse habitat distribution models and rank all locations in the target landscape for their ability to support rare and threatened species – see www.environment.vic.gov.au/__data/assets/pdf_file/0031/82993/3-NaturePrint-Strategic-Biodiversity-Values.pdf. The primary input is the set of habitat distribution models for Victorian rare or threatened species as published in DELWP's advisory lists. The outputs are maps that identify patterns in the importance of land in the Central West Investigation region for rare and threatened biodiversity. The rankings and simple colour scheme adopted for this report do not imply any thresholds or targets for action.

Two analyses were considered in the development of draft recommendations:

- The Arthur Rylah Institute for Environmental Research developed a statewide SBV map in 2016 for a range of purposes. This analysis uses all Victorian rare or threatened species' habitat distribution models, along with some vegetation data that reflects the diversity of habitats. It shows where the important areas for Victoria's biodiversity occur across the state. Map E shows the section of this statewide analysis that covers the Central West Investigation region.
- VEAC commissioned the Arthur Rylah Institute for Environmental Research to provide a similar analysis for the Central West Investigation, limited to the region that encompasses the three blocks and the land between and around them. The inputs were rare and threatened species' habitat distribution models that overlap with this region; in total, habitat distribution models for 329 taxa (255 vascular plants and 74

vertebrate animals) were used. While some of these species have not been recorded in the investigation area, they were not discarded from the SBV analyses because this was not expected to affect the overall patterns significantly. Map F shows the analysis of public land outside the protected areas, which highlights the opportunities to most efficiently capture habitat for the Central West Investigation region's rare and threatened species.

Significant sites

Information on sites of significance for natural features such as large old trees and threatened vegetation types was obtained from submissions, scientific reports and discussions with local experts. Some areas are relatively poorly surveyed for significant biodiversity sites; for example the locations of large old trees in the Mount Cole–Pyrenees block have not been documented.

Site condition

The overview of site condition within the Central West Investigation area was informed by VEAC's Remnant Native Vegetation Investigation (2011) www.veac.vic.gov.au/investigation/remnant-native-vegetation-investigation.

Detailed information on specific issues affecting the condition of vegetation in various parts of the Investigation area was obtained from submissions, scientific literature and internal government documents.

Landscape connectivity

VEAC obtained a preliminary landscape connectedness analysis from the Arthur Rylah Institute for Environmental Research to help identify the patches of public land within the Central West Investigation region that are important for linking other areas with significant biodiversity values, thereby maintaining ecological connectivity and resilience across the landscape. This has important implications for woodland or tree dependent species that have a moderate degree of mobility (for example, birds that move up to 10 kilometres in certain vegetation types). The technique models connectedness much like current flowing through cells, where the most efficient route is chosen around barriers. Relatively small areas of public land including linear features such as treed waterways and unused roads can play a disproportionately important role in providing connections between larger blocks.

Ecosystem representation

For the Central West Investigation, the same approach that has been used in Victoria and around Australia for more than 20 years was employed as a key input in the formulation of the draft recommendations. The history of this approach, through to its most recent refinement known as the Aichi targets, is detailed in section 5.1.2 of the 2016 discussion paper from VEAC's Statewide Assessment of Public Land. In summary:

- Through the Convention on Biological Diversity the Australian and Victorian governments are committed to establishing a comprehensive, adequate and representative (CAR) protected area system. For terrestrial areas this is largely achieved through the National Reserve System program.
- In the CAR system of protected areas:
  - Comprehensive refers to the inclusion in protected areas of all ecosystems in each bioregion
  - Adequate refers to the inclusion of sufficient areas of each ecosystem in protected areas to ensure for ecological viability and integrity of populations, species and communities
  - Representative refers to a finer scale of comprehensiveness involving inclusion of the variability within ecosystems.
- In Victoria, 28 bioregions have been delineated and all terrestrial native vegetation has been classified into several hundred ecological vegetation classes (EVCs). Since the first application of the CAR protected area approach in Victoria in the mid 1990s, EVCs have been used as surrogates for ecosystems against which to measure performance against the following targets – with some allowances for flexibility – for representation in protected areas of each EVC in each bioregion:
  - at least 17 per cent of the 'pre-1750 extent' – that is, original or natural extent – of all EVCs
  - at least 60 per cent of the remaining extent of all vulnerable EVCs (those where more than 70 percent

of the original extent has been cleared)

  – 100 per cent of the remaining extent of rare (less than 10,000 hectares current extent) and endangered (more than 90 per cent cleared) EVCs.

• Using the public land classification recommended in the 2017 final report of the Statewide Assessment of Public Land, the protected area system comprises the following five categories:

  – national park

  – conservation park

  – national heritage park

  – nature reserve

  – bushland reserve.

• Statistics on the current protected area representation of EVCs were derived in three stages:

  – The original or natural extent of each bioregional EVC was calculated using GIS software to cut the DELWP bioregions and pre-1750 EVC layers to the investigation area boundary and sum the total extent of each EVC in each bioregion in each of the three blocks in the investigation area.

  – The current extent of each bioregional EVC in current protected areas was calculated using GIS software to overlay DELWP bioregions and 2010-15 EVC layers on a simplified version of VEAC's current public land use dataset (as shown on map A) and sum the current extent of each bioregional EVC in current protected areas, on current other public land and on private land in each of the three blocks in the investigation area. The percentage shortfall against the representation target for each bioregional EVC is the same as that for the bioregional EVC as a whole (i.e. across its statewide distribution, not just that in the investigation area). For each EVC this per cent figure was taken from the 2016 discussion paper of VEAC's Statewide Assessment of Public Land and multiplied by the extent of the EVC on other public land to derive the extent of the shortfall as a figure in hectares.

  – The current extent of each bioregional EVC in proposed protected areas was calculated using GIS software to overlay DELWP bioregions and 2010-15 EVC layers on a simplified version of VEAC's dataset of proposed public land use (as shown on map D) and sum the current extent of each bioregional EVC in proposed protected areas, on proposed other public land and on private land in each of the three blocks in the investigation area.

Commercial wood products

Commercial wood products harvested from the state forests of the Central West Investigation area in recent years include sawlogs, firewood, fence posts, and a variety of speciality timber notably logs for competitive and demonstration wood chopping and a range of uses in the historic displays at Sovereign Hill in Ballarat ranging from roof shingles to fence rails, guttering and beams for poppet heads. Residue from some of these uses is also not wasted: wood chopping leftovers as firewood and sawmill waste as chips to heat Beaufort hospital, for example.

Commercial firewood is sold locally and outside the investigation area, i.e. in Melbourne and Ballarat. Sawn timber is used for a variety of purposes depending on its characteristics and market demands.

Sawlog harvesting varies according to forest type. In the mixed species forests of Wombat forest (when sawlog harvesting occurred), the Mount Cole forests and the southern and higher elevation forests of the Pyrenees, harvesting is by clearfelling or shelterwood systems. This involves the removal of most trees in a relatively short time (typically a few months), followed by active management for regeneration and then a relatively long period (many decades) before the same harvesting regime is applied again. In the drier box-ironbark forests of the Wellsford forest and the lower northern slopes of the Pyrenees, coupes tend to be larger, and harvested progressively and selectively over longer periods (up to several years). There may be several different harvesting operations – such as for sawlogs, posts and firewood – and harvesting may return to a site sooner than after clearfelling because of the selective nature of harvesting.

In both forest types, commercial or domestic firewood harvesting may be used as a technique to improve the silvicultural properties of the forest.

In addition to valuable information provided in submissions, VEAC also obtained information from:

- VicForests' spatial data on the value of forests for timber production
- spatial data from the 2017-20 Timber Utilisation Plan showing the location of coupes planned for that period
- DELWP's spatial layer of logging history; this layer is comprehensive and precise for logging from the 1990s but less reliable for logging prior to that and particularly prior to about 1970
- DELWP's fire history layer, which is also generally less accurate for earlier fires
- data associated with current licences, including the nature of harvesting operations and the timber to be harvested, and timber volumes
- meetings and field visits with relevant stakeholders such as VicForests and licensees, and including visits to sawmills and operational coupes.

Domestic firewood

DELWP provided information on domestic collection of firewood from state forests in the investigation area. The data sets included:

Maps of coupes made available for domestic firewood collection:

- In the Pyrenees, Glenmona, Wellsford and Cobaw state forests there are spatial layers for 2018, 2017, 2011-2016 and an unspecified period ending in 2011.
- In the Wombat, Mount Cole and nearby state forests, areas available for domestic firewood collection in 2016 – 2018 were identified. There has been a recent shift towards providing free domestic firewood as part of preparations for fuel reduction burns.

Volumes of firewood allowed to be taken from coupes in the Bendigo forest management area under the community firewood collection permit system. Records included a breakdown of types of firewood and concession categories for permits issued between 2003 and 2011 when the system ceased.

Earth resources

Details of mining licences, prospecting licences, exploration licences and extractive industry tenements were sourced from the Victorian Spatial Data Library (VSDL). Figure 2.5 and figure 2.2 display earth resource licence and tenement information and historic gold mine lease information respectively, obtained from the

VSDL. Additionally, figure 2.2 includes spatial information about goldfields compiled by the Geological Survey of Victoria in 1993 and supplied by the Department of Primary Industries in 2012.

The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) also provides a publicly accessible interactive map 'Mining Licences Near Me' which displays these licences and a number of other earth resources related licences across Victoria. The map displays the geographic location of the licence as well as information relating to the status of the licence, the licence holder, commodities and details around the application date, grant date and expiry date of the licence. The interactive map can be viewed at http://earthresources.vic.gov.au/earth-resources/maps-reports-and-data/mining-licences-near-me/mining-licences-near-me.

Information around historical mining activity, alluvial diggings, mine shafts and mapped extractive industry interest areas was accessed from DEDJTR's GeoVic – a publicly accessible web mapping application that provides access to various data layers. GeoVic allows users to search geospatial databases and display the results as maps or tables. It is available at http://earthresources.vic.gov.au/earth-resources/maps-reports-and-data/geovic.

VEAC also met with regional DEDJTR staff from the earth resources area to discuss the current level of activity under exploration, mining and prospecting licences and extractive industry tenements within the Central West Investigation area.

Apiculture

Data sources

Information and data relating to apiculture and apiary licences was supplied by DEWLP and is described in sections 5.5.3, 6.5.3 and 7.5.3 of this report. VEAC consulted with relevant departmental staff to discuss current policy and recent policy changes. Apiary licence information is publicly accessible on DELWP's MapShareVic which can be found at https://www2.delwp.vic.gov.au/maps/maps-and-services/interactive-maps. Apiarists are represented on the Central West Investigation's Community Reference Group. Members include representatives from the Central Victorian Apiarists Association and the Victorian Farmers Federation (for membership details see the inside front cover of this report).

Background information to recent industry changes

Over the last decade, Australia's almond industry has increased significantly. In Victoria, the industry is mainly located in the northwest just south of the Murray River. As almond trees rely mostly on insect pollination, almond farms contract beekeepers to supply European honey bee hives in July to August of each year when the almond trees are flowering. This increased demand for pollination services has shifted the focus for many apiarists from honey production to pollination services.

Approximately 100,000 hives were required in previous years to meet the demand for pollination services by almond orchards. This resulted in hives from all over Victoria as well as interstate converging on northwest Victoria over the flowering months. This movement of hives has caused an increased demand for public land bee sites within approximately one night's drive of the almond orchards. This enables beekeepers to use a staged approach to deliver the pollination services.

The *Apiculture on public land* policy came into effect in August 2013. The new policy focused on increasing the opportunities and improving access for public land beekeeping, providing greater security of floral resources, and improving administration relating to the management of public land beekeeping.

Public land bee sites that have ranges covering forests or woodlands with high nectar yields (such as areas with yellow box or grey box eucalypt species) or those that cover significant flowering events (such as the summer flowering ironbarks in Wellsford) have typically been occupied since the bee sites were established. However, with increased demand for pollination services, new bee sites near almond farms are required and new bee sites are proposed in areas not previously sought after. The new policy sought to meet these changing requirements.

Water production and supply

Water production and supply information for the investigation area was sourced from various rural and urban water authority websites.

For the Mount Cole–Pyrenees block:

- Rural water authorities
  - Southern Rural Water
  - Goulburn-Murray Water
  - Grampians Wimmera Mallee Wate
- Urban water authorities
  - Central Highlands Water
  - Grampians Water

For the Wellsford block:

- Rural water authority
  - Goulburn-Murray Water
- Urban water authority
  - Coliban Water

For the Wombat–Macedon block:

- Rural water authorities
  - Southern Rural Water
  - Goulburn-Murray Water
- Urban water authorities
  - Central Highlands Water
  - Western Water
  - Coliban Water

The websites of the water authorities listed above provided information about the size of the water storages and their contribution to various uses such as domestic supply, rural and irrigation, stock and environmental flow.

Figure 5.2 and figure 7.2 showing the catchment basins covering the Mount Cole–Pyrenees block and Wombat–Macedon block were derived from a data layer obtained from the Victorian Spatial Data Library.

Recreational uses

Understanding current and likely future recreational use of public land is an important element in VEAC's investigation process. Some activities on public land such as car rallies, scientific or educational research and group events require a permit and can be quantified in terms of parameters such as location, frequency, timing and number of participants. However, these are only a small proportion of the activities taking place on public land and a fuller picture can be only be gained from gathering information from a range of sources. Many activities occur in remote locations or involve more or less solitary participation and are more challenging to quantify. In order to better understand recreational use in the investigation area VEAC used a variety of methods including community consultation, engaging user groups and meeting with public land managers.

In addition to understanding current patterns of use on public land VEAC considered how different activities are likely to intersect with each other in the future. Conflicts of use is an increasing problem for public land that is near growing regional centres and the expanding margins of Melbourne.

Databases

Databases provide a formal record of many activities occurring in state forests and national parks. Several key databases informed the overall pattern for recreation:

- DELWP permits database records permits for events or tours held in state forests. This database records

the user, type and size of event as well as the location and frequency

- Parks Victoria permits details of permits issued in parks and reserves. Parks Victoria also provided details of tourism operators
- DELWP lease and licence database records types of lease or licence and their locations. These were analysed and those with a recreational focus were identified.

Public consultation

VEAC received a range of information from the public on recreation during the investigation. The submissions to the notice of investigation and discussion notes from the community drop-in sessions were an important part of this process and were reviewed to determine:

- types of activity and frequency
- popular locations
- demographics
- distance travelled
- social implications.

Community Reference Group

The Community Reference Group provides additional skills and expertise and facilitates a connection between the Council and the community. Recreation and patterns of use were presented and discussed at the meetings and members provided feedback and offered additional information. Members of the group have also met with or corresponded with VEAC in addition to the meetings, and supplied detailed information on locations and patterns of use (for membership see inside front cover of this report).

Land managers

VEAC met with regional staff from DELWP and Parks Victoria in addition to statewide recreation coordinators. Regional staff have a good understanding of the forests, the surrounding communities, patterns of use and management issues. Local rangers and field staff provided detailed information to VEAC on the types of recreation and assisted with mapping this information in the investigation area. Regional staff accompanied VEAC on field work where they showed examples of different activities and their related impacts, competing uses in the forests, and the effects of changing demographics.

Maps and local publications

Many user groups develop and distribute their own information and maps. These maps and guides are used to provide information on activities that are often isolated and individual in nature, for example:

- trail biking and four wheel driving groups create maps detailing population locations and known routes
- popular bushwalking tracks and camping sites are mapped and widely available at local information centres
- prospecting groups produce maps and information; for example gold prospecting maps help people identify areas to go prospecting. Other local guides are also available at tourist information outlets.

VEAC also uses available data sets to develop its own maps that can inform patterns of use. For example, historic gold fields mapping can help to inform potential areas of interest for prospecting.

Social media and websites

Recreation groups and organisations help bring people together and assist in sharing information. The websites and social media sites for these groups provided a range of information including:

- events
- popular locations and routes
- level of interest and support for an activity
- issues and concerns surrounding public land.

Field work

Extensive field work was carried out by VEAC and all key recreation areas within the investigation area were visited. Recorded information included:

- frequency and location of formed and other tracks
- condition of roads and accessibility to areas
- picnic, parking and camping facilities
- other signs of recreational use.

Licensed uses and leases of Crown land

DELWP provided details of all lease and licence holders on Crown land in the investigation area for its database. Where current contact details were available, lease and licence holders were notified of the investigation and invited to attend one of the community drop-in sessions and make a submission to the notice of investigation.

Appendix 5

Non-Aboriginal cultural heritage sites on the Victorian Heritage Register

Mount Cole–Pyrenees block

Place	Location	Group	VHR no.
Raggedy Lead Gold Mining Precinct	Percydale Historic Reserve	Mining and mineral processing	H1240
Number One Lead Gold Mining Precinct	Stream frontage west of Avoca	Mining and mineral processing	H1238
Kozminskys Mill and Log Chute Mt Buangor	Mount Buangor State Park	Forestry and timber industry	H2018
The Glut Escarpment Log Chute	Mount Cole State Forest	Forestry and timber industry	H2020
Baxter Lead Alluvial Gold Mining Precinct	Waterloo State Forest	Mining and mineral processing	H1763
Avoca Railway Station	Avoca Township	Transport	H1721
Former Avoca Court House	Avoca Township	Law enforcement (justice)	H1460
Former Police Residence	Avoca Township	Law enforcement (justice)	H1661
Former Police Lock-up	Avoca Township	Law enforcement (justice)	H1660
Former Powder Magazine	Avoca Township	Mining and mineral processing	H1548

Wombat–Macedon block

Place	Location	Group	VHR no.
Jim Crow Creek Gold Mining Sluice	Hepburn Regional Park	Mining and mineral processing	H1257
Blowholes Gold Diversion Tunnel	Hepburn Regional Park	Mining and mineral processing	H1259
Maxwell Consolidated Quartz Gold Mine	Hepburn Regional Park	Mining and mineral processing	H1760
Hepburn Mineral Springs Reserve	Hepburn Mineral Springs Reserve	Recreation and entertainment	H2098
Swimming Pool Hepburn Springs	Hepburn Mineral Springs Reserve	Recreation and entertainment	H1865
Former Daylesford Court House, Police Quarters and Lock-up	Daylesford Township	Law enforcement (justice)	H1492
Daylesford Botanic Gardens	Daylesford Township	Parks, gardens and trees	H2202
Former Franklinford Common School	Franklinford Community Purposes Reserve	Education	H0636
Ordes/Ogden Brothers Sawmill Site	Wombat State Forest	Forestry and timber industry	H2013
Telegraph Graves Sawmill	Wombat State Forest	Forestry and timber industry	H2016
Graves and Frasers Sawmill	Wombat State Forest	Forestry and timber industry	H2014
Wheelers Tramway	Wombat State Forest	Forestry and timber industry	H2015
Barbours Tramway and Log Chute	Macedon Regional Park	Forestry and timber industry	H2022
Cameron Memorial Cross	Macedon Memorial Cross Reserve	Monuments and memorials	H1027
Macedon Avenue of Honour	Macedon Township	Monuments and memorials	H2344
Hanging Rock Reserve	East of Woodend	Landscape	H2339
Woodend Court House	Woodend Township	Law enforcement (justice)	H1489
Woodend Avenue of Honour	Woodend Township	Monuments and memorials	H2066
Coliban Water Supply	Upper Coliban Reservoir	Water transport and supply	H1021
Kyneton Court House	Kyneton Township	Law enforcement (justice)	H1472
Kyneton Mechanics Institute and Library	Kyneton Township	Community facilities	H1904
Kyneton District Hospital	Kyneton Township	Health services	H1684
Kyneton Botanic Gardens	Kyneton Township	Parks, gardens and trees	H1994
Kyneton Railway Station	Kyneton Township	Transport	H1602
Gisborne Railway Station	Gisborne Township	Transport	H1581
Carlsruhe Railway Station	Carlsruhe Township	Transport	H1662
Rail Bridge over Riddells Creek	Riddells Creek	Transport	H1437
Road over Rail Bridge Riddells Creek	Riddells Creek	Transport	H1828

Notes:

1. This table lists places on public land that are listed on the Victorian Heritage Register (VHR), which is equivalent to a ranking of state significance. There are many more VHR places on private land and places of regional and local significance on both public and private land not listed in this table.
2. There are no VHR places in the Wellsford block.
3. The column headed 'Group' shows historic group type represented by each place. The categories are those used by Heritage Victoria (the custodian of the VHR) and are explained more fully in VEAC's 2015 Historic Places Investigation draft proposals paper.
4. Each VHR place has a unique numerical identifier, which is listed in the column headed 'VHR no.'

Appendix 6

Geological and geomorphological sites of significance

The information provided below is an extract of the consultants' report on sites of geological and geomorphological significance on public land in the Central West Investigation area. The full report by Wakelin Associates (2017) is available at www.veac.vic.gov.au. Site identification numbers refer to the codes used by Geological Society of Australia (Victoria Division) Heritage subcommittee. A list is provided for sites of regional, local and destroyed significance. WM = Wombat–Macedon, MCP = Mount Cole–Pyrenees, W = Wellsford.

Site name and location	Short geological significance description	GSA ID #	CWI Block
National significance			
Hanging Rock trachyte volcano, Woodend	Soda- trachyte occurs at only a small number of sites in the state (e.g. Hanging Rock, Camels Hump-ML 003, and Brock Monument- ML 002) where its extrusion has resulted in the development of steep-sided rocky hills. These volcanoes, which lie in the Gisborne, Woodend and Daylesford areas, constitute a distinctive, small volcanic province that has affinities with provinces in the Eastern Highlands of NSW and Queensland. They are the oldest rocks of the Newer Volcanic Province. At Hanging Rock the impact of weathering on radial cooling joints has produced particularly impressive rock outcrops. The site is an important teaching and reference site because it illustrates the influence of lava composition on volcano form and is the best example of its type in Victoria.	ML 014	WM
State significance			
Bacchus Marsh Council Trench	Triassic sedimentary exposures are extremely rare in Victoria and this is the only known locality with the only fossils of clearly Triassic age preserved. It is the type section for the Triassic Council Trench Formation.	ML 104	WM
Camels Hump (The), Woodend	Camels Hump is one of a small group of prominent outcrops in the area derived from relatively silica-rich lavas of high viscosity that have formed distinctive domes or plugs at the vent. This site is one of the best examples of an unusual trachytic volcano found in this area of Victoria.	ML 003	WM
Cave Hill Creek cave, Raglan	This cave is significant due to the location amongst granite boulders. Other granite caves are found in eastern Victoria but there are few known in the Western Uplands.	BL 092	MCP
Cave Hill rock overhang, Raglan	The best documented example of a rock overhang in granite in the State. A rock overhang in granite 200 metres long and 30 metres high. It is open to the southwest and is visible from the Middle Creek Camping Ground.	BL 091	MCP
Hepburn Springs mineral springs	The Daylesford region of central Victoria is the only significant source of carbonated mineral water in Australia. There are a number of mineral spring sites in central Victoria of the same type with a number having significant tourist values. The springs at Hepburn Springs are probably the best known in the state and are a good accessible example of this type of feature.	ML 174	WM
Korkuperrimul Creek Permian sediments, Myrniong	Together with Pykes Creek (ML 221) this composite section provides an excellent section through Permian glaciogene sediments. This is a classic site outlining a key period of Victoria's geology. The site is used for teaching purposes. Overseas researchers interested in glacial sediment and the Permian will generally visit this site when visiting the State. The sequence of sediments and stratigraphic relationships exposed are important in understanding the Permian period in south eastern Australia. Nearby Morton's quarry (ML 091) located on private land in Bacchus Marsh, is more significant for the understanding of the Permian of north eastern Gondwana.	ML 092	WM
Lerderderg Gorge, Bacchus Marsh	Impressive gorge exposing excellent sections through Permian glacial sediments. The structure and sedimentology of Ordovician beds are also visible. An important excursion locality.	ML 085	WM
Lerderderg River Permian sequence, Bacchus Marsh	The Lerderderg River has exposed a nearly continuous 800 metre section of Permian glacial sediments. A wide variety of deposits are preserved including tillite, glacial outwash sandstone and conglomerate, ice rafted erratics dropped into sandstone beds, mudflow beds and erosion surfaces. The Permian glacial sequence lies with angular unconformity on Ordovician sediments.	ML 201	WM
Mt Franklin, Daylesford	Well-developed breached pyroclastic cone with an excellent view from the summit. The crater is one of the deepest in the Central Highlands area. It is most important for the study of deep crustal xenoliths study. The small parasitic cone (Lady Franklin) on the western flanks adds to the geological interest.	ML 071	WM
No 2 Creek waterfall Pyrenees Formation, Avoca	Type locality of the Pyrenees Formation and an excellent and accessible site showing the complex features of the stratigraphy, structure and metamorphism of this rock sequence.	BL 126	MCP
Pykes Creek Permian glacial features, Greendale	These major exposures of Permian rocks show many complex features, and cuttings by the freeway are probably the most accessible Permian cross-sections in Victoria. Within the area, the relationship with several other geological units can readily be seen. The glacial pavements are good examples; however they are located in a restricted area high on a steep slope. The sequence of sediments and stratigraphic relationships exposed are important in understanding the Permian of south eastern Australia.	ML 221	WM
View Point Road cutting, View Point	Type locality of the Beaufort Formation marine turbiditic interbedded siltstone and mudstone with minor sandstone units.	BL 128	MCP
Willeys quarry, Macedon	This is the best Yapeenian (Lower Ordovician) age fossil locality in the region and is the type locality for the graptolite species listed.	ML 032	WM

Site name and location	GSA ID #	CWI Block
Regional significance		
Antimony mine, Pyrete Range, Coimadai	ML 371	WM
Ararat water pipe and road cutting, Warrak	BL 120	MCP
Beaufort railway cuttings, Beaufort	BL 127	MCP
(The) Blowhole, Hepburn Springs	ML 380	WM
Buckley Road river terraces, Darley	ML 200	WM
Bullengarook slate quarries, Bullengarook East	ML 111	WM
Bullengarook basalt flow and lateral streams, Bullengarook	ML 197	WM
Council gravel pit (Bullengarook Gravels), Gisborne	ML 230	WM
Dales Creek-Coimadai Fault, Greendale	ML 219	WM
Donkey Hill Lead workings, Percydale	BL 129	MCP
Golf Course Hill (Old Racecourse Hill) and quarry, Woodend	ML 115	WM
Lauriston Sandstone, Lauriston	ML 084	WM
Merrimu Gravel Member, Darley	ML 231	WM
Mount Blackwood, Myrniong	ML 065	WM
Mount Bullengarook flow and cutting, Bullengarook	ML 024	WM
Mount Lonarch amphitheatre, Amphitheatre	BL 017	MCP
Mount Macedon	ML 328	WM
Mount Wilson, Bullarto	ML 245	WM
Myrniong Creek and tributaries, Myrniong	ML 077	WM
Mt Cole-Eversley Road cutting, Eversley	BL 130	MCP
Pyrenees Hwy cutting 1, Eversley	BL 124	MCP
Pyrenees Hwy cutting 2, Elmhurst	BL 125	MCP
Salt Water Creek, Gisborne	ML 033	WM
Sugarloaf Range, Axedale	BN 011	W
Tipperary Springs, Daylesford	ML 381	WM
Trentham Falls, Trentham	ML 030	WM
Upper Coliban Reservoir, Lauriston	ML 385	WM
Warrak-Raglan Road cutting, Warrak	BL 121	MCP
Warrak-Raglan Road quarry, Warrak	BL 122	MCP

Site name and location	GSA ID #	CWI Block
Local significance		
Alkemades quarry, Darley	ML 094	WM
Babbington Hill, Daylesford	ML 152	WM
Ben Nevis, Eversley	BL 034	MCP
Beaufort Western Highway cutting, Beaufort	BL 035	MCP
Braemar College Road cutting, Woodend	ML 188	WM
Cobaw Range tors, Cobaw	ML 193	WM
Cobaw road cuttings, Cobaw	ML 185	WM
Coopers quarry, Darley	ML 093	WM
Lake Merrimu southern road cuttings, Darley	ML 113	WM
Landsborough Hill cutting, Landsborough	SR 021	MCP
Lily Pond, Woodend	ML 189	WM
Little Bullengarook, Gisborne	ML 237	WM
Sailors Creek cutting, Daylesford	ML 110	WM
Sailors Falls, Daylesford	ML 314	WM
Sugarloaf Hill (Spring Hill), Glenlyon	ML 325	WM
(The) Sugarloaf, Newham	ML 186	WM
Tunnel Point, Blackwood	ML 384	WM
Werribee River valley, Blakeville	ML 288	WM
Wombat Hill pyroclastic deposits, Daylesford	ML 382	WM
Yankee Reef mineralisation, Blackwood	ML 383	WM
Destroyed site (museum specimen only)		
Upper Coliban Dam quarry xenolith site, Kyneton	ML 043	WM

Appendix 7

Rare or threatened flora and fauna of the Central West Investigation area

Taxa (such as species and subspecies) that are rare, threatened, a member of the threatened Victorian temperate woodland bird community or used in VEAC's analysis of strategic biodiversity values are shown below. Information sources and analyses are outlined in appendix 4.

EPBC: Conservation status under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*		
CR	Critically endangered	Facing an extremely high risk of extinction in the wild in the immediate future
EN	Endangered	Facing a very high risk of extinction in the wild in the near future
VU	Vulnerable	Facing a high risk of extinction in the wild in the medium-term future

FFG: Listed under the Victorian *Flora and Fauna Guarantee Act 1988*	
L	Taxon listed as threatened with extinction
BC	Member of the listed Victorian temperate woodland bird community

Vic: Conservation status in Victoria according to DELWP's advisory lists		
x	Presumed extinct in Victoria	Failed to be recorded in Victoria during the past 50 years despite intensive field searches
cr	Critically endangered	Facing an extremely high risk of extinction in the wild
e	Endangered	At very high risk of extinction in the wild particularly if present land-use and other causal factors continue to operate
v	Vulnerable	Facing a high risk of extinction in the wild, and likely to become endangered soon due to continued depletion or inability to recover from disturbance
nt	Near threatened	Close to qualifying for one of the above threatened categories, or is likely to qualify in the near future
r	Rare	Relatively few known populations or restricted to a relatively small area, but is not otherwise considered threatened
k	Poorly known / data deficient	Suspected, but not definitely known, to belong to one of the above categories within Victoria

WM: Wombat–Macedon block. W: Wellsford block. MCP: Mount Cole–Pyrenees block. HDM: habitat distribution model	
✓	Recorded on the DELWP Victorian Biodiversity Atlas database
●	DELWP habitat distribution model used in VEAC's analysis of strategic biodiversity values

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
FLORA								
Vascular plants								
Adamson's blown-grass	*Lachnagrostis adamsonii*	EN	L	v				●
Annual buttercup	*Ranunculus sessiliflorus* var. *pilulifer*			k				●
Annual fireweed	*Senecio glomeratus* subsp. *longifructus*			r				●
Arching flax-lily	*Dianella* sp. aff. *longifolia* (Benambra)			v	✓		✓	●
Ausfeld's wattle	*Acacia ausfeldii*			v		✓		●
Austral crane's-bill	*Geranium solanderi* var. *solanderi* s.s.			v	✓			●
Austral tobacco	*Nicotiana suaveolens*			r	✓			●
Austral trefoil	*Lotus australis* var. *australis*			k				●
Australian anchor plant	*Discaria pubescens*		L	r	✓			●
Australian broomrape	*Orobanche cernua* var. *australiana*			v				●
Bacchus Marsh wattle	*Acacia rostriformis*			v	✓			●
Basalt peppercress	*Lepidium hyssopifolium* s.s.	EN	L	e	✓			●
Basalt podolepis	*Podolepis linearifolia* (or *Podolepis* sp. 1)			e			✓	●
Basalt sun-orchid	*Thelymitra gregaria*		L	e				●
Basalt tussock-grass	*Poa labillardierei* var. (Volcanic Plains)			k	✓			●
Bealiba ironbark	*Eucalyptus tricarpa* subsp. *decora*			v				●
Bear's-ear	*Cymbonotus lawsonianus*			r				●
Ben Major grevillea	*Grevillea floripendula*	VU	L	v			✓	●
Bendigo spider-orchid	*Caladenia* sp. aff. *fragrantissima* (Central Victoria)		L	e				●
Bent-leaf wattle	*Acacia flexifolia*			r				●
Black gum	*Eucalyptus aggregata*		L	e	✓			●
Black roly-poly	*Sclerolaena muricata* var. *muricata*			k	✓			●
Black-tip greenhood	*Pterostylis bicolor*			k				●
Blue burr-daisy	*Calotis cuneifolia*			r				●
Blue mallee	*Eucalyptus polybractea*			r			✓	●
Blue mat-rush	*Lomandra glauca* s.s.			k				●
Bluish raspwort	*Haloragis glauca* f. *glauca*			k				●
Brackish plains buttercup	*Ranunculus diminutus*			r				●
Branching groundsel	*Senecio cunninghamii* var. *cunninghamii*			r				●
Brisbane range grevillea	*Grevillea steiglitziana*			r				●
Bristly bush-pea	*Pultenaea acerosa*			v			✓	
Bristly greenhood	*Pterostylis setifera*			r				●
Brittle greenhood	*Pterostylis truncata*		L	e	✓			●
Broad-lip diuris	*Diuris* X *palachila*			r	✓			
Brock knawel	*Scleranthus brockiei*			r				●
Brooker's gum	*Eucalyptus brookeriana*			r	✓			●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Broom bitter-pea	*Daviesia genistifolia* s.s.			r				●
Buloke	*Allocasuarina luehmannii*		L	e	✓	✓	✓	●
Buloke mistletoe	*Amyema linophylla* subsp. *orientalis*			v			✓	●
Button immortelle	*Leptorhynchos waitzia*			v			✓	
Button wrinklewort	*Rutidosis leptorhynchoides*	EN	L	e				●
Buxton gum	*Eucalyptus crenulata*	EN	L	e	✓		✓	
Candy spider-orchid	*Caladenia versicolor*	VU	L	e				●
Cane spear-grass	*Austrostipa breviglumis*			r	✓	✓		●
Castlemaine spider-orchid	*Caladenia clavescens*		L	v	✓			●
Clover glycine	*Glycine latrobeana*	VU	L	v	✓			●
Club-hair New Holland daisy	*Vittadinia condyloides*			r				●
Clumping golden moths	*Diuris gregaria*		L	e				●
Clustered poranthera	*Poranthera corymbosa*			r	✓			●
Coast gum	*Eucalyptus diversifolia* subsp. *megacarpa*			v			✓	
Coast twin-leaf	*Zygophyllum billardierei*			r				●
Cobberas grevillea	*Grevillea brevifolia*			r				●
Common cinnamon-wattle	*Acacia leprosa* var. *graveolens*			k			✓	●
Common pipewort	*Eriocaulon scariosum*			r				●
Cottony cassinia	*Cassinia ozothamnoides*			v	✓			●
Creeping grevillea	*Grevillea repens*			r	✓			●
Crimson spider-orchid	*Caladenia concolor*	VU	L	e				●
Cup greasewort	*Aneura rodwayi*			v				●
Curved rice-flower	*Pimelea curviflora* var. aff. *subglabrata*			k				●
Dainty phebalium	*Phebalium festivum*		L	v		✓		●
Deane's wattle	*Acacia deanei* subsp. *paucijuga*			r			✓	●
Dense mint-bush	*Prostanthera decussata*			r	✓			●
Diosma rice-flower	*Pimelea flava* subsp. *dichotoma*			r				●
Dwarf boronia	*Boronia nana* var. *pubescens*			r			✓	●
Dwarf brooklime	*Gratiola pumilo*			r				●
Dwarf cassinia	*Cassinia diminuta*			r		✓		●
Dwarf silver wattle	*Acacia nano-dealbata*			r	✓			●
Emerald-lip greenhood	*Pterostylis smaragdyna*			r				●
Enfield grevillea	*Grevillea bedggoodiana*	VU	L	v				●
Erect peppercress	*Lepidium pseudopapillosum*	VU	L	e				●
Fertile finger-orchid	*Caladenia prolata*			k				●
Fir clubmoss	*Huperzia australiana*			r			✓	
Fireweed groundsel (Grampians variant)	*Senecio linearifolius* var. *gariwerdensis*			r				●
Flat-leaf bush-pea	*Pultenaea platyphylla*			r				●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Floodplain fireweed	*Senecio campylocarpus*			r	✓			●
Forest bitter-cress	*Cardamine papillata*			v	✓			●
Forked rice-flower	*Pimelea hewardiana*			r	✓			●
Fragrant leek-orchid	*Prasophyllum suaveolens*	EN	L	e				●
Fragrant saltbush	*Rhagodia parabolica*			r	✓			●
Fringed midge-orchid	*Corunastylis ciliata*			k				●
Frosted goosefoot	*Chenopodium desertorum* subsp. *virosum*			k	✓			
Frosted goosefoot	*Chenopodium desertorum* subsp. *desertorum*			r	✓			
Fryers range scentbark	*Eucalyptus conferta*			e				●
Fryerstown grevillea	*Grevillea obtecta*			r	✓			●
Fuzzy New Holland daisy	*Vittadinia cuneata* var. *morrisii*			r	✓			●
Glandular blanket-fern	*Pleurosorus subglandulosus*			k	✓			
Glandular early nancy	*Wurmbea biglandulosa* subsp. *biglandulosa*			r				●
Glistening sun-orchid	*Thelymitra lucida*			e				●
Golden bush-pea	*Pultenaea gunnii* subsp. *tuberculata*			r				●
Golden cowslips	*Diuris behrii*			v			✓	●
Golden grevillea	*Grevillea chrysophaea*			r				●
Golden sour-bush	*Choretrum glomeratum* var. *chrysanthum*			r			✓	●
Goldfield boronia	*Boronia anemonifolia* subsp. *aurifodina*			r				●
Goldfields grevillea	*Grevillea dryophylla*			r			✓	●
Grampians bitter-pea	*Daviesia laevis*	VU	L	v			✓	●
Grampians goodenia	*Goodenia lineata*			r				●
Green leek-orchid	*Prasophyllum lindleyanum*			v				●
Green-striped greenhood	*Pterostylis chlorogramma*	VU	L	v				●
Green-top sedge	*Carex chlorantha*			k			✓	
Grey billy-buttons	*Craspedia canens*		L	e				●
Grey grass-tree	*Xanthorrhoea glauca* subsp. *angustifolia*		L	e				●
Grey spike-sedge	*Eleocharis macbarronii*			k				●
Hairy beard-heath	*Leucopogon microphyllus* var. *pilibundus*			r	✓			●
Hairy correa	*Correa aemula*			r	✓			●
Hairy tails	*Ptilotus erubescens*		L	v	✓			●
Hairy-leaf triggerplant	*Stylidium armeria* subsp. *pilosifolium*		L	e	✓			●
Half-bearded spear-grass	*Austrostipa hemipogon*			r				●
Heath spear-grass	*Austrostipa exilis*			r	✓			●
Heathland sun-orchid	*Thelymitra improcera*			k				●
Hypsela	*Isotoma tridens*			k	✓			
Inland pomaderris	*Pomaderris paniculosa* subsp. *paniculosa*			v				●
Ivy-leaf duckweed	*Lemna trisulca*			k				●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Jericho wire-grass	*Aristida jerichoensis* var. *subspinulifera*		L	e				●
Kamarooka mallee	*Eucalyptus froggattii*		L	r				●
Langi Ghiran grevillea	*Grevillea montis-cole* subsp. *brevistyla*	VU	L	v				●
Lanky buttons	*Leptorhynchos elongatus*			e			✓	●
Large rustyhood	*Pterostylis maxima*			v				●
Large white spider-orchid	*Caladenia venusta*			r				●
Large-flower amaranth	*Amaranthus grandiflorus*			v				●
Large-flower crane's-bill	*Geranium* sp. 1		L	e	✓			●
Large-fruit yellow-gum	*Eucalyptus leucoxylon* subsp. *megalocarpa*		L	e				●
Large-headed fireweed	*Senecio macrocarpus*	VU	L	e				●
Large-leaf cinnamon-wattle	*Acacia leprosa* var. *uninervia*			r	✓			●
Late-flower flax-lily	*Dianella tarda*			v			✓	●
Leafless bluebush	*Maireana aphylla*			k	✓			●
Lerderderg scentbark	*Eucalyptus* aff. *ignorabilis* (Lerderderg)			e	✓			●
Long eryngium	*Eryngium paludosum*			v				●
Long pink-bells	*Tetratheca stenocarpa*			r	✓			
Lowly greenhood	*Pterostylis despectans*	EN	L	e			✓	●
Matted flax-lily	*Dianella amoena*	EN	L	e	✓			●
McIvor spider-orchid	*Caladenia audasii*	EN	L	e				●
Mealy saltbush	*Atriplex pseudocampanulata*			r				●
Melbourne yellow-gum	*Eucalyptus leucoxylon* subsp. *connata*			v	✓			●
Midlands spider-orchid	*Caladenia* sp. aff. *concolor* (Midlands)			v				●
Mount Cole grevillea	*Grevillea montis-cole* subsp. *montis-cole*			r			✓	●
Mount Hope guinea-flower	*Hibbertia incana* s.s.			x				●
Mountain cassinia	*Cassinia monticola*			r				●
Mountain flat-pea	*Platylobium montanum* subsp. *prostratum*			k	✓			●
Naked beard-orchid	*Calochilus imberbis*			r	✓			
Naked sun-orchid	*Thelymitra circumsepta*			v				●
Narrow-leaf phebalium	*Phebalium stenophyllum*			r	✓			
Narrow-leaf star-hair	*Astrotricha linearis*			r				●
Narrow-leaf wax-flower	*Philotheca angustifolia* subsp. *montana*			v	✓			
Native couch	*Cynodon dactylon* var. *pulchellus*			k				●
Native peppercress	*Lepidium pseudohyssopifolium*			k				●
Netted daisy-bush	*Olearia speciosa*			k	✓		✓	●
One-flower early nancy	*Wurmbea uniflora*			r	✓		✓	●
Oval-leaf pseudanthus	*Pseudanthus ovalifolius*			r				●
Pale hickory-wattle	*Acacia sporadica*			v				●
Pale spike-sedge	*Eleocharis pallens*			k				●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Pale swamp everlasting	*Coronidium gunnianum*			v	✓		✓	●
Pale-flower crane's-bill	*Geranium* sp. 3			r				●
Parsley xanthosia	*Xanthosia leiophylla*			r	✓			
Peat daisy	*Brachyscome* sp. 1			v				●
Plains joyweed	*Alternanthera* sp. 1 (Plains)			k				●
Plains yam-daisy	*Microseris scapigera* s.s.			v	✓			●
Plump swamp wallaby-grass	*Amphibromus pithogastrus*		L	e				●
Purple blown-grass	*Lachnagrostis punicea* subsp. *filifolia*		L	r				●
Purple blown-grass	*Lachnagrostis punicea* subsp. *punicea*			r				●
Purple diuris	*Diuris punctata* var. *punctata*		L	v				●
Purple eyebright	*Euphrasia collina* subsp. *trichocalycina*			r	✓			●
Pyrenees gum	*Eucalyptus pyrenea*			r			✓	
Rayless daisy-bush	*Olearia tubuliflora*			r			✓	●
Red-cross spider-orchid	*Caladenia cruciformis*		L	e				●
Red-sheath tussock-grass	*Poa amplexicaulis*			r				●
Rising star guinea-flower	*Hibbertia humifusa* subsp. *humifusa*			r			✓	●
River leafless bossiaea	*Bossiaea riparia*			r	✓			●
Riverina bitter-cress	*Cardamine moirensis*			r				●
Riverine flax-lily	*Dianella porracea*			v				●
Robust greenhood	*Pterostylis valida*	CR	L	e				●
Rock orchid	*Thelychiton speciosus*		L	e				●
Rosemary grevillea	*Grevillea rosmarinifolia* subsp. *rosmarinifolia*			r	✓			●
Rough daisy-bush	*Olearia asterotricha*			r			✓	●
Rough hovea	*Hovea asperifolia* subsp. *spinosissima*			r	✓			
Rough wattle	*Acacia aspera* subsp. *parviceps*			r	✓		✓	●
Rye beetle-grass	*Tripogon loliiformis*			r				●
Salt blown-grass	*Lachnagrostis robusta*			r				●
Salt-lake tussock-grass	*Poa sallacustris*	VU	L	v				●
Sand fireweed	*Senecio hispidissimus*			r				●
Sand rush	*Juncus psammophilus*			r		✓		●
Satin daisy-bush	*Olearia minor*			r				●
Satinwood	*Nematolepis squamea* subsp. *squamea*			r	✓		✓	
Scented bush-pea	*Pultenaea graveolens*		L	v	✓			●
Seymour wattle	*Acacia verniciflua* (nerved variant)			v				●
Shiny leionema	*Leionema lamprophyllum* subsp. *obovatum*			r				●
Shiny tea-tree	*Leptospermum turbinatum*			r			✓	●
Short sun-orchid	*Thelymitra exigua*			k	✓			●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Short-awned wheat-grass	*Anthosachne kingiana* subsp. *multiflora*			k				●
Short-bristle wallaby-grass	*Rytidosperma setaceum* var. *brevisetum*			r				●
Sikh's whiskers	*Pterostylis boormanii*			r				●
Silky glycine	*Glycine canescens*		L	e				●
Silky kidney-weed	*Dichondra* sp. 1			r				●
Single bladderwort	*Utricularia uniflora*			k			✓	
Slender beard-orchid	*Calochilus therophilus*			k				●
Slender bindweed	*Convolvulus angustissimus* subsp. *omnigracilis*			k	✓		✓	●
Slender bitter-cress	*Cardamine tenuifolia*			k	✓			●
Slender club-sedge	*Isolepis congrua*		L	v				●
Slender daisy-bush	*Olearia passerinoides* subsp. *passerinoides*			r				●
Slender fireweed	*Senecio microbasis*			r				●
Slender mint-bush	*Prostanthera saxicola* var. *bracteolata*			r	✓			●
Slender ruddyhood	*Pterostylis aciculiformis*			k				●
Slender saw-sedge	*Gahnia microstachya*			r	✓			●
Slender tick-trefoil	*Desmodium varians*			k	✓			●
Slender water-ribbons	*Triglochin dubia*			r				●
Small burr-grass	*Tragus australianus*			r				●
Small golden moths	*Diuris basaltica*	EN	L	e				●
Small milkwort	*Comesperma polygaloides*		L	v			✓	●
Small monkey-flower	*Mimulus prostratus*			r				●
Small scurf-pea	*Cullen parvum*		L	e				●
Small sickle greenhood	*Pterostylis lustra*		L	e	✓			
Small-flower grevillea	*Grevillea micrantha*			r	✓			●
Small-flower mat-rush	*Lomandra micrantha* subsp. *tuberculata*			r	✓			●
Small-flower wallaby-grass	*Rytidosperma monticola*			r			✓	●
Small-leaf goodenia	*Goodenia benthamiana*			r		✓		●
Smooth grevillea	*Grevillea rosmarinifolia* subsp. *glabella*			r				●
Smooth minuria	*Minuria integerrima*			r				●
Smooth nardoo	*Marsilea mutica*			k				●
Snowy mint-bush	*Prostanthera nivea* var. *nivea*			r	✓			●
Southern blue-gum	*Eucalyptus globulus* subsp. *globulus*			r	✓			
Southern shepherd's purse	*Ballantinia antipoda*	EN	L	e	✓			●
Southern swainson-pea	*Swainsona behriana*			r	✓		✓	●
Spear-grass	*Austrostipa trichophylla*			r				●
Spiny rice-flower	*Pimelea spinescens* subsp. *spinescens*	CR	L	e	✓		✓	●
Spotted hyacinth-orchid	*Dipodium pardalinum*			r	✓			●
Spur-wing wattle	*Acacia triptera*			r				●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Square raspwort	*Haloragis exalata* subsp. *exalata* var. *exalata*	VU		v				●
Squat picris	*Picris squarrosa*			r			✓	●
Stalked brooklime	*Gratiola pedunculata*			k				●
Sticky wattle	*Acacia howittii*			r	✓			
Stiff groundsel	*Senecio behrianus*	EN	L	e				●
Streaked wattle	*Acacia lineata*			r				●
Striped water-milfoil	*Myriophyllum striatum*		L	v				●
Stuart Mill spider-orchid	*Caladenia cretacea*		L	e				●
Sutton Grange greenhood	*Pterostylis agrestis*			e	✓			●
Swamp bush-pea	*Pultenaea weindorferi*			r	✓			●
Swamp diuris	*Diuris palustris*		L	v			✓	
Swamp everlasting	*Xerochrysum palustre*	VU	L	v	✓		✓	●
Swamp fireweed	*Senecio psilocarpus*	VU		v	✓			●
Swamp flax-lily	*Dianella callicarpa*			r				●
Tall sneezeweed	*Centipeda pleiocephala*			e			✓	
Tall vanilla-lily	*Arthropodium* sp. 1 (robust glaucous)			r				●
Tall wasp-orchid	*Chiloglottis trilabra*			k				●
Tan leek-orchid	*Prasophyllum erythrocommum*		L	e				●
Tangled pseudanthus	*Pseudanthus orbicularis*			r	✓			●
Tight bedstraw	*Galium curvihirtum*			r			✓	●
Tiny bog-sedge	*Schoenus nanus*			r				●
Tiny violet	*Viola seppeltiana*			r	✓			●
Tongue dock	*Rumex stenoglottis*			k				●
Tough scurf-pea	*Cullen tenax*		L	e				●
Trailing hop-bush	*Dodonaea procumbens*	VU		v				●
Tremont bundy	*Eucalyptus* aff. *goniocalyx*			v				●
Trim leek-orchid	*Prasophyllum* aff. *pyriforme* (Inglewood)			e				●
Tucker's spear-grass	*Austrostipa tuckeri*			x			✓	
Tufted club-sedge	*Isolepis wakefieldiana*			r	✓			●
Tufted curly sedge	*Carex* aff. *bichenoviana* (Volcanic Lakes)			r				●
Twiggy sida	*Sida intricata*			v				●
Twisting scale-rush	*Lepyrodia flexuosa*			r	✓		✓	
Umbrella wattle	*Acacia oswaldii*		L	v				●
Upright panic	*Entolasia stricta*			k	✓			●
Veined beard-heath	*Leucopogon neurophyllus*			r				●
Veined spider-orchid	*Caladenia reticulata* s.s.			v				●
Velvet daisy-bush	*Olearia pannosa* subsp. *cardiophylla*		L	v				●
Victorian flat-pea	*Platylobium alternifolium*			r	✓		✓	●
Violet westringia	*Westringia glabra*			r	✓			

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Waterbush	*Myoporum montanum*			r	✓			●
Wavy swamp wallaby-grass	*Amphibromus sinuatus*			v				●
Werribee blue-box	*Eucalyptus baueriana* subsp. *thalassina*			e	✓			●
Western golden-tip	*Goodia medicaginea*			r	✓		✓	●
Western rat-tail grass	*Sporobolus creber*			v				●
Whipstick westringia	*Westringia crassifolia*	EN	L	e				●
Whirrakee wattle	*Acacia williamsonii*			r	✓	✓		●
White sunray	*Leucochrysum albicans* subsp. *tricolor*	EN	L	e			✓	●
Whorled zieria	*Zieria aspalathoides* subsp. *aspalathoides*		L	v	✓			●
Wiry bossiaea	*Bossiaea cordigera*			r	✓		✓	●
Wombat bossiaea	*Bossiaea vombata*			e	✓			
Wombat bush-pea	*Pultenaea reflexifolia*			r	✓			●
Woodland leek-orchid	*Prasophyllum* aff. *validum* B			e				●
Woodland leek-orchid	*Prasophyllum* sp. aff. *validum* A			e				●
Woodland plume-orchid	*Pterostylis* sp. aff. *plumosa* (Woodland)			r				●
Yakka grass	*Sporobolus caroli*			r				●
Yarra gum	*Eucalyptus yarraensis*			r	✓		✓	●
Yellow burr-daisy	*Calotis lappulacea*			r				●
Yellow star	*Pauridia vaginata* var. *brevistigmata*			k	✓			
Yellow-lip spider-orchid	*Caladenia xanthochila*	EN	L	e				●
Yellow-tongue daisy	*Brachyscome chrysoglossa*		L	v				●
Mosses and liverworts								
Rock fringe-moss	*Racomitrium rupestre*			k	✓			
Common extinguisher-moss	*Encalypta vulgaris*			r	✓			
Fungi and lichens								
Canary dermocybe	*Dermocybe canaria*			r	✓			
Orange dermocybe	*Dermocybe cramesina*			r	✓			

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
FAUNA								
Invertebrates								
Bullant	*Myrmecia* sp. 17		L	v	✓	✓		
Caddisfly	*Archaeophylax canarus*		L	k	✓			
Harpactacoid copepod	*Fibulacamptus gracilior*			k	✓			
Glenelg river spiny cray	*Euastacus bispinosus*		L	e			✓	
Golden sun moth	*Synemon plana*	CR	L	cr	✓		✓	
Western burrowing crayfish	*Engaeus merosetosus*			e	✓			
Amphibians								
Brown toadlet	*Pseudophryne bibronii*		L	e	✓		✓	●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Growling grass frog	*Litoria raniformis*	VU	L	e	✓		✓	●
Southern toadlet	*Pseudophryne semimarmorata*			v	✓		✓	●
Fish								
Golden perch	*Macquaria ambigua*			nt	✓		✓	
Little galaxias	*Galaxiella toourtkoourt*			v			✓	
Macquarie perch	*Macquaria australasica*	EN	L	e	✓			
Murray cod	*Maccullochella peelii*	VU	L	v	✓			
Southern pygmy perch	*Nannoperca australis* (Murray-Darling lineage)			v	✓		✓	
Trout cod	*Maccullochella macquariensis*	EN	L	cr	✓			
Reptiles								
Bandy bandy	*Vermicella annulata*		L	v				●
Bearded dragon	*Pogona barbata*			v	✓		✓	●
Common long-necked turtle	*Chelodina longicollis*			k			✓	●
Lace monitor (goanna)	*Varanus varius*			e	✓	✓	✓	●
Pink-tailed worm-lizard	*Aprasia parapulchella*	VU	L	e	✓			●
Striped legless lizard	*Delma impar*	VU	L	e			✓	●
Swamp skink	*Lissolepis coventryi*		L	v				●
Tussock skink	*Pseudemoia pagenstecheri*			v	✓		✓	●
Woodland blind snake	*Ramphotyphlops proximus*			nt				●
Mammals								
Brush-tailed phascogale	*Phascogale tapoatafa tapoatafa*		L	v	✓	✓	✓	●
Common bent-wing bat (eastern subsp.)	*Miniopterus schreibersii oceanensis*		L	v	✓			●
Common bent-wing bat (southern subsp.)	*Miniopterus schreibersii bassanii*	CR	L	cr				●
Common dunnart	*Sminthopsis murina murina*			v	✓			●
Eastern barred bandicoot	*Perameles gunnii*	EN	L	x			✓	
Eastern pygmy-possum	*Cercartetus nanus*			nt	✓		✓	●
Fat-tailed dunnart	*Sminthopsis crassicaudata*			nt	✓	✓	✓	●
Greater glider	*Petauroides volans*		L	v	✓			●
Grey-headed flying-fox	*Pteropus poliocephalus*		L	v	✓			●
Leadbeater's possum	*Gymnobelideus leadbeateri*		L	e	✓			
Spot-tail quoll	*Dasyurus maculatus maculatus*		L	e	✓			
Birds								
Australasian bittern	*Botaurus poiciloptilus*	EN	L	e	✓			●
Australasian shoveler	*Anas rhynchotis*			v	✓		✓	●
Australian bustard	*Ardeotis australis*		L	cr			✓	
Australian painted snipe	*Rostratula australis*	VU	L	cr				●
Australian pratincole	*Stiltia isabella*			nt				●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Azure kingfisher	*Alcedo azurea*			nt	✓	✓		●
Baillon's crake	*Porzana pusilla palustris*		L	v	✓		✓	●
Barking owl	*Ninox connivens connivens*		L BC	e	✓		✓	●
Black falcon	*Falco subniger*		L	v	✓			●
Black-chinned honeyeater	*Melithreptus gularis gularis*		BC	nt	✓	✓	✓	
Black-eared cuckoo	*Chrysococcyx osculans*			nt	✓	✓	✓	●
Black-tailed godwit	*Limosa limosa*			v				●
Blue-billed duck	*Oxyura australis*		L	e	✓		✓	●
Brolga	*Grus rubicunda*		L	v		✓	✓	●
Brown treecreeper (south-eastern subsp.)	*Climacteris picumnus victoriae*		BC	nt	✓	✓	✓	●
Brown-headed honeyeater	*Melithreptus brevirostris*		BC		✓	✓	✓	
Bush stone-curlew	*Burhinus grallarius*		L BC	e			✓	●
Caspian tern	*Hydroprogne caspia*		L	nt	✓			
Chestnut-rumped heathwren	*Calamanthus pyrrhopygius*		L	v	✓	✓		●
Common greenshank	*Tringa nebularia*			v				●
Crested bellbird	*Oreoica gutturalis gutturalis*		L	nt	✓	✓		●
Diamond dove	*Geopelia cuneata*		L	nt	✓			●
Diamond firetail	*Stagonopleura guttata*		L BC	nt	✓	✓	✓	●
Eastern great egret	*Ardea (alba) modesta*		L	v	✓		✓	●
Emu	*Dromaius novaehollandiae*			nt	✓		✓	
Freckled duck	*Stictonetta naevosa*		L	e	✓			●
Fuscous honeyeater	*Lichenostomus fuscus*		BC		✓	✓	✓	
Glossy ibis	*Plegadis falcinellus*			nt	✓			●
Grey falcon	*Falco hypoleucos*		L	e		✓		●
Grey goshawk	*Accipiter novaehollandiae novaehollandiae*		L	v	✓		✓	●
Grey-crowned babbler	*Pomatostomus temporalis temporalis*		L BC	e		✓		●
Gull-billed tern	*Gelochelidon nilotica macrotarsa*		L	e	✓		✓	
Hardhead	*Aythya australis*			v	✓	✓	✓	●
Hooded robin	*Melanodryas cucullata cucullata*		L BC	nt	✓	✓	✓	●
Inland dotterel	*Charadrius australis*			v				●
Intermediate egret	*Ardea intermedia*		L	e	✓		✓	●
Jacky winter	*Microeca fascinans*		BC		✓	✓	✓	
King quail	*Coturnix chinensis victoriae*		L	e	✓			
Latham's snipe	*Gallinago hardwickii*			nt	✓		✓	●

Common name	Scientific name	EPBC	FFG	Vic	WM	W	MCP	HDM
Lewin's rail	*Rallus pectoralis pectoralis*		L	v				●
Little bittern	*Ixobrychus minutus dubius*		L	e				●
Little button-quail	*Turnix velox*			nt			✓	●
Little egret	*Egretta garzetta nigripes*		L	e	✓			●
Little lorikeet	*Glossopsitta pusilla*		BC		✓	✓	✓	
Masked owl	*Tyto novaehollandiae novaehollandiae*		L	e	✓			●
Musk duck	*Biziura lobata*			v	✓		✓	●
Nankeen night heron	*Nycticorax caledonicus hillii*			nt	✓	✓		●
Painted button-quail	*Turnix varia*		BC		✓	✓	✓	
Painted honeyeater	*Grantiella picta*		L BC	v	✓		✓	●
Pectoral sandpiper	*Calidris melanotos*			nt			✓	●
Pied cormorant	*Phalacrocorax varius*			nt	✓	✓	✓	●
Powerful owl	*Ninox strenua*		L	v	✓		✓	●
Purple-gaped honeyeater	*Lichenostomus cratitius*			v		✓		●
Red-backed kingfisher	*Todiramphus pyrropygia*			nt				●
Red-capped robin	*Petroica goodenovii*		BC		✓	✓	✓	
Red-chested button-quail	*Turnix pyrrhothorax*		L	v				●
Regent honeyeater	*Anthochaera phrygia*	EN	L BC	cr	✓	✓	✓	●
Royal spoonbill	*Platalea regia*			nt	✓			●
Sooty owl	*Tyto tenebricosa tenebricosa*		L	v	✓			
Speckled warbler	*Chthonicola sagittatus*		L BC	v	✓	✓	✓	●
Spotted harrier	*Circus assimilus*			nt	✓		✓	●
Spotted quail-thrush	*Cinclosoma punctatum*			nt	✓	✓		●
Square-tailed kite	*Lophoictinia isura*		L	v	✓		✓	●
Swift parrot	*Lathamus discolor*	EN	L BC	e	✓	✓	✓	●
Turquoise parrot	*Neophema pulchella*		L BC	nt				●
Western gerygone	*Gerygone fusca*		BC		✓		✓	
Whiskered tern	*Chlidonias hybridus javanicus*			nt	✓			
White-bellied sea-eagle	*Haliaeetus leucogaster*		L	v	✓			●
White-throated needletail	*Hirundapus caudacutus*		L	v	✓	✓	✓	●
Yellow-tufted honeyeater	*Lichenostomus melanops*		BC		✓	✓	✓	

Appendix 8

Draft recommendations for public land units

The information provided below is a detailed list of individually numbered draft recommendations described in chapters 5, 6 and 7 as shown on map D (rear pocket).

Rec ID	Public land use category	Change	Area (hectares)	Block
	A National park			
A1	Mount Buangor National Park	new[1]	3904	Mount Cole–Pyrenees
A2	Pyrenees National Park	new	16,076	Mount Cole–Pyrenees
A3	Wombat-Lerderderg National Park	new[1]	52,853	Wombat–Macedon
	B Conservation park			
B1	Hepburn Conservation Park	new	2714	Wombat–Macedon
B2	Cobaw Conservation Park	new	2532	Wombat–Macedon
	C Regional park			
C1	Pyrenees Regional Park	new	4165	Mount Cole–Pyrenees
C2	Bendigo Regional Park (addition to park adjoining investigation area)	new	3949	Wellsford
C3	Hepburn Regional Park	addition to existing	4162	Wombat–Macedon
C4	Wombat Regional Park	new	9149	Wombat–Macedon
C5	Macedon Regional Park	reduced	2134	Wombat–Macedon
	D Nature reserve			
D1	Lexton Nature Reserve	existing	260	Mount Cole–Pyrenees
D2	Ben Nevis Nature Reserve	new	1088	Mount Cole–Pyrenees
D3	Moonambel South Nature Reserve	new	53	Mount Cole–Pyrenees
D4	Tanwood South Nature Reserve	new	5.0	Mount Cole–Pyrenees
D5	Ben Major Nature Reserve	addition to existing	3229	Mount Cole–Pyrenees
D6	Waterloo Nature Reserve	new	1695	Mount Cole–Pyrenees
D7	Rosyth South Nature Reserve	new	13	Mount Cole–Pyrenees
D8	Wellsford Nature Reserve	new	3152	Wellsford
D9	Macedon (Margaret St) Nature Reserve	existing	0.3	Wombat–Macedon
D10	Gisborne Nature Reserve	existing	47	Wombat–Macedon
D11	Conglomerate Gully Nature Reserve	existing	85	Wombat–Macedon
D12	Mount Charlie Nature Reserve	existing	386	Wombat–Macedon
D13	T Hill Nature Reserve	existing	50	Wombat–Macedon
D14	Bacchus Marsh Trench Nature Reserve	existing	2.0	Wombat–Macedon
D15	Tylden Nature Reserve	new	243	Wombat–Macedon
D16	Black Forest Nature Reserve	new	262	Wombat–Macedon
D17	Lerderderg River Nature Reserve	new	4.7	Wombat–Macedon
D18	Long Forest Nature Reserve	addition to existing	629	Wombat–Macedon
	E Bushland reserve			
E1	Landsborough North Bushland Reserve	existing	11	Mount Cole–Pyrenees
E2	Frenchmans School Bushland Reserve	existing	4.7	Mount Cole–Pyrenees
E3	Elmhurst Blind Creek Bushland Reserve	existing	0.8	Mount Cole–Pyrenees
E4	Sandy Creek (Glenpatrick) Bushland Reserve	existing	7.0	Mount Cole–Pyrenees
E5	Glenpatrick Bushland Reserve	existing	13	Mount Cole–Pyrenees
E6	Warrenmang Bushland Reserve	existing	11	Mount Cole–Pyrenees
E7	Tanwood Bushland Reserve	existing	15	Mount Cole–Pyrenees
E8	Percydale Bushland Reserve	existing	8.9	Mount Cole–Pyrenees
E9	Yehrip Bushland Reserve	existing	7.2	Mount Cole–Pyrenees

Rec ID	Public land use category	Change	Area (hectares)	Block
E10	No. 1 Creek Bushland Reserve	existing	9.1	Mount Cole–Pyrenees
E11	Porcupine Bushland Reserve	existing	8.8	Mount Cole–Pyrenees
E12	Avoca Bushland Reserve (Rutherford St)	existing	0.6	Mount Cole–Pyrenees
E13	Avoca Bushland Reserve (Plunkett St)	existing	2.6	Mount Cole–Pyrenees
E14	Avoca Rifle Range Bushland Reserve	existing	98	Mount Cole–Pyrenees
E15	Glenmona (Avoca) Bushland Reserve	existing	5.0	Mount Cole–Pyrenees
E16	Avoca North Bushland Reserve	existing	26	Mount Cole–Pyrenees
E17	Glenmona Bushland Reserve	existing	4.3	Mount Cole–Pyrenees
E18	Homebush Bushland Reserve	existing	2.3	Mount Cole–Pyrenees
E19	Bung Bong Bushland Reserve	existing	12	Mount Cole–Pyrenees
E20	Amphitheatre Bushland Reserve	existing	79	Mount Cole–Pyrenees
E21	Ben More Bushland Reserve	existing	137	Mount Cole–Pyrenees
E22	Granite Hill Bushland Reserve	existing	7.9	Mount Cole–Pyrenees
E23	Burbank Creek Bushland Reserve	existing	5.8	Mount Cole–Pyrenees
E24	Lexton (Rifle Range) Bushland Reserve	existing	18	Mount Cole–Pyrenees
E25	Lexton (Gladston Street) Bushland Reserve	existing	8.5	Mount Cole–Pyrenees
E26	Main Lead (Raglan) Bushland Reserve	existing	12	Mount Cole–Pyrenees
E27	Trengoves Track (Chute) Bushland Reserve	existing	15	Mount Cole–Pyrenees
E28	Beaufort South Bushland Reserve	existing	6.2	Mount Cole–Pyrenees
E29	Baths Road (Beaufort) Bushland Reserve	existing	8.5	Mount Cole–Pyrenees
E30	Snowgums (Beaufort) Bushland Reserve	existing	27	Mount Cole–Pyrenees
E31	Warrenmang West Bushland Reserve	new	20	Mount Cole–Pyrenees
E32	Warrenmang East Bushland Reserve	new	3.2	Mount Cole–Pyrenees
E33	Tanwood South Bushland Reserve	new	4.5	Mount Cole–Pyrenees
E34	Number Two Creek Bushland Reserve	new	5.1	Mount Cole–Pyrenees
E35	Avoca West Bushland Reserve	new	4.1	Mount Cole–Pyrenees
E36	Glenmona Forest Bushland Reserve	new	984	Mount Cole–Pyrenees
E37	Glenmona North Bushland Reserve	new	6.5	Mount Cole–Pyrenees
E38	Amphitheatre Creek Bushland Reserve	new	9.1	Mount Cole–Pyrenees
E39	Avoca River West Bushland Reserve	new	5.5	Mount Cole–Pyrenees
E40	Amphitheatre South Bushland Reserve	new	2.8	Mount Cole–Pyrenees
E41	Morvells Road (Amphitheatre) Bushland Reserve	new	6.5	Mount Cole–Pyrenees
E42	Green Hill Creek Bushland Reserve	new	4.1	Mount Cole–Pyrenees
E43	Jollys Road (Green Hill Creek) Bushland Reserve	new	0.9	Mount Cole–Pyrenees
E44	Avoca-Greenhill Creek Road Bushland Reserve	new	0.7	Mount Cole–Pyrenees
E45	Lamplough Reservoir Road Bushland Reserve	new	2.9	Mount Cole–Pyrenees
E46	Lamplough Reservoir East Bushland Reserve	new	7.5	Mount Cole–Pyrenees
E47	Lillicur West Bushland Reserve	new	4.0	Mount Cole–Pyrenees
E48	Leys Road (Lexton) Bushland Reserve	new	10	Mount Cole–Pyrenees
E49	Franklinford (Jim Crow Creek) Bushland Reserve	existing	5.6	Wombat–Macedon
E50	Franklin Bushland Reserve	existing	0.3	Wombat–Macedon
E51	Jim Crow Creek Bushland Reserve	existing	5.2	Wombat–Macedon
E52	Tarilta Creek Bushland Reserve	existing	25	Wombat–Macedon
E53	Dry Diggings Bushland Reserve	existing	6.2	Wombat–Macedon
E54	Middleton Hill Bushland Reserve	existing	5.0	Wombat–Macedon
E55	Leitches Creek Bushland Reserve	existing	10	Wombat–Macedon
E56	Eganstown Deep Creek Bushland Reserve	existing	29	Wombat–Macedon
E57	Corinella Creek Bushland Reserve	existing	6.5	Wombat–Macedon
E58	Jubilee Lake Scenic Reserve	existing	5.0	Wombat–Macedon

Rec ID	Public land use category	Change	Area (hectares)	Block
E59	Wombat Bushland Reserve	existing	0.8	Wombat–Macedon
E60	Musk Bushland Reserve	existing	3.0	Wombat–Macedon
E61	Glenlyon Bushland Reserve	existing	5.9	Wombat–Macedon
E62	Burke (former school) Bushland Reserve	existing	2.4	Wombat–Macedon
E63	Denver Bushland Reserve	existing	1.8	Wombat–Macedon
E64	Kangaroo Creek Bushland Reserve	existing	3.6	Wombat–Macedon
E65	Drummond Bushland Reserve	existing	5.2	Wombat–Macedon
E66	Lauriston Bushland Reserve	existing	210	Wombat–Macedon
E67	Burke (Honeysuckle Rd) Bushland Reserve	existing	1.0	Wombat–Macedon
E68	Coliban (Moloneys Lane) Bushland Reserve	existing	3.1	Wombat–Macedon
E69	Coliban River Bushland Reserve	existing	0.7	Wombat–Macedon
E70	Paradise Valley Bushland Reserve	existing	3.4	Wombat–Macedon
E71	Trentham Falls Scenic Reserve	existing	25	Wombat–Macedon
E72	Coliban Road Bushland Reserve	existing	1.8	Wombat–Macedon
E73	Milkingyard Creek Bushland Reserve	existing	1.6	Wombat–Macedon
E74	Trentham East Bushland Reserve	existing	15	Wombat–Macedon
E75	Carlsruhe (Campaspe River) Bushland Reserve	existing	6.1	Wombat–Macedon
E76	Carlsruhe Bushland Reserve	existing	2.2	Wombat–Macedon
E77	Woodend (Dafter Road) Bushland Reserve	existing	4.5	Wombat–Macedon
E78	Twin Bridges (Deep Creek) Bushland Reserve	existing	9.1	Wombat–Macedon
E79	Tunnel Creek (Kerrie) Bushland Reserve	existing	7.6	Wombat–Macedon
E80	Wyberjong Park (Riddells Creek) Bushland Reserve	existing	1.7	Wombat–Macedon
E81	Bolinda Creek Bushland Reserve	existing	2.7	Wombat–Macedon
E82	Gordon North Bushland Reserve	existing	3.0	Wombat–Macedon
E83	Gordon Bushland Reserve	existing	1.3	Wombat–Macedon
E84	Bunding Bushland Reserve	existing	2.4	Wombat–Macedon
E85	Mount Steiglitz Scenic Reserve	existing	0.8	Wombat–Macedon
E86	Coimadai Bushland Reserve	existing	1.4	Wombat–Macedon
E87	Yangardook Bushland Reserve	existing	50	Wombat–Macedon
E88	Bungal Bushland Reserve	new	679	Wombat–Macedon
	F Historic reserve			
F1	Percydale Historic Reserve	existing	1457	Mount Cole–Pyrenees
F2	Avoca Court House Historic Reserve	existing	0.1	Mount Cole–Pyrenees
F3	Avoca Police Residence and Magazine Historic Reserve	existing	0.5	Mount Cole–Pyrenees
F4	Beaufort Court House Historic Reserve	existing	0.2	Mount Cole–Pyrenees
F5	Daylesford Court House Complex Historic Reserve	existing	0.9	Wombat–Macedon
F6	Cornish Hill Historic Reserve	existing	46	Wombat–Macedon
F7	Trentham Police Camp Historic Reserve	existing	0.3	Wombat–Macedon
F8	Blackwood North Historic Reserve	existing	1.2	Wombat–Macedon
F9	Blackwood Cottage Historic Reserve	existing	0.9	Wombat–Macedon
F10	Blackwood Police Stables Historic Reserve	existing	0.04	Wombat–Macedon
F11	Woodend Court House Historic Reserve	existing	0.1	Wombat–Macedon
F12	Gisborne Court House Historic Reserve	existing	0.2	Wombat–Macedon
F13	Mount Egerton Battery Historic Reserve	existing	0.05	Wombat–Macedon
	G State forest			
G1	Mount Lonarch State Forest	existing	1161	Mount Cole–Pyrenees
G2	Trawalla-Andrews State Forest	existing	1062	Mount Cole–Pyrenees
G3	Musical Gully-Camp Hill State Forest	existing	833	Mount Cole–Pyrenees
G4	Mount Cole State Forest	reduced	6416	Mount Cole–Pyrenees
G5	Glenmona State Forest	reduced	709	Mount Cole–Pyrenees

Rec ID	Public land use category	Change	Area (hectares)	Block
	H Water frontage, beds and banks reserve			
		existing	1893	all blocks
	I Water production reserve			
		existing	6514	all blocks
	J Community use reserve			
		existing	1458	all blocks
	K Utilities and government services reserve[2]			
		existing	17,080	all blocks
	L Uncategorised public land			
		existing	323	all blocks
L1	Merrimu Reservoir surplus land	new	100	Wombat–Macedon
	M Plantation			
		reduced	6585	all blocks
	N Reference area			
N1	Buangor	existing	69	Mount Cole–Pyrenees
N2	Musk Creek	existing	91	Wombat–Macedon
N3	Ruths Gully	existing	261	Wombat–Macedon
N4	Ah Kows Gully	existing	475	Wombat–Macedon
N5	Pyrete Range	existing	306	Wombat–Macedon
	O Heritage river			
O1	Lerderderg River Heritage Area	existing	5166	Wombat–Macedon

1. A1 Mount Buangor National Park and A3 Wombat-Lerderderg National Park incorporate existing state parks.
2. Includes an estimated 14,140 hectares of unparcellised government road prepared using a GIS layer.

Acronyms

CAR	Comprehensive, adequate and representative (relating to protected areas)
CRG	Community Reference Group
DDWCAC	Dja Dja Wurrung Clans Aboriginal Corporation
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
DEPI	Department of Environment and Primary Industries
DSE	Department of Sustainability and Environment
DTF	Department of Treasury and Finance
ECC	Environment Conservation Council
EVC	Ecological Vegetation Class
FMA	Forest Management Area
HVP	Hancock Victorian Plantations
ILUA	Indigenous Land Use Agreement
LCC	Land Conservation Council
ML	megalitre (1 million litres)
RAP	Registered Aboriginal Party
RSA	Recognition and Settlement Agreement
SBV	Strategic Biodiversity Values
TOS Act	Traditional Owner Settlement Act (Vic)
TUP	Timber Utilisation Plan
VAHC	Victorian Aboriginal Heritage Council
VEAC	Victorian Environmental Assessment Council
VHR	Victorian Heritage Register
VPC	Victorian Plantations Corporation
VSDL	Victorian Spatial Data Library



www.veac.vic.gov.au