

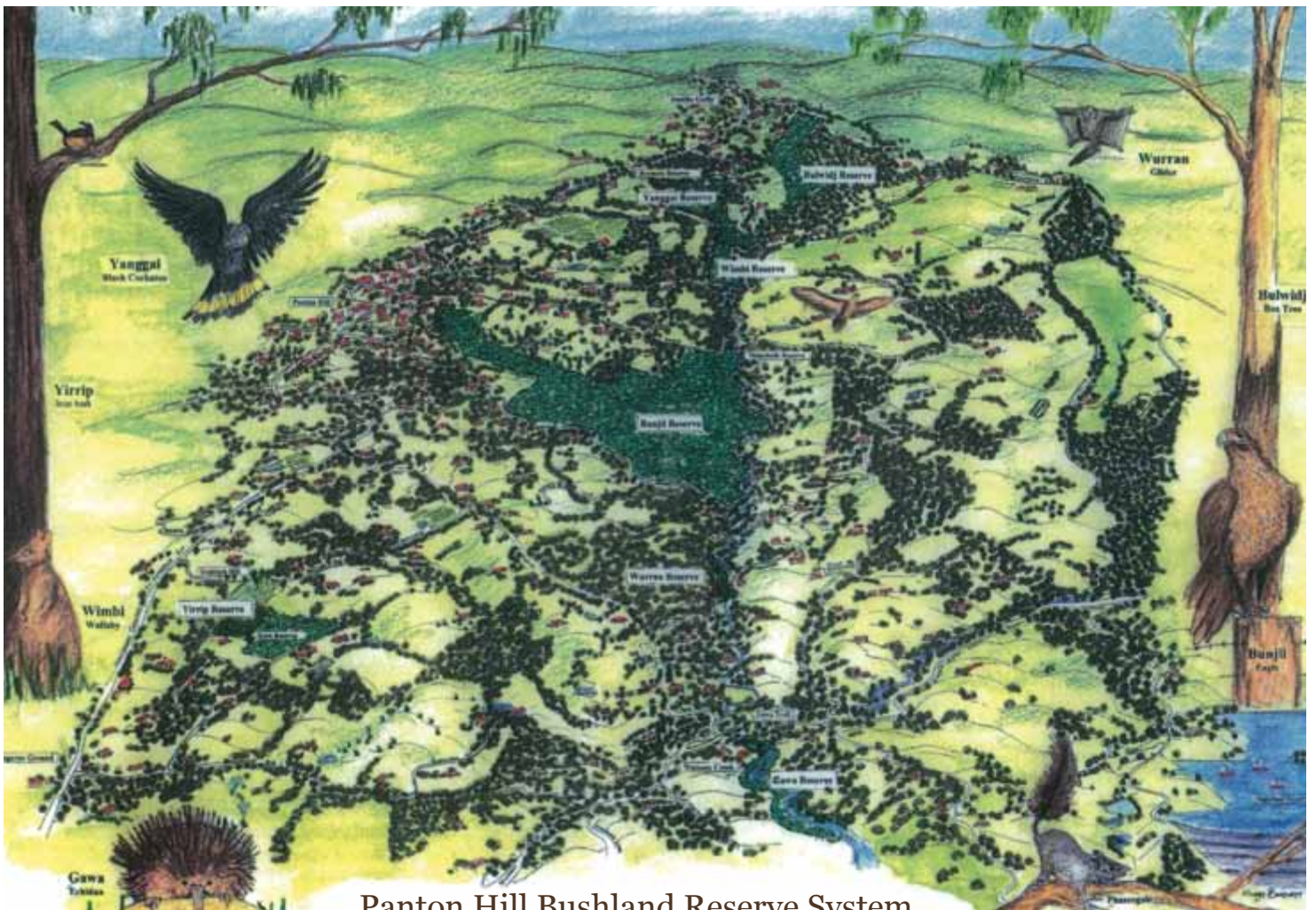
Panton Hill

Bushland Reserve System

Management Plan

SECTION 1





Pantom Hill Bushland Reserve System

Image: Garry Bartlett, 2003

Preamble

In June 2011, Nillumbik Shire Council adopted the Pantom Hill Bushland Reserve System Management Plan, following extensive consultation with the community and stakeholder groups.

Council recognised the many existing recreational uses of the Bushland Reserves and sought to strike a balance that ensured the reserves could still be enjoyed whilst at the same time, preserving and enhancing environmental and conservation values.

The Plan outlines this process and the respective, and at times, differing views on the appropriate future use of the Reserve System.

Council has accepted that there is a place for the continued, sustainable shared uses of the reserves and has adopted this Plan with this intent.

These shared uses are also reflected in the trails classification maps included in the Plan.

Council has also appointed a Pantom Hill Bushland Reserve System User Group, comprising members of the respective stakeholder groups. Council works with the group to preserve the values of the Reserve System, carry out maintenance activities and identify works related to the reserve's use and access.

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Executive summary

The Pantom Hill Bushland Reserve System (PHBRS) constitutes seven individual Reserves spanning 140 hectares of bushland in the Watsons Creek catchment near the townships of Pantom Hill and Smiths Gully.

The Reserves are important for their exceptional and outstanding natural features. They contain a number of different and significant vegetation communities, as well as a number and diversity of Victorian Rare and Threatened plant and animal species. Their catchment location and place within important regional habitat links give them long-term and widespread biogeographical significance.

The Reserves are also an important social resource and provide opportunities for members of the community to enjoy and appreciate the natural environment.

The Reserves require active management if they are to retain their natural values given the impacts arising from a number of threatening processes. Flora and fauna conservation, soil conservation, pest plant and animal management, recreation and access management and community education are among the most important management issues for the Reserve system.

In addition, a strategic and holistic approach to the management of the surrounding public and private areas of remnant vegetation will be as important to the long-term value of the system as any direct actions within the Reserves.

This Management Plan follows a number of background studies of the Reserves including vegetation, fire risk and cultural heritage surveys. It has been developed to provide a strategic approach to managing issues specifically within individual Reserves and also strategically for the Reserve system as a whole.

Management objectives outlined for the Reserve system can be broadly summarised as follows:

- Conserve natural ecosystems and environments
- Conserve vulnerable and rare flora and fauna species
- Promote awareness and appreciation of the Reserves and their special features
- Provide sustainable and safe recreational activities for visitors
- Provide opportunities for scientific research and apply the results to management of the Reserves.

This Management Plan provides an overview of the conservation, cultural and social values, threats and recommended management actions for each individual Reserve and the Pantom Hill Bushland Reserves as a whole.



Management Plan overview

First released in March 2007, the Draft PHBRs Management Plan was a lengthy document of several hundred pages. It provided detailed descriptions of the seven Reserves that make up the system and contained numerous recommendations for their management.

In November 2010 a second Draft was endorsed by Council for public comment. It followed the same format as the March 2007 document, but added some new material to address resolution of trail issues that had arisen since 2007. The second Draft was also a lengthy document containing a 50 odd page introductory section overviewing management issues and outlining a broad strategy, as well as the descriptions and recommendations for each of the Reserves.

By contrast, the final plan has adopted a different approach. It has been prepared so that the Plan's recommendations are all drawn together and contained with this shorter document. The Management Plan puts these recommendations without undue discussion so that the length of Section 1 can be contained. All background information, discussion of issues and rationale for recommendations has been transferred to a series of Appendices that make up Section 2.

This approach has the advantage of enabling those readers who just require the bare recommendations for future management of the Pantom Hill Reserves to be easily able to turn to them without being burdened by lengthy preceding discussion.

In overview, Section One is divided into 4 parts:

Part A - Background

Contains background information regarding the Reserves, their location, size and history, as well as an outline of consultation that has occurred in preparation of the Plan.

Part B - Management

Contains information on management objectives and the generic recommended actions across all Reserves.

Part C - Recommendations

Contains overview information about each of the seven PHBRs Reserves along with the recommended actions for their management.

Part D - Trail maps

Contains the trail maps for the Reserves indicating designated trails through the Reserves and their recommended use.



PART A: BACKGROUND

1. Introduction

The Panton Hill Bushland Reserve System (PHBRS) constitutes seven individual Reserves spanning 140 hectares of bushland in the Watsons Creek catchment near the townships of Panton Hill and Smiths Gully. Previously owned by Melbourne Water, it was purchased by Nillumbik Shire Council in 1998.

The Reserve System supports a high diversity of indigenous plants and contains, in places, high quality examples of intact vegetation communities. This vegetation provides excellent fauna habitat and the area has been identified as having State Faunal Significance due to the presence and diversity of its fauna species.

Indeed, the Reserves lie largely unappreciated for their rich natural features and a number of pressing forms of land degradation are now threatening these natural values. Weed management, flora and fauna conservation, soil conservation, community education and recreation management are among the most important management issues for the system.

Recent studies show the system contains some locally important cultural and heritage sites. It is however the current and local social/cultural landscape that is of major importance to this system. How the surrounding mosaic of public and private properties – variously forested, cleared, farmed and inhabited – are managed

with regard to wildfire threats, native vegetation retention and environmentally sustainable land use will be as important to the long-term management of the system as any direct actions within the Reserves.

The PHBRS is highly valued by the community as a place for recreation, although recreational user numbers are considered to be relatively low. However, the unrestricted recreational access and use that has existed for many years has been thought to be a contributing factor to degradation of trails. There are also examples where recreational use has impacted on vegetation condition especially adjacent to trails. There have also been instances where fallen trees have caused users to divert from trails, also causing damage to sensitive vegetation.

This Management Plan is a response to the need for more systematic and strategic management of the Reserves. The Plan attempts to overview information from existing reports and field studies and informed by that develop and recommend the application of sound management principles to the Reserve system. It seeks to produce a program of Reserve management that achieves integration within the broader landscape, while also providing specific management actions for each separate Reserve.



1.1 Establishment of the Reserve System

Over 30 years ago Panton Hill orchardists, supported by Eltham Council, lobbied Melbourne Water to release land that had been reserved for the proposed Watsons Creek dam. The group succeeded in having 1400 hectares of bushland, farms and housing, from Kangaroo Ground to Smiths Gully, released from reservation in 1982.

In 1985, Melbourne Water began selling land that it had declared to be in excess of its needs, raising concern over the increasingly threatened local bushland. A public meeting held by the North Riding Community Action Group ultimately gave rise to the Watsons Creek Land Consultative Committee (WCLCC). This group considered environmental and social consequences of the land sale and proposed guidelines for land development which were later adopted by Melbourne Water.

A final report established the environmental significance of about 140 hectares of the land. In 1988, after strong representation from the Council, an agreement was reached that parcels of environmentally valuable land would remain public open space under the terminology of planning schemes at that time.

In 1999, the Watsons Creek Bushland Reserve was transferred to Nillumbik Shire Council and was initially managed by the WCLCC. The WCLCC produced a maintenance plan for the system - Environmental Maintenance Plan for the Watsons Creek Bushland Reserve System. Nillumbik Shire Council took over management of the Reserves in 2000 and they were later renamed the Panton Hill Bushland Reserve System (PHBRS).

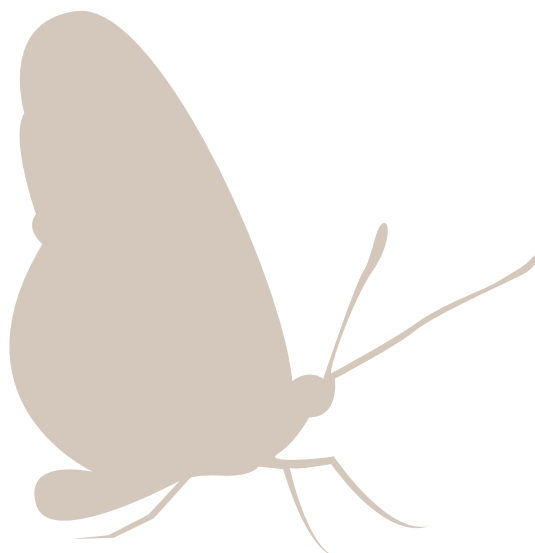
1.2 The Reserve System

1.2.1. Location and size

PHBRS comprises seven major Reserves in addition to smaller parcels of land and road reserves, covering approximately 140 hectares in the Watsons Creek catchment near the townships of Panton Hill and Smiths Gully, North East of Melbourne (see Figures 1 and 2). The system stretches across five kilometres from north to south with most of the Reserves clustered within two kilometres.

The seven individual Reserves are named using Wurrundjeri names for species found in the Reserves. The Reserves are: Bulwidj (Yellow Box) - 20 hectares, Bunjil (Wedge-tailed Eagle) - 68 hectares, Gawa (Echidna) - five hectares, Wimbi (Swamp Wallaby) - 12 hectares, Wurran (Sugar Glider) - two hectares, Yanggai (Yellow-tailed Black Cockatoo) - 23 hectares and Yirrip (Ironbark) - 22 hectares. Included in the Reserve area are a further 13 hectares of road reserves.

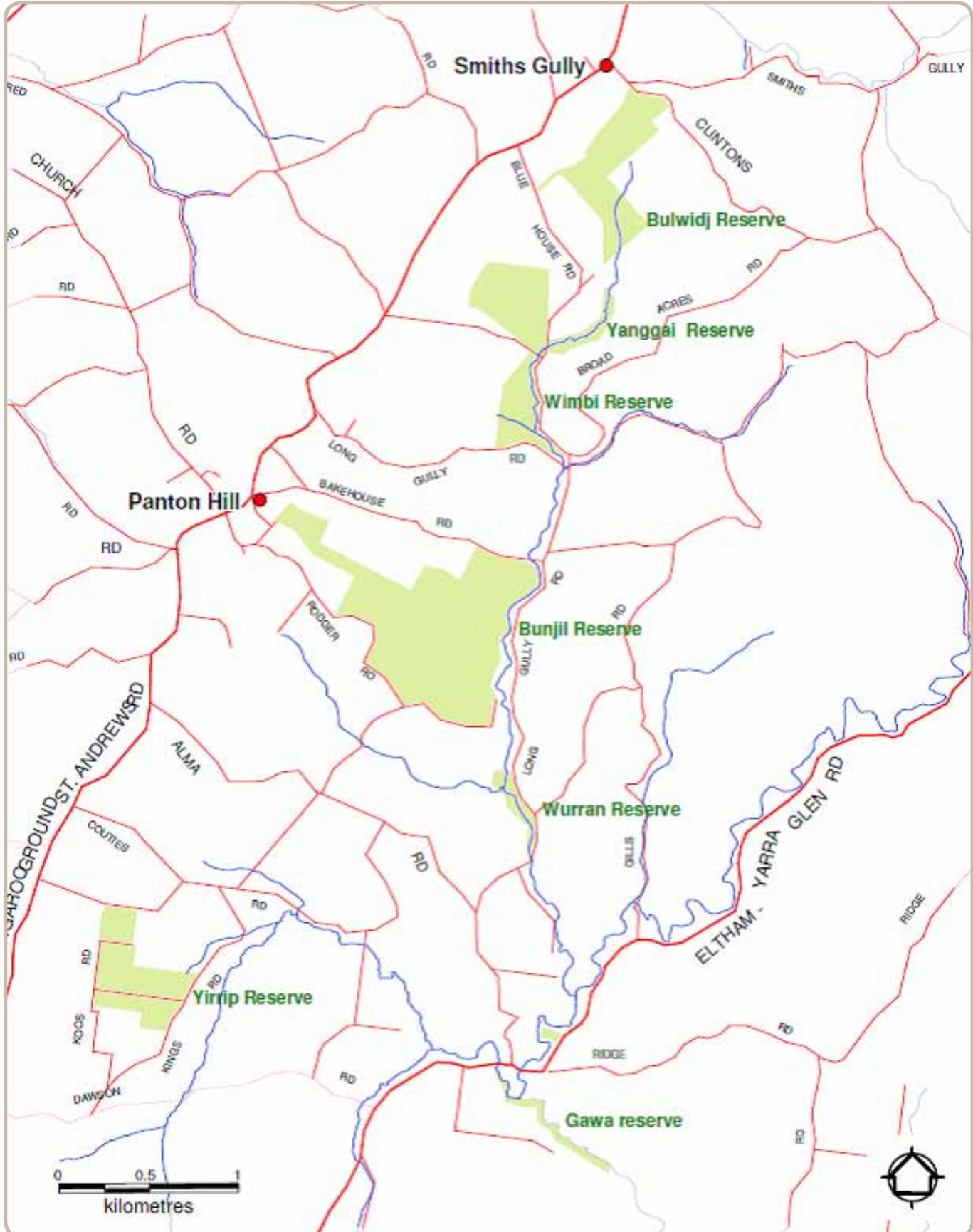
Many of the Reserves are adjacent to private property. These properties range from bush blocks to cleared land. In some cases one or more of the Reserve boundaries adjoin other public reserves or Crown Land. Many have at least one public road as a boundary or part-boundary. The Reserves vary markedly in size and shape. The broadly square-shaped Bunjil is the largest at approximately 68 hectares with a core area more protected from 'edge effects' than the other Reserves. Wurran and Gawa, for example, are both approximately seven hectares and linear.



PART A: BACKGROUND

Figure 1:

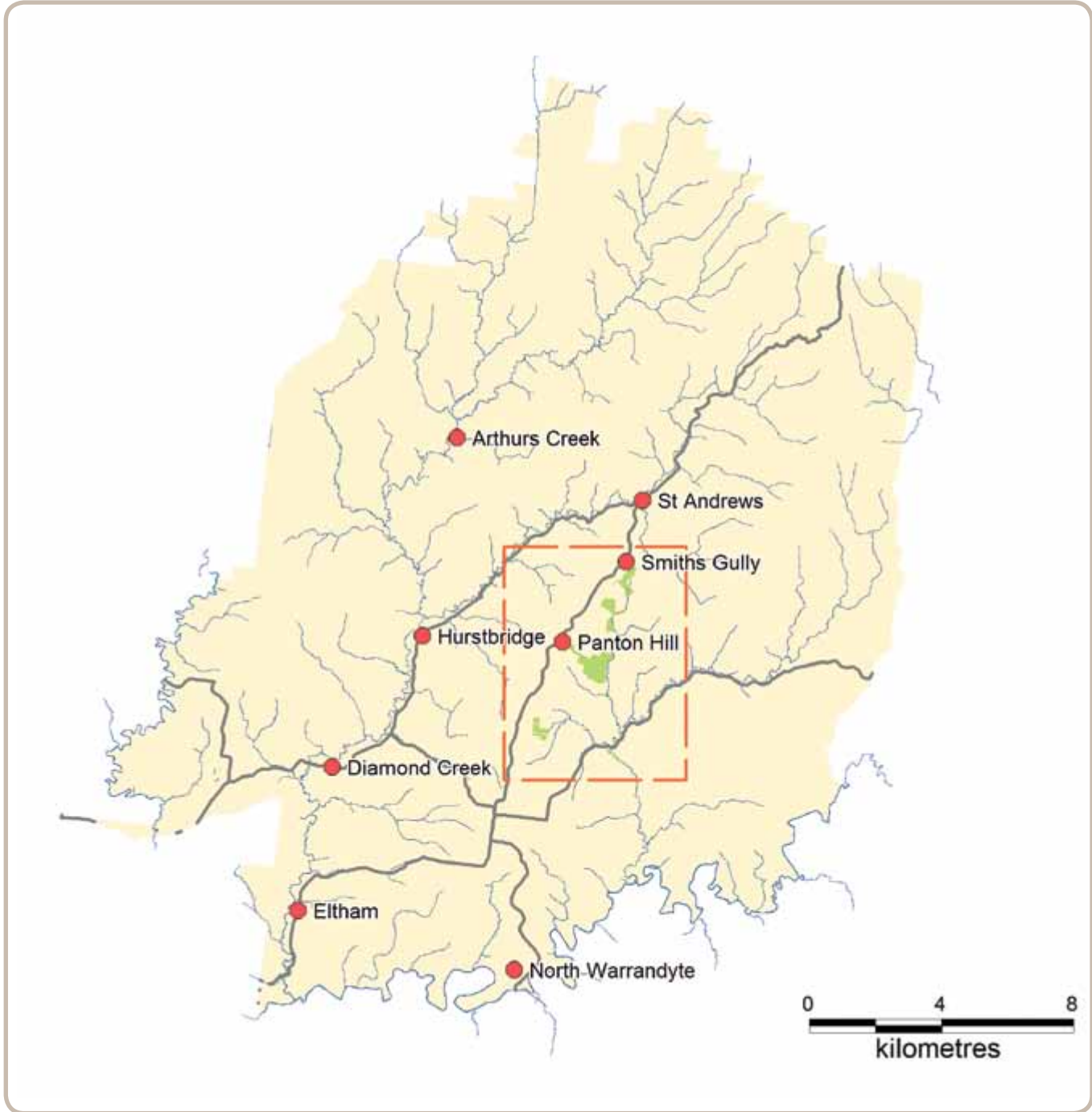
Map of the Panton Hill Bushland Reserve System



PART A: BACKGROUND

Figure 2:

Location of the Panton Hill Bushland Reserve System within the Shire of Nillumbik



2. History of consultation for development of the Plan

In 2000, Council took over management of the Reserves from the Advisory Committee at which time the Reserves became known as the Panton Hill Bushland Reserve System. In March 2005, Council developed a brief for consultants to undertake preparation of the Management Plan. By November 2006, a Draft Management Plan had been prepared and Council endorsed its exhibition for public comment. The Plan first went to the Recreation Trails Advisory Committee and Nillumbik's Environment Advisory Committee before being released for broader public comment in March/April 2007. Comment was received until 30 April 2007.

A facilitated community information session was held on 14 March 2007 to hear from the Plan's authors and Council staff. About 90 people attended, many concerned about the Draft Plan's appearance to wish to exclude horse riding from the Reserves. At best, the Draft Plan provided an inconsistent message on this matter. On the one hand, it contained a recommendation to investigate current horse trails within the Reserve System and develop a suitable trail network in consultation with the Recreational Trails Advisory Committee. Yet, on the other, it contained recommendations to fence Reserve boundaries to the exclusion of various unspecified users. Although officer briefings of Council in September 2007 subsequently correctly claimed that the Draft Plan made no specific recommendations "to ban horse riding or cycling", horse riders nevertheless drew this conclusion – a conclusion it seems could not be rebutted at the time.

With hindsight, apart from inconsistent messages and inadequate communication, the extent of consultation for preparation of the Draft Plan also appeared to be lacking, with perhaps some failure to appreciate the extent of existing use of the Reserves by horse riders especially. The Draft Plan was criticised for failing to be a management plan in that it sought exclusion of problems instead of management of them. Overall, it seems the Draft Plan had given insufficient acknowledgement to the social context in which it was seeking to provide necessary environmental protection.

However, despite these shortcomings, the 2007 Draft Plan did document and establish the values of the Reserves. It indicated that the Reserves supported a high diversity of indigenous flora and fauna and were considered to be of State habitat significance. The Draft Plan indicated high biodiversity values in the Panton Hill Reserves with 275 flora species and 70 vertebrate fauna species.

Following the period of public comment in March/April 2007, Council committed to undertake mapping of all

the trails in the Panton Hill Reserves and to work with interest groups to develop proposals for accommodation of recreational use. There also appeared to be some commitment to undertake a social impact assessment, but this did not proceed perhaps in part because it was thought that the 1986 Watsons Creek Land Consultative Committee Report had covered these dimensions or that the 1994 Land Conservation Council Report had also provided a social and economic assessment (see Council Briefing report, September 2007, p. 14).

The work on the mapping of trails and discussion with interest groups resulted in the development of the 2010 Draft Management Plan and the associated Recreational Trails Policy Position (included as Appendix A).

2.1 November 2010-February 2011 public comment period

At the Council meeting on 23 November 2010, the Draft Management Plan was endorsed for public comment. The Draft Plan was posted on Council's website in December 2010 and copies made available at local libraries. Hard copies were also sent to key stakeholder groups and CDs posted to individuals where requests were made. All adjacent neighbouring property owners were posted a letter notifying them of the public comment period and inviting their submissions. An advertisement was also placed in local papers to invite submissions. Articles also appeared in local papers during the comment period and subsequently.

Due to the Christmas break, the period for public comment was lengthened with a closing date of Friday 25 February 2011.

Near the beginning of the comment period some requests were made that the process be halted until a bibliography and appropriate referencing of all sources were included in the Draft Plan. This request was not met as it was felt the grounds were insubstantial.

2.2 Overview of submissions

2.2.1 Number of submitters

A total of 131 submissions were received during the comment period. This included 21 child submissions. There were also two petitions lodged. A breakdown of submissions is indicated in the pie charts on the following page.

2.2.2 Broad characterisation of submissions

The submissions could be broadly characterised as being mostly either of a primary horse riding interest nature or a primary conservation interest nature. However, it is recognised that this broad characterisation possibly over-simplifies the situation as many submitters with a primary horse riding interest also expressed their interest in conservation matters and in fact extolled the values of the Reserves they were seeking to access.

There were also a number of submissions that rather than primarily place an emphasis on conservation matters chose to mainly support the Draft Plan and its recommendations. While these submitters were certainly inclined to a pro-conservation position, the distinction between the groups was very fine indeed. However, the clear nature of support for the Plan put them into this separate category and distinguished them from primary conservation interests which were often critical of the Draft Plan in a number of respects.

A very small number of submissions (two) were considered neutral in that they supported retention of the

status quo and neither stated support for the Plan, nor expressed a pro-horse or a pro-conservation position.

The percentage of submissions of a primary horse riding interest nature was large, running at around 80 per cent of the total.

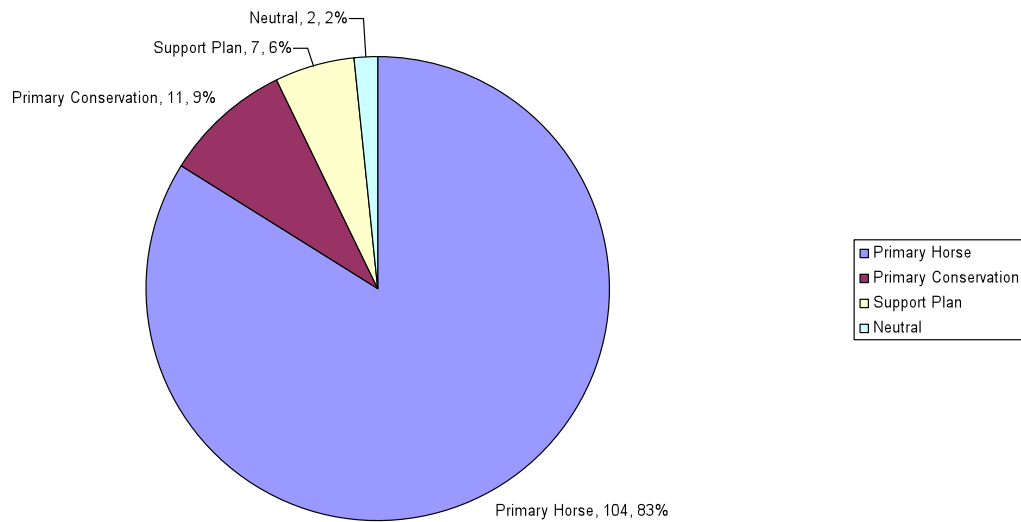
Not surprisingly, in circumstances where a public campaign was being waged, the submissions from horse riding interests made many very similar points generally, although by no means was there strict adherence to a script. Rather, there were numerous individual observations and variations on themes, sometimes providing some contradiction of key points made by leading pro-horse interests. This is not intended as a criticism of pro-horse interests, rather it is indicative of the variety of opinions in the community that coalesced under the pro-horse banner – a phenomenon that can occur in public campaigns where differences are accommodated under a broad coalition.

In looking back at submissions to the 2007 Draft Plan and comparing them with submissions to the 2010 Draft Plan, it was noted that a number of submitters (and from both major camps), chose to duplicate comments and even photographs from their earlier submissions. This perhaps indicated some understandable tiredness with what has been a lengthy process. In some cases, it may have also indicated some failure to recognise the extent to which issues had moved on and been addressed more fully in the 2010 Draft Plan compared with the 2007 Plan. Hence, argument that horses were still being ‘excluded’ from the Pantom Hill Reserves under the 2010 Plan, while an understandable conclusion to draw from the 2007 Plan, could not be sustained from any reasonable scrutiny of the 2010 Plan.

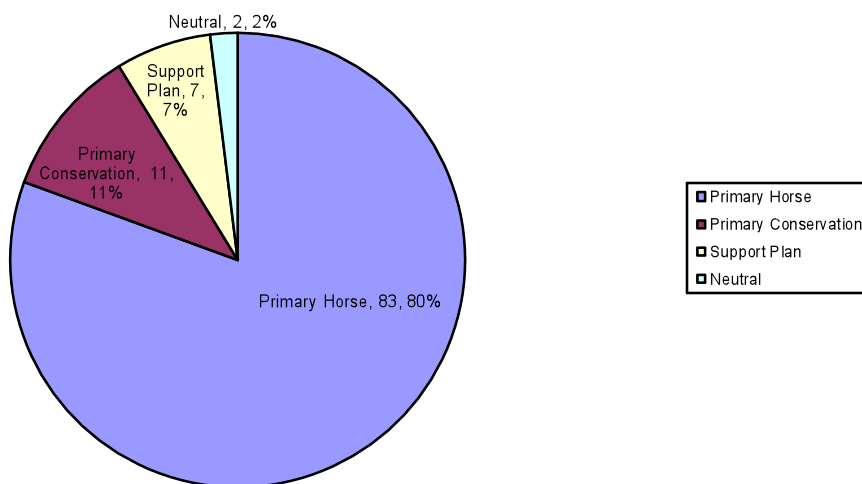


PART A: BACKGROUND

Breakdown from 131 Submissions (including 21 child submissions)



Breakdown from 110 Submissions (i.e. not including child submissions)



2.2.3 Common items raised by submitters

While Section 3 seeks to provide detailed analysis of key issues raised by submissions, in summary, the leading items raised by submitters from each of the identifiable categories can be outlined as follows:

Primary horse interests

The following 12 items or themes were perhaps the most popular ones covered by those with primary horse interests.

1. Retention of five trails for horse riding, i.e. an increase of two over the recommendations of the Draft Plan with focus on trails at Bulwidj to secure it as a shared trail alongside pedestrians and mountain bike riders and retention of the northern spur trail through Bunjil to achieve connection from the Regional Trail adjacent to Long Gully Road through to the shared trail in the remainder of Bunjil.
2. Safety of riders, particularly children, especially where trails are restricted and riders are forced on to roads.
3. Horse riding is an important recreational activity enjoyed by all family members, keeping people active and healthy and therefore deserves support by Council.
4. Lack of damage to the bushland environment caused by horses – riders have been using the Reserves for 40 years and there is no apparent deterioration or damage. No substantial case for exclusion of horses has been established and officers appear unable to provide a rationale and information.
5. Absence of documented evidence of weed spread caused by horses.
6. Discrimination, denial of opportunity, inconsistent treatment of horse riders in the Draft Plan – a consistent line was that horse riders were only being permitted access to three of the nine trails “that horse riders have historically ridden” – despite the fact that some of these nine trails are no longer useable;
7. Original purpose of Reserves included use by whole community, i.e. by horse riders.
8. Trails only occupy one per cent of the total Reserve area – so request for access is minimal.
9. Low levels of trail use by horse riders means trails will not deteriorate.
10. Horse riding is part of the area’s local heritage and should be respected as such and not diminished.
11. Horse riding is a significant contributor to local economy.
12. Horse riders care for the local environment and would be prepared to do voluntary work to maintain trails and assist with environmental protection.

As well, there were numerous other items covered by those with primary horse interests. These ranged from weighty matters of possible incursion of the United Nations Human Rights Charter to localised matters of retention of a certain trail for horse riders so they could visit friends or continue to have lunch at a certain restaurant via riding there.



PART A: BACKGROUND

Primary conservation interests

Possibly because those with primary conservation interests were not part of an organised campaign, themes were comparatively more diverse, but the following 12 items probably cover the most popular matters highlighted by submitters.

1. PCRZ zoning is critical to a determination of appropriate uses and its purposes need to be upheld and does not justify the extent of horse access proposed in Draft Plan.
2. Support for the Draft Plan's primary objectives regarding conservation – recreation must come second.
3. PHBRS is an important part of a dwindling resource of relatively intact bushland, forms part of an important habitat link and requires protection, especially through restriction of damaging impacts. The Reserves constitute only one third of 0.1 per cent of the 432,000 hectares that make up Nillumbik, so surely it is possible to ensure their protection.
4. The flora and fauna of the PHBRS, while without voice, are an important stakeholder and should not be pushed to one side in the face of more vocal interests.
5. Empirical and scientific evidence points to the damaging impact of horses (especially weed spread) and historic length of use (only 40 years), does not absolve the use of its damaging impacts – in fact, it is never too late to recognise damaging processes and reverse them. Allowing horse access to key Reserves is a dereliction of Council's duties.
6. Claims regarding continued low levels of use have been contradicted by the campaigning of pro-horse interests as their invitations to groups across Victoria to participate in protest rides in the Reserves underlines concerns about increased use.
7. Horse riding interests have already received more than other interest groups, yet still want more and banning of horses does not mean banning of riders – they can still enjoy the Reserves on foot. A ban on horse and bike riding is not discriminatory, nor is it a ban on entry; it is a protective measure to maintain the Reserves for all.
8. Council needs to lift its resourcing of the management of the Reserves, yet no cost estimates of actions (along with other deficiencies) in the Draft Plan may not assist.
9. Seek additional land for inclusion in the PHBRS.
10. Education and interpretation required (including dog and cat curfews).
11. Cost of weed management – as weed management is such an endless task due to the number of sources of infection, closing off known sources (horses) would be sensible.
12. Support for protection of biodiversity hot spots, but also recognition that management of lower quality areas surrounding biodiversity hot spots is necessary to retain quality of vegetation and that biodiversity hot spots are under threat while horse riding is proposed through those areas.



Dianella Revoluta
Photo courtesy of P. Semple

Draft Plan supporters

The following were recognisable themes across submitters who clearly supported the Draft Plan and its contents.

1. Recognition that Council has undertaken an exhaustive consultation process and achieved a finely balanced compromise through permitting access for horses and mountain bikes to some Reserves, yet offering recognition and protection of the conservation values of the Reserves.
2. The compromise appears to have been accepted by many stakeholders, yet horse riders still appear unsatisfied.
3. Not appropriate to have all trails available to all recreational users.
4. Appropriate for a municipality such as Nillumbik to support conservation of significant flora and fauna areas.
5. Agree that Reserves require active management.
6. Agreement that horse riding has greater impacts than mountain bike riding due to weight of horse and compaction caused.

2.3 Scope of issues

An Analysis Paper was prepared for the information of Councillors to assess issues raised by submitters. Items included in the analysis paper were as follows.

- Original purpose
- Nillumbik Planning Scheme
- Primacy of environmental values
- Human Rights Charter and Freedom of Movement
- Social Impact Study
- Trail Numbers - accounting and miscounting
- Concessions by horse riding interests
- Trails in contention
- Horse impacts, i.e.:
 - o weed spread
 - o trail widening
 - o trail condition decline
 - o erosion of trails
 - o divergence from trails
 - o historic degradation
 - o trail condition has not deteriorated.
- No comprehensive case for horse exclusion
- Summary of impacts on trails from recreational use and relevant research
- The comparative research and summary of research into horse impacts
- Dealing with the future
- Likely low levels of use supports continuing horse access
- Future numbers using regional trail
- The precautionary principle
- Safety for horse riders
- Denial of opportunity, discrimination and inconsistent treatment of horse riders
- Horse riding and heritage
- Draft Plan internal inconsistencies.



PART B: MANAGEMENT

1. Management objectives

There are a number of management issues which need addressing to sustain the significant conservation, cultural and social values of these Reserves. These include the conservation of threatened flora and fauna, pest plant and animal invasions, fire management, access and recreation management and community education.

This Management Plan has been developed to provide a strategic approach to managing these issues specifically within individual Reserves and also for the Reserve System as a whole. Chapter 4 – Broad Management Issues and Strategies discusses the issues on a whole system-wide scale and provides broad strategies for managing these problems across all of the Reserves. Section 2 – Reserve Specific Management looks at the issues within the seven individual Reserves and provides specific actions in a works plan for each Reserve. The recommendations and actions contained in this Management Plan are written to achieve the following four objectives for the PHBRS:

Primary

To conserve natural ecosystems and environments

- Protect ecological processes and flora and fauna systems and natural geological and hydrological processes and systems by controlling degrading processes and undertaking rehabilitation measures such as pest animal and plant control, habitat restoration, soil conservation, fire management and management of recreation, access and other land uses.

To conserve vulnerable and rare flora and fauna species

- Protect species and populations by giving priority to habitat retention and meeting the specialised needs of significant species.
- Manage threats to vulnerable and rare flora and fauna populations.
- Actively promote the regeneration of rare and vulnerable flora and fauna populations.
- Maintain the integrity of areas of the PHBRS containing high quality and diverse vegetation communities.

Secondary

Promote awareness and appreciation of the Reserves and their special features

- Promote the Reserves and their special features to the local community and provide opportunities for the community to experience learn about and value the Reserve.
- Provide sustainable and safe recreational opportunities for visitors
- Provide opportunities and direction for safe recreation activities where appropriate.
- Actively manage recreational activities in areas which may conflict with the primary conservation objectives or diminish natural values.

Provide opportunities for scientific research and apply the results to management of the Reserve

- Identify the key research needs for the Reserve System; enlist the support of scientific and other agencies; coordinate research and incorporate the results into management of the Reserve.



2. Management recommendations – summary

If the Reserves are to continue as high-value conservation areas and to fulfil their vital role as essential habitats for a wide range of native fauna species, they will need to be as self-sustaining as possible.

Remnant bush retains its quality while it has the capacity to regenerate and retain its diversity through natural

processes. This is only possible as far as the ecology (the intricate inter-relationship between all elements in the environment and the processes impacting on the environment) remains able to function in a healthy, balanced way. It follows that the less management intervention that is needed to maintain this situation the better. However, to ensure this, where possible the sources and causes of degrading processes need to be removed or appropriately managed.

2.1 Summary recommendations common to Reserves

These recommendations are grouped (and colour coded) into two categories according to whether the recommendations have background information contained in Appendix 1 (green colour code) or in Appendix 2 (brown colour code) in Section 2.

1. Cultural heritage protection

Where historic cultural heritage sites or artefacts are found while works are being undertaken: all works in the vicinity of the site should cease; the finds should be reported to a consultant archaeologist and Heritage Victoria; and an archaeologist should attend the site to determine whether further investigation is required and to establish the significance of the finds. Further disturbance cannot take place without the relevant permits under the terms of the Heritage Act 1995.

Consider engaging a qualified archaeologist to undertake a survey of the PHBRS for Aboriginal cultural heritage values.

Consider undertaking a survey for historic cultural heritage values for Reserves surrounding the PHBRS.

Determine whether sites located during the survey should be included in the Heritage Overlay of the Nillumbik Planning Scheme.

2. Soil conservation and hydrography

Report incidents of severe bank erosion along streams managed by Melbourne Water for their assessment and monitor condition of other streams.

Undertake an investigation of Council drains discharging to PHBRS and depending on impacts being caused either: divert connection points to more appropriate locations; detain stormwater in road Reserves; or slow velocities through increased use of drop pits and other techniques.

To achieve slowing of runoff across slopes, undertake works on areas of bare ground to encourage vegetation regeneration.

PART B: MANAGEMENT

2.1 Summary recommendations common to Reserves (continued)

3. Vegetation conservation

Conserve remnant native vegetation structure and composition by retaining quality areas (biodiversity hot spots) and implementing a weed control program within these areas that has an aim of no weeds.

Promote natural regeneration in core areas via managing threatening processes such as pest plant and animal infestations, as well as using a variety of bushland management techniques (e.g. methodical hand weeding, cut and paint, spot and ecological burning) to reduce weeds and open up areas for ground flora to colonise.

Restore species diversity, composition and structure in core areas by reducing weed competition for each vegetation strata present in identified areas.

Develop and implement a strategy for ecological burning to increase diversity.

Rehabilitate degraded areas through adopting various contemporary bushland management techniques and applying these commensurate with site degradation.

Limit revegetation to highly degraded areas and aim to replicate the natural structure of the local vegetation within revegetated areas.

Undertake measures for the protection of individual species as recommended in Froud (2003).

Reduce rabbit grazing pressure on threatened species by erecting exclusion fencing for small populations.

Develop and implement a system for regular monitoring of populations of significant species.

Ensure contractors are aware of locations of threatened species.

Ensure minimal soil disturbance occurs during weed control and removal.

Ensure contractors do not create tracks within quality areas when transporting weed material off site.

Develop and implement a system for monitoring of weed control works.

Explore opportunities for research into causes of eucalypt dieback, especially Red Ironbark.

Conduct soil tests for Cinnamon Fungus in any affected areas to eliminate as a cause of vegetation decline.

4. Habitat and fauna conservation

Protect vegetation links and wildlife corridors within surrounding land as part of encouraging a greater habitat network.

Design any fencing around and within the Reserve System to allow faunal movement both underneath and over fences.

Undertake a fauna survey of the Reserves.

Design and implement a monitoring methodology after the fauna survey has been completed and issues are known.

Take measures, including community education, to prevent straying of domestic cats and dogs into the Reserves.

PART B: MANAGEMENT

2.1 Summary recommendations common to Reserves (continued)

5. Pest plants

Prioritise weed control to: keep biodiversity hot spots weed free; maintain the existing condition of reference areas; and to rehabilitate degraded areas.

Ensure contractors have sufficient specialist bush regenerators suitably qualified and skilled in management of sensitive areas to undertake weed control, particularly in biodiversity hot spots and core areas.

Establish a monitoring and record-keeping System for weed infestations.

Liaise with adjoining private and public landowners with a view to negotiating an integrated approach to pest plant issues (see also 11).

Explore opportunities for information provision, education and resource assistance for owners of nearby properties to better manage potentially threatening weeds.

6. Pest animals

Prioritise rabbit control in all Reserves as indicated in individual Reserve reports.

Facilitate coordinated rabbit control with neighbouring landholders.

Take all necessary measures to preclude domestic stock from the Reserves.

Make the Reserves available to research into Bell Miner populations and their impacts.

Monitor the Bell Miner populations and their impacts in the Reserves.

Prohibit dogs from Reserves, except where on-lead on defined shared trails.

Develop measures to prevent straying of domestic cats and dogs into the Reserves.

Where possible coordinate fox control with rabbit control works.

7. Fire risk management

Implement the recommendations contained in the report: Fire Risk Analysis and Management Recommendations (Hester 2004).

Undertake additional ecological fire assessment studies and implement ecological burns as appropriate.

PART B: MANAGEMENT

2.1 Summary recommendations common to Reserves (continued)

8. Services

Issue guidelines to contractors and include in specifications and contract instructions avoidance of damage to soil, water, and plants while working.

Liaise with organisations such as VicRoads and Telstra to ensure contractors are aware of the environmental values of the Reserves and they provide Environmental Management Plans for their work to mitigate and manage risks.

9. Coordinated management

Ensure adjacent landholders are aware of Council's Land Management Incentive Program and promote the Program to them.

Support the involvement of landholders surrounding the PHBRS and the recruitment of others in initiatives such as targeted weed, fox and rabbit control.

Integrate land management programs with adjoining public land managers (Parks Victoria and Melbourne Water) where possible.



Bunjil Stone Walls

PART B: MANAGEMENT

2.1 Summary recommendations common to Reserves (continued)

10. Recreation and access

Implement recommendations for trail use as set out in Part D of the Management Plan.

Erect signs at each Reserve to inform visitors about: permitted recreation activities; which recreation activities can be undertaken according to prevailing weather conditions; the need for protection of the environment through remaining on the trails; and the Code of Conduct negotiated with peak user groups and its conditions.

Where required, strategically locate structural barriers such as gates, corrals, fences and logs to limit deviation from designated trails.

Where relevant, provide information to the community about alternative recreation locations within the local area.

Establish an ongoing monitoring program to monitor the condition of trails throughout the Reserves and if unacceptable damage is occurring, revise access accordingly.

Continue proposed works to ensure safe crossing of non-Melbourne Water managed minor streams that also improve protection of riparian zones.

Limit or prohibit vehicle access into all Reserves (other than emergency and management vehicles).

Fence the Reserves to contain access to designated access points.

Design trails to avoid crossing private property where possible. Should this not be possible, investigate agreements with adjoining landowners or other measures.

11. Securing adjacent land

Investigate incorporating unused or excess road Reserves where they are adjacent to or within the PHBRS.

Investigate the incorporation of adjacent Crown Land, especially where its incorporation will help meet management objectives.

12. Community education and involvement

Establish a PHBRS User Group to assist with education strategies and advice on trail development and maintenance.

Develop an interpretation strategy for the PHBRS which addresses individual Reserve values and capacity for educational activities while taking into account requirements to protect high conservation values.

Liaise with friends groups and interested community members to organise wildflower walks and interpretation activities with a view to developing a calendar of events for seasonally guided walks. Limit group sizes and ensure adequate supervision.

Incorporate management of roadside Reserves with vegetation of high quality into Reserve management where possible and where efficiencies can be achieved.

PART B: MANAGEMENT

2.1 Summary recommendations common to Reserves (continued)

13. Rubbish dumping

Indicate on Reserve signage that: rubbish dumping is prohibited; and request visitors to take rubbish/litter home.

Monitor rubbish dumping and issue infringements where required.

Remove rubbish from the Reserves where practical and where removal will not cause environmental impact.

14. Research

Assess the key research needs for the Reserves and promote the PHBRS to research institutes as sites suitable for biological and ecological research.



PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

1. Bulwidj

Bulwidj Reserve covers an area of approximately 20 hectares and lies in the upper catchment of the Panton Hill Bushland Reserve System. It is the most northern of the Reserves. Bulwidj Reserve is a part of a greater habitat area of high significance. It forms an important chain in the strategic habitat links north to Diamond Creek, east to St Andrews and south along Long Gully Creek to the Yarra River.

The major values of Bulwidj Reserve lie with its vegetation communities and its high level of biodiversity. Of all the Reserves in the PHBRS, Bulwidj contains the best examples of several vegetation communities, all of which are endangered or vulnerable in Highlands Southern Fall Bioregion. These include Box-Ironbark Forest, which has particular significance in the Panton Hill area. Bulwidj Reserve is also home to a number of rare and threatened flora and fauna species.

The primary management objectives for Bulwidj Reserve are to conserve:

- natural ecosystems and environments
- vulnerable and rare flora and fauna species.

Management emphasis should be on retention of biodiversity by ensuring the integrity of core areas and rehabilitating other areas, particularly through the continuing control of woody weeds.

All five of the management objectives for the PHBRS (see Part B) are applicable for Bulwidj.

1.1 Recommendations for Bulwidj Reserve

1. Cultural heritage protection	Priority
Maintain fence surrounding Bulwidj mine shaft.	Ongoing
Install interpretive signage regarding the gold mining shaft.	Low
2. Soil conservation and hydrography	
Where improvements have been identified, ensure trails are appropriately constructed and that maintenance regimes mitigate potential soil erosion.	High
Ensure drainage culverts are appropriately maintained with minimal disturbance from maintenance activities.	Ongoing
3. Vegetation conservation	
Manage biodiversity hot spots as a priority, maintain condition of core retention areas and rehabilitate degraded areas as per recommendations in 2.1, Part B.	High
Undertake measures for the protection of individual species as per Frood (2003).	High
Lay coarse woody debris across the slope at the Clintons Road end (central north-east section) of the Reserve to protect bare ground.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

1.1 Recommendations for Bulwidj Reserve (continued)

3. Vegetation conservation (continued)	Priority
Undertake further assessment of dieback and tree health decline, particularly in the gullies of the Reserve.	High
Map weed fronts in all areas identified as requiring regeneration management.	High
Erect rabbit exclusion fencing for small populations of significant species.	High
Set up and implement regular monitoring of populations of significant species.	Medium
Undertake flora and habitat surveys of biological hot spots every five years.	Medium
Monitor the health of vegetation at Bulwidj Reserve and undertake appropriate action where dieback or other signs of decline appear.	Medium
Revegetate the south western corner.	Medium
Revegetate the south eastern corner.	Medium
Investigate conducting ecological burns in the south-eastern corner of the Reserve.	Low
Map areas of less diversity surrounding biodiversity hotspots and conduct ecological burns where required to encourage regeneration.	Low
4. Habitat and fauna conservation	
Undertake a fauna survey.	High
Design and implement a monitoring methodology after the fauna survey has been completed when species and management issues have been identified.	Medium
5. Pest plants	
Keep biodiversity hot spots weed free.	High
Prioritise weed control in core retention and rehabilitation zones as indicated in Appendix 1 (see Section 2).	See Appendix 1
6. Pest animals	
Undertake a carefully planned rabbit control program.	High
Monitor the Bell Miner populations and their impacts.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

1.1 Recommendations for Bulwidj Reserve (continued)

7. Fire risk management	Priority
Discourage the use of easement from Blue House Road as site for neighbouring properties to conduct burning.	High
Formalise strategic fire control access points.	High
Reduce fuel levels in strategic locations.	High
Reduce the extent of Burgan.	High
Maintain fuel hazard and fire breaks as per recommendations of Hester (2004) and Simmons and Adams (2009).	High
8. Services	
Ensure recreational activities associated with tracks and BMX jumps within the road Reserve along Clintons Road do not infringe upon the biodiversity values of the Reserve.	High
Remove wire from internal fences to allow unimpeded faunal movement.	High
9. Coordinated management	
<p>Liaise and negotiate with the adjoining neighbours with a view to establishing an integrated approach to bushland management particularly regarding:</p> <ul style="list-style-type: none"> • pest plant management • rabbit control programs. 	High
10. Recreation and access	
Implement recommendations for trail use in Bulwidj Reserve as set out in Part D of the Management Plan.	High
Erect signs informing visitors to Bulwidj about permitted recreation activities.	High
Install logs to ensure definition and limit deviation from trails and undertake works on approaches to northern minor stream to ensure safe use of steep slopes and avoid erosion.	High
Undertake works to provide safer crossing of northern minor stream.	High
Retain private property access gates along western boundary for emergency and management access.	High
Retain and formalise recreational entrances at Clintons and Blue House Roads.	High
Ensure retention of remaining recreational trail on private property on southern boundary through landowner agreement.	High
Establish the PHBRS User Group to act as a reference group for Council to provide ongoing advice about recreation use.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

1.1 Recommendations for Bulwidj Reserve (continued)

10. Recreation and access	
Inform adjoining property owners with Reserve access about appropriate uses of access points.	Medium
Monitor recreational use impacts on trails and refer unacceptable impacts for review according to the Code of Conduct.	Medium
Retain internal fences; remove wire if impeding faunal movement.	Medium
11. Securing adjacent land	
Investigate arrangements with private land owners on the south-western boundary to ensure long-term access for the trail.	High
Investigate the incorporation of roadside vegetation on the eastern side of the Reserve into Bulwidj Reserve.	Medium
Investigate incorporating the narrow strip of land between Bulwidj and Yanggai into Bulwidj Reserve.	Medium
Investigate Council becoming Committee of Management for the strip of Crown Land along the stream that intrudes into Bulwidj Reserve on its south-east side.	Low
12. Community education and involvement	
Establish the PHBRs User Group to act as a reference group for Council to assist with developing increased participation in volunteer activities.	High
Liaise with the Friends of PHBRs with a view to establishing a friends group specifically for Bulwidj Reserve	Medium
Devise a strategy for recruiting members of the local community to such a friends group.	Medium
Investigate opportunities for running occasional planting days in heavily degraded areas in cooperation with neighbouring property owners.	Low
13. Rubbish dumping	
Monitor rubbish dumping and issue infringements where required.	Ongoing
Include advice on signs requesting visitors to take rubbish home.	High
Remove rubbish (other than car bodies) from the Reserve.	Low
14. Research	
Assess the key research needs for the Reserve.	Low
Implement a research program ensuring that results are accessible for use in management of the Reserve.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

2. BUNJIL

Bunjil Reserve is the largest Reserve within the Panton Hill Bushland Reserve System and is approximately 68 hectares. It is located mid catchment, in close proximity to the Panton Hill Township. Bunjil Reserve is predominantly bounded by privately owned residential property and public roads. A small section lies adjacent to Crown Land managed by Parks Victoria. This is Long Gully Bushland Reserve, which links to Wurran Reserve.

Of the seven Reserves which make up the Panton Hill Bushland Reserve System, Bunjil Reserve is the largest. Floristically, it is the most diverse. It provides important opportunities for fauna, both because of its generally high quality vegetation and because of its function as part of a corridor. The Reserve is home to a number of significant flora species, threatened vegetation communities, significant fauna species and areas of relatively intact bushland.

This report endorses comments from Frood (2003) that this is an extremely significant remnant which needs management as a core conservation Reserve as prime habitat for a range of significant species. Frood (2003) saw the major issues for Bunjil Reserve as: the need for Long Gully Reserve and Bunjil Reserve to receive

integrated management; protection of significant flora; weed management, particularly on the boundaries; reduction of the rabbit population and fauna protection.

The management objectives for Bunjil Reserve are the same as those for the Reserve System as a whole. However, because of its outstanding natural values, there is particular emphasis on the conservation of the natural environment. Bunjil Reserve should be managed for the protection and conservation of its flora, fauna and associated ecosystems.

There exist a number of major degrading processes which could, if not ameliorated, threaten the integrity of the Reserve and its natural values. A history of unrestricted use (horse, bike and pedestrian activities) and unregulated access to the Reserve has contributed to soil disturbance, soil compaction, erosion, habitat degradation, weed invasion and the loss of significant flora species. The Management Plan outlines a System of both shared and pedestrian-only trails within Bunjil.

These recommendations address the need for the conservation management of significant species and habitats and for their protection through such measures as weed management, fire management, soil conservation, rationalisation of access and management of pest animals.

2.1 Recommendations for Bunjil Reserve

1. Cultural heritage protection	Priority
<p>When removing the modern rubbish in the vicinity of the Bunjil Artefact Scatter, either: Have the consultant archaeologist mark out the area of the scatter and clearing activities, then avoid; or apply to Heritage Victoria for a 'Consent to Damage' whereby it may be possible to remove all the rubbish in the area, including that comprising the scatter.</p>	Low
2. Soil conservation and hydrography	
<p>Undertake erosion control in the following areas:</p> <ul style="list-style-type: none"> Rodger Road entrances Boundary along Rodger Road Tracks throughout Reserve. 	High
<p>Undertake works on hill-slope tracks to slow water flow and to divert it from vegetation.</p>	High
<p>Stabilise roadside vegetation along Reserve boundaries to reduce runoff rates and impede erosion. Ensure that appropriate drainage culverts are created and maintained with minimal disturbance.</p>	Medium

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

2.1 Recommendations for Bunjil Reserve (continued)

3. Vegetation conservation	Priority
Manage biodiversity hot spots as a priority, maintain the existing condition of core retention areas and rehabilitate degraded areas.	High
Undertake regeneration works in the following areas: <ul style="list-style-type: none"> • Western Rehabilitation zone • Eastern Long Gully creek line • Weed hot spots as identified in pest plant section in Appendix 2. • Rodger Road entrances • Southern boundary. 	High
Undertake measures for the protection of individual species as recommended by Frood (2003).	High
Erect exclusion fencing around small populations of significant species.	High
Map weed fronts in all areas that have been identified as requiring regeneration management.	High
Set up and implement a system for regular monitoring of populations of significant species.	Medium
Undertake flora and habitat surveys of biological hot spots every five years.	Medium
Monitor the health of vegetation at Bunjil Reserve and take action should signs of dieback or other decline appear.	Medium
Plant indigenous species in these highly degraded areas: <ul style="list-style-type: none"> • Rodger Road (106) entrance • Dam and Chinaman's Gully at Rodger Road (106) entrance • Small dam along Rodger Road. Some areas along Long Gully Creek line as follow up to broad scale weed control of ground flora weed species.	Low
Investigate ecological burning in the northern section of the Reserve, hillcrest and slopes or alternatively conduct small ecologic burns in areas which have been secured from grazing by the erection of rabbit-proof fencing.	Low
4. Habitat and fauna conservation	
Undertake formal fauna survey.	Medium
Design and implement a monitoring methodology after the fauna survey has been completed when species and specific issues have been identified.	Low
5. Pest plants	
Keep biodiversity hot spots weed free.	High
Undertake weed control as indicated in Appendix 1 (Section 2).	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

2.1 Recommendations for Bunjil Reserve (continued)

6. Pest animals	Priority
Survey and map rabbit warrens throughout the Reserve.	High
Undertake a carefully planned rabbit control program.	High
Monitor Bell Miner populations and their impacts.	Low
7. Fire risk management	
Maintain internal access tracks from Rodger Road and from Bishops Road to accommodate fire tankers.	High
Maintain fuel hazard and fire breaks as per Hester (2004) and Simmons and Adams (2009) recommendations.	High
8. Services	
Restrict management and emergency vehicles to existing management tracks from Rodger Road and from Bishops Road.	High
Place small logs at opposing angles at the base of vegetation along Reserve boundaries particularly along entrance points.	High
Create appropriate drainage culverts and maintain them with minimal disturbance.	Low
9. Coordinated management	
Liaise with the adjoining neighbours including Parks Victoria and Melbourne Water with a view to establishing an integrated approach to bushland management programs particularly to integrate rabbit control measures.	Medium
10. Recreation and access	
Implement recommendations for trail use for Bunjil Reserve as set out in Part D of the Management Plan.	High
Establish the PHBRS User Group to act as a reference group for Council to provide ongoing advice about recreation use.	High
Erect signs informing visitors to Bunjil about permitted recreation activities.	High
Where required, strategically locate structural barriers such as gates, corrals, fences and logs to limit deviation from designated trails.	High
Where required, install erosion mitigation, trail hardening structures or steps in low lying areas or on steep slope.	High
Maintain access points for maintenance and emergency vehicles on Rodger Road (2) and Bishops Road.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

2.1 Recommendations for Bunjil Reserve (continued)

10. Recreation and access	Priority
Reinstate fence along southern boundary of the Reserve (along Rodger Road) as required to restrict access to formal entrances only.	High
Where required, strategically locate structural barriers such as gates, fences, corrals and bollards at public access points to allow for permitted recreational activities only.	High
Inform adjoining property owners with Reserve access about appropriate uses of access points.	Medium
Remove internal fences to allow unimpeded faunal movement.	Medium
Where required, install erosion mitigation, trail hardening structures or steps in low lying areas or on steep slope.	High
11. Securing adjacent land	
Investigate the incorporation of Crown Land at 20 Merrits Road into the Reserve if it meets management objectives for Bunjil Reserve.	High
Investigate the incorporation of Crown Land along Long Gully into the Reserve if beneficial to implementing management programs.	Low
12. Community education and involvement	
Establish the PHBRS User Group to act as a reference group for Council to assist with developing increased participation in volunteer activities.	High
Liaise with the Friends of PHBRS with a view to establishing a friends group specifically for Bunjil Reserve.	Medium
Devise a strategy for recruiting members of the local community to a friends group.	Medium
Investigate opportunities for running occasional planting days in heavily degraded areas in cooperation with neighbouring property owners.	Low
13. Rubbish dumping	
Plan proposals for rubbish removal taking into account.	Low
Monitor rubbish dumping and issue infringements where required.	Ongoing
Include advice on signs requesting visitors to take rubbish home.	High
14. Research	
Assess the key research needs for the Reserve.	Low
Implement a research program ensuring that results are accessible to Council for use in management of the Reserve.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

3. GAWA

Gawa is a linear creek line Reserve of approximately five hectares. The northern boundary of Gawa Reserve is at the bridge on the Eltham-Yarra Glen Road (Melway 272 D5). The Reserve stretches for about one kilometre downstream along Watsons Creek, which defines its eastern boundary. The western boundary adjoins private property located along Bills Track. Most of the land on these properties has been cleared and grazed.

Gawa Reserve is managed as a bushland conservation area and habitat corridor.

Gawa Reserve has value primarily by virtue of its position along Watsons Creek. The Reserve is part of an important habitat link along Watsons Creek south to the Yarra River; north along the Long Gully Creek link to Diamond Creek; and north-east along the roadside and private bushland of the Eltham-Yarra Glen Road. These stretches of bushland form a major habitat network between the Yarra River and the Kinglake Ranges.

The primary aim for management of this Reserve must be conservation and rehabilitation of the bushland habitat, with a particular emphasis on maintaining and extending viable faunal habitat.

Gawa, with its importance as a habitat corridor, is inappropriate for public recreation. There should be little or no public access.

As there have been no recordings of threatened flora or fauna within Gawa Reserve, the primary objective for Gawa Reserve is solely to conserve the natural ecosystems and environments.

In addition, due to limited public access being available into these Reserves, recreational and appreciation activities are difficult. Therefore, secondary management objectives are solely to provide opportunities for scientific research and to apply the results to the management of the Reserve.

3.1 Recommendations for Gawa Reserve

1. Cultural heritage protection	Priority
No specific recommendations.	
2. Soil conservation and hydrography	
Undertake an engineering assessment on the culverts draining from Bills Track and undertake works to address high water flows.	High
Investigate measures to slow and locally retain stormwater flows along roadsides before it flows down slope within the Reserve.	High
Encourage private landowners to revegetate, particularly bare areas and drainage lines (natural or constructed) with ground covers such as grasses and other tussocks.	Medium
Block existing Kangaroo crossings where these are causing damage.	Low



PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

3.1 Recommendations for Gawa Reserve (continued)

3. Vegetation conservation	Priority
Retain reference areas and rehabilitate degraded areas.	High
Undertake rehabilitation measures in the northern section of the Reserve.	High
Undertake some planting with grasses, other appropriate ground flora and small shrubs on eroding areas.	High
Undertake slashing in the southern end of the Reserve.	Medium
4. Habitat and fauna conservation	
Undertake rabbit control within Gawa Reserve.	High
Undertake weed control and erosion works.	High
Protect adjacent vegetation and wildlife corridors within surrounding land as part of greater habitat network.	Medium
5. Pest plants	
Undertake a weed control program focusing on Watsonia, Angled Onion, Japanese Honeysuckle and English Ivy as a priority.	High
Undertake weed control in core retention sections and in the highest quality areas.	High
6. Pest animals	
Devise and implement a rabbit control program.	High
Install fencing along the western side of the Reserve to prevent unauthorised access.	High
7. Fire risk management	
Formalise emergency access through private properties along Bills Track and investigate accessibility to eastern side of creek.	High
Slash grass areas on a biennial rotation along verge of creek side vegetation on south-eastern boundary of Reserve.	High
8. Services	
No specific recommendations.	

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

3.1 Recommendations for Gawa Reserve (continued)

9. Coordinated management	Priority
Educate landowners of neighbouring properties to prevent or reduce the incursion of weeds into the Reserve via unmanaged weed populations on adjacent private property and dumping of garden waste.	High
Initiate an integrated approach to Watsonia control with the Parks Victoria and Melbourne Water on the eastern side of Watsons Creek.	High
Liaise with adjoining landowners to establish a coordinated rabbit control program.	High
Support property owners to undertake revegetation on adjacent properties.	Medium
Assist the property to the west of the northern section of the Reserve with preparation of a revegetation plan to provide a buffer for the Reserve.	Low
10. Recreation and access	
Continue the agreement with the adjacent landowner for access.	High
The Reserve boundary should be clearly marked or fenced as required and adjoining landowners informed about appropriate use of Council Reserve.	High
11. Securing adjacent land	
No specific recommendations.	
12. Community education and involvement	
No specific recommendations.	
3. Rubbish dumping	
Remove rubbish, monitor rubbish dumping and issue infringements where required.	Ongoing
Initiate an education campaign regarding green waste for local residents.	Low
14. Research	
Make the Reserve available for research where relevant.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

4. WIMBI

The approximate 12 hectare Wimbi Reserve is located at Long Gully and Howards Road, Panton Hill. The northern section of the Reserve begins at the junction of Howards and Blue House Roads. Long Gully Creek and the extension of Blue House Road (emergency track) define the eastern boundary. The western boundary adjoins private property. The southern boundary travels along Long Gully Road.

Wimbi is one of the smaller Reserves within the Panton Hill Bushland Reserve System located mid catchment. A number of studies have identified Wimbi Reserve as comprising high habitat conservation values (Beardsell, 2001; Beardsell, 1997; Frood, 2003). Although Frood (2003) and Beardsell (2001) identified some priority species in the Reserve, no rare or threatened species have been located.

Wimbi Reserve derives its value from its position as part of the Long Gully Link faunal corridor (an important management unit within the Panton Hill Bushland Reserve System), its range of different habitat niches and its areas of relatively intact vegetation. It also has significant cultural heritage values which require protection.

The Reserve contains areas of severely degraded vegetation, particularly along drainage lines, horse riding tracks, and along Long Gully Creek. Weed invasion and tree dieback are the major management issues for Wimbi.

Frood (2003) saw the management direction for Wimbi Reserve as conservation with an emphasis on rehabilitation. He argues that this Reserve is not the top priority of the Reserves in the PHBRS, but believed that weed control works already begun should be continued.

The primary goal for this Reserve is conservation management, designed to protect its natural ecosystems and environments. Therefore the sole primary management objective at Wimbi is to conserve its natural ecosystems and environments.

All three secondary management objectives highlighted in the Management overview (Section One 3.0) are applicable at Wimbi.

As with the other Reserves in the System, recreational activities must be actively managed to ensure they are compatible with conservation objectives. Opportunities exist to use the disused road reserve along the eastern boundary of Wimbi for recreational activities while protecting conservation values. There is potential for community restoration projects and interpretation activities focusing on a cultural heritage site.



Bunjil Creek



PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

4.1 Recommendations for Wimbi Reserve

1. Cultural heritage protection	Priority
Avoid undertaking rabbit eradication activities involving disturbance of the ground surface within the stone and mud walled compound.	Ongoing
Investigate undertaking an archaeological excavation of the Freeman Homestead site.	Low
Avoid undertaking significant stabilisation works at the Freeman Homestead and instead adopt less intrusive methods.	Low
2. Soil conservation and hydrography	
Undertake erosion control in the following areas: <ul style="list-style-type: none"> • Howards Road entrance • junction of Howards and Bluehouse Road • the boundary along Long Gully Road. 	High
Stabilise roadside vegetation along Reserve boundaries to reduce run off rates and impede erosion. Construct appropriate drainage culverts.	High
Stabilise and rehabilitate the boundary and eastern track throughout the Reserve. Repair gully erosion along eastern track.	High
Install a small length of boardwalk over the path where gully erosion is very deep. Allow for natural regeneration of ground flora.	High
Place logs along the gully from private property to slow water flow and catch sediment and debris.	High
Undertake works to north-west hillcrest and lower slopes to slow water flow and to divert it from vegetation. Place logs in strategic positions, using existing fallen timber.	High
3. Vegetation conservation	
Retain and manage as a priority the biodiversity 'hot spot' and maintain the existing condition of core reference areas and rehabilitate degraded areas.	High
Undertake further assessment and analysis of dieback and tree health decline in the Reserve.	High
Monitor the health of vegetation at Wimbi Reserve and take remedial action should further signs of dieback or other decline appear.	Medium
Consider a control burn regime once rabbit populations have been controlled.	Medium
Undertake revegetation in the following highly degraded areas: <ul style="list-style-type: none"> • Long Gully road entrance • Drainage line and dam in the north western section • New Chum gully (gradually following weed control and stabilisation) • North-western section • South-western corner. 	Medium
Set up and implement a System for regular monitoring.	Low
Undertake research, assessment and monitoring of the Bell Miner population.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

4.1 Recommendations for Wimbi Reserve (continued)

4. Habitat and fauna conservation	Priority
Undertake a formal fauna survey.	Medium
Design and implement a monitoring methodology after the fauna survey has been completed when species and specific issues have been identified.	Medium
5. Pest plants	
Keep the biodiversity hot spot weed free.	High
Undertake weed control as indicated In Appendix 1 (Section 2).	High
Monitor Burgan stands for the development of monoculture and the inhibiting of regeneration.	Ongoing
6. Pest animals	
Assess rabbit numbers and distribution. Survey and map warrens throughout the Reserve.	High
Undertake a rabbit control program.	High
Monitor Bell Miner populations and their impacts.	Low
7. Fire risk management	
Maintain slashed area in north western corner of the Reserve from Howards Road.	High
Ensure that vehicles and fire control techniques do not damage the soil of the cultural heritage site. Inform the CFA about the location of the cultural heritage site and discuss protection.	High
Formalise strategic fire control access points.	High
Develop and implement rehabilitation programs for post fire effects.	Medium
8. Services	
Develop and install appropriate drainage culverts in Howards Road and Long Gully Road	Medium
Develop appropriate entrance points to Wimbi Reserve.	Medium

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

4.1 Recommendations for Wimbi Reserve (continued)

9. Coordinated management	Priority
Implement an integrated management approach for rabbit control involving private and public landowners.	High
Liaise with adjoining private and public landowners with a view to negotiating an integrated approach to pest plant issues.	Medium
Establish liaison with property owners at the Howard Street entrance, with a view to integrated management where the property adjoins the Reserve.	Medium
6. Recreation and access	
Implement recommendations for trail use for Wimbi Reserve as set out in Part D of the Management Plan.	High
Erect signs informing visitors to Wimbi about permitted recreation activities.	High
Establish the PHBRS User Group to act as a reference group for Council to provide ongoing advice about recreation use.	High
Where required, strategically locate structural barriers such as fences, gates, corrals and logs to limit deviation from designated trails.	High
Fence the southern boundary.	High
Formalise access in Long Gully Road - in the southwest corner of Long Gully Road, the corner of Long Gully Road and Broad Acres Road and Howards Road by installing bollards for pedestrian access and signs.	High
Maintain emergency and maintenance access from Howards Road only.	High
Where required, install erosion mitigation, trail hardening structures or steps in unavoidable low lying areas or areas of steep slope.	Low
11. Community education and involvement	
Establish the PHBRS User Group to act as a reference group for Council to assist with developing increased participation in volunteer activities.	High
Liaise with the Friends of Panton Hill Bushland Reserve System with a view to establishing a friends group specifically for this Reserve.	Low
Devise a strategy for recruiting members of the local community to such a friends group.	Low
Consider running occasional planting days in heavily degraded areas in cooperation with neighbouring property owners.	Low

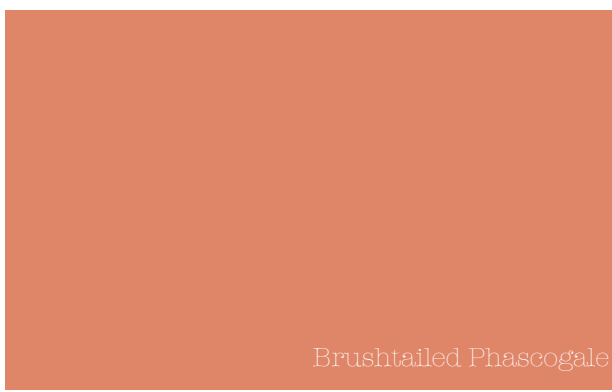
PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

4.1 Recommendations for Wimbi Reserve (continued)

12. Securing adjacent land	Priority
Investigate closing the road along between Blue House Road and Howards Road to all but emergency vehicles and incorporating its management into Wimbi Reserve.	Low
Investigate the incorporation of Crown Land into the Reserve where beneficial to implementing management programs.	Low
13. Rubbish dumping	
No specific recommendations.	
14. Research	
Make the Reserve available for research where relevant.	Low



Diruis Sulphurea



Brushtailed Phascogale



PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

5. WURRAN

Wurran is the smallest of the PHBRS Reserves and like Gawa is a narrow creek line Reserve. It is immediately south of and adjoining Long Gully Reserve, which in turn joins Bunjil Reserve. Other bushland that adjoins Wurran includes the Long Gully roadside reserve, Long Gully Creek, and within private property bushland on the western boundary. The private property across Long Gully Road to the east is predominately cleared.

Habitat values constitute the primary significance of Wurran Reserve as it provides good habitat for wombats, birds and sugar gliders. Its geographic position on Long Gully Creek also means that it has significance as a strategic habitat link, being part of the Long Gully Habitat Link discussed elsewhere in this Plan (see Appendices).

Management emphasis will be on conservation and rehabilitation, specifically with management of CALP and

herbaceous and grassy weeds. Other than weed invasion, the invasion and spread of rabbits is possibly the most significant degrading process occurring in the Reserve. This is particularly evident along the creek where rabbit activity contributes to erosion.

According to Froud (2003), of the Reserves of the PHBRS, Wurran is a low priority for management. The primary thrust of management should be rehabilitation with specific management of listed CALP weeds.

The primary management objective is to conserve natural ecosystems and environments in the Reserve. Because of its particular topography terrain – hummocky from mining history – offers very limited recreation possibilities. Therefore the secondary management objective is solely to provide opportunities for scientific research.

5.1 Recommendations for Wurran Reserve

1. Cultural heritage protection	Priority
Non-ground disturbing techniques of rabbit eradication should be adopted throughout the Reserve.	High
If trees need to be removed for weed control purposes, then the least ground disturbing method should be adopted, rather than physical removal of the tree trunk and roots.	High
2. Soil conservation and hydrography	
Assist Melbourne Water with reporting of deteriorating bank condition to ensure erosion control is undertaken where appropriate.	High
Stabilise and rehabilitate tracks throughout Reserve.	High
Implement rabbit control program.	High
Stabilise roadside vegetation along Reserve boundaries to reduce runoff rates and help control erosion. Drainage culverts should be constructed and maintained with disturbance minimised.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

5.1 Recommendations for Wurran Reserve (continued)

3. Vegetation conservation	Priority
Fence significant species where appropriate for their management.	High
Control ground flora weeds around significant plants.	High
Undertake enrichment planting where appropriate.	Medium
Monitor tree health.	Ongoing
Apply any contemporary research regarding Bell Miners to assist with management and reversal of tree decline.	Ongoing
4. Habitat and fauna conservation	
Undertake a formal fauna survey.	High
Ensure any fencing installed is designed to allow faunal movement.	High
Undertake weed control as recommended (see Appendix 1, Section 2).	High
Design and implement a monitoring methodology after the fauna survey has been completed when species and specific issues have been identified.	Medium
Protect vegetation links and wildlife corridors within surrounding land.	Medium
5. Pest plants	
Initiate integrated management (with Melbourne Water) of infestations of Watsonia and Blackberry and other weed species, particularly along the western creek bank and adjacent private bushland and observe restrictions surrounding heritage sites.	High
Prioritise control of Spanish heath, bulbous weeds and Bridal Creeper in the northwest area.	High
Check the Reserve annually for Bridal Creeper and remove.	High
Continue with control of CALP weeds.	High
In cooperation with Melbourne Water, undertake control of Angled Onion and other bulbous weeds without disturbing wombat habitat in the creek bed.	Medium
Defer broad-scale blackberry control until rabbit numbers are reduced.	Medium
Arrange for road drainage culverts to be redesigned to protect bushland from disturbance from runoff.	Medium

PART C:

5.1 Recommendations for Wurran Reserve (continued)

6. Pest animals	Priority
Undertake a rabbit control program.	High
Liaise with private and public landowners to coordinate rabbit control measures.	High
Maintain blackberries as alternative harbour until rabbit numbers have been reduced.	High
Set up and implement a System for regular monitoring of Bell Miner populations.	High
7. Fire risk management	
Undertake additional slashing of Long Gully Road.	High
Identify water supplies for fire suppression.	High
8. Services	
Restrict vehicular access from private property on the western bank to allow maintenance and emergency vehicles only.	High
Install sediment traps on culvert outlet and undertake weed control in the immediate vicinity.	Medium
9. Coordinated management	
Liaise with the adjoining neighbours with a view to establishing an integrated management approach to bushland, particularly for the western and northern boundaries of the Reserve. While the bushland is continuous, a fence may delineate the boundary, although the majority is unfenced.	High
Liaise with and integrate land management programs with adjoining public land managers, in particular, Parks Victoria and Melbourne Water.	High
10. Recreation and access	Priority
Delineate Reserve boundaries with bollards or strategic fencing where necessary.	High
Vehicle access within the Reserve to be restricted to maintenance works vehicles and emergency access only.	High
Install signage at prominent location along Long Gully Road.	High
11. Securing adjacent land	
Investigate the incorporation of Crown Land into the Reserve if beneficial to implementing management programs.	

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

5.1 Recommendations for Wurran Reserve (continued)

12. Community education and involvement

Priority

No specific recommendations.

13. Rubbish dumping

Monitor rubbish dumping and issue infringements where required.

Ongoing

14. Research

Promote the Reserve to research agencies as a site for biological and ecological research.

Low



PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6. YANGGAI

Yanggai is in the upper catchment of the Panton Hill Bushland Reserve System. Yanggai Reserve is tucked into the south-east corner of the nationally significant Boomers Reserve managed by Parks Victoria and provides an important extension of this habitat. Boomers Reserve is to the north of Yanggai and Wimbi Reserve is to the south.

The main entrance to Yanggai is in Howards Road, Panton Hill. The northern boundary adjoins Boomers Reserve; the remaining boundaries adjoin Blue House Road, Howards Road and private property.

Yanggai East has an entrance off the disused section of Blue House Road. The northern boundary of the Reserve adjoins Crown Land, which in turn joins Bulwidj Reserve. Other boundaries adjoin private property.

Yanggai Reserve is a triangular area of 19 hectares Yanggai East is a narrow linear Reserve of four hectares Yanggai and Yanggai East are considered as one Reserve through this report. It has connections to other public Reserves. Vegetation links to remnant roadside reserves occur along Howards and Blue House Roads.

Yanggai Reserve is adjacent to the south-east corner of the nationally significant Boomers Reserve and provides an important extension of this habitat. While a further

botanical survey is required for Yanggai and Yanggai East to determine the full extent of botanical values, in the meantime, there is no doubt that the Reserves have high value as a wildlife corridor and this forms its primary value at this stage, pending further botanical survey.

Over much of the Reserve’s weed invasion and the development of extensive stands of Burgan compromise the quality of vegetation. Woody weeds are a major concern, forming monocultures in some areas and initial management needs to emphasise their control.

Yanggai East is managed as a bushland Reserve and not apparently used by the public. Yanggai is managed as a public bushland Reserve and incorporates a recreation area and a conservation area.

As there were have been no recordings of threatened flora or fauna within Yanggai Reserve, the primary objective for Yanggai is solely to conserve natural ecosystems and environments.

All three secondary management objectives highlighted in Part B are applicable at Yanggai.

Frood (2003) comments that the primary focus of management should be towards rehabilitation, with an emphasis on continuing the woody weed control already started.

5.1 Recommendations for Yanggai Reserve

1. Cultural heritage protection	Priority
Where possible, adopt non-ground disturbing techniques of rabbit control throughout the Reserve.	High
If trees need to be removed for weed control purposes, then the least ground disturbing method should be adopted, rather than physical removal of the tree trunk and roots.	High
The Heritage Overlay of the Nillumbik Planning Scheme shows this site (listed as HO 12) as covering the southern portion of the north-eastern ‘arm’ of the Reserve. However, this study has demonstrated that the site extends across the entirety of this portion of the Reserve; it is recommended that the Heritage Overlay therefore be amended accordingly.	Medium
2. Soil conservation and hydrography	
Monitor for erosion problems and undertake erosion control where necessary and possible.	High
Halt active gully erosion midway along south side of Long Gully Creek. Encourage and facilitate the private landholder to revegetate bare ground and divert the water flow away from the bare area and gully head with a shallow swale constructed along the contour.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yanggai Reserve (continued)

2. Soil conservation and hydrography	Priority
Place part-buried logs across slopes to slow run-off occurring from within this area.	High
Stabilise and rehabilitate trail and monitor and manage any erosion-causing recreational activities through improved trail definition, fencing or other measures.	High
Undertake works to hill-slope tracks to slow water flow and divert it from vegetation.	High
Implement rabbit control programs to assist vegetation cover and mitigate loss of topsoil.	High
Ensure drainage culverts are constructed and maintained with minimal disturbance.	Medium
3. Vegetation conservation	
Maintain the existing condition of core retention areas and rehabilitate degraded areas.	High
Undertake a further botanical survey of the Reserve.	Medium
Liaise with nearby private and public landowners with a view to developing an integrated fire management program.	Medium
Revegetation be undertaken in and limited to the following highly degraded areas: <ul style="list-style-type: none"> • Yanggai: open area southern corner • Yanggai: open area western corner • Yanggai: south eastern boundary – a buffer to be created with neighbouring properties. 	Medium
Consider a control burn regime in Yanggai once rabbit populations have been controlled.	Low
4. Fauna conservation	
Undertake formal fauna survey.	Medium
Design any fencing to allow faunal movement both underneath and over.	High
Protect vegetation links and wildlife corridors within surrounding land as part of greater habitat network.	High
Design and implement a monitoring methodology after the fauna survey has been completed when species and specific issues have been identified.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yanggai Reserve (continued)

5. Pest plants	Priority
Undertake weed control. Non-ground disturbing techniques to be used around sites of cultural heritage.	High
Ensure priority for weed control is assigned to the core area.	High
6. Pest animals	
Undertake a rabbit control program that will not compromise native fauna nor cause soil erosion.	High
Liaise with neighbouring property-holders to coordinate rabbit control.	High
Set up and implement regular monitoring of Bell Miner populations.	Low
7. Fire risk management	
Liaise with Parks Victoria with the intention of integrating fire management strategies between Yanggai Reserve and Boomers Reserve.	High
Widen the existing slashed fire break in grassland along southern boundary to eight to 10 metres wide and maintain annually and especially before the beginning of the fire period.	High
Designate the area of the Reserve including the road reserve off Howards Road to within 10 metres of the gully below as Fire Management Zone 2. Aim to have this part of the Reserve managed with an overall fuel hazard rating of High over 80 per cent of its area via the application of prescribed burns.	High
8. Services	
No specific recommendations.	
9. Coordinated management	
Liaise with the adjoining neighbours with a view to establishing an integrated management approach to bushland, particularly the property on the eastern boundary of the Reserve (currently unfenced) and properties along western boundary (fenced).	High
Encourage and facilitate the private landholder along the south side of Long Gully Creek to revegetate bare ground and divert the water flow away from the bare area and gully head with a shallow swale constructed along the contour.	Medium

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yanggai Reserve (continued)

10. Recreation and access	Priority
Implement recommendations for trail use for Yanggai Reserve as set out in Part D of the Management Plan.	High
Erect signs informing visitors to Yanggai about permitted recreation activities.	High
Establish the PHBRs User Group to act as a reference group for Council to provide ongoing advice about recreation use.	High
Where required, strategically locate structural barriers such as gates, corrals, fences and logs may be required to limit deviation from designated trails.	High
Where required, install erosion mitigation, trail hardening structures or steps in unavoidable low lying areas or areas of steep slope.	High
Ensure fencing of the Reserve limits access to management vehicles and permitted recreational activities only.	High
Maintain management access at Yanggai East (at the southern end from Blue House Road).	High
Relocate signage to Howards and Blue House Road entrance.	High
Install bollards at public access points to allow for permitted recreational activities only.	High
Investigate the installation of a gate in the south western corner of the Reserve adjoining private property for maintenance access only.	Medium
Realign the existing main Reserve trail to avoid excessive runoff and channelling.	Medium
11. Community education and involvement	
Establish the PHBRs User Group to act as a reference group for Council to assist with developing increased participation in volunteer activities.	High
Liaise with the Friends of PHBRs with a view to establishing a friends group specifically for Yanggai Reserve.	Low
Consult members of the Friends of PHBRs about conducting a series of 'walk and talk' or similar activities with a view to recruiting members of the local community for the new friends group.	Low
12. Securing adjacent land	
Investigate the incorporation of the narrow strip Crown Land running along the gully between Bulwidj and Yanggai East into the Reserve.	Low
Investigate limiting the fire access track on Blue House Road to emergency vehicles only and incorporating the land into the Reserve.	Low
13. Rubbish dumping	
Monitor rubbish dumping and issue infringements where required.	Ongoing
14. Research	
Promote the Reserve to research agencies as a site for biological and ecological research.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

7. YIRRIP

Yirrip is 22 hectares approximately and is located in Panton Hill. Yirrip is located to the southwest of the other Reserves in the lower catchment of the PHBRS. Of the Reserves within the PHBRS, Yirrip is the most physically isolated from the other Reserves. Couties Road, Koos Road and Kings Road form three boundaries. Private property forms the southern edge. Formal entrances to the Reserve are off Couties and Koos Roads. The northern hillcrest provides a panoramic view in almost all directions – the best view within the PHBRS.

The Reserve also has significant habitat value as a regional network link and is home to one endangered fauna species, the Speckled Warbler.

Nillumbik Shire Council currently manages the Reserve as a bushland reserve of significant conservation value. This report endorses the view of Froud (2003) that the management thrust for Yirrip must be conservation, with a particular emphasis on specialist management of regionally significant species.

Yirrip Reserve contains a range of vegetation, including three communities of Regional Botanical Significance. Conservation of significant flora is a priority management emphasis for Yirrip Reserve, which is notable for the presence of a number of regionally threatened species. Froud (2003) mapped the vegetation of the site and nominated one large biodiversity ‘hot spot’. Both Beardsell (2001) and Froud (2003) identified a number of significant species of flora located in Yirrip Reserve.

Major degrading processes on this site are the presence of a large population of rabbits, active erosion, pest plant invasions, tree dieback and damaging recreation activities, particularly horse riding. Many of these degrading processes are inter-related.

All five management objectives outlined in Part B are applicable at Yirrip. As with other Reserves, recreation must be consistent with conservation objectives.

5.1 Recommendations for Yirrip Reserve

1. Cultural heritage protection	Priority
No specific recommendations.	
2. Soil conservation and hydrography	
Lay bands of geotextile and natural mulch, litter and logs (from the Reserve) along the northern hill beneath the Red Ironbarks. Monitor for regeneration and plant if needed with appropriate ground covers.	High
Fence off drainage lines to prevent damage and allow regeneration of grasses and other vegetation.	Medium
Install shallow drainage culverts along the steeper sections of low slopes of the track.	Medium
Place occasional log terraces along the gully to slow water.	Medium

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yirrip Reserve (continued)

3. Vegetation conservation	Priority
Retain and manage as a priority the biodiversity 'hot spot', maintain the existing condition of reference areas and rehabilitate degraded areas.	High
Fence orchid areas as recommended by Beardsell (pers. comm. 2006) and other areas as necessary, to protect threatened species from grazing.	High
Undertake measures for the conservation of individual species as outlined by Froud (2003), including habitat restoration of the Red Ironbark area.	High
Undertake further assessment of tree dieback and vegetation health decline and take any necessary action.	High
Set up and implement a System for regular monitoring of populations of significant species.	Medium
Undertake flora and habitat surveys of biological hot spots every five years.	Medium
Undertake revegetation in the highly degraded areas.	Medium
Create vegetation buffers between degraded areas and core area.	Medium
Conduct ecological burns in the central section of the Reserve to promote regeneration.	Low
4. Habitat and fauna conservation	
Undertake a formal fauna survey.	High
Design and implement a monitoring methodology after the fauna survey has been completed when species and specific issues have been identified.	Medium
5. Pest plants	
Undertake weed control in areas where dieback is occurring.	High
Undertake weed control in the biodiversity 'hot spot' to keep weed free.	High
Undertake weed control in core and rehabilitation areas.	High
Reduce Burgan were it is forming large stands, particularly in the southern section) and revegetate with species reflecting the EVC of the area.	Low

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yirrip Reserve (continued)

6. Pest animals	Priority
Assess rabbit numbers and distribution via survey and mapping of warrens.	High
Undertake a planned rabbit control program and monitor effectiveness.	High
Rehabilitate warrens and all areas of bare soil when rabbit population has been controlled.	Medium
Set up and implement a System for regular monitoring of Bell Miner populations.	Low
7. Fire risk management	
Install a sign at the entrance at the end of Koos Road regarding dangers of entering the Reserve on days of very high and extreme fire danger.	High
Slash firebreaks on an annual basis on the northern, western and eastern boundaries of the open grassland area accessed from Couties Road.	High
Continue to slash the firebreak along the southern boundary adjacent to private property in Koos Road.	High
Conduct prescribed fires in a strip off Kings Road	High
8. Services	
No specific recommendations..	
9. Coordinated management	
Implement an integrated management approach for rabbit control involving private and public landowners.	High
Liaise with property owners on northwest boundary with gates along the fence line regarding revegetation along fence line.	Low
Liaise with property owner on southern boundary regarding some remedial and barrier revegetation work.	Low
10. Recreation and access	
Implement recommendations for trail use in Yirrip Reserve as set out in Part D of the Management Plan.	High
Establish the PHBRS User Group to act as a reference group for Council to provide ongoing advice about recreation use.	High
Erect signs informing visitors to Yirrip about permitted recreation activities.	High
Where required, strategically locate structural barriers such as gates, fences, corrals and logs to limit deviation from designated trails.	High

PART C: RECOMMENDATIONS FOR SPECIFIC RESERVES

6.1 Recommendations for Yirrip Reserve (continued)

10. Recreation and access (continued)	Priority
Where required, install erosion mitigation, trail hardening structures or steps in unavoidable low-lying areas or areas of steep slope.	High
Continue to maintain (and restore as needed) the Felix Borsari Walk and prevent it increasing in width.	High
Close and consolidate the superfluous track System as required and direct visitors along remaining tracks.	High
Where required, strategically locate structural barriers such as gates, fences, corrals and bollards to allow only permitted recreational activities and users entering at formal entrances.	High
Retain and formalise recreational entrances at Koos Road, Couties Road and Kings Road.	High
Ensure that gates along western boundary are locked to control access.	High
Provide recreational activity restrictions on information boards at Reserve entrances.	High
Establish and maintain a route into the Reserve for emergency and management vehicles.	High
Monitor recreational use impacts on trails and refer unacceptable impacts for review according to the Code of Conduct.	Ongoing
11. Community education and involvement	
Liaise with the Friends of the Panton Hill Bushland Reserve System with a view to establishing a friends group specifically for Yirrip Reserve.	Low
Devise a strategy for recruiting members of the local community to such a friends group.	Low
Establish the PHBRs User Group to assist with developing recreational education strategies developing a Code of Conduct, design and trail development, trail maintenance and monitoring use.	High
12. Securing adjacent land	
Investigate the incorporation of unused road reserves into Yirrip Reserve management.	Low
Investigate the incorporation of Crown Land on the northwest boundary into Yirrip Reserve where it meets conservation objectives for the Reserve.	Low
13. Rubbish dumping	
Remove rubbish, monitor rubbish dumping and issue infringements where required.	Ongoing
Include advice on signs requesting visitors to take rubbish home.	Low
14. Research	
Promote the Reserve to research agencies as a site for biological and ecological research.	Low

PART D: TRAIL MAPS

The following maps indicate the recommended trail routes within the five Reserves of the PHBRS. There are no trails in Wurran and Gawa Reserves.

The maps indicate those trails available for shared use and those which are endorsed for pedestrian use only. The trail in Yanggai Reserve is recommended for use by pedestrians and mountain bikes.

Continued shared use of trails in Bulwidj, Bunjil, Wimbi and Yirrip will be subject to ongoing monitoring of the impacts of use. A Code of Conduct will be finalised subsequent to this Plan to establish agreed behaviours and principles for use of these Reserves by all recreational users.

Additional works will also be undertaken to:

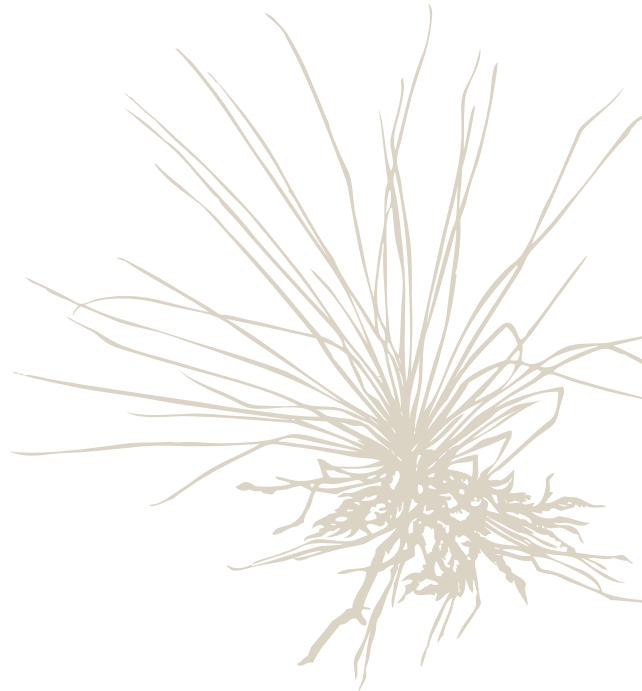
- clearly define trails and encourage all users to stay on trails and not diverge from them
- harden some sections of trails, especially steep sections that may become difficult for various users to negotiate without causing disturbance of soils or other damage
- provide safer passage over minor streams (other than those managed by Melbourne Water), while also providing better protection of stream environments.

It will also be necessary to seek confirmation of the location of one section of the trail at Bulwidj that is currently located on private property.

The establishment of a PHBRS User Group will be essential to continuing to engage with all relevant recreational users of the Reserves. The User Group may have a role in continuing to refine the Code of Conduct over time and their advice will be sought if monitoring reveals that unacceptable impacts have arisen from trail use in the Reserves.

Additional information about recreational use of the Reserves can be found in Appendix 2 (see Section 2).

- Bulwidj Reserve Recreational Trails map
- Bunjil Reserve Recreational Trails map
- Yanggai and Wimbi Reserve Recreational Trails map
- Yirrip Reserve Recreational Trails map



Bunjil landscape





Bulwidj Reserve Recreational Trails

LEGEND

- Road Reserve Trail
- Regional Trail
- Reserve Recreational Trails**
- Pedestrian
- Pedestrian & Bike
- Shared - Pedestrian, Bike & Horse
- Track Closed
- Vehicle
- Waterway
- Reserve Boundary



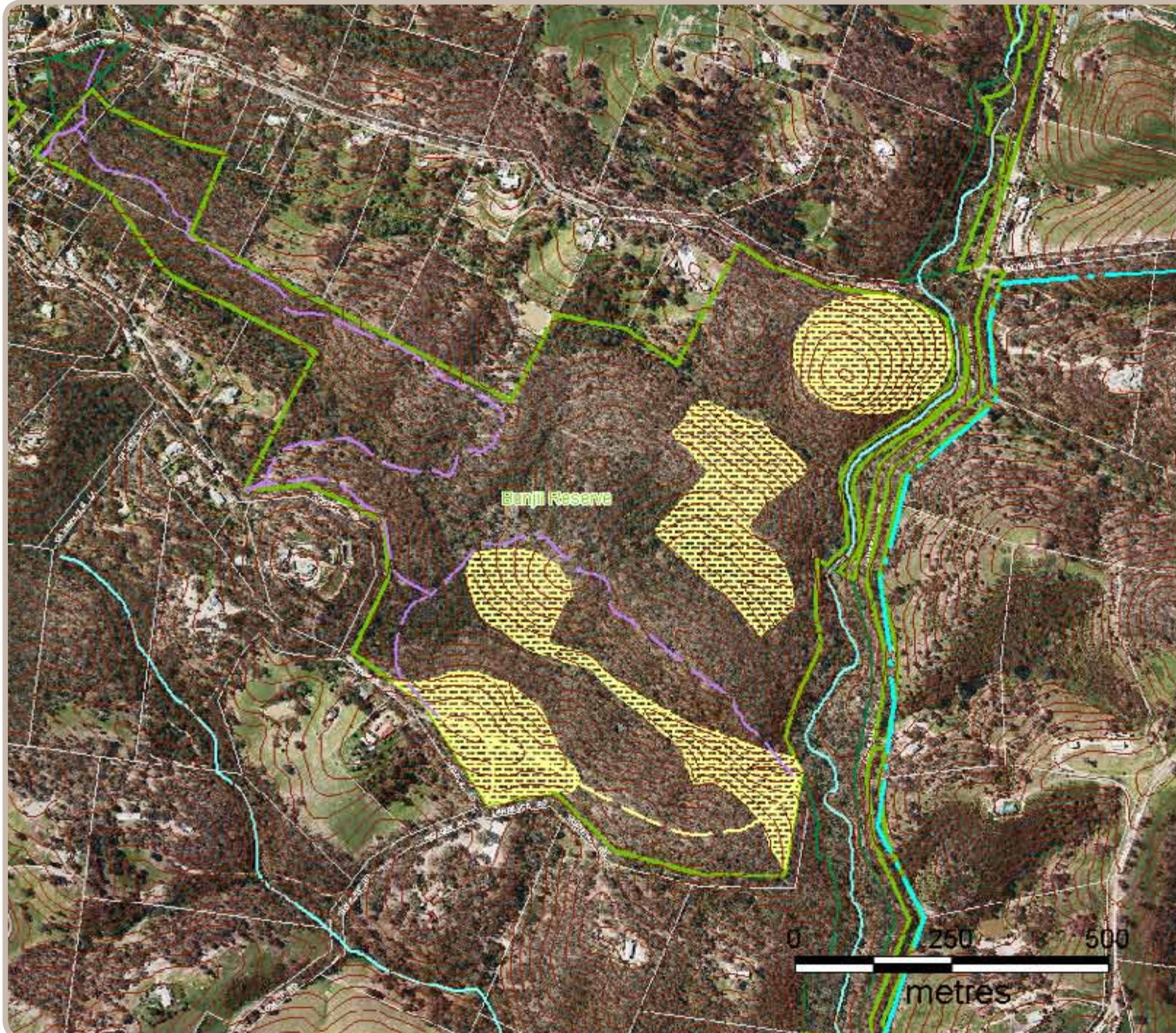
Datum: GDA 94 MGA Zone 55

Date: October 2010

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Bunjil Reserve Recreational Trails

Legend

-  Regional Trail
- Reserve Recreational Trails**
-  Pedestrian
-  Pedestrian & Bike
-  Shared
-  Biodiversity Hotspot
-  Council Reserve Boundary
-  Parks Victoria or Crown Land
-  Waterway
-  5m Contour

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Yanggai & Wimbi Reserve Recreational Trails

LEGEND

- Road Reserve Trail
- Reserve Recreational Trails**
- Pedestrian
- Pedestrian & Bike
- Shared - Pedestrian, Bike & Horse
- Waterway
- Reserve Boundary
- Biodiversity Hotspot
- 5m Contour
- Parks Victoria or Crown Land



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Yirrip Reserve

Recreational Trails

LEGEND

-  Road Reserve Trail
-  Regional Trail
- Reserve Recreational Trails**
-  Pedestrian
-  Pedestrian & Bike
-  Shared - Pedestrian, Bike & Horse
-  Waterway
-  Biodiversity Hotspot
-  5m Contour
-  Parks Victoria or Crown Land
-  Reserve Boundary



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