

# Hamilton Community Parklands Bandicoot Enclosure

## Management Plan

November 2002



Funded by The Helen & Geoff  
Handbury Fellowship Trust,  
Glenelg Region Water Authority and Glenelg Hopkins CMA

**Prepared for**  
Eastern Barred Bandicoot Recovery Team  
and the  
Southern Grampians Community  
**By Tim Burnard**

## **Acknowledgements**

The preparation of this Management Plan was overseen by the Eastern Barred Bandicoot Recovery Team and the Department of Primary Industries, South West Regional Services - Flora and Fauna.

Contributors to the plan include;

- Country Fire Authority
- Department of Primary Industries
- Friends of the Eastern Barred Bandicoot
- Glenelg Region Water Authority
- Glenelg Hopkins CMA
- Good Shepherd College
- Hamilton Field Naturalist Club
- Hamilton Institute of Rural Learning
- Hamilton Primary School
- North Hamilton Fire Brigade
- Southern Grampians Shire Council

Note that the views expressed in this document are those of the author and the Eastern Barred Bandicoot Recovery Team. They do not necessarily reflect those of individuals or bodies that contributed to this project. It is however hoped that all stakeholders will formally adopt Section 4 of this document – [‘Summary of responsibilities of stakeholders’](#).

You are encouraged to copy and disseminate this information for use by any not for profit, person or body with an interest in the Hamilton Community Parklands bandicoot enclosure.

### **Using this document;**

Highlighted text such as, [contents](#), are a link to that part of the document. To get back to where you were after clicking a hyperlink, push the back button.

All items in boxes indicate an action and who is responsible for that action. All responsibilities are summarised at the rear of this document.

***All recommendations are in bold italics. There is a summary of all recommendations at the rear of the document.***

# CONTENTS

			Page
<a href="#">Acknowledgements</a>			2
<a href="#">Executive Summary</a>			4
1.0	<a href="#">Introduction</a>	1.1 <a href="#">History</a>	6
		1.2 <a href="#">Community Engagement Process</a>	7
2.0	<a href="#">Current status</a>	2.1 <a href="#">Legal</a>	8
		2.2 <a href="#">Stakeholders</a>	8
		2.3 <a href="#">Map</a>	9
3.0	<a href="#">Management Issues</a>	3.1 <a href="#">Threatened species and communities</a>	10
		3.2 <a href="#">Other native flora and fauna</a>	13
		3.3 <a href="#">Pest plants and animals</a>	16
		3.4 <a href="#">Fire Management</a>	24
		3.5 <a href="#">Track maintenance</a>	30
		3.6 <a href="#">Public access and interpretation</a>	30
		3.7 <a href="#">Water issues/ Dam wall maintenance</a>	31
		3.8 <a href="#">Community involvement</a>	32
		3.9 <a href="#">Tourism</a>	33
4.0	<a href="#">Summary of responsibilities of stakeholders</a>	4.1 <a href="#">Southern Grampians Shire Council</a>	36
		4.2 <a href="#">Department of Primary Industries</a>	36
		4.3 <a href="#">Eastern Barred Bandicoot Recovery Team</a>	37
		4.4 <a href="#">Friends of the Eastern Barred Bandicoot</a>	37
		4.5 <a href="#">Other Stakeholders</a>	37
		4.6 <a href="#">Unclaimed Tasks</a>	38
		4.7 <a href="#">Communication between stakeholders</a>	38
5.0	<a href="#">Future works</a>	5.1 <a href="#">Potential project</a>	39
		5.2 <a href="#">Summary of recommendations</a>	40
6.0	<a href="#">References and Bibliography</a>		42
7.0	<a href="#">Attachments</a>	<a href="#">Terms of Reference</a>	

## **Executive Summary**

*The Hamilton Community Parklands cover a total area of 203ha. This plan deals only with the 100ha area inside what is known as the bandicoot enclosure. In particular, this excludes the areas covered by; Hamilton Institute of Rural Learning (HIRL), Pedrina Park, Hamilton Golf Course, the motorcycle and four-wheel drive tracks and land managed by the Glenelg Region Water Authority.*

*The Hamilton Community Parkland is a section of Public Land reserved under the Crown Lands (Reserves) Act 1978 for which the Southern Grampians Shire Council is the acting Committee of Management. A requirement of the Act is that the Committee of Management; manage, improve, maintain and control the land for the purpose for which the land is reserved.*



*Over the past two decades, the Hamilton Community Parklands has seen significant change, including the development of HIRL, erection of a predator-proof fence, listing of the grasslands under the Flora and Fauna Guarantee Act 1988, and the re-introduction of the critically endangered Eastern Barred Bandicoot (listed under the Flora and Fauna Guarantee Act 1988 and the Environment Protection and Biodiversity Conservation Act 1999). There are now more stakeholders and more management responsibilities than ever before.*

*A barrier to effective management of the bandicoot enclosure has been the lack of a formal management structure, which represents the concerns of all stakeholders. Whilst this plan makes a number of suggestions on how to better administer the many issues involved in management of the bandicoot enclosure, the most important outcome will be the formation of the Hamilton Community Parklands Bandicoot Enclosure Advisory Committee, representing all stakeholders. A draft 'Terms of Reference' for the committee is included in this document ([Attachment 1](#)). This committee will review, amend and add to the recommendations*

*made in this plan on a bi-annual basis (more often if circumstances require).*

*It is hoped that agreement reached at these bi-annual meetings will clarify the responsibilities of the many groups and individuals who have an interest in the Hamilton Community Parklands Bandicoot Enclosure.*

*The growing interest and input from new stakeholders has seen the bandicoot enclosure grow to become a significant resource that is perhaps under recognised for its potential as a valuable resource to the community. There exists an opportunity to utilise the unique qualities of the bandicoot enclosure for education in environmental studies and sustainable farming practice. Lessons learnt in the management of the bandicoot enclosure could see improved protection and enhancement of Eastern Barred Bandicoot habitat and native grasslands on private property.*

*Implementation of this plan will help realise the full economic, environmental and social potential of the Hamilton Community Parklands Bandicoot Enclosure. Unfortunately the implementation of this plan is not a foregone conclusion. With funding opportunities scarce, and the current lack of appreciation of this resource, it is possible that many of the recommendations will not be funded for some time. It will be a major challenge for the Advisory Committee to prioritise actions and continue to build community interest in the Hamilton Community Parklands Bandicoot Enclosure.*



# 1.0 INTRODUCTION

## 1.1 History

The Hamilton Community Parklands, located on the northern boundary of the city, was originally used as the Hamilton Town Common and later reserved as a 'park and gathering ground' for water supply purposes.

The parkland was permanently reserved in 1883 and the Hamilton Waterworks Trust was appointed as Committee of Management. The feeder channels, which carried water to the old town reservoir, are still evident. The circular pressure basins in the northern part of the reserve were constructed in 1905 and 1920. Pedrina Park was excised from the reserve in 1959.

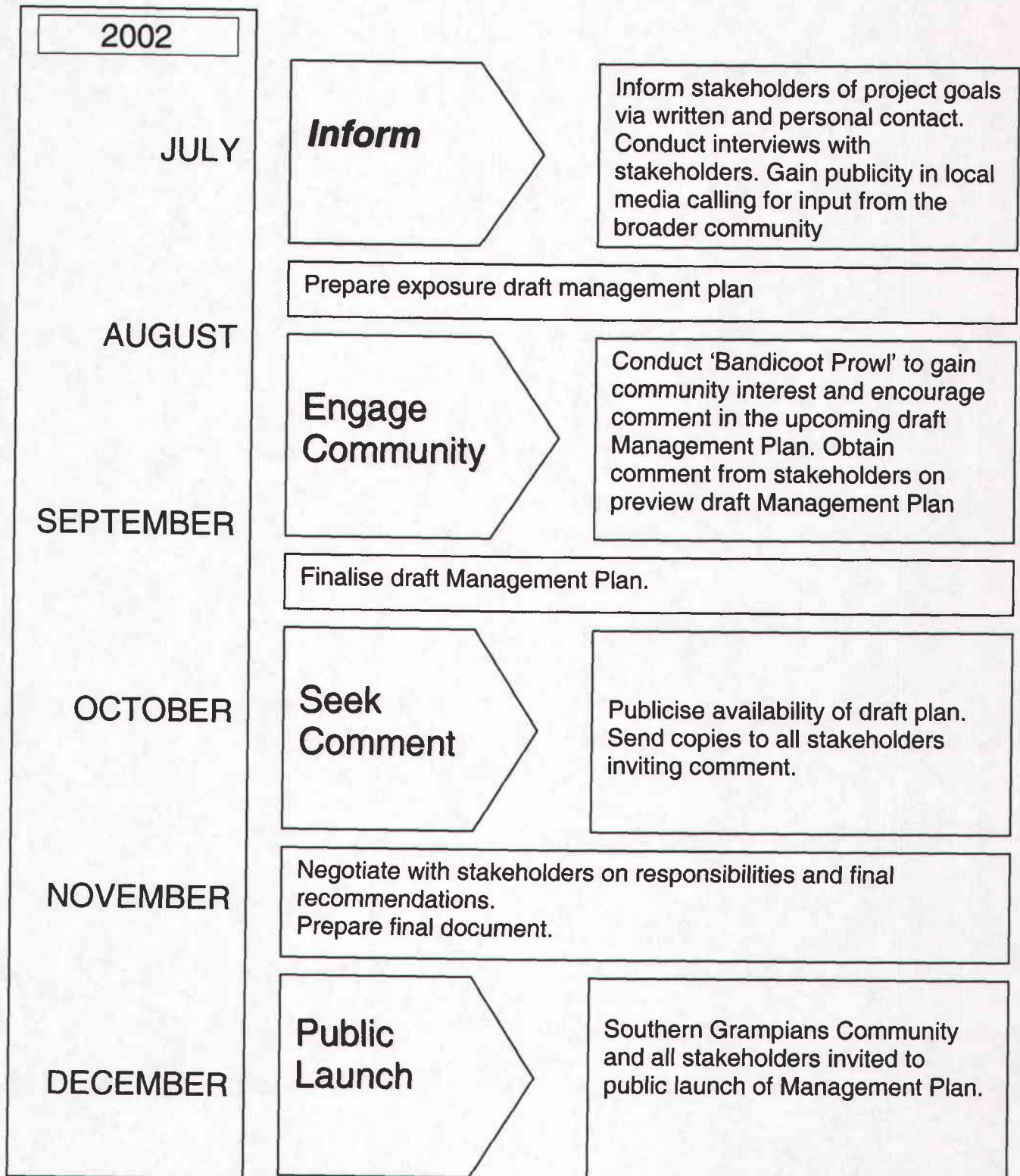
In 1982 the Hamilton City Council (now the Southern Grampians Shire Council) replaced the Hamilton Waterworks Trust as Committee of Management for the majority of the area, although the Waterworks Trust remained as Committee of Management for four of the smaller areas. The old reservoir now serves as a summer watering supply for Melville Oval, part of Pedrina Park, the Botanic Gardens, and Hamilton College oval.

The reserve has a significant amount of native grasslands within its boundaries. In the western part of the reserve native trees and shrubs have been planted. In 1986 the Minister for Conservation Forests and Lands (Joan Kirner) launched a 'predator-proof' fencing project designed to provide a predator-free area for the Eastern Barred Bandicoot, which was considered close to extinction. In 1990 the first captively bred bandicoots were released into the area now known as the bandicoot enclosure.

The Southern Grampians Shire Council remains as the Committee of Management for the Hamilton Community Parklands, however within the bandicoot enclosure, the Department of Primary Industries now play an important role in the monitoring and conservation of the Eastern Barred Bandicoot and the Western (Basalt) Plains Grassland Community.



## 1.2 Community Engagement Process



## 2.0 CURRENT STATUS

### 2.1 Legal status of Hamilton Community Parklands.

Municipality: Southern Grampians Shire Council  
Allotment: 59, 59D, 6A, 10A Section: 27 Parish of Hamilton North  
Area: 203.3ha  
Status: Park and Gathering Ground for Water Supply, Reserve.

The Hamilton Community Parklands are a section of Public Land reserved under the *Crown Lands (Reserves) Act 1978*. The Southern Grampians Shire Council has been appointed pursuant to section 14 of the Act as the Committee of Management.

Section 15 (1)(a) of the Act requires the Committee of Management to manage, improve, maintain and control the land for the purpose for which the land is reserved.

*NB The bandicoot enclosure is a 100ha fenced off area within the Hamilton Community Parklands.*

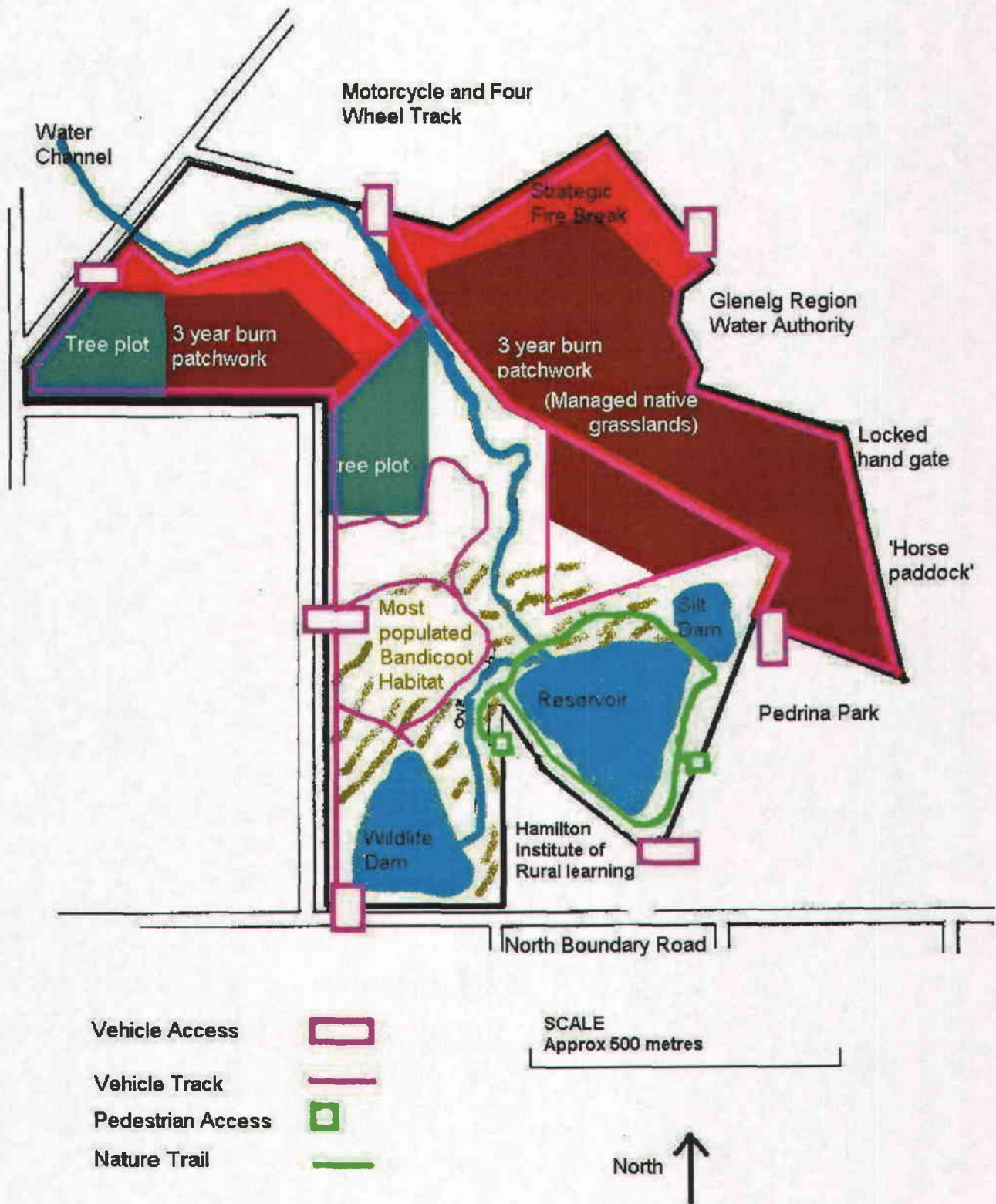
### 2.2 Stakeholders

Country Fire Authority  
Department of Primary Industries  
Eastern Barred Bandicoot Recovery Team  
Friends of the Eastern Barred Bandicoot  
Glenelg Hopkins CMA  
Glenelg Region Water Authority  
Hamilton Institute of Rural Learning  
Hamilton Field Naturalists Club  
Southern Grampians schools representative  
Southern Grampians Shire Council

***Recommendation 1: That Southern Grampians Shire Council, as Committee of Management, form and chair the Hamilton Community Parklands Bandicoot Enclosure Advisory Committee, and that all stakeholders be represented on the committee.***



## 2.3 Map



## **3.0 MANAGEMENT ISSUES**

### **3.1 Threatened species and communities**

Both the Eastern Barred Bandicoot (*Perameles gunnii*) and the Western (Basalt) Plains Grassland Community on the site are listed under the *Flora and Fauna Guarantee Act 1988*. The Eastern Barred Bandicoot is also listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

#### **The Eastern Barred Bandicoot, *Perameles gunnii* (mainland subspecies).**

The Eastern Barred Bandicoot (mainland subspecies) is critically endangered (Watson and Halley 1999), with the last known wild population occurring around the Hamilton township in western Victoria. The Eastern Barred Bandicoot is now reliant on captive breeding and reintroduction for its survival. Currently, there are five sites in Victoria where the Eastern Barred Bandicoot Recovery Team is actively managing reintroduced populations. The Hamilton Community Parklands bandicoot enclosure is one of these sites, and monitoring of this population is considered an important component in the recovery of the species.

The Eastern Barred Bandicoot has a high profile in the local community and also regionally where it is seen as a flagship species for biodiversity conservation of the western basalt plains. The management of the bandicoot enclosure at the parklands represents a major community contribution to the efforts of the Eastern Barred Bandicoot Recovery Program.



Eastern Barred Bandicoot Photo by K. Aldridge

Bandicoots were released into this enclosure after the area was cleared of existing predators. The continuing management of the Eastern Barred Bandicoot in this predator proof environment is seen as central to maintaining a wild population of the species on the mainland.

More information can be obtained from the Flora and Fauna Guarantee, Action Statement (No 04) relating to the Eastern Barred Bandicoot *Perameles gunnii* (mainland subspecies). The management of the bandicoot population at the Hamilton Community Parklands is listed under 'Intended Management Actions' in this document.

#### **Management considerations for the Eastern Barred Bandicoot in the Hamilton Community Parklands.**

The management of the bandicoot population in the Hamilton Community Parklands is covered by a Recovery Plan and managed by a Recovery Team.

The management considerations discussed in this document are only those overlapping with general management of the Parklands. Issues specific to the management of the Eastern Barred Bandicoot are not covered here.

Bandicoots require well-vegetated areas for nesting interspersed with more open areas for foraging. It is necessary that the native grasslands in the bandicoot enclosure continue to be managed to provide bandicoot habitat whilst maintaining the structural diversity of the grasslands. ([see section on Western \(Basalt\) Plains Grassland](#)).

After loss of habitat, the major threat to the survival of the Eastern Barred Bandicoot is predation by introduced carnivores, most notably domestic and feral cats and foxes. In an attempt to provide a cat and fox free environment, approximately 100 ha of the parkland has been enclosed by a 1.9 metre 'predator-proof' fence topped by an electric wire. It should be recognised that while the term 'predator proof' is commonly used for this fence, it is not 100% and occasionally the security of the fence may be breached. It is essential that the integrity of the predator-proof fence be maintained to keep these incidences to a minimum. Routine inspection and when necessary, emergency repairs must be undertaken. Future major upgrades will need to be factored and funding sought.

Maintenance of the predator-proof fence and ongoing monitoring of the Eastern Barred Bandicoot population in the Hamilton Community Parklands are the responsibility of the Eastern Barred Bandicoot Recovery Team (work is carried out by contractor). The Friends of the Eastern Barred Bandicoot act as an emergency back up when the contractor is unavailable.

### **Western (Basalt) Plains Grassland Community**

Western (Basalt) Plains Grassland is recognised as one of the most endangered vegetation communities in Victoria (Stuwe 1986, Frood and Calder 1987). It is listed as a threatened community on Schedule 2 of the *Flora and Fauna Guarantee Act 1988*.

Remnants of Western (Basalt) Plains Grassland are usually dominated by Kangaroo Grass (*Themeda triandra*), with sub-dominant grasses such as wallaby grasses (*Danthonia spp.*) and spear grasses (*Stipa spp.*). In open patches between the Kangaroo Grass tussocks there is a variety of perennial herbs, particularly composites. Woody plants are generally absent, except for occasional scattered trees and shrubs (Stuwe 1986).

Less than 5% of this community remains intact. In Victoria, clearing and the invasion of introduced grasses and other herbs has significantly altered the community, replacing a suite of largely perennial species with a high proportion of annuals (Stuwe 1986). The floristic composition of Western (Basalt) Plains Grassland is now as much a product of management history as variation in topography and soils (Stuwe & Parsons 1977).

More information can be obtained from the Flora and Fauna Guarantee, Action Statement (No 53) relating to the Western (Basalt) Plains Grassland.

The management of the native grasslands of the Hamilton Community Parklands is specifically noted in this document.

Best management practices for native grasslands are still being researched, however, research and field management experience in recent years has yielded enough information to allow the development of some useful general management recommendations (Eddy 2002). This plan makes recommendations based on the information available at the time of writing. Issues regarding fire and weed management are covered more specifically in the relative sections.



Hamilton Community Parklands bandicoot enclosure grassland Photo; John Seebeck

### **Management considerations for native grasslands in the Hamilton Community Parklands.**

'*Managing Native Grassland*' published by WWF in July 2002 (Eddy 2002) gives a summary of management recommendations. The recommendations most appropriate for the Hamilton Community Parklands are listed below

Defoliation management in summary; (some form of defoliation is essential to maintain the diverse structure and botanical composition of most native grasslands)

- avoid producing windrows or clumps of grass clippings when mowing or slashing;
- burn grassland only when soil moisture herbage mass, weather and fire regulations allow;
- burn only in patches, burning a different patch each time;

Weed management in summary

- maintain high groundcover, especially during autumn and winter to resist weed establishment;
- quarantine livestock in a weed free area before moving them onto native grassland (whilst stock are generally excluded in the bandicoot enclosure, there is the possibility that they may be accepted into the area for special purposes such as a grazing trial for defoliation purposes);
- do not introduce soil or gravel (e.g. stockpile, dump or spread) from outside the grassland area;
- ensure vehicles and machinery are reasonably clean of weed seed before entering native grassland;
- control perennial weed species by spot spraying before populations become dense;

- encourage a dense, vigorous and diverse native plant community to minimise weed invasion;

#### Soil management in summary

- avoid or minimise any physical disturbance of the soil;
- control weeds and revegetate if disturbance becomes necessary;
- do not modify the chemical fertility of the soil;
- avoid soil compaction by regular traffic along the same route by vehicles or heavy equipment, other than on the vehicle tracks shown on the [map](#);
- avoid or minimise earthworks and other development which alters drainage patterns;
- do not establish new gravel pits, or soil or gravel stockpiles in native grassland;

#### Other management suggestions

- do not plant trees in grassland areas;
- during the wetter months the bandicoot enclosure can become very boggy. Vehicles should never drive through wet sites of native grassland (Barlow 1998). There are 7 vehicle access points around the bandicoot enclosure, the use of these and the designated vehicle track, will give access to most areas. If greater vehicle access is required the use of four-wheel drive bikes could be considered, otherwise, only foot traffic is acceptable.

***Recommendation 2: The Advisory Committee should adopt a set of rules for all users of the area, based on the above guidelines, aimed at protecting the native grasslands within the bandicoot enclosure***

## 3.2 Other native flora and fauna

### ***Flora***

The remnant of woodland species found along the nature trail is a rare example of the type of vegetation typical to Hamilton prior to white settlement. Species include Sweet bursaria (*Bursaria spinosa*), Silver banksia (*Banksia marginata*), Hedge wattle (*Acacia Paradoxa*), Drooping sheoke (*Allocasuarina verticillata*) and Swamp gum (*Eucalyptus ovata*) Maintenance of this area is needed to secure heritage and environmental values.

### ***Kangaroos***

Eastern Grey Kangaroos (*Macropus giganteus*) have been in Hamilton Community Parklands since the predator proof fence was erected. The current population, estimated to be between 15 and 25, is thought to have little impact. The Department of Primary Industries will continue to monitor the kangaroo population and its impact to ensure that numbers do not threaten their own health or that of the native grassland or the



Eastern Barred Bandicoot.

**Recommendation 3: That Department of Primary Industries keep the Advisory Committee informed on the status of the kangaroo population.**

Southern Grampians Shire Council is responsible for kangaroo population management.

The monitoring work should be tied in with the duties of the current fox control operator at the Hamilton Community Parklands.

#### **Brushtail Possums**

The Common Brushtail Possum (*Trichosurus vulpecular*) has been known to overpopulate and degrade native flora from overgrazing and defoliating trees.

The Advisory Committee should discuss this issue and set a target that triggers the need for action. Monitoring is needed to alert the Advisory Committee when action is needed. The monitoring work should be tied in with the duties of the current fox control operator at the Hamilton Community Parklands.

**Recommendation 4: That Department of Primary Industries keep the Advisory Committee informed on the status of the brushtail population.**

Southern Grampians Shire Council is responsible for brushtail population management.

#### **Snakes**

Snakes hibernate in winter and are more active in the warmer months. This increase in activity is often observed by people and falsely attributed to an increase in the population.

It is unlikely that the balance in the predator/prey relationship involving snakes at the Parklands has altered, as the primary predators of snakes are the diurnal birds including Black-shouldered Kites, Brown Falcons, Kookaburras and Australian Kestrels etc. All these species of birds are common at the Parklands. It is also unlikely that the snakes present in the bandicoot enclosure, Tiger snake (*Notechis ater*) and Copperhead snake (*Austrelaps superbus*), have any impact on the Eastern Barred Bandicoot as their primary food source is amphibians.

In the past there have been safety concerns regarding snakes and people using the walking trail during the warmer months. It has been suggested that a raised walkway for some sections would provide protection from snakes. This suggestion along with how it can be funded should be considered by the Advisory Committee and could form part of a [Potential project](#), as suggested later in this document.

**Recommendation 4: That the Advisory Committee investigate funding of a project that will undertake much of the initial 'capital works' suggested for the bandicoot enclosure.**

In the meantime, the nature trail is mown by the Southern Grampians Shire Council regularly to a width of about 2 meters. This aids as a visual alert to the presence of snakes.

Occasionally, concerns have also been raised regarding the movement of snakes from the bandicoot enclosure to properties along the North Boundary Road. In an effort to quell those fears, the Friends of the Eastern Barred Bandicoot have installed shade-cloth mesh along the base of the predator-proof fence where it meets the North Boundary Road.



### **General**

Regular monitoring of all flora and fauna is an important tool in maintaining a healthy ecosystem within the bandicoot enclosure. It alerts us when things start to go wrong and rewards us when we see recorded improvements. Groups such as the Hamilton Institute of Rural Learning, Hamilton Field Naturalists, Friends of the Eastern Barred Bandicoot, Birds Observers Club of Australia (Hamilton) and local schools have and continue to have an interest in the Hamilton Community Parklands bandicoot enclosure. Their participation in the management of the bandicoot enclosure should be encouraged. In addition to ongoing maintenance of fauna records, these groups should be encouraged to assist in flora surveys that are designed to monitor the health of the grasslands. Any information gathered should be presented at bi-annual Advisory Committee meetings and be considered when making management decisions, particularly fire management.

This information could also be useful in attracting visitors by providing updated information pinned to a notice board, and species lists made available at Visitor Information Centres.

Other flora and fauna issues that can be considered by the Advisory Committee are;

- Monitoring for presence of the threatened Striped Legless Lizard (*Delma impar*) using tiles.
- Monitoring of Swamp Rat (*Rattus lutreolus*) numbers to determine potential impacts and desired population targets.
- Brushtail possum monitoring.

### **3.3 Pest plants and animals**

There are a number of issues relating to pest plant and animal control inside the bandicoot enclosure. The greatest consideration here is the protection of

the Eastern Barred Bandicoot and the Native Grasslands. The Committee of Management has a legal obligation under Section 15 of the Crown Land Reserves Act, to 'manage, improve, maintain and control the land'. It is also within the powers of the Department of Primary Industries to require the Committee of Management to control certain plants and animals.

A basic breakdown of responsibilities is that the Southern Grampians Shire Council, as Committee of Management, is required to manage declared weeds and all cats, foxes and rabbits. Due to the sensitivity of the Eastern Barred Bandicoot to predators, the Eastern Barred Bandicoot Recovery Team currently receives funding to control foxes and cats (does not include harbour destruction). Should this funding cease, the responsibility of cat and fox control will revert to the Southern Grampians Shire Council.

The Committee of Management has legal responsibility of controlling pest plant and animals in the bandicoot enclosure, however there are several other bodies that have special interests and contribute to this management responsibility.

This section outlines issues and how the various stakeholders combine to tackle the management of pest plant and animals. The information presented here is current at time of writing. Ongoing advances and changes in technology will outdate some of this information in time.

## Pest animals

### *Fox Control*

Fox control within the bandicoot enclosure is essential for the survival of the Eastern Barred Bandicoot. The control of foxes is also needed to protect the host of other wildlife present, however, due to the proximity of a residential area, there are restrictions on control options. Regular checking of the perimeter fence will ensure that electrification is maintained, and any obstruction or damage to the fence is recorded and immediately repaired.



Photo by Clive Marks

Patrolling, emergency repairs and maintenance of the perimeter fence is the responsibility of the Eastern Barred Bandicoot Recovery Team (work done by contractor). The Friends of the Eastern Barred Bandicoot provide emergency backup when the contractor is unavailable.



### ***Fox Control; Monitoring of Fox Activity***

Fox activity monitoring is needed to ensure earliest possible detection of the presence of foxes in the bandicoot enclosure. It is also used to measure the effectiveness of the control program. The Eastern Barred Bandicoot Recovery Team employs a contractor for several duties including sand pad monitoring. The monitoring program should conform to the following:

- Place sand pads across boundary tracks and internal tracks to record fox prints. Place 5 pads on the perimeter track and 4 on internal tracks (roughly equally spaced),
- Construct sand pads from 'brickies' sand. The pads should cover the entire width of the track (about 2 metres), and measure approximately 60 cm wide and 10 cm deep,
- Check sand pads on three consecutive mornings. Identify (attempt to distinguish between fox, cat, dog) and record findings before smoothing the sand over,
- Record the location of all sand pads on a map,
- Conduct this process continually throughout the year, or before and after poisoning programs or intensive control.

Analysis of data from sand pad monitoring will provide an indication of the level of fox activity within the parklands, the effectiveness of control techniques and the presence of new and invading foxes.

The Eastern Barred Bandicoot Recovery Team – (work done by contractor) conducts monitoring of fox and rabbit numbers.

### ***Fox Control; Shooting***

In the past, some success in fox control has been gained through shooting, but for a number of reasons, shooting to control foxes within the parklands has been discontinued. Recent results suggest that shooting is inefficient when comparing the time commitment to outcome against results using other methods (it once took several months to shoot a fox inside the bandicoot enclosure). It is also said that apart from fencing and poisoned baits, no other method has been tested and shown to be effective (Saunders et al. 1995), and that shooting on its own, does not seem to be effective as shooters mainly take young foxes while the older animals that probably do most of the killing soon learn to avoid shooters (Braysher et al. 1998).

If the Hamilton Community Parklands Advisory Committee sees the need to resume fox shooting in the future, it will need to be mindful of Section 130 of the Victorian Firearms Act which states that a person cannot carry or use a loaded firearm in a populous place without the written permission of the Chief Commissioner or their delegate (in this case, the District Firearms Officer located in Warrnambool). Personal communication with Hamilton Police confirmed that certain areas in Hamilton Community Parklands would be considered as a populous place and that permission to use a firearm would require written permission from the owner, in this case the Southern Grampians Shire Council, in its role of Committee of Management.

### ***Fox Control; Poisoning***

The most readily available form of poison for foxes is the commercially manufactured bait, Foxoff®. There are some concerns that with overuse, this bait can be cached by foxes, meaning that the bait can be carried away from the bait station and stored in another place, possibly never to be eaten and thus negating its effectiveness to control foxes (one vixen with two cubs in the bandicoot enclosure is said to have regularly taken 5 –7 baits each week for several weeks K. Aldridge pers.comm.). To counter this problem, the Eastern Barred Bandicoot Recovery Team alternates between liver baits and FoxOff®.

The fox control program is managed by the Eastern Barred Bandicoot Recovery Team (work done by contractor with funding currently received through the Natural Heritage Trust (NHT)).

The poisoning program detailed below was developed by the Eastern Barred Bandicoot Recovery Team in consultation with the Department of Primary Industries Catchment Management Officer Hamilton, responsible for pest plants and animals.

### ***Fox Control; 1080 poisoning program***

1080 (sodium monofluoroacetate) is a Schedule 7 poison and its use is covered by provisions of the *Agricultural and Veterinary Chemical (Control of use) Act 1992*. All requirements for its use are covered in the Department of Primary Industries publication "Directions for the use of Foxoff® in Victoria" (Landcare note: PA 0058, May 1999). The label directions override all other considerations shown below.

Details that are specific to the poisoning program in the bandicoot enclosure are;

- Approximately 25, free feed baits (that is, free of 1080 poison) are placed equally within the enclosure and recorded on a map and record sheet,
- Sand pads should be constructed around bait stations (using 'brickies' sand) so that animal prints can be detected,
- Free feeds to be checked every three days, with baits that have been taken replaced and recorded.
- All baits should be buried as with normal baiting procedure (see label directions for the use of 1080),
- After approximately two weeks when the pattern of bait take can be traced to only a few key sites, application can be made to purchase 1080 liver baits to be applied to these sites,
- Several applications of 1080 bait may be required,
- Unused 1080 liver bait must be destroyed four days after laying,
- The person purchasing and or managing this baiting program must hold a current Agriculture Chemical Users Permit or a Pest Control Operators Licence,
- All other conditions of the directions for laying 1080 Fox bait must be adhered to, including signage and safe distance requirements (see Directions for the use of 1080).

- The baiting must take place at times of low or no visitation in the enclosure and not be visible from tracks or access points.
- This program to be conducted at least four times per year or when fox presence is detected.

Eastern Barred Bandicoot Recovery Team is responsible for notifying adjoining landholders of intention to lay bait.

***Recommendation 5: That the Advisory Committee endorse the fox control program as detailed.***

***Fox Control; Den destruction***

Another form of control is fumigation of dens followed by ripping to a depth of 75cm. One of the most difficult and time-consuming elements of this work is locating all dens. The Good Shepherd College has offered to assist with this as a part of its mapping project (see section '[Pest Plants](#)'). This project could be undertaken annually with the Year 8 Agriculture class and involves the students using GPS to locate and map all dens within the bandicoot enclosure. The students would present their results to a meeting of the Advisory Committee and the Eastern Barred Bandicoot Recovery Team. The best time for den fumigation to take place is from August through to October (depending on the season) when natal fox dens can be targeted. The benefit of fumigating natal dens is that both cubs and vixen can be targeted.

***Recommendation 6: The Advisory Committee ask Good Shepherd College to supply annual updates on fox den locations within the bandicoot enclosure.***

Any harbour destruction should coincide with that of rabbit harbour destruction and apply the same caution regarding consultation with Glenelg Region Water Authority (underground pipe location) and weed monitoring after any soil disturbance.

***Cats***

Cats are not permitted in the bandicoot enclosure. As stated earlier, the 'predator-proof' fence is not 100% cat and fox proof and occasionally cats and foxes will enter the Hamilton Community Parklands. To avoid risk to native animals, in particular, birds of prey, it is a requirement that all 1080 baits be buried. This will generally deter cats from taking the baits. The suggested method to control cats in the bandicoot enclosure is by trapping. The Southern Grampians Shire Council has cat traps available for use by the public. Traps need to be set at night and checked and closed in the morning to ensure that no animal (feral or native) is caught and suffers unduly.

It is suggested that traps could be set whenever the Eastern Barred Bandicoot Recovery Team is conducting bandicoot surveys, as these too require attendance in both morning and evening. These surveys are generally conducted on a quarterly basis. The Southern Grampians Shire Council is to be notified if cats are trapped and arrange for the ranger to transport them to the Shire pound.

Eastern Barred Bandicoot Recovery Team to set cat traps during Eastern Barred Bandicoot monitoring programs.

Eastern Barred Bandicoot Recovery Team (work done by contractor) to set cat traps at other times as required.

Southern Grampians Shire Council is responsible for transporting any trapped cats to the Shire pound.

### ***Dogs***

Dogs pose a serious threat to bandicoots and are not permitted in the bandicoot enclosure. However, the predator contractor has used specially trained fox dogs in the enclosure for the purposes of locating dens and detecting foxes. The Eastern Barred Bandicoot Recovery Team will advise the Advisory Committee when these measures are required. The Advisory Committee will need to approve the use of this control measure.

### ***Rabbits***

The control of rabbits within the bandicoot enclosure is needed to maintain the native grassland and a suitable habitat for the Eastern Barred Bandicoot. It is also important that the managers of the parklands are seen to be meeting their community responsibilities towards the control of this pest animal.

#### ***Rabbit control; Pindone poisoning***

The most efficient control for rabbits in the bandicoot enclosure is the use of Pindone poison on carrot or grain baits. The concern with this method in the bandicoot enclosure is the potential for Eastern Barred Bandicoots to take these baits. However, if the rabbit population were to grow to such numbers as to cause concern for the habitat conservation and thus threaten the bandicoot population, this could be the only option available to quickly reduce rabbit numbers. It is therefore essential to continue rabbit monitoring to ensure that numbers don't reach a stage where large scale poisoning is required. The Advisory Committee should overview past results from rabbit monitoring and decide on a future method for monitoring. It should also set a target that would trigger the use of poison baiting. The method for conducting a poisoning program is detailed in Landcare Note LC0296 Feb 2001.

#### ***Rabbit control; trapping***

Another method of rabbit control that should be considered is trapping. One of the most time consuming elements of this work is locating all of the warrens in the first place. The Good Shepherd College has offered to assist with this as a part of its mapping project (see section 'Pest Plants'). This project would be undertaken annually with the Year 8 Agriculture class and involves the students using GPS to locate and map all warrens within the bandicoot enclosure.

#### ***Rabbit control; harbour destruction***

Once the control program is complete some form of harbour destruction should be considered to discourage the reinvasion by rabbits. It is customary to rip the warrens to a depth of 75 cm but if this is done extreme care needs to be exercised. Bandicoots are known to use rabbit burrows for shelter. Each

burrow will need to be inspected by the Eastern Barred Bandicoot Recovery Team prior to harbour destruction. Any harbour destruction that involves soil disruption (such as ripping) needs to first consult the Glenelg Region Water Authority to ensure no underground water pipe damage is caused, and later, follow up with weed inspections and if necessary, weed control.

It is expected that monitoring work will be tied in with the duties of the current fox control operator at the Hamilton Community Parklands, bandicoot enclosure.

Prior to any rabbit control works, the Eastern Barred Bandicoot Recovery Team must assess the presence of bandicoots in the control area and advise the Advisory Committee.

***Recommendation 7: The Advisory Committee analyse rabbit population statistics annually and determine appropriate actions.***

***Recommendation 8: That all information regarding pest plant and animals, be passed on to the Eastern Barred Bandicoot Recovery Team convenor.***

***Recommendation 9: The Advisory Committee ask Good Shepherd College to supply annual updates on rabbit warren locations within the bandicoot enclosure.***

The Southern Grampians Shire Council is responsible for rabbit trapping, fox den fumigation and harbour ripping.

## Pest Plants

Probably the weed of greatest concern in the bandicoot enclosure is Toowoomba Canary-grass (*Phalaris aquatica*) locally known simply as Phalaris. It is invasive on native grasslands and also presents a serious fire threat if not controlled. There are some areas, notably between the bandicoot enclosure and the motorcycle track, where phalaris density has been allowed to grow to a level where it is a fire threat and a weed seed supply to the adjacent native grasslands. Within the grasslands, Phalaris, if not treated properly, can out compete and finally, dominating the native grasses and herbs.

There is a need at this stage for a program of chemical control of Phalaris, however, it is possible that a sympathetic fire regime may be useful in reducing weeds (Eddy 2002). Native plant species in native grassland are adapted to fire, whereas many weeds are not. If fire management was proved successful in controlling weeds it will reduce future reliance on pesticides. More can be found on the fire and grazing management of Phalaris in the [Fire Management](#) section of this document.

The Phalaris along the predator-proof fence line causes another problem. It is a fire hazard but it also concentrates moisture on the fence causing corrosion that will shorten the life of the fence (much of this was recently replaced by the 'Friends of the Eastern Barred Bandicoot'). Burning and over frequent poisoning will also cause corrosion. Advice from chemical spraying

contractors can be obtained on methods to maintain a bare earth strip extending 0.5metres on either side of the fence. This will also aid inspection of the fence for gaps where predators could enter the bandicoot enclosure.

Some of the most common, other weeds occurring in the bandicoot enclosure are Sweet Vernal-grass (*Anthoxanthum odoratum*), Brown-top Bent-grass (*Agrostis capillaries*), Blackberry (*Rubus spp.*), Gorse (*Ulex europaeus*), Spear Thistle (*Cirsium vulgare*), Fog-grass (*Holcus lanatus*), Onion Grass (*Romulea rosea*), Sweet Briar (*Rosa rubiginosa*) Watsonia (*Watsonia spp.*) and Pittosporum (*Pittosporum spp.*).

The Glenelg Hopkins CMA weed action plan 2001-2004 identifies the priority weeds for the region. They are;

State Priority	Ragwort#, Serrated Tussock*#
Regional Priority	African Feather Grass#, Cape Tulip#, Pattersons Curse#, St Johns Wort#, Blackberry*#, Gorse*#.
Emerging	Chilean Needle Grass*, Bridal Creeper, Blue Canary Grass, Other Nasella sp

\*denotes species that are known to occur or are thought to be a potential invader of the bandicoot enclosure. It is an obligation of landowners to treat noxious weeds.

# denotes species covered by the *Catchment and Land Protection Act 1994* which requires a land owner to take all reasonable steps to prevent the growth and spread of these species which are Regionally Controlled Weeds within the Glenelg Hopkins catchment.

Southern Grampians Shire Council is responsible for control of all Regionally Controlled Weeds in the bandicoot enclosure.

Responsibility of other weed control in the bandicoot enclosure needs to be determined

***Recommendation 14: That the Advisory Committee resolve the issue of responsibility for weed control in the bandicoot enclosure.***

The Advisory Committee may be assisted in its control of weeds by a proposal from the Good Shepherd College of an annual project for its Year 8 Agriculture students. The school has offered to conduct an annual weed-mapping project using GPS. The results will be presented to the Advisory Committee at one of its bi annual meetings and will assist the committee to make decisions on its pest plant management program. It is also hoped that the presentation from school students providing weed, rabbit and fox (see section on rabbits and foxes) monitoring results, with comparisons to previous years, will underpin the ongoing commitment to weed control in the bandicoot enclosure. The students will benefit from increased skills in weed identification, mapping and presentation of information. The parklands and the environment it protects will benefit in the short term from improved pest plant and animal management tools and in the long term from an increase in community awareness of the value of the bandicoot enclosure.

***Recommendation 10: The Advisory Committee ask Good Shepherd College to supply annual updates on weed infestations within the bandicoot enclosure.***

Weeds from neighbouring properties can be a constant threat to native grassland management within the bandicoot enclosure. If weeds from a neighbouring property risk infesting the bandicoot enclosure, a letter should be sent advising of the timing of the weed control program within the enclosure so that neighbour control programs can be coordinated. If a neighbour fails to control threatening weed problems, the Department of Primary Industries should be asked to assist.

The Glenelg Region Water Authority has agreed to maintain weed control in the area bordering the bandicoot enclosure, directly south of the pressure basins.

It may be possible that a grazing trial suggested in the fire management section may also assist in weed control.

A summary of management guidelines relating to weed management in native grasslands can be found in the section covering [native grasslands](#).

### 3.4 Fire Management (The Fire Management section is designed as a stand alone document – some sections repeat information previously stated)

In 1991 the Hamilton City Council adopted a fire management plan developed for the Hamilton Community Parklands by the then, Department of Conservation and Natural Resources (CNR) in consultation with the Country Fire Authority (CFA), the Hamilton City Council and the Shire of Dundas (now Southern Grampians Shire Council).

The majority of the plan involved slashing and burning within the predator-proof fence. There were two strategic breaks burnt annually, as well as four large areas within the bandicoot enclosure, which were burnt on a four-year rotation. The main changes to the original plan are that the four areas burnt on a four-year rotation will now be broken down into smaller patches and burnt on a three-year rotation.

The Hamilton Community Parklands Bandicoot Enclosure Advisory Committee should also investigate the cutting and baling of native grass as a form of fuel reduction. The seed collected during the process could be used elsewhere in the parklands to recolonise degraded areas. Great care will need to be taken with the timing of such an operation as seed could easily be lost or wasted in the process. The most likely timing for this would be between Christmas and New Year. This may cause problems with staffing, on the other hand, hay-cutting equipment is not likely to be busy at that time of year.

Another potential for fuel reduction is the use of cell grazing by sheep. The Friends of the Eastern Barred Bandicoot have received a grant to conduct a grazing trial in the bandicoot enclosure. Care will need to be taken during this trial as, even a single grazing incident can substantially modify grassland's structure in the short-term (Eddy 2002). It will also be necessary to ensure stock are not carrying weed seed into the area. Trials can be co-ordinated with the 'Eco rich Grazing' project of the 'Ecologically Sustainable Agriculture Initiative', a partnership between the Department of Agriculture and the Flora and Fauna unit of Department of Primary Industries. Timing for trials will depend on the management priorities of the particular areas and should coincide with life cycles of targeted plants. Eg where Sweet Vernal-grass is to be controlled, graze areas prior to seed-set.

***Recommendation 11: That the Advisory Committee investigate using grazing and hay cutting as a part of their fuel reduction program.***

The area identified on the [map](#) as 'most populated bandicoot habitat' will require special consideration in fuel reduction. If left unmanaged then the risk from wildfire to the bandicoot population in this area is obvious. As the area is so sensitive, Department of Primary Industries and the Eastern Barred Bandicoot Recovery Team will need to consult closely on what measures to take.

***Recommendation 12: That Department of Primary Industries and Eastern Barred Bandicoot Recovery Team decide on an acceptable fuel reduction program in the most populated Bandicoot habitat.***



# Hamilton Community Parklands Bandicoot Enclosure Fire management Program:

## 1.0 Introduction

The Hamilton Community Parkland bandicoot enclosure is a section of Public Land reserved under the *Crown Lands (Reserves) Act 1978* and managed by the Southern Grampians Shire Council as the Committee of Management. The area caters to a number of Hamilton's recreational and educational needs as well as providing for flora and fauna conservation.

It is important that all decisions regarding fuel reduction burns consider the needs of both the Eastern Barred Bandicoot and the native grassland on the site as both are protected under the Victorian, *Flora and Fauna Guarantee Act 1988* and the Eastern Barred Bandicoot is also protected under the Federal, *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*.

## 2.0 Management Issues

### *Flora conservation*

The parkland contains extensive areas dominated by native grassland communities, which have become threatened in Victoria. The parkland communities do carry low to moderate levels of introduced species, however they still maintain many native species and are considered to have high to very high conservation value (Stuwe 1986).

In order to benefit native grasses, the most appropriate timing of burns in this region is mid to late January, after seed-set (Eddy 2002). It is now considered that native grass areas should be burnt every three years (pers com J Morgan<sup>1</sup>).

Where possible, all slashing in native grasslands should use a flail type slasher that distributes cuttings evenly and avoids the build up of windrows or clumps. These can shade the plants underneath and sometimes kill them, leaving a bare patch susceptible to weed invasion (Eddy2002). Hay cutting could eliminate this problem.

All slashing equipment should be inspected prior to entry to the bandicoot enclosure to ensure it is free of weed contamination.

### *Fauna Conservation*

The Eastern Barred Bandicoot is facing extinction on the Australian Mainland. A major threat to the Eastern Barred Bandicoot is from predation by cats and foxes. In an effort to provide a cat and fox free environment, approximately 100 ha of the parkland has been enclosed by a 'predator-proof' fence topped with an electric wire.

Bandicoots were released into this enclosure after the area was cleared of existing predators. It is for this reason that such importance is placed on locking gates directly after passing through. When a burn is in progress, it is

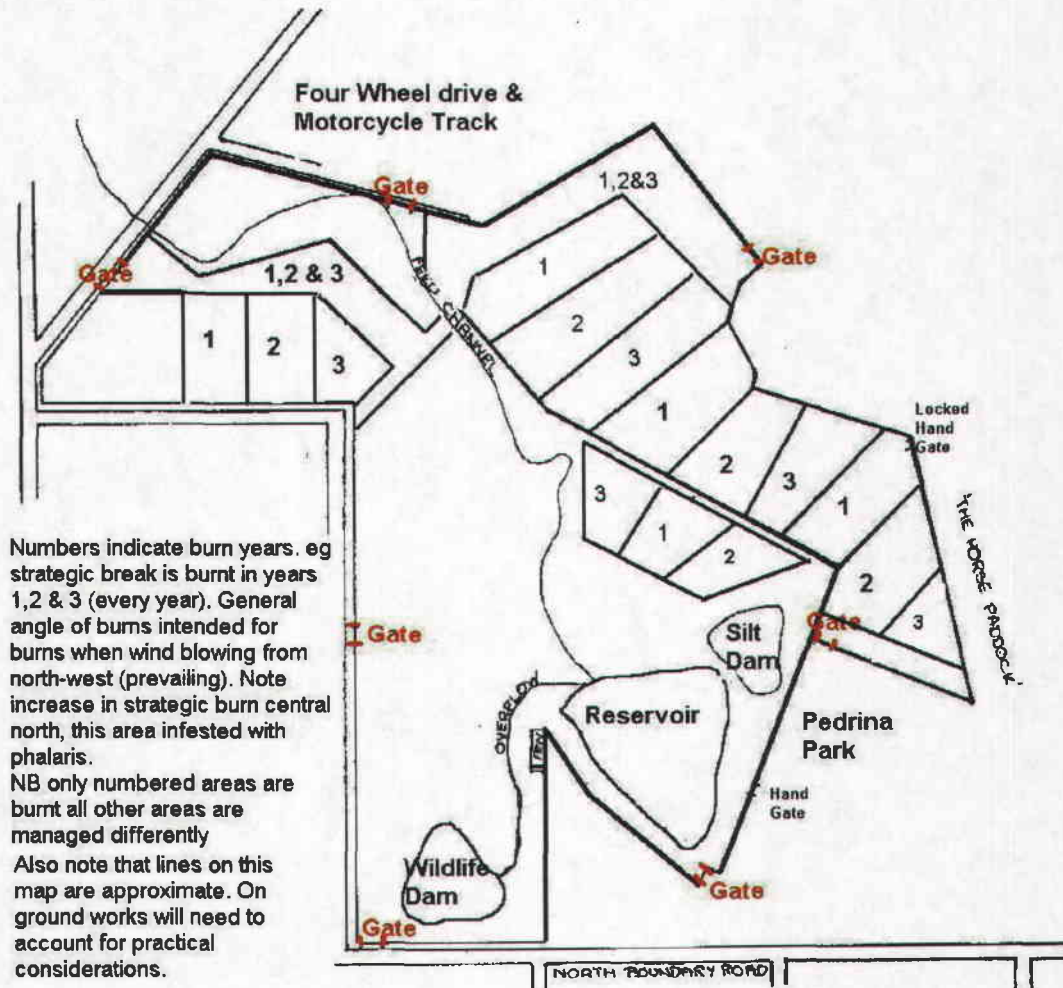
---

<sup>1</sup> John Morgan, LaTrobe University

necessary for safety reasons, to staff the gate. The continuing management of the Eastern Barred Bandicoot in this predator proof environment is seen as one of the keys to maintaining a wild population of the species on the mainland.

Bandicoots require well-vegetated areas for nesting interspersed with more open areas for foraging. In order to achieve a healthy native grassland regular slashing or burning of sections of the bandicoot enclosure is necessary. This plan proposes that the frequency of burns be every three years. The best way to obtain a three-year rotation with minimum impact on bandicoots, is to break the areas down into a mosaic. As mentioned earlier, the areas where bandicoots are in their greatest numbers (south west corner of bandicoot enclosure) will need special consideration and management by Department of Primary Industries and the Eastern Barred Bandicoot Recovery Team. Below is the suggested mosaic of burning over the three-year cycle.

### Burn plan



### Fire Protection

Because the parklands are located immediately to the north of Hamilton the parkland is viewed as a potential fire risk to the city. Similarly the threat of the whole area being burnt by a wildfire would be potentially disastrous to the recovery program for the Eastern Barred Bandicoot.

### ***Fire Management Regime***

The fuel management regime detailed in this plan attempts to take account of flora and fauna conservation issues while providing protection to the City of Hamilton and the parkland from the threat of wildfire. Adequate protection of the area and the City should be possible by the combination of slashing, some areas burnt every year, and other areas burnt on a three-year cycle.

### ***3.0 Fuel Reduction Process***

#### ***Fuel Reduction Management***

Below are the specific details of fuel reduction works to be carried out in the bandicoot enclosure. The strategy revolves around the following key points:

- All stakeholders to discuss and plan the season's burns at the Advisory Committee meeting in October
- Annual slashing of breaks will be carried out by Department of Primary Industries. Some of which may be later 'trickle burnt' to reduce biomass build-up.
- Maintain a 0.5 metre bare earth strip on either side of predator proof fence. (This task has not yet been assigned to any body)
- Annual burning of strategic zones (shown in red on slashing plan) to be undertaken by CFA in consultation with Department of Primary Industries staff,
- Burning of other areas (three year rotation) to be as shown on burn plan. Some areas within these blocks are to be protected as bandicoot refuges by the application of foam or water. Burning is to be carried out by CFA with Department of Primary Industries providing assistance, primarily by protecting Eastern Barred Bandicoots and their refuge areas. This measure is aimed at minimising the impact of fuel reduction on the Eastern Barred Bandicoot.

#### ***Prescriptions:***

- All slashing of fire breaks will ideally occur in November. Allowance for seasonal conditions require that any action be in consultation with the Department of Primary Industries.
- All slashing of fence lines must take care not to cause damage to the fence, in particular, the operator needs to be aware that the fence extends along the ground for about 1m outside of the boundary
- All burning operations to be carried out after seed drop from native grasses (mid – late January) when grass is dry enough to give a satisfactory result.
- For safety and to reduce fire intensity when setting the fire, burn strips are to be no wider than 15 metres, and only burnt in one direction (never light the entire perimeter). This will allow wildlife to escape the fire.
- Bandicoot Refuge Areas (as identified by Department of Primary Industries staff) to be protected during burning operations by a slashed ring 4 metres in width with a minimum cover with foam or water of 2.5 metres.
- Lighting to be carried out within 1 metre of foam or watered foam slashed breaks protecting refuge areas.
- Burning is to comply with all relevant legislation and permit conditions.

- Burning intensity is to be appropriate to ensure the protection of bandicoot refuge areas while still ensuring adequate fuel reduction. Lighting to be agreed upon jointly by CFA and Department of Primary Industries at the commencement of the operation.
- The electric fence shall be turned off or disconnected from its power source on days of Total Fire Ban or Extreme Fire Danger where applicable.
- The five metre wide strip to be slashed along each side of the fence is to a maximum height of 100 millimetres prior to the onset of the fire danger period. This firebreak shall be maintained in a fuel-reduced state for the duration of the Fire Danger period to the satisfaction of the Municipal Fire Preventions Officer.

#### **Potential areas for improvement**

Knowledge of grassland management and ecological burns is constantly growing. The Advisory Committee, CFA, Department of Primary Industries and Eastern Barred Bandicoot Recovery Team will continue to seek out this information and apply new understanding as appropriate.

Water for burning operations is currently gathered from the wildlife dam and from the motorcycle track. There is a water main passing through the parkland. The CFA have suggested that a hydrant could be fitted to improve water access during an emergency. This could also be incorporated into a sprinkler system that acts as a wet barrier to the bandicoot habitat in case of wildfire when the parklands may be inaccessible to CFA vehicles. (see recommendation 2). Funds may be available for slashing of fence lines through the Fire Access Roadside subsidy scheme.

***Recommendation 13: That the Advisory Committee endorse the fire management plan as detailed.***

The Eastern Barred Bandicoot Recovery Team -(work done by contractor) is responsible for removal of any shrubs, trees, branches or other matter likely to come into contact with the electric wire on the inside of the bandicoot enclosure.

The Southern Grampians Shire Council is responsible for removal of any shrubs, trees, branches or other matter likely to come into contact with the electric wire on the outside of the bandicoot enclosure.

The Eastern Barred Bandicoot Recovery Team -(work done by contractor) is responsible for regular inspections of the fence to ensure that insulation brackets are maintained in good order and that tension is maintained in the electric wire.



## 3.5 Track maintenance

There is a network of tracks in the bandicoot enclosure including the walking trail, firebreaks, an access track in the most populated bandicoot area and the tracks on either side of the fence. Vehicles should restrict movement to these tracks and during the wetter months all driving in native grassland areas should be banned.

The Southern Grampians Shire Council is responsible for maintenance of the nature trail and for slashing between the fence and public roads. The Shire includes in its maintenance of the track trimming of bushes and any work required to the several bridges. Some suggestions for improvement to the walking trail are;

- Signage directing visitors to the trail starting points
- Interpretive signage along the trail
- Minor trail safety improvements such as the bridge entrance from Pedrina Park and where the trail climbs the reservoir banks.
- Raised boardwalks



***Recommendation 15: That the Advisory Committee decide on priority projects and discuss with council, funding options. This work should be considered as part of the Potential project suggested later in this document.***

The Southern Grampians Shire Council is responsible for all walking trail maintenance.

Maintenance of all other tracks is divided between several bodies and consists only of slashing. The division of slashing responsibilities for the remainder of the tracks is covered in the fire management section [Slashing plan](#).

## 3.6 Public access

There are two points of entry for the general public, one at the northwest corner of the HIRL complex and the other on the west side of Pedrina Park (see [map](#)). Both the entrances have an aviary style, self-closing two-door system to ensure that foxes and cats don't gain entry to the bandicoot enclosure. The signs placed at both entrances, whilst not very inviting, adequately describe the need for the gating system and the protection it provides to the Eastern Barred Bandicoot. There is a need to maintain these gates to ensure that they always close automatically behind the visitor. To allow for the occasional malfunction, a sign could be placed on the second

gate asking the visitor to look back and check that the first gate has closed behind them.

The 'Friends of the Eastern Barred Bandicoot' currently monitor the operation of pedestrian gates.



All vehicle entrances to the bandicoot enclosure have close fitting gates with double locks. Keys are held by Department of Primary Industries, the CFA, Hamilton Institute of Rural Learning (HIRL), Southern Grampians Water Authority and Southern Grampians Shire Council. Gates must

remain closed at all times to keep predators out. When relocking gates, care needs to be taken to ensure that gates cannot be swung far enough open to allow the entrance of predators. To assist with this all gates have a lock on both sides of the gate.

In the past, conflict between different stakeholders has occurred when maintenance work has been required within the bandicoot enclosure. To assist in satisfying the needs of all stakeholders, all proposed works should be discussed at the bi-annual planning meetings. This will ensure the needs of all stakeholders have been aired and are understood. In every case, the various stakeholders will attempt to accommodate other stakeholders concerns. This process will give stakeholders the opportunity to hear the issues and act accordingly.

Any stakeholder wishing to undertake any works inside the bandicoot enclosure should raise this for discussion at a bi-annual Advisory Committee meeting.

### 3.7 Water issues

Water from the 'Old Reservoir' (capacity 125ML) is used by the Southern Grampians Shire Council as a summer watering supply for Melville Oval, part of Pedrina Park, the Botanic Gardens, and Hamilton College oval. In order to maintain the integrity of dam walls it is necessary to regularly remove trees that have self-seeded.

There is a network of underground water pipes passing through the enclosure. The maintenance of these pipes is the responsibility of the Glenelg Region Water Authority, who occasionally require access to undertake this work. In 2001 a silt spill occurred from a broken pipe causing damage to the native grasslands, tracks and potentially spreading weeds. While it is hoped that this will not happen again, any such spills and repairing any resulting damage is the responsibility of Glenelg Region Water Authority.

Any work that requires digging in the bandicoot enclosure has the potential to damage this network of pipes and the Glenelg Region Water Authority must be contacted prior to work commencement. This will most easily be achieved at one of the bi-annual Advisory Committee meetings of which the Water Authority will be invited to be a member of.

Currently there is no regular water quality checking process that would alert the Advisory Committee to any threats to flora and fauna in the bandicoot enclosure

Glenelg Region Water Authority is responsible for underground water pipe maintenance and supplying information on pipe locations

***Recommendation 16: The Advisory Committee discuss the need for a water quality monitoring program and implement if deemed necessary.***

The Southern Grampians Shire Council is responsible for the maintenance of the drains leading into the reservoir, maintenance of dam walls, silt removal from reservoirs and all valve works.

### 3.8 Community involvement

Public space holds special importance in any community. In putting together this plan, community input was encouraged via letters and local media. Other than the main stakeholders, there were only a few responses, indicating a lack of awareness in the community of the facility that lies right on their doorstep. This has not always been the case. In the 1980's & early 90's, interest in the Eastern Barred Bandicoot and bandicoot enclosure was high due to the work of many people and organisations, particularly HIRL.

Efforts should be made to re-engage the community in the ongoing improvements being made in the bandicoot enclosure.

One way of engaging the community is to have a community representative on the Advisory Committee. Generally speaking though the community needs to be made more aware of the bandicoot enclosure, which will in turn, increase the use and interest of the community in the facility.

There are several schools already using the enclosure as a regular destination for outings. Local schools should be encouraged to be more involved in the bandicoot enclosure. This will lead to a generational interest in the ongoing welfare of the parklands. Hamilton (Kent Street) Primary School





has said it is keen to be involved in maintenance of the parklands and would be interested in taking on responsibility for caring for a small area. The Good Shepherd College has offered quite tangible assistance with pest plant and animal monitoring (see sections on Pest Plants and Rabbits). The interest of schools in the welfare of the bandicoot enclosure is very encouraging and should be actively pursued by the Advisory Committee.

***Recommendation 17: A representative for local schools be appointed to the Advisory Committee and be responsible for finding ways that build on the current involvement of the Southern Grampians Region school community.***

Open days or night-time 'Bandicoot Prowls' will encourage involvement in the bandicoot enclosure by the community. These can be timed to coincide with events such as 'Threatened Species Day', 'Land for Wildlife' open days, the 'go wild about flowers' promotion and with open garden days when the spring wildflowers are blooming. Consideration could be given to the attendance of the public at the Eastern Barred Bandicoot Recovery Team monitoring days which occur quarterly. Naturally the prime consideration will be the welfare of the bandicoots, but the involvement of school children in these events may have long-term benefits for the bandicoot enclosure.

It cannot be stressed enough, that the ongoing and increased involvement of many individuals and community groups in the bandicoot enclosure is possibly the only way to ensure adequate funding for maintaining and growing the facility. Whilst this is often seen as a round-about way to achieve on ground results, the Advisory Committee should seriously consider ways to better engage the Southern Grampians Region community in order to achieve the social, economic and environmental goals of all the stakeholders.

***Recommendation 18: The Advisory Committee explore methods of actively encouraging the involvement of the broad Southern Grampians Region community.***

### ***3.9 Tourism***

The Hamilton Community Parklands bandicoot enclosure is a working ecosystem. It supports 95 species of native wildflowers, trees and grasses, a number of reptiles and 90 species of bird. Mammal species include the Eastern Grey Kangaroos, Ringtail Possums, Brushtail Possums, Swamp Rats and Water Rats. Occasionally Long-neck Turtles and Echidnas are seen.

With the growth in recognition of Eco-tourism, the bandicoot enclosure represents an excellent opportunity for tourism development that has the potential to be of significant economic benefit to the Southern Grampians region. One only has to look at the ability of 'Earth Sanctuaries' to attract tourists to their predator-proof enclosures to realise what the potential in Hamilton may be. The fact that 'Earth Sanctuaries' latest development at Little River (near Werribee) has chosen the Eastern Barred Bandicoot as its flagship species, should also alert tourism operators in the Southern Grampians Shire region to the potential of this endangered species to attract visitors.

The bandicoot enclosure is a community asset recognised as an eco-tourism destination, but is far from realising its full tourism potential. There are a number of improvements that could be undertaken that would improve the accessibility of the bandicoot enclosure to visitors with minimal impact on the conservation value of the reserve.

The most notable of these improvements being the appropriate placement of directional and interpretive signage. Directional signage is the responsibility of the Shire and should clearly direct visitors from main tourist routes to the HIRL car park. Once at the car park, signage is required to direct visitors to the nature trail entrance. Interpretive signage is required at the entrances that inform the visitor of what they will experience, how long the walk will take and a map of the walk. More interpretive signage is required along the walk to replace the existing signs, which have deteriorated to a point where some can no longer be deciphered. At a few points along the walk visitors are required to climb steep banks. When wet these sections are slippery and either need re-routing or stairways installed.

If the Eastern Barred Bandicoot display inside the HIRL building is to be made more accessible, funds will be required for on-ground works and to address the issue of security.

Funds should also be sought to develop and print a pamphlet for use at Visitor Information Centres. Once the pamphlet is in circulation, staff at the Shire Visitor Information Centres should be invited to attend a familiarisation tour of the parklands. An addition to the pamphlet could be a loose page with up to date species lists for the keen observer.

Groups such as the Hamilton Field Naturalists, Friends of the Eastern Barred Bandicoot, Hamilton Institute of Rural Learning, Birds Observers Club of Australia (Hamilton) could be asked to assist with updating flora and fauna lists, for circulation by the Hamilton Visitor Information Centre.

***Recommendation 19: The Advisory Committee explore ways to attract funding for directional/ interpretive signage and pamphlet production.***

It is hoped that a growth of the bandicoot enclosure as an eco-tourist icon for the Southern Grampians Region will correspond with an increase in its value to the community. In order to fund all aspects of this plan, which will most likely become possible through some form of government funding, the



Advisory Committee will need to prove the economic value of the bandicoot enclosure to the community as well as its social and environmental value.

***Recommendation 20: That the Advisory Committee explore ways to continually improve the economic value of the bandicoot enclosure through tourism.***

The list below can be used to begin discussion on ways to improve the economic values of the bandicoot enclosure through tourism.

- Erection of a raised walkway for some of the walk
- Increase the accessibility to the Eastern Barred Bandicoot display located inside the HIRL building
- Development of a nocturnal house
- Night time 'Bandicoot Prowls'
- Development of links with other local eco-tourist destinations such as Points Arboretum, the Volcanic Trail and the Grampians National Park.
- Promotion of the diversity of natural communities within the parklands including the grasslands, woodlands and wetlands.

## **4.0 Summary of responsibilities of stakeholders**

NB All responsibilities listed are as at the time of writing. Some tasks have not yet been assigned to a particular body and with continual changes in funding circumstances, responsibilities for some tasks will, in the future, flow to other body's. The list supplied here should be seen as a starting point and should be updated regularly.

### **4.1 Southern Grampians Shire Council**

- Act as Committee of Management of Hamilton Community Parklands.
- Chair bi-annual planning meeting of the Hamilton Community Parklands bandicoot enclosure Advisory Committee.
- Responsible for kangaroo and brushtail population management.
- The Committee of Management has legal responsibility of controlling pest plant and animals in the bandicoot enclosure, however there are several other bodies that have special interests and contribute to this management responsibility
- Control all Regionally Controlled Weeds
- Responsible for rabbit trapping, fox den fumigation and harbour ripping.
- Removal of any shrubs, trees, branches or other matter likely to come into contact with the electric wire on the outside of the bandicoot enclosure
- Maintenance of the nature trail
- Transporting any trapped cats to the Shire pound.
- The maintenance of the drains leading into the reservoir, maintenance of dam walls, silt removal from reservoirs and all valve works.
- Responsible for slashing as shown on Slashing plan
- Work with the Advisory Committee to attract funding for directional/interpretive signage and pamphlet production.
- Work with the Advisory Committee to attract funding for raised walkway.
- Produce a report on the above works at the bi annual meeting
- Encourage all personnel to read relevant sections of this plan prior to commencing any works.

### **4.2 Department of Primary Industries**

- Annual burning of strategic zones to be undertaken by CFA in consultation with Department of Primary Industries staff.
- Provide advice to the Advisory Committee on grassland management
- Monitoring the kangaroo population and advising the Advisory Committee.
- Monitoring the Brushtail Possum population and advising the Advisory Committee.
- Slashing as shown on Slashing plan
- Produce a report on the above works at the bi annual meeting
- Encourage all personnel to read relevant sections of this plan prior to commencing any works

### 4.3 Eastern Barred Bandicoot Recovery Team

Actions listed below cannot be guaranteed as they are subject to funding by the Natural Heritage Trust (NHT)

- Invite a representative from Southern Grampians Shire Council to become a member of the Field Working Group of the Eastern Barred Bandicoot Recovery Team
- Notify adjoining landholders of intention to lay poison baits.
- Monitoring of the Eastern Barred Bandicoot population in the bandicoot enclosure.
- Management of the fox and cat control program, funded by NHT including setting cat traps during Eastern Barred Bandicoot monitoring programs and by the Contractor at other times as required.
- Monitoring of fox and rabbit numbers.
- Patrolling and monitoring of the perimeter fence including integrity of electric fence insulators and wire tension.
- Maintenance and repairs to the predator-proof fence,
- Removal of any shrubs, trees, branches or other matter likely to come into contact with the electric wire on the inside of the bandicoot enclosure.

### 4.4 Friends of the Eastern Barred Bandicoot

- Using funds obtained from Threatened Species Network, and in close consultation with Department of Primary Industries, conduct grazing trials, write and present results to the Advisory Committee for consideration in future fuel reduction planning
- Maintain interpretive signage
- Emergency repairs to the fence when the contractor is unavailable.
- With assistance from the Hamilton field naturalist Club and the Bird Observers Club of Hamilton, maintain flora and fauna lists
- Monitoring the operation of pedestrian gates.
- Produce a report on the above works at the bi annual meeting
- Encourage all personnel to read relevant sections of this plan prior to commencing any works

### 4.5 Other stakeholders

- Any stakeholder wishing to undertake any works inside the bandicoot enclosure should raise this for discussion at a bi-annual Advisory Committee meeting.
- Annual burning of strategic zones to be undertaken by CFA in consultation with Department of Primary Industries staff.
- Good Shepherd College – conduct annual mapping project showing location of weeds, rabbit warrens and fox dens. Present reports to the bi-annual meeting of the Committee of Management.
- Glenelg Region Water Authority is responsible for underground water pipe maintenance and supplying information on pipe locations
- The Glenelg Region Water Authority has agreed to maintain weed control in the area bordering the bandicoot enclosure, directly south of the pressure basins.

- HIRL and the Glenelg Region Water Authority are responsible for slashing as shown on Slashing plan

#### 4.6 Unclaimed tasks

- Responsibility of weed control (other than Regionally Controlled Weeds which are the responsibility of the Southern Grampians Shire Council)
- Responsibility of spray poisoning for a 0.5m strip on both sides of the fence to maintain an earth barrier.
- Responsibility for slashing of some areas along the north and south boundary of the 'predator-proof' fence.

***Recommendation 21: That all stakeholders listed above endorse a document outlining each body's responsibilities, using the above list for discussion. This should be undertaken as a high priority at the first meeting of the Advisory Committee.***

#### 4.7 Communication between stakeholders

One of the main issues arising during the preparation of this plan was the lack of any formal process to plan for actions within the bandicoot enclosure. This can be overcome with the implementation of regular planning sessions involving all stakeholders. Meetings need only take place twice a year and could be timed to coincide with major annual works such as fuel reduction, weed control and fox control.

***Recommendation 22: That Southern Grampians Shire Council chair Hamilton Community Parklands Advisory Committee planning meetings involving all stakeholders, in October and March, and at other times where urgency requires it.***

## **5.0 Future Works**

All future works within the Bandicoot Enclosure should first be referred to the Advisory Committee for consideration at one of its bi-annual meetings. If an urgent decision needs to be made a special meeting should be called. Any person proposing some activity should be referred to this process and be prepared to satisfy the Hamilton Community Parklands Bandicoot Enclosure Advisory Committee that the following issues have been adequately covered;

- Who will monitor works and report that all recommendations/conditions made by the Advisory Committee have been adhered to
- Who will follow up over the coming year to check on weeds as a consequence of any soil disturbance
- If travel is constant through the enclosure, who will staff the gates
- Are there any negative impacts on either the Eastern Barred Bandicoot or native grasslands in the bandicoot enclosure
- Who will carry out any rehabilitation works such as levelling the soil, weed control, re-sowing of native species.

### **5.1 Potential Project**

A project that covers many of the immediate issues of the Hamilton Community Parklands should be considered. Funds could be sought for a six-month GreenCorp (or similar) project, employing a team of workers to carry out works such as;

- Collecting seed
- Replanting grassland
- Fire management
- Pest plant and animal control
- Soil rehabilitation after ripping
- Building walkways
- Other track improvements
- Installation of emergency sprinkler system
- Erecting new interpretive signage
- Fencing (for grazing trial)

Participants would benefit from learning many of the aspects associated with managing land for the environment.

***Recommendation 23: That the Advisory Committee consider the above project outline as the base for further discussion.***



## 5.2 Summary of recommendations

**Recommendation 1:** That Southern Grampians Shire Council, as Committee of Management, form and chair the Hamilton Community Parklands Bandicoot Enclosure Advisory Committee, and that all stakeholders be represented on the committee.

**Recommendation 2:** The Advisory Committee should adopt a set of rules aimed at protecting the native grasslands within the bandicoot enclosure.

**Recommendation 3:** That Department of Primary Industries keep the Advisory Committee informed on the status of the kangaroo and brushtail populations.

**Recommendation 4:** That the Advisory Committee investigate the suggested potential project to undertake initial 'capital works' suggested for the bandicoot enclosure.

**Recommendation 5:** That the Advisory Committee endorse the fox control program as detailed.

**Recommendation 6:** The Advisory Committee ask Good Shepherd College to supply annual updates on fox den locations within the bandicoot enclosure.

**Recommendation 7:** The Advisory Committee analyse rabbit population statistics annually and determine appropriate actions.

**Recommendation 8:** That all information regarding pest plant and animals, be passed on to the contractor and the Eastern Barred Bandicoot Recovery Team convenor.

**Recommendation 9:** The Advisory Committee ask Good Shepherd College to supply annual updates on rabbit warren locations within the bandicoot enclosure.

**Recommendation 10:** The Advisory Committee ask Good Shepherd College to supply annual updates on weed infestations within the bandicoot enclosure.

**Recommendation 11:** That the Advisory Committee investigate using grazing and hay cutting as a part of their fuel reduction program.

**Recommendation 12:** That Department of Primary Industries and Eastern Barred Bandicoot Recovery Team decide on an acceptable fuel reduction program in the most populated Bandicoot habitat.

**Recommendation 13:** That the Advisory Committee endorse the fire management plan as detailed.

**Recommendation 14:** That the Advisory Committee resolve the issue of responsibility for; all areas requiring slashing, weed control, rabbit



**trapping, rabbit warren/fox den ripping and the poisoning of 0.5 metre strip on inside and outside of fence.**

**Recommendation 15: That the Advisory Committee decide on priority projects and discuss with council, funding options. This work should be considered as part of the potential project suggested in this document.**

**Recommendation 16: The Advisory Committee discuss the need for a water quality monitoring program and implement if deemed necessary.**

**Recommendation 17: A representative for local schools be appointed to the Advisory Committee and be responsible for finding ways that build on the current involvement of the Southern Grampians Region school community.**

**Recommendation 18: The Advisory Committee explore methods of actively encouraging the involvement of the broad Southern Grampians Region community.**

**Recommendation 19: The Advisory Committee explore ways to attract funding for directional/ interpretive signage and pamphlet production.**

**Recommendation 20: That the Advisory Committee explore ways to continually improve the economic value of the bandicoot enclosure through tourism.**

**Recommendation 21: That all stakeholders, endorse a document outlining each body's responsibilities. This should be undertaken as a high priority at the first meeting of the Advisory Committee.**

**Recommendation 22: That Southern Grampians Shire Council chair Hamilton Community Parklands Advisory Committee planning meetings involving all stakeholders, in October and March, and at other times where urgency requires it.**

**Recommendation 23: That the Advisory Committee consider the potential project outline as the base for further discussion.**

## **6.0 Bibliography**

Backhouse,G. &, Crosthwaite, J. (1996). *Eastern Barred Bandicoot Perameles gunii, Action Statement No 04*. Department of Primary Industries, Melbourne.

Barlow,T. (1998). *Grassy Guidelines: how to manage native grasslands and grassy woodlands on your property*. Trust for Nature, Melbourne.

Braysher,M., Saunders,G.,Balogh,S. (1998). *New Approaches to Managing Pest Animals*. Agriculture Protection Program, NSW Agriculture.

Department of Primary Industries (1999). *Directions for the use of Foxofi<sup>®</sup> in Victoria* Landcare note: PA 0058.

Eddy,D.A. (2002). *Managing native grassland: a guide to management for conservation, production and landscape protection*. WWF Australia, Sydney.

Frood, D. & Calder, M. (1987). *Nature conservation in Victoria*. Study Report Vols1 and 2. Victorian National Parks Association.

Muir, A. (1994). *Western (Basalt) Plains Grassland Community, Action Statement No 53*. Department of Primary Industries, Melbourne.

Saunders,G., Coman,B., Kinnear,J. and Braysher,M. (1995) *Managing Vertebrate Pests: Foxes* , Australian Government Publishing Service, Canberra.

Stuwe, J. (1986). *An assessment of the conservation Status of Native Grasslands on the Western Plains, Victoria , and Sites of Significance*. Arthur Rylah Institute for Environmental Research Technical Report Series No. 48. Department of Conservation Forests & Lands, Victoria.

Stuwe, J. & Parsons, R.F.(1977). *Themada australis grasslands on the Basalt Plains, Victoria floristics and management effects*. Australian Journal of Ecology 2:467-476.

Watson, A.J. and Halley, M. (1999). *Recovery Plan for the Eastern Barred Bandicoot Perameles gunnii (mainland subspecies)*. Department of Primary Industries, Victoria.

# DRAFT

## HAMILTON COMMUNITY PARKLANDS BANDICOOT ENCLOSURE ADVISORY COMMITTEE

### TERMS OF REFERENCE

#### 1.1 Advisory Committee Charter

The Advisory Committee shall:

- act as an Advisory Committee to Council on all matters relating to the Hamilton Community Parklands bandicoot enclosure Management Plan.
- seek to present recommendations regarding the Hamilton Community Parklands bandicoot enclosure Management Plan which reflect the diversity of opinion and perspective regarding the issues identified in the Plan.

In this role, the Committee shall:

- make recommendations on the implementation, monitoring and review of the Hamilton Community Parklands bandicoot enclosure Management Plan.
- promote the implementation of the Plan as a relevant policy document of Council.

#### 1.2 Committee Status

The Committee is an advisory committee of Council and is not legally constituted.

##### MEMBERSHIP

Members of the Committee shall be appointed by the Council. The composition of the Committee shall be in accordance with the Hamilton Community Parklands bandicoot enclosure Management Plan.

## **2.1 Membership Categories**

The membership of the committee shall be as follows:

- \* Chairperson - Councillor Southern Grampians Shire Council
- \* Department of Primary Industries nominee
- \* Country Fire Authority Area Manager (or nominee)
- \* Glenelg Hopkins Catchment Management Authority nominee
- \* Southern Grampians Shire Council, Manager, Technical Services
- \* Southern Grampians Shire Council, Environmental Control Officer
- \* Eastern Barred Bandicoot Recovery Team
- \* Friends of the Eastern Barred Bandicoot
- \* Glenelg Region Water Authority
- \* Hamilton Institute of Rural Learning
- \* Hamilton Field Naturalists Club
- \* Southern Grampians schools representative

## **2.2 Appointment of Members**

Members are appointed by Council. Nominations shall be invited from relevant organisations and groups. Council will select and appoint members to the Advisory Committee.

## **2.3 Term of Appointment**

The term of appointment shall be for two years. Members may seek reappointment.

## **2.4 Conflict of Interest**

Members have a responsibility to declare any conflict or potential conflict between their business or professional interests, and their roles as members of the Advisory Committee. The meeting shall then determine if and how the member may participate in deliberations.

## **2.5 Inability to attend**

All Committee members are requested to nominate one deputy who shall replace official member when unable to attend.

## **2.6 Resignation**

Resignations shall be submitted in writing to the Chair of the Advisory Committee.

### **COMMITTEE PROCEDURES**

## **3.1 Meetings**

- meetings shall be closed, unless otherwise decided by the Committee. For example, committees may choose to have guests make presentations to them.
- the frequency, location and dates for Committees meetings shall be determined by the Committee.

### **3.2 Decision-Making**

The Committee shall aim to operate on a consensus model of decision-making. In the event of a vote occurring and that vote being tied, the Chairperson shall have a casting vote. Decisions of the Committee shall be reported by the Manager Technical Services to Council.

### **3.3 Quorum**

The Committee has a membership of ten. A quorum shall consist of a majority of the current members.

## **THE CHAIRPERSON**

### **4.1 Chair**

The Chairperson shall be the Councillor appointed by Council to the Advisory Committee.

The Chairperson shall chair all meetings of the Advisory Committee. A Deputy Chair shall chair meetings when the Chair is unable to.

### **4.2 Operation of Meetings**

The Chairperson is responsible for ensuring that the Advisory Committee operates in an effective manner within the Terms of Reference. The Chair shall endeavour to ensure that all members have a fair and reasonable opportunity to present their views.

## **RELATIONSHIP WITH COUNCIL**

### **5.1 Administrative Support**

The Council, Councillor, Manager Technical Services and the Environmental Control Officer, shall ensure adequate administrative and technical resources are available to the Committee so as to:

- record and distribute minutes of meetings;
- provide advice, support and information to the Chair and Committee members;
- prepare and table documentation; and
- conduct correspondence on behalf of the Committee.

## **REPORTING**

### **6.1 Reporting to Council**

All recommendations of the Committee shall be reported by the Manager Technical Services to Council.

Hamilton Community  
Parklands  
Bandicoot Enclosure