

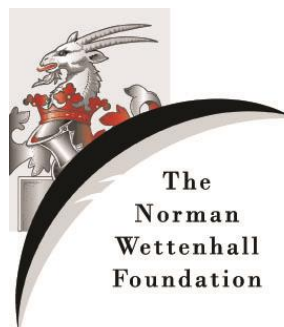
SOUTHERN BROWN BANDICOOT – *ISOODON OBESULUS OBESULUS*

RECOVERY PLAN UPPER WIMMERA REGION

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**PROJECT
PLATYPUS**
UPPER WIMMERA LANDCARE



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INTRODUCTION

The Southern Brown Bandicoot (SBB) is a medium sized ground dwelling marsupial, once found in a broad coastal band from north of Sydney to the Eyre Peninsula in SA. Bandicoot numbers have been in decline since European settlement but have experienced a more dramatic decline in the last 20 or so years to a point where local extinctions have occurred and more general extinction is a real possibility.

The Southern Brown Bandicoot is listed as nationally endangered under the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 satisfying Criteria 1 “It has undergone, is suspected to have undergone or is likely to undergo in the immediate future a severe reduction in numbers” and Criteria 2 “Its geographic distribution is precarious for the survival of the species and is restricted” (to less than 5000km²). In Victoria it is considered as Threatened under the Flora and Fauna Guarantee Act. Under the EPBC Act it is a condition that nationally threatened flora and fauna species have a recovery plan developed and implemented both by the federal and state agencies. The draft National Recovery Plan for the Southern Brown Bandicoot *Isoodon obesulus obesulus* by Geoff W Brown and Micaela L Main has informed this Upper Wimmera Recovery Plan.

In the Grampians and Wimmera region the status of the Southern Brown Bandicoot mirrors the general demise of the SBB across its distribution. DSE Wildlife Atlas records from 1970 to the present show bandicoots occurring in the Grampians, the Grampians fringe between Moyston and Halls Gap, around Lake Lonsdale, in the Black Range, Stawell and Great Western regions. Anecdotal evidence and recent SBB trapping programs suggests low numbers in the Black Range and Grampians fringe and no recent records in Great Western. More comprehensive surveys and records undertaken by Parks Vic and DSE in the Grampians National Park post the 2006 wildfires indicate that bandicoot populations still exist in the Grampians both within and outside fire affected areas. Video surveillance by DSE and Parks Vic for bandicoots on public land are currently being undertaken and in consultation with Project Platypus, also on private land.

AIM OF SOUTHERN BROWN BANDICOOT PLAN

Over the last several years Project Platypus has undertaken works in conjunction with the Black Range and Jallukar Landcare Groups to undertake surveys for bandicoot presence, reduce threats to declining bandicoot populations and increase and link habitat for bandicoots. At a 2009 Project Platypus instigated meeting of organisations and individuals interested in SBB, participants agreed that creating more habitat and continuing bandicoot surveys was not going to help stem the dramatic decline in bandicoot numbers experienced in our region. With foxes as a continuing major threat it was clear that a recovery plan which included strategic and ongoing fox control was essential. Fox control in areas with bandicoot populations along with a variety of other complementary measures have a greater chance of contributing to the recovery of bandicoot populations than providing more or better habitat. Captive breeding programs or fenced bandicoot refuges on private land were also discussed as an option.

A grant to Project Platypus from the Norman Wettenhall Foundation has enabled this Upper Wimmera SBB Recovery Plan to be developed to provide sound information and a clear direction for any proposed bandicoot recovery actions in our region – primarily on private land. This plan

- Uses the National Recovery Plan objectives and actions to guide the development of a Local SBB Recovery Plan and identifies a set of actions which can be undertaken by Project Platypus to assist SBB recovery in the Upper Wimmera catchment.
- Investigates pathways and partnerships to help achieve SBB recovery and improves the status and security of other fauna populations in our region.

NATIONAL RECOVERY PLAN

“The overall objective of the National Recovery Plan (draft) is to minimise the probability of extinction of the Southern Brown Bandicoot in the wild and to increase the probability of populations becoming self-sustaining in the long term.

Within the 5 year duration of the National Recovery Plan, the specific objectives for the recovery of the Southern Brown Bandicoot are to:

1. Ensure existing populations and their habitat are managed
2. Identify threats and threat abatement management practices
3. Determine the distribution, abundance and population structure of the SBB
4. Identify the key attributes of existing or potential habitat that are important for SBB
5. Evaluate population responses of SBB to recovery actions and adapt actions as required
6. Build a network of government and non-government organisations and individuals to facilitate recovery of the SBB
7. Manage and review Recovery Plan implementation
8. Promote public awareness of and involvement the SBB recovery program
9. Assess the requirement for captive populations

*The National Recovery Plan guides recovery actions for the Southern Brown Bandicoot and are to be implemented and managed by the relevant nature conservation agency in each State, supported by other agencies, educational institutions, regional natural resource management authorities and community groups, as appropriate. Technical, scientific, habitat management or education components of the Recovery Plan will be referred to specialist groups on research, in situ management, or community education, as required. A National Recovery Team will be established, comprising representatives of key governmental management agencies and conservation groups and research organisations.” (Excerpts from National Recovery Plan for the Southern Brown Bandicoot *Isodon obesulus obesulus* Draft)*

It seems appropriate that Project Platypus as a NRM organisation with a history of bandicoot recovery works, is an active participant in efforts to recover SBB populations.

SOUTHERN BROWN BANDICOOT DESCRIPTION

The Southern Brown Bandicoot is about the same size as a small rabbit with a long pointed snout, small eyes, rounded ears and a solid rump. Its coarse grey/brown fur is short and flecked with gold and white on the belly. It has clawed feet and a thin tail half the length of the body.

Bandicoots tend to be solitary animals with a 1ha home range and have a lifespan of 3 or so years. They are more active at night but can be seen during the day and when foraging move in a “bunny hop” manner but on the run can travel fast and leap when required. Bandicoots live for 2 to 3 years and breed between early winter and summer producing 2 or 3 litters of 2 or 3 young each year. The capacity to reproduce is certainly not one of the reasons for the demise of bandicoots.

The natural distribution of bandicoots around the coast gives an indication of its habitat requirements which are generally sandy soils with heathy scrubby vegetation, sedgelands or tussocky lowland forests and woodlands. Dense low vegetation is often associated with low lying areas, but a water supply is not a pre requisite for bandicoot populations. Bracken, piles of logs and fallen timber, rocks and rabbit burrows also provides good cover for bandicoots.

In areas with high bandicoot populations, sightings of bandicoots are relatively common. In the Black Range they could be seen in the 1980’s living in sheds and gambling round gardens. Trapping, setting hair tubes and video surveillance are used to determine the presence of bandicoot populations, however bandicoots are not easily observed or trapped even if present.

The conical holes made when digging up fungi or invertebrates are often the most obvious signs of bandicoot presence. Scats are small and not particularly distinctive and bandicoot tracks are not readily observed unless pads are specifically created and regularly checked.

The diverse food items eaten by bandicoots rely on a diverse vegetation community and areas with a reduced or modified understorey may be unable to supply sufficient food. Invertebrates, plant material and fungi form part of the bandicoot diet.

THREATS TO SOUTHERN BROWN BANDICOOTS

A range of threats to SBB have been identified however the degree posed by each threat to SBB survival and the relationship between concurrent threats is not definitive. Some populations have managed to survive despite the threats and it is difficult to determine why this might be. Long term studies of our wildlife are scant and the severe decline in SBB populations have reduced the in situ research possible on SBB.

Habitat Loss, Modification and Fragmentation

Bandicoots require habitat complexity to provide the range of food and the cover for SBB protection from predators. The integrity, the diversity and structure of the healthy understorey is particularly important. However an exception is in the Adelaide Hills where bandicoots are thriving in the often weed infested blocks where presumably the Blackberries and other dense weeds provide protection from predators. In this instance habitat loss would be the removal of blackberries!

Habitat loss and fragmentation has occurred through

- Vegetation clearance for agriculture, timber harvesting,
- Vegetation modification/simplification from fire , grazing, urban encroachment,
- Isolation of habitat patches

Predators

Foxes, dogs and wild and domestic cats have had a devastating effect on bandicoot numbers as well as on a range of other terrestrial marsupials. Predation, on top of other threats has led to a series of extinctions of our vulnerable species and it is hoped that the once common Southern Brown Bandicoot does not also become extinct. (Some bandicoot populations have been able to persist in the presence of foxes and it is not known why this is so.)

Anecdotally the most recent plummet of bandicoot numbers in the Black Range coincided with the introduction of the calici virus and it is thought that foxes turned their attention to preying on bandicoots after rabbit numbers declined dramatically. The relationship between bandicoot populations and various land management and pest plant and animal control measures is not well documented.

Because bandicoots are ground dwelling animal and usually “nest” amongst tussocks of grass they are vulnerable to predation. They have been known to utilize rabbit warrens, piles of logs and dense weed infestations to provide protection.

Current fox control measures across the Upper Wimmera region are unknown but consist mainly of individual farmers, particularly in lambing time, undertaking shooting and less frequently baiting. Some of the reasons for the low adoption of fox control is the difficulty of getting gun licences, poison handling regulations and lack of awareness of the impacts of fox predation, particularly on native fauna. A comprehensive and ongoing fox control program in and around SBB populations is the most crucial step to SBB recovery.

Revegetation and rabbit control are environmental activities commonly funded to protect and enhance biodiversity but if foxes and other introduced predators are not controlled, our habitat creation efforts are rather pointless. The fact that areas of ideal habitat exists but without their former bandicoot inhabitants indicates that predation is likely to be the most significant threat.

Lack of Knowledge

Comprehensive studies of our fauna are often sparse and certainly not comprehensive enough to definitively guide the management of species. When a species becomes threatened it can be difficult to identify clear recovery actions.

Climate Change/Drought effects

The effect of climate change on Bandicoot populations is likely to exacerbate their plight, with drier conditions less conducive to dense habitats, less diverse food sources and dispersal to other areas limited by the isolation of remnants.

LOCAL RECOVERY ACTIONS

Addressing the National Recovery Plan objectives that are relevant to Project Platypus capabilities and operations and guided by the proposed national actions, the following set of local recovery actions have been developed. They are the proposed actions which may be achieved by the Project Platypus Landcare organisation in partnership with local landholders, the community, DSE, Parks Vic, Black Range Landcare Group, Jallukar Landcare Group and interested individuals and organisations such as Daryl Panther from Victorian Wildlife Management and Clive Crouch from Environmental Research.

Local Recovery Actions

A. Prepare a management document to assist in the recovery of local SBB populations

1. In the production of this document information and strategies from a number of other groups who are also addressing bandicoot recovery were utilised to reflect a wide range of on-ground actions and current best practice. The Upper Wimmera SBB Recovery Plan has been circulated, discussed and contributed to current and prospective partners. This plan represents a first step towards concrete actions to protect and recover bandicoot populations.

B. Protect bandicoot populations on private land

2. Ensure the implications of the EPBC Act are understood by the community by producing and distributing a Fact Sheet on SBB and other information on how to protect bandicoots to circulate to landholders in areas with SBB populations (current and historically).
3. Organise a Field Day with a fauna expert and captive specimens of SBB and other local fauna to discuss identification, habitat requirements and threats. Distribute SBB Fact Sheets and revegetation information.
4. Ensure the Northern Grampians Shire and Ararat Rural City Council Planning Scheme protects areas with SBB habitat and lists them in an Environmental Significance Overlay (ESO).
5. Identify and support appropriate habitat management by developing a set of management actions that will help maintain or improve existing bandicoot habitat.
6. Identify and support appropriate revegetation by developing a list of indigenous plant species suitable for revegetating bandicoot habitat.
7. Establish a targeted revegetation program to encourage landholders in known SBB areas to plant or direct seed areas to enhance or establish habitat suited for bandicoots
8. Identify links and corridors to be revegetated both on private land and on roadsides, creek lines, that may assist the dispersal and connectivity of bandicoot populations and ensure dispersal and genetic diversity.
9. Investigate methods of providing artificial habitat such as bandicoot boxes, piles of logs for distribution to provide extra protection in areas of known bandicoot populations or following a fire event.
10. Consider creative ways to provide "instant habitat" particularly for corridors by direct seeding robust and quick growing plants such as *Acacia paradoxa*, *Acacia mearnsii* and *Leptospermum continentale*. Spacing of this "instant habitat" may be quite dense eg 0.5m spacings

C. Identify and address current threats

Fire

11. To reduce inappropriate control burns/fire management activities ensure local brigades and local councils are aware of the presence of bandicoot populations and the threat of fire to these populations.
12. Investigate the advisability of patch burns of bandicoot habitat to protect populations from the catastrophic effects of wildfires wildfire and provide future habitat needs.

Weeds

13. Develop a protocol (or modify existing protocols) for managing weeds such as Gorse and Blackberry which may be providing bandicoot refuge/habitat in areas with possible bandicoot populations. If the weed is providing habitat it would make sense to leave it. In certain situations it may even make sense to establish weeds or other non-indigenous native plants which colonise quickly and provide effective refuge. Distribute the weed control information to local landholders, Landcare groups and contractors.
14. In bandicoot areas where there is non-habitat weed infestations re-establish native vegetation which will provide habitat and out-compete weed regrowth.

Fox Control

15. Develop a Fox Control Plan. The most important goal of this plan is to develop a Fox Control Plan as without it none of the other actions undertaken to recover bandicoot populations will be successful. Revegetation, remnant protection, community education will be wasted if foxes continue to predate on the dwindling numbers of bandicoots. The Fox Control Plan will comprise a detailed and long term Fox Control Plan which will
 - Map areas with known and possible SBB populations to determine the extent of areas requiring on-going fox control.
 - Determine a range of appropriate fox control measures and frequencies across these areas by consulting with experts, agencies and landholder representatives. Measures will include baiting, shooting and trapping and will depend on the status of the land, the type of activity undertaken on the land, landholder co-operation and the terrain and vegetation. Consider new approaches to fox control such as populating remnants with Alpacas.!
 - Investigate ways to provide incentives and assistance to landholders willing to undertake regular Fox Control.
 - Investigate ways to employ a Fox Control Facilitator to oversee the implementation of the Fox Control Plan.
 - Promote the Fox Control Plan to relevant Landcare Groups, individual landholders, hold public meetings, engage with shooting organisations, potential sponsors. Promote the proposed Fox State Government Bounty as an incentive for fox control.
 - Have several local Fox Control champions who can provide information and encouragement to other landholders and who can monitor local activities and success.

Cat and Dog Control

16. To reduce cat predation on wildlife, cat traps should be purchased and landowners encouraged to control cats by making cat traps available for borrowing. The relevant Landcare groups could nominate a cat officer for the year who ensures the rotation and maintenance of the cat traps. Northern Grampians Shire currently implements a cat trapping program in some areas of the municipality.
17. To reduce the impact of domestic dogs and dogs roaming in public parks which can disturb and destroy wildlife, signage to exclude dogs from bandicoot areas on public land and encouraging landowners to restrict dog movements in sensitive areas should be applied.

Rabbit control

18. Develop a protocol (or modify an existing protocol) for the ripping and fumigation of warrens in areas with bandicoot populations. Ensure landholders and contractors are aware of and follow these protocols which may include an inspection by DSE or a trained local volunteer prior to ripping. Protocols will include establishing and inspecting sand pads to monitor footprints around the warren and looking for other evidence of bandicoots prior to ripping warrens that may be providing refuge for bandicoots.

Other Threats

19. In areas of known bandicoot activity/road mortality, erect road signs alerting the public to the possible presence of bandicoots

D. Continue to monitor and survey SBB populations

20. Continue to liaise with DSE and Parks Vic re results of trapping and video surveillance and map SBB populations. Use the information to guide other actions and areas of activity.
21. Purchase video surveillance equipment to monitor bandicoot and other fauna (and pest species)
22. Continue to ask the public to report sightings of SBB
23. Train individuals to monitor sites for bandicoot scats and tracks.

E. Build partnerships with Government organisations, other organisations and the community to facilitate the recovery of the SBB

24. Establish an overseeing Southern Brown Bandicoot Recovery Team made up of agencies, organisations and individuals interested in SBB recovery. This group will share information and oversee the implementation of the plan. This plan should complement SBB Recovery Plans for public land. Partners/members of the team will include current partners and other invitees will include a Trust for Nature, Northern Grampians and Ararat Councils.

F. Promote public awareness of the SBB

25. Prepare and mail out a “Bandicoot Kit” and DSE’s SBB Fact Sheet on SBB to landholders in the vicinity of bandicoot populations.
26. Use the media to highlight the plight of the SBB and a range of actions landholders can do to protect wildlife.
27. Organise community events such as bandicoot habitat planting days and field days.
28. Organise a local fund to sponsor Bandicoot Recovery Actions.
29. Get school involvement in Bandicoot recovery Actions.
30. Establish the bandicoot as a Flagship species or Fauna Icon for our region to highlight the needs and threats of our native fauna, including Fat Tailed Dunnart and Striped Legless Lizard.

G. Assess the need for captive populations

31. Through the SBB Recovery Team, discuss the possibilities of locating captive breeding programs and/or fenced populations locally to build up populations. Invite an expert to address the Team and outline the feasibility and effectiveness of such a project.

SUMMARY TABLE OF ACTIONS

The summary of the proposed 31 actions prioritises the importance of actions and lists a possible time frame for the completion of actions. An indicative cost is also listed. The action table can also serve as an indicator of progress on the Local SBB Recovery Project.

Table of Actions Local SBB recovery Plan – Upper Wimmera						
	Action	Priority	Timing of action first (1) to last (5)	Approx. Cost \$ - low \$\$\$\$ - high	Notes	√ Done or in Progress
1	Produce and circulate a local SBB Recovery Plan.	High	1	\$\$\$\$	Using Norman Wettenhall Foundation Grant	√
2	Promote understanding of EPBC Act to targeted communities	Low	4	\$		

3	Organise a community field day	Medium	3	\$\$\$		
4	Liase with Councils re planning controls in SBB zones	Low	4	\$		
5	Identify and support appropriate habitat management	Medium	4	\$		
6	Prepare appropriate revegetation list of indigenous plant species	Medium	4	\$		
7	Establish a targeted revegetation program for landholders in known SBB areas.	High	2	\$\$\$		
8	Identify links and corridors to be revegetated both on private land and on roadsides, creek lines	Medium	3	\$\$		
9	Investigate methods of providing artificial habitat such as Bandicoot boxes, piles of logs etc	Low	4	\$		
10	Trial innovative ways to provide "instant habitat" particularly for corridors by direct seeding robust and quick growing plants	High	3	\$\$\$		
11	Reduce inappropriate control burns/fire management activities	Low	5	\$		
12	Investigate the advisability of patch burns of bandicoot habitat	Low	5	\$		
13	Develop a protocol (or modify existing protocols) for managing weeds such as Gorse and Blackberry	High	3	\$		P
14	In bandicoot areas where there are non-habitat providing weed infestations re-establish native vegetation	Low-Medium	5	\$		
15	Develop a Fox Control Plan	Very High	1	\$\$\$	Applied for CFoC grant	
16	Reduce cat predation on wildlife, by distributing cat traps.	High	3	\$\$		
17	Reduce the impact of domestic dogs by an awareness campaign	Low	5	\$		
18	Develop a protocol (or modify an existing protocol) for the ripping and fumigation of warrens in areas with bandicoot populations.	Medium	3	\$\$		P
19	In areas of known bandicoot activity/road mortality, erect road signs	Low	5	\$		
20	Liase with DSE and Parks Vic re updating of mapping SBB and results of trapping and video surveillance.	High	1	\$		P
21	Purchase video cameras to enable surveillance of SBB and other fauna and foxes	High	1	\$\$		
22	Continue to ask public to report sightings of SBB	High	1	\$		P
23	Train individuals to monitor sites for bandicoot scats and tracks	Low	4	\$		

24	(Re)Establish an overseeing Southern Brown Bandicoot Recovery Team	Very High	1	\$		P
25	Mail out DSE's SBB Fact Sheet/ Recovery Kit to landholders in the vicinity of bandicoot populations.	Medium	3	\$\$		
26	Use the media/websites to highlight the plight of the SBB	Medium	3	\$		
27	Organise community events such as bandicoot habitat planting days and field days	Medium	4	\$\$		
28	Organise a fund to sponsor Bandicoot Recovery Actions.	Low	4	\$		
29	Get school involvement in Bandicoot recovery Actions.	Low	4	\$		
30	Establish the bandicoot as a Flagship species or Fauna Icon for our region	Medium	4	\$		
31	Discuss the possibilities of locating captive breeding programs and/or fenced populations locally	Medium	3	\$		P

NEXT STEPS

- Re-establish a steering group – SBB Recovery Team to oversee the implementation of the Recovery Plan regardless of any project funding success.
- Apply for funding to undertake the priority actions in this Southern Brown Bandicoot Recovery Plan- Upper Wimmera

SUMMARY

With known populations of SBB in our region and as the primary natural resource manager in the Upper Wimmera, it makes sense for Project Platypus and its Landcare network to be involved in actions to assist the recovery of SBB. Project Platypus will use its strength as a community driven organisation and its partnerships on the region to address those aspects of the National Recovery Plan which suit its organizational structure and its area of expertise. Because Project Platypus is a community organisation it derives its funding to undertake a variety of revegetation, remnant protection and pest plant and animal control from external sources. It is proposed that Project Platypus applies for funding from a variety of sources to undertake the next steps, identified as priorities for the recovery of the Southern Brown Bandicoot.

REFERENCES

(Draft) National Recovery Plan for the Southern Brown Bandicoot *Isoodon obesulus obesulus* by Geoff W Brown and Micaela L Main

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