Newsletter No 9

Warron

Eastern Barred Bandicoot Newsletter

PROGRAM UPDATE

Hello and welcome to Newsletter No. 9 of the Eastern Barred Bandicoot Recovery Program.

Some new faces have joined the recovery program since the circulation of the last newsletter in November 2001. I would like to begin by introducing myself. My name is Mick Baker and I have replaced Mandy Watson as Convenor of the EBB Recovery Program. Mandy has been taken away from her beloved bandicoots for six months to work on another important biodiversity project. I am therefore filling in for her during this time, but we are still working closely together on both projects. I am currently in my fifth week on the program and have enjoyed myself thoroughly. I have met some great people and hope to meet a lot more of you in the coming months.

My background involves school and independent research studies at the University of Ballarat, all of which had a primary focus on fauna ecology, namely small mammals. Just recently, I have been working with Forest Management in the Otway State Forest, before being given this unique opportunity to work with the EBB. My role for the next six months is to convene and work closely with the recovery team, field management team, and the community education program. This will ensure that a high level of predator control and EBB monitoring is maintained at reintroduction sites, and in accordance with the objectives set in the Recovery Plan.

The EBB Recovery Program is currently enduring a busy and challenging time. This is mainly due to the expiration of the current EBB Recovery Plan this year. A preliminary step in revising the plan is to conduct a research review, which will involve specialised staff from the Department and Natural Resources and Environment, the Zoological Parks and Gardens Board of Victoria, Parks Victoria, and other interest groups. The review will be based on an analysis of existing EBB monitoring data, captive breeding protocols, and predator control data, which has been collected from each reintroduction site over the years. This analysis and review will provide the recovery program with a strategic direction for the next few years, which will have an emphasis on research and adaptive management.

So, you are probably asking yourselves whether or not the objectives in the current plan have been achieved? Well, the main recovery goal was to consolidate four self-sustaining populations of EBBs across its former range. All reintroduction sites have had their ups and downs over the past couple of years. Despite prolonged periods of drought, *Lanark* and *Mooramong* have proved to be the most successful reintroduction sites. These two sites show that populations can be self-sustaining without predator-proof fencing, but with a continued integrated effort in fox and cat control. Hamilton Community Parklands also appears to be self-sufficient, although animal numbers are presently lower than usual. After a major setback, Woodlands Historic Park appears to be slowly re-establishing a population, and some good work has been done there on the assessment of predator activity levels and EBB survival, which may be applied to other sites in the near future. Despite a sustained and intensive fox control program, Lake Goldsmith has had limited success with population establishment, and unfortunately, Cobra Killuc has to be considered a failure at this stage. However, we hope to learn more about how to deal with this in the future as the program progresses with new research and resultant management ideas.

EBB monitoring was conducted in mid-February in the Hamilton Community Parklands. Three individual animals were captured, one being a cleanskin. Although a reduction on recent surveys, we were very excited to frequently encounter an abundance of bandicoot diggings, which indicated that the HCP population was not properly represented by our trapping efforts. *Lanark* has also shown a gradual decline in the EBB population over the past six months. Although populations naturally fluctuate according to the conditions, only two individuals were captured in December 2001. However, with continued effort in predator control and with the moist conditions prevailing, hopefully an increase will be observed during our next survey this month.

Mick Baker
Program Convenor

Warron is the Kirrae Whurrong word for the Eastern Barred Bandicoot

PETER GOLDSMITH RETIRES

Peter Goldsmith worked with Department of Natural Resources and Environment (or one of its former names) for 35 years and on the Eastern Barred Bandicoot Recovery Program for 16 years. Peter retired at the end of 2001 and several people who worked with Peter asked for space in the Warron to relate some anecdotes of Peter's time on the team.

Peter Goldsmith with bandicoot
Photo courtesy of John Seebeck

From Barry Wright

There are heaps of unprintable anecdotes re P.G. (no P.G. does not mean *Perameles gunnii*) but at the moment there are two that tickled my fancy and are printable. Both are about relatively new, (at the time) and dedicated staff. Peter has a dry sense of humour and a logical wit; the first story is about Mandy Watson. On one of Mandy's early visits to Hamilton for the trapping of EBBs, it was decided that we would show her animals at night by spotlight in their natural habitat and also monitor predator numbers. All was well until our trusty chauffeur (P.G.) buried the Departmental Camira in deep mud in a known watercourse. Mandy asked P.G. 'What will we do now Peter?' P.G., unsure if Mandy was being critical or not, suggested that she and yours truly might like to hop out and try to push the vehicle rearwards out of the bog, thus eliminating a long walk in the dark for help. Mandy as keen as mustard, assumed a position at the front of the vehicle and when P.G. gave the command to 'PUSH', she gave it everything. The car didn't budge and Mandy was strangely quiet. As she came into the cars lights, we could see that she was covered from head to foot with black mud. P.G.'s remarks! 'er don't ever stand in line with the wheels of a front wheel drive car in a bog Luv'.

Then there was Janine McKay, known as Bloodnut. Bloodnut was hopeless at finding her way anywhere off main street in Hamilton, she would always say when we set off to an EBB habitat area 'Right'O I'll follow you fellas'. Trouble was she drove slowly and gave way to cars well short of entering intersections etc. In the end P.G. would allow Bloodnut to follow about halfway and then leave her well out of sight. It wasn't long before she was saying 'Right'O I'll meet you there'.

One other printable comes to mind. We were required to attend a firearms safety day at Heywood. PG was incensed that we had to shoot at a target (a beer carton) which was a relatively close distance, using a 12 gauge cartridge. Peter replaced the number two (cat-shot) with a Birdfrite. The resulting big BANG and cloud of thick white smoke coming from the beer carton certainly attracted some attention.

From Mandy Watson

I have known Peter since I started work with the Department, which was in those days, the Department of Conservation, Forests and Lands. It was 1989 and my first permanent position was as the 'Bandicoot Ranger' at Gellibrand Hill Park (now known as Woodlands Historic Park). My main tasks involved managing the captive breeding, reintroduction and predator control programs in the 'Nature Reserve' at the park, which is now known as the 'Back Paddock'.

I used to travel to Hamilton periodically to capture and bring back wild EBBs for the program. Peter Goldstraw and Barry Wright used to assist me from the Hamilton end. We would meet in Hamilton, go out and look for EBB 'signs' at the known bandicoot 'hot spots', where we would set up our traps for the night. Peter and Barry also used to travel to Gellibrand Hill Park to help me out with population monitoring and predator control. They both taught me a great deal and really 'took me under their wings'. They even taught me how to shoot (among other little tricks for disposing of unwanted feral animals).

Peter always amazed me with his capacity for learning and retaining information, particularly about wildlife. In my view, that was his greatest strength. You could always count on Peter for the 'local knowledge' about species. He was like a walking encyclopedia for the

Western District. When I first started with Flora and Fauna in Warrnambool in 1995 I spent quite a bit of time on the road with Peter and out in the field (which is a rare thing these days). Peter knew all the back roads, the best ways to get from A to B and even knew a lot about the local landholders. He had a great understanding of the changing seasons in the South West and really opened my eyes to the incredible biodiversity of the area. I think the thing Peter enjoyed most about his job, in the years I worked with him, was getting out into the field and doing hands-on work with new animal species, e.g. Brush-tailed Phascogale work, bat trapping, whale work etc.

GOLDIE'S DUBIOUS PAST

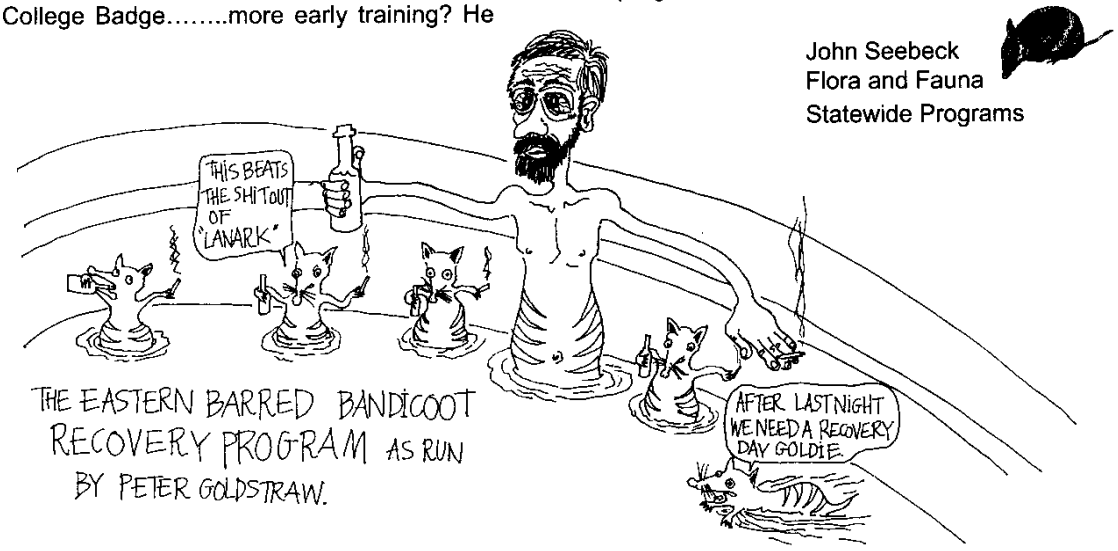
Working on the EBB program at *Lanark* was one of Peter's particularly favourite tasks, as the Fentons shared our passion for the natural environment and always made us feel completely at home when we were there to do trapping. I know Peter is already missed by his ex-colleagues in the South West and also by his many bandicoot friends.

Among all the tall tales about Goldie, some truths must be recorded. Peter comes from an old local family in the south-west, although details of his early life have been concealed, presumably to protect the innocent. His interest in things natural (well, the printable bits) were formally commenced when he studied for a Diploma of Agricultural Science at Longeronong 1963-65 – a fellow student with Phil Du Guesclin – where he was Captain of Rifles; thus, his college nickname remains a state secret! Mind you, his shooting expertise has certainly helped reduce the fox and cat threat to EBBs. Their may be no truth whatsoever in the rumour that he was involved in the translocation of the College Badge.....more early training? He Joined the Ag Dept in 1966 but deserted them soon after for Nasho with the Army for two years, further honing his rifle skills and learning more about the gentle art of scrounging, a very good skill to have in NRE. From Ag he joined the Wildlife Branch at ARI as a Wildlife Management Officer in 1975 and was transferred to Sale in 1977, where he spent a lot of his time bothering the local waterfowl, and the odd deer. In 1982 he was promoted (?) to the job based at Warrnambool, where he did more than his share of the dreaded Stat Planning when he couldn't escape the office to his beloved bush, or the coast, particularly in winter when the Southern Right Whales were present.

When the EBB Recovery Program began in earnest, Peter became one of its staunchest activists and, with Barry Wright, trapped, spotlighted, tagged, protected and wrote about the animals, the project and his role in it. Without his input, local knowledge and diplomacy skills – and his pest animal vendetta – EBBs would have been in vastly more strife than they are now.
Peter's cousin Helen was married to Robert Ullman, renowned wildlife artist, who died a couple of years ago. Peter regarded some of the highlights of his own work, especially with EBBs, was to have been able to watch Robbie sketch in the field, and later translate those sketches to magnificent works of art, some of which grace the Goldstraw walls. What fabulous people one does meet when you get involved with threatened furry critters.

I have enjoyed many great times with Goldie, bothering bandicoots or the odd sherbet, swapping yarns and surviving some most enjoyable social times with him. Peter and Chris have contributed so much to wildlife conservation and his retirement, although sad for me and the program, is well deserved.

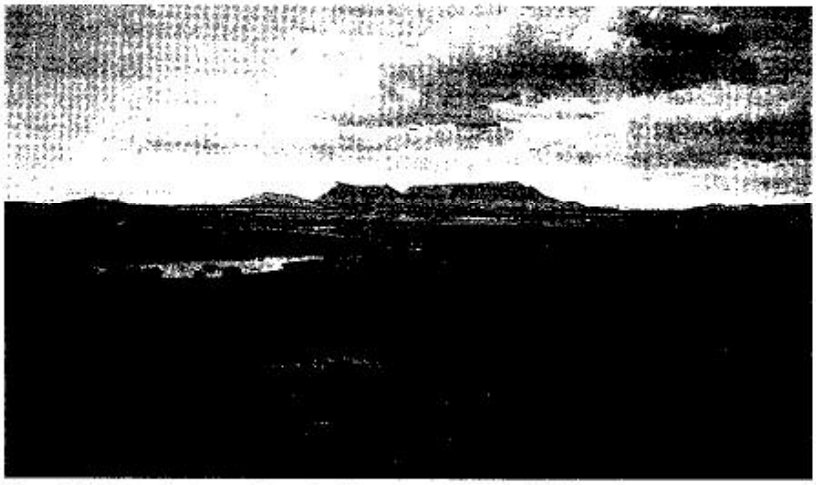
John Seebeck
Flora and Fauna
Statewide Programs



THE EASTERN BARRED BANDICOOT RECOVERY PROGRAM AS RUN BY PETER GOLDSTRAW.

ONCE WERE BANDICOOTS

Most of us involved with the Recovery Program for Eastern Barred Bandicoots only know them from the remnant population at Hamilton, and at the various re-introduction sites that we have painstakingly attempted to establish across the western plains. It is well nigh impossible to imagine the plains and their wonderful diversity of wildlife as it was at the time of European settlement. We have some idea, of course, from journal accounts such as those of George Augustus Robinson, Protector of Aborigines; from books such as that written by James Dawson, who settled at Mortlake in 1844; from the paintings and drawings of artists like Eugene von Guerard; and from archaeological investigations. Modern surveys and syntheses by skilled botanists and geographers can help us to 'see' the plains for what they were, in landform and vegetation, and modern surveys help to define the existing fauna. Reconstructing the wildlife is a fascinating exercise, a real detective task, because the evidence is so thin on the ground. Such information as we can assemble comes from searches of the contemporary and modern literature, museum specimens, fossil deposits and the surviving remnants of that fauna. These records, especially the fossil material, often reveal that certain species were once much widely distributed than modern wisdom would have it, as well as helping us to understand the process



'Stoneleigh', Beaufort, near Ararat by Eugene von Guerard, 1886. A view over the Western Basalt Plains looking towards the Grampians

of decline that has been a direct result of settlement. And thus it is with Eastern Barred Bandicoots. The earliest fossils that are known and dated are Pleistocene, about 19000 years BP (Before Present), from Hunter Island off north-western Tasmania. Contemporary fossils have been collected on Prime Seal Island, in Bass Strait; these may include more recent deposits, as young as 8000 years BC. Bass Strait has also yielded fossils from Flinders Island, so it is apparent that during the last Ice Age, bandicoots were able to move between the modern mainland and what was to become Tasmania. South-eastern South Australian caves have yielded Eastern Barred Bandicoots, demonstrating that their occurrence in that State was more widespread than historic records indicate. And to really confuse the issue, Pleistocene fossils have been located at several widely separated sites in south-eastern New South Wales, far removed from the historic range of the species. We can only assume that the grassland/grassy woodland habitat that is the home of the Eastern Barred Bandicoot elsewhere on the mainland must have been available – the Monaro country shows us something of the kind of environment that once supported the bandicoots. In Victoria, Holocene fossils – up to a few thousand years old, but subsequent to the formation of the western plains – provide evidence that helps us to determine the former distribution of the beast.

So, what was this former distribution, and how did it shrink so dramatically? Following European settlement, the first major reduction in distribution was in South Australia, where the species was last recorded in the 1890s. Only three museum specimens have locality data, and these were all collected by 1893, in the extreme south-east of the State. The habitat was 'open forest', 'Honeysuckle' (*Banksia*) and 'Mallee' on sandy soils with a clay sub-soil, quite different from the habitat in Victoria and Tasmania. The causes of their extinction are not known, but probably mirror those postulated for Victoria.

In Tasmania, the modern range is little altered from that in the past, but in at least some parts, bandicoot numbers have dwindled to almost local extinction. The Midlands, which were grassy woodlands and grasslands, similar to parts of Victoria, and the former stronghold for the species, have suffered most, and it is uncertain how long the bandicoots will remain there. But in other areas, where the expansion of agriculture by forest clearing has created open grassland, bandicoots have expanded their range, and seem to have been able to colonise such cleared land many kilometres away from 'natural' occurrences. Despite this capability, complacency should not be part of the species' management in Tasmania. In the early 1960s, when George Heinsohn carried out his pioneering ecological study of

bandicoots near Smithton, in north-western Tasmania, he was able to easily encounter hundreds of Eastern Barred Bandicoots. Thirty years later, his exploratory trapping found only a handful of animals. What was the reason? George thought that the only significant change in the area had been a switch of grazing, from sheep to cattle, but could not say what might have been the underlying causal factors.

Eastern Barred Bandicoots were first formally recorded in Victoria, in the form of a museum specimen, in 1867. We don't know just where it came from. John Gould suggested in his account of the species in 1863 that it occurred in the 'Port Phillip District' (i.e. Victoria) and specimens purchased from Victoria were in his personal collection; however, their provenance cannot be confirmed. James Dawson included Aboriginal names for 'banded bandicoot' in his 1881 book, but there is little doubt that he collected bandicoots himself; specimens mounted by him were once in the Camperdown Museum, but have long since vanished. Although Eastern Barred Bandicoots must have been abundant, little notice was taken of them, and it was not until 1904 that the first specimen from the Hamilton region was deposited in the Museum. Between 1881 and about 1930, specimens from various places across the plains arrived at the Museum, and it is largely upon these that we can base our model of pre-European distribution. After 1930, fewer records are available, from a much-reduced geographic area, and it is more or less possible to track the decline, at least on a decade by decade basis. The eastern part of the range was the first to shrink, as settlement flourished – Kew, Queenscliff, Werribee, Bacchus Marsh, then Birregurra, Warncoort and so on. Since 1930, the focus has been on the western part of the range – Mount Gellibrand near Colac, Cressy, Noorat, Tarrington, Penshurst, Dunkeld, Port Fairy and nearby Orford/ Toolong, Hamilton and Coleraine. The Cressy colony was last reported about 1932, that at Mount Gellibrand in about 1950, Noorat about 1951 and the last specimen from the Port Fairy area was found in 1971. By the mid-1960s, the main concentration was in and around the City of Hamilton, and that was to be its last natural population on the mainland.

The reduction in range across the State has been mirrored, in microcosm, at Hamilton. During the 1960s and 70s, bandicoots were present more or less throughout the City and adjacent environs, occupying perhaps 2-3000ha, and being common in parks, gardens, along the Grange Burn and in the farmland adjacent to the built-up area. A family of bandicoots even lived in the back yard of the local Fisheries and Wildlife Inspector's home! Seeing and catching Eastern Barred Bandicoots was so easy then. Local residents, apart from a few dedicated Field Naturalists, were blasé about their presence, and simply ignored them in most instances. By the mid-1980s, the geographic area inhabited by bandicoots had halved, and the distribution had been fragmented into three groups. A decade on, the area was down to less than 200ha, numbers were estimated at between 100 and 150, and the population continued to diminish, literally as we watched and monitored. Now, in 2001, numbers are so small that any useful guesstimate is just about valueless. Bandicoots are now found only in one small area to the west, on the Digby Rd, and their continued survival, if one can call it that, in that location is doubtful. The only future for the bandicoots at Hamilton would seem to be within the protected area of the Hamilton Community Parklands – and even there we have to remain ever vigilant.

What caused all this massive decline? Peter Brown, in his original Management Plan of 1989, detailed the probable reasons. Many and varied, and often acting in concert, they can be grouped into two broad categories – habitat alteration and predation by introduced carnivores. To those may be added the use of gin traps to control and harvest rabbits during the 19th century. In more recent times, the use of agricultural chemicals for pasture improvement and disease management, the increase in motor vehicle 'predation' and the 'tidy-ing up' of rural townships (especially the City of Hamilton and its surrounds) with the advent of closer settlement have added significantly to the forces acting against the bandicoots.

It is hard to think of ways in which we as a community could have halted or modified these pressures by the time the need was recognised, and the lack of any large and appropriate reserves in bandicoot country meant that protection was not practiced at any scale, other than by a few individuals. The end result has been that we had to make a choice – either watch the species with its special mainland genotype go down the gurgler, or try an experiment on a grand scale, and attempt the re-introduction of the Eastern Barred Bandicoot to suitable places within its former range. Being conservationists, we chose the latter option, and that has been the basis for the Recovery Program for the last 10 years and more. We can only hope that our project succeeds, and we can eventually see Eastern Barred Bandicoots again running wild across the western plains – or at least parts of it.

John Seebeck
Flora and Fauna
Statewide Programs

WOODLANDS HISTORIC PARK

Katrina Lovett is another new face to the team. Katrina has recently been appointed Ranger at the Woodlands Historic Park.

The last year or so has been a rather tumultuous one for the Eastern Barred Bandicoot program at Woodlands Historic Park (WHP). Wayne's passing left a big gap, both emotionally and in a work sense, as he was the EBB project manager at WHP. Steve Perlen was brought in to complete a trapping program for the entire 'Back Paddock' in May, after which I was employed on a four month contract from June 2001.

Much to my delight, that contract has now turned into an ongoing position so hopefully all the instability is behind us as I settle into my role as the 'Bandicoot Ranger' for WHP.

Bandicoot deaths

Unfortunately in recent times we have also encountered two dead bandicoots. The first one was a young female found by Ruth Marr, a volunteer helping out with the last monitoring program. We sent her to Melbourne Zoo's Veterinary Department where Michael Lynch concluded that it had most likely been a thrill kill by a fox or dog.

The second bandicoot was found by Joe Tognolini (a Field Services Officer based at WHP) and myself whilst conducting a fence check in February. This time it was rather evident what the cause of death was, as the bandicoot remains were found strung up on the fence in an area known to be inhabited by Whistling Kites.

November release and trapping

At the end of November 2001, seven captive held bandicoots were released at WHP in the south-east corner of the Back Paddock. Initially it was expected that we would receive 10 bandicoots for release; however due to one female falling ill and two other animals not arriving from Dubbo, the eventual total was seven. What followed was a more concentrated and intensive monitoring program than previously conducted at WHP, reminiscent to that undertaken by the Arthur Rylah Institute and Parks Victoria in July and August of last year. That is, the program ran over four weeks with two nights of trapping in each week.

At the end of the monitoring program we had encountered nine individual bandicoots: Made up of two clean skins, two from the November 2001 release, four from July 2001, and one from December. Six were females and three males. Of the females caught, one had two pouch young when first encountered, whilst another had two enlarged nipples, indicating that she had been carrying young. We were delighted that one of the bandicoots trapped was a female that had not been seen since a July release.

Echidna in trap
Photo courtesy of Jill Crowe

Much to everyone's surprise (and possibly for the first time in WHP's trapping history, I'm led to believe) we also managed to catch an echidna! It took our wonderful volunteers hours to release the inquisitive critter, and eventually they were left with no other option than to cut the trap in half – whilst trying to avoid the echidna's quills.

Predator proof fence upate

The predator proof fence surrounding the 'Back Paddock' is slowly but surely nearing completion. Another hurdle has been overcome in relation to the fence alignment around the Airport Tower and *Dundonald* ruins. An area of approximately 3 ha, including the tower, has now been excluded from the 'Back Paddock' as a result of the new alignment. This newly excluded area is not considered suitable bandicoot habitat. However, just to be on the safe side we will be setting a number of traps in the area to see if there are any bandicoots out there.

Our recent predator control efforts have been focussing more on trying to stop the foxes from gaining access rather than controlling them once they have entered the 'Back Paddock'. We have recently purchased a 'Pole Pruner' which is able to prune over-hanging branches to stop these as access points. In the near future we will also dismantle the old wooden assemblies that are attached to the outside of the fence (they made excellent access points) and replace these with assemblies on the inside. The fence electrics will soon be active and we have been conducting weekly patrols to ensure the fence's integrity is maintained.

To compliment these efforts of fox exclusion, we will also be undertaking another baiting program during March.

Activity outside the back paddock

During the second week of February, whilst on a routine fence check Joe and myself sighted fresh bandicoot diggings and scats OUTSIDE the Back Paddock fence.

Also, a Wildlife Officer from Western Australia who was in the Park doing some volunteer work, reported a bandicoot sighting in the Moonee Ponds Creek bed. Due to the new fence alignment, this area is now outside of the Back Paddock.

We will be setting a number of traps in these areas shortly to try and capture the 'escapees' and place them back into the more protected area of the Back Paddock.

Both of these sightings serve as a timely reminder of the importance for Park visitors to keep their dogs on leads AT ALL TIMES, as you never know what is lurking outside the Back Paddock.

Katrina Lovett
Parks Victoria

BANDICOOTS IN THE WILD

Breeding animals in captivity and then releasing them to the wild is not as straight forward as it seems. The captive environment is markedly different from what animals may experience in the wild. Some may say, 'what is wild'. It's a good point, as humans have influenced large areas and there are issues such as introduced plants and animals that may affect native wildlife.

Habitat for Eastern Barred Bandicoots has been highly modified by humans. Much of western Victoria's grassy woodlands, the original habitat for EBBs, have been modified for agriculture. Introduced pasture grasses, weeds and predators such as cats and foxes now inhabit EBB habitat. How then can we prepare captive-bred bandicoots for life in a modified environment? The answer is not easy.

The captive environment is very modified. For starters, it is small. Our breeding pens measure on average 4 m x 2 m, the substrate in the enclosures is sand, easy to keep, hygienic, and easily replaced, cover and nesting areas are either artificial or some form of vegetation is provided. In order to prepare young bandicoots for life in the wild, some form of simulated wild habitat is needed. This is not as straight forward as it seems, particularly in the captive environment. For example, how do you go about simulating the presence of predators? Clearly, some aspects of the wild are difficult to simulate. Therefore, we aim to provide a captive environment that elicits naturalistic behaviour, particularly basic survival behaviours (finding/building a home, searching for and recognising food items). In captivity, this is achieved by providing more naturalistic pens for bandicoots placed on the release list.

The following pre-release guidelines have been prepared by keepers as a means of preparing young bandicoots for life in the wild;

- Bandicoots to be weaned after 70 days of age. Expected weight at this time will be between 200-300g.
- Weanlings to be housed in enclosures that encourage behaviours that are necessary for survival in the wild. Enclosures should contain areas of loam soil, mulch and leaf litter that allow animals to dig for invertebrates. The cover of native grasses, logs etc. in the enclosures should be adequate to provide a variety of nesting areas.
- In addition to kibble and vegetable mix, live food is to be fed to weanlings daily until release. Initially, feed around 15g of kibble and vegetable mix and 5g live food/animal daily. The kibble/vegetable mix may be increased according to the animal's consumption to a maximum of 20g being fed. The amount of live food is also to be increased according to the animal's consumption.
- Animals should be held at least 30 days post-weaning and their weight monitored on a weekly basis.

- Once animals are over 400g they should receive a pre-shipment examination under anaesthesia which will include blood collection for serum storage, microchip implantation, and tissue (skin and hair) collected for future genetic analysis.
- Eastern Barred Bandicoots can be considered suitable for release if they are at least three months of age, over 400g weight and judged to be good body condition at their veterinary examination. Animals should have maintained or gained weight in the two weeks prior to release.
- Animals that are intended for release are not to be provided with nest boxes in the pens.

Experience has shown that by following these guidelines, the team can reasonably expect succesful introduction into one of the release sites.

Native Mammal Department
Melbourne Zoo

NEW TEAM MEMBER

Tim Burnard has been appointed as part time Community Education Officer to the Eastern Barred Bandicoot Recovery Team. Tims' main duties will be to put together the newsletter, convene the Community Education Working Group and work with the community to help the team achieve its goals.
In particular, Tim will work with communities near the Hamilton Community Parklands, *Lanark* and *Mooramong* release sites, to implement pest animal control programs.

Tim's work history since moving to Casterton 10 years ago has included working for the Glenelg Shire Business Development Unit as a Business advisor, working with NRE and Land Care groups on pest plant and animal projects and as Extension Officer to the Red-tailed Black-Cockatoo Recovery Team for the past four years. Tim also has a small deer farm and runs a private management consultancy.

Contact Tim Burnard: tburnard@hotkey.net.au if you wish to be added to the newsletter's mailing list.

This Newsletter has been printed on paper produced from totally chlorine-free pulps, using non-toxic dyes.
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Production Editor: Lorraine Slater, Zoological Parks and Gardens Board of Victoria

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