JUNE 2008 BULLETIN 21

Welcome to Rosie

Contents;

Welcome to Bulletin 21.

The telephone rang hot following media coverage about Ken Henry, the treasury secretary going to do a volunteer "stint" with the Northern Hairy Nosed Wombats. Media and politicians alike demonstrated their ignorance of wombats with some of the notable "errors" being; virtually none recognised that the Northern Hairy Nosed wombats are critically endangered and only live in Queensland; our opposition leader not realising that why Ken had to go now was that up to now the area where the wombats live was flooded, no-one picked that the picture the Telegraph had as their lead story had Ken and a Bare Nosed Wombat eyeing one another off,not a Northern Hairy Nosed Wombat , the chances of doing the same with one of their joeys, unlikely in the extreme.

We hope all news about wombats helps inform and educate. A number of media outlets sought information and were sent to appropriate sites and people.

Rehabilitation Law In South Australia

The Society is often asked how people can help wombats. Laws in different States vary. To explain this better, the Laws pertaining to Native Animals in each State, with particular reference to wombats, will be highlighted in the Bulletins' editions, beginning with South Australian Law in this edition.

"A sick, injured or orphaned native animal may be rescued from its natural habitat so that care and treatment can be provided." A rescue permit has to be obtained except "where the animal is to be returned to the wild in the short term". Fauna Permits DEH SA 2007(p1)

"Short term"means seriously short term in South Australia. " Ideally, a rescued animal should be returned to the wild within 24 hours. After a few weeks it is likely that a rescued animal will have adapted to human contact and so may be no longer capable of fending for itself if released. The release of long term captive animals is rarely justified on conservation grounds. There is little conservation value in releasing a common animal back into the wild, particularly if it is behaviorally, physically or otherwise impaired. The rehabilitation and release of a rescued animal must be carefully planned and take into account environmental factors as well as the suitability of the animal for release."

"An animal unlikely to survive is not to be released. This applies particularly to hand reared imprinted marsupials"
" When receiving an animal a carer must assess whether or not it is likely to be suitable for release. This then allows for an appropriate form of treatment; for instance, an animal considered suitable for release should be fed on food that is locally available."

As a general rule, an animal should be released within 1kilometre of its rescue site. To protect the genetic integrity of native anmal populations, a rescued animal must not be released if its origin is unknown. The progeny of rescued animals must not be released... Remember "if in doubt, don't release" Fauna Permits DEH SA 2007(p3)

If the animal is not to be released " in the short term" a rescue permit issued by the Department or Environment and Heritage (DEH) is necessary.

"Applicants for a Rescue Permit must reside in South Australia. If more than one native animal is kept or the applicant keeps an animal of a "Specialist" class then he/she must obtain a Permit to Keep and Sell in addition to a Rescue Permit. Rescuing Protected Animals in South Australia (p1)DEH

On the list of "specialist" animals wombats are listed but not by species. The Southern Hairy Nosed Wombat and the Bare Nosed Wombat both reside in South Australia.

"Rescue Permits may be issued to an individual but not to a rescue group or organisation" Ibid.

"Where long term care is required, applicants must demonstrate that they have the appropriate facilities and experience to care for the rescued animal. Applicants without the necessary experience must have access to an experienced carer who can provide the necessary guidance and supervision." Ibid.p2

Where animals from both the specialist and non specialist classes are kept,the keeper has to hold a specialist permit, otherwise a Basic Permit is sufficient. Wombats are listed as requiring a specialist permit.

The DEH provides permit holders with record books for listing animals kept. Births, deaths and sales must be recorded and returns are required from both types of permit holder each year.(p1) Keeping Protected Animals in South Australia DEH

Specialist permits are endorsed for the specific animal of specialisation, eg. Wombats or venomous snakes.
Protected Native Animals cannot be released without the prior approval of the Director, NPWSA.Ibid.p.3.
It is as a result of the South Australian Legislation that there are wombats in permanent care situations in S.A. The requirement that these animals not be returned to the wild can create problems for any treatment regime requiring longer periods of rehabilitation.

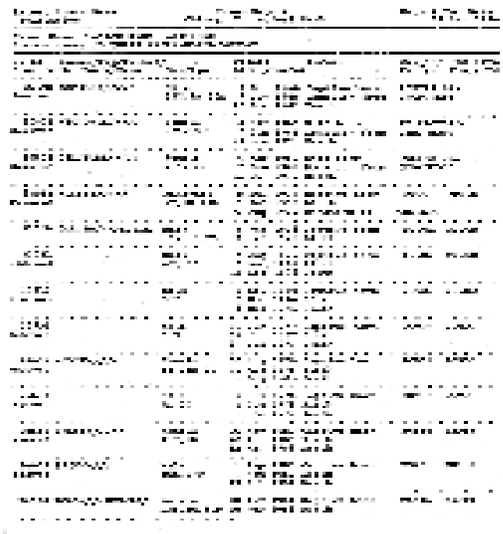
In South Australia, as in all States, permits are given for killing wombats. The Department of Environment and Heritage has a Code of Practise for the "Humane destruction of wombats by shooting. This code applies to both

the Southern Hairy Nosed Wombat and *vombatus ursinus ,* the Bare Nosed Wombat. The code requires wombats be shot using .243 rifles as minimum with an optimum range of 50 metres and a maximum of 100 metres using 87-100 grain shot, shots to be brain shots taken from the side between the eye and ear. Joeys are to be decapitated if hairless or "a properly executed heavy blow to the back of the skull in larger young" This code was developed by D.E.H. and endorsed by the South Australian Wildlife Ethics Committee on 11th May 2007. by the South Australian.

It seems strange that the code which emphasises "humane treatment" recommends the means of death for joeys that it does, particularly for older joeys, given the situation calls for the killer to already be in possession of a gun.

Thanks to Bob Cleaver who sent through links to the various sites for this article.

On a cheerier note he also sent through the birth and death records for Southern Hairy Nosed Wombats at Chicago Zoo covering an approximate 20 year period to 1993.



We organised for a family tree to be drawn up and this is what it shows. Charlie, a male and two females Gertrude and Victoria bred. Gertrude and Charlie produced three young, all males , all of which died , the last dying on the same day as Gertrude so her line stops. The oldest lived of these three young was 4 months old.

Charlie and Victoria went on to have five offspring; Aussie who at 5 years was donated to Toronto Zoo, Carver, a male; Annie, a female and two males, one unnamed who died at 7 months and Eric who died a 10months.

Carver and his sister Annie produced three female young, Tessie who died at 11 months, Toad who went on to produce one young by her father Carver that died the day it was born and the third that died at one month of age. Carver also fathered another male joey that died at 3months and one day. We are a bit suspicious of the Carver- Toad liaison because Toad was meant to have been given to Toronto Zoo in 1983 and the progeny of their liaison was born in 1993. That mystery aside, the records showed that at the beginning there were three wombats, Charlie, Victoria and Gertrude, one male and two females who all together including their offspring, produced 13 live births of which only four lived longer than a year. At the end of the period, three wombats are alive ;Carver from the first born generation and Toad and Annie from the second born generation; one male and two females.

Your Say;

Much thanks for your newsletter it was very interesting reading especially the article with Phil Borchard treating mange. I have been treating one of mine with Genesis pour on which is put down the center of the back & Canola oil mixed with diluted Malawash in a spray bottle 50/50 sprayed onto the crusty bits , he has now been clear for over 2 weeks & was released this week , he is a regular visitor so I can keep an eye on him , fingers crossed .

Cheers June

The wombats seem to be doing reasonably well. I had a huge brown one arrive around 4 one afternoon - quite mangey. Wouldn't let me near it, but went up under the verandah (I was able to take a photo) - when it came down for its food after dark, it still continued to flee every time I went towards it. This was eventually overcome by placing the food bowl under an open window - while it was eating, I was able to drip the cydectin onto it - it didn't even shake. This now has been done twice, so I await the results. Whenever I see a visitor, they get dosed - it is impossible to tell who is who.

Some of them run away when I go near them - Bo on the other hand, saw me at the door and actually stood up the door frame asking for food - he was late that night, and someone else had already emptied the bowl.

Erik went outside for wood on Tuesday evening and was amazed to see three wombats outside - so obviously it would appear from that, that all my released wombats are returning for their feast each night - normally at different times. I released Millicent along with Bo(gart), then Oliver and Jemima - so they have to be the ones returning.

Bo six months ago prior to regular treatment with Cydectin

Lesley

Your Dilemmas

From the galleries of the weird and wonderful "things" wombat get, here's a few more. If you have seen something similar, please let us know.

Society Structure

The Society has over two hundred members who are actively involved in working with wombats. In addition are researchers and people from other groups who have an interest in wombats, or who, through their work make observations about them and their behaviour.

There is a range of interest areas including education, research, mange treatment, mange mapping, sanctuary planning, sanctuary management, ethics, legal issues, road kill, shooting, licensing, wombat watching,amongst other areas of work that people with common interests are linked to. The plan is for each of these groups to have one of their members act as a Co-ordinator , both to keep momentum and focus and also to have one person able to access society resources. As members may be involved in more than one interest group these groups should allow more contacts, particularly interstate.

A group is currently working on a forum structure which will be able to be accessed from the society's site and allow these groups to interact. In the meantime, some groups have begun communicating using personal email addresses.

The Directors and a forum group have been communicating and a mange mapping group is working with Shirley Lack who is the mangemap coordinator. An Education group so far involving Barbara Trigg, (Vic) Claire Davis ,(Vic) Linda Sauvarin (Vic) and Co-ordinated by Linda Dennis (N.S.W.)has been developed.

The Ethics Group is being established and there is a large group working on mange.

Membership of the Public Fund is open to anyone interested and members meeting the requirements of the environmental register are invited to sit on this board.

Jodie McGill has offered to develop a bibliography of all resources "wombat" . It would be helpful if you have your "own" lists if you would send these in so they can be added to the list.

RESEARCH

Jack Lighten is seeking financial support to study wombat phylogenetics. A partial summary of his research proposal is included, the full version is available from the society.

Wombat synopsis

Wombats are Australian marsupials, and the largest extant burrowing mammal in the world. They are notoriously hard to study in the wild due to their nocturnal and burrowing life style. Three extant species exist; the common wombat (*Vombatus ursinus)* the southern hairy-nosed wombat (SHN) (*Lasiorhinus latifrons*); and the northern hairy-nosed wombat (NHN) *(Lasiorhinus krefftii).*

Common wombats are mesic (i.e. their ecological requirements are set in wet/temperate environments). As a consequence they are expected to have been dramatically affected by the contraction of mesic environments during, and after the Quaternary period, inferred from the fossil and paleoclimatic record. They are now extant in South Eastern Australia, Tasmania and Flinders Island and may show genetic signatures of simultaneous range contractions (continent-wide) and expansions (to Tasmania and Flinders Island) as a result of past climate fluctuations, facilitating diversification in the species.

Previous DNA analysis has focused mainly on a few populations in Victoria, revealing reductions in genetic diversity in an isolated population. To date no genetic analysis has taken place on either the Flinders Island or Tasmanian sub-species. In order to permit spatially explicit population analysis such as Nested Clade Phylogenetic Analysis (Templeton, 1998), much larger sample sizes and more inclusive spatial representation of sampling sites are required.

Objective 1.

Increase Common Wombat sample size an number of sampling sites across the species entire range.

Current knowledge of Common Wombat population processes comes from a small number of sampling sites in Victoria, without focusing on an adequate number of populations on a spatial scale representative of the species contemporary distribution. Even within the small number of sites studied, there has been evidence of altered population processes over a small spatial scale (Banks 2002*2). In order to gain an understanding of contemporary population processes of the species as a whole, and differentiation within, a much larger spatial scale of sampled populations needs to be achieved.

Method

For populations not currently represented in museum or other collections, hair samples will be collected at burrow entrances via "sticky-hair traps" (Sloane et al. 2000), and DNA extracted in the field stored at 4°C to prevent degradation and maintain sample quality. Wombat hair follicles are unusual in being relatively easy to extract large quantities of DNA from, and have been shown to be able to provide adequate information to make inferences on population processes (Banks et al 2002 *1) and identification of individuals (Sloane et al 2000). This method of sampling provides an excellent way to monitor rare or elusive species, as well as alleviating the stress caused by trapping. In year 1, sampling efforts will be concentrated on identified populations in South-West Victoria, South Australia, and Flinders Island. At each sample site ecological variables (e.g. soil type, vegetation cover) will be recorded along with GPS coordinates to facilitate spatial recognition of sites, and analysis of genetic architecture in a geographical context.

Objective 2

- Assess genetic diversity and differentiation between individuals and populations

Genetic analysis will focus on both mtDNA (d-loop and the cyt b coding region) and nDNA (microsatallites). Identification of sexes will take place by PCR amplification of a 158 base pair (bp) fragment of the Y-linked *Ube1Y* gene. The genetic data will be used to evaluate and infer past and present population processes and aim to answer the following questions:

1. How are populations related to each other and when and where did divergences take place?

2. Do smaller/isolated/island/peripheral populations have less diverse gene pools than do large populations, and is the amount of variation a result of recent or long-term effects?

3. Are the sub-species classifications of *V. ursinus* confirmed by significant genetic divergence?

Aims Summary

My work will answer questions that have not been attempted in the past and will provide a new insight into the evolution and biology of this important endemic species. The aims of the project are:

1) To investigate the phylogenetic structure of common wombats, identifying the geographical locations of the deepest genetic divergences and the chronology of branching order along lineages and divergence times; essentially the history of the formation of the species.

2) To investigate the genetic variation of common wombats across the entire range. This will allow the study of patterns of contemporary gene flow and identify whether or not population isolation events are a cause of recent human activity. This will also allow the identification on MUs and ESU and thus enable conservation efforts to be realized and

focused on significant populations.

3) To gain a deeper understanding of the population genetic consequences of existing in relative isolation on the periphery of the species range, and/or on islands.

4) To investigate the level of genetic divergence between the three currently recognized subspecies of common wombat.

JOEY'S PAGES

Shawnee raised from 100grams by Shirley Lack N.S.W. with her third joey.

Ranger Jodie sent us through the next article which is pretty exciting. Alison Matthews has been tracking a wombat in the Snowy. You might be able to help.

Wombats Moving Long Distances in the Snow Country

By Alison Matthews & Margrit Beemster

PhD student Alison Matthews from Charles Sturt University's Institute for Land, Water and Society is currently monitoring the movements of wombats at Perisher Valley as part of her research on the effects of climate change on the distribution and resource use of grazing mammals in the Australian Alps. GPS data logging and radio tracking is being used to discover how far common wombats roam along and above the snowline (1500m). "One male wombat is moving at night to the top of Mt Perisher at 2000m," says Alison. "It will be interesting to see what he does in winter when everything is deep in snow." Five wombats have been trapped and collared so far and will be followed for one year. One male wombat, over a three week period in summer, covered an area of 500 ha. This area is about 10 times larger than expected from previously reported home range sizes of common wombats. Changes in home range will be examined once the area is deep in snow. Anyone visiting Perisher Valley during winter who spots a wombat that has been collared and ear tagged can contact Alison with details of where and when it was seen, and if possible, the colour of the tag at almatthews@csu.edu.au.

From the BIODIVERSITY RESEARCH Newsletter of the NSW Biodiversity Research Network Issue 26 June 08 p5-6