

Bulletin Number 22 - August 08

Welcome to Bulletin 22.

This month's bulletin will cover our presentation at the 2008 National Wildlife Rehabilitation Conference.

The Society has members from all States and members from most of the rehabilitation groups that deal with wombats. Members include those from Fauna Parks and Sanctuaries where wombats are kept and NPWS Rangers, Vets and Zookeepers.

There are members who own private property where wombats reside and members who represent community groups concerned about wombats and their welfare. We have a broad brush that incorporates people from many backgrounds and many different ways of thinking about wombats and their problems.

The Society has an overseas membership and an associate membership for people under 18. A large public interest group is involved and taps into other groups whose work impacts on wombats, like those trying to save or care for forests, landcare and other environmental groups.

The Society is linked to organisations where primary concerns are animal welfare rather than conservation alone. "Voiceless" the fund for animals assisted publicise information about mange and the World Protection Society for Animals have assisted today's presentation.

The Society, while having many members who are active rehabilitators, has a broader membership than rehabilitators alone. On behalf of all our members, we thank the conference organisers for allowing an "interest group" to contribute to this rehabilitator's conference.

The overriding concern expressed to the Society by members and members of the public concerning wombats is mange. Other issues such as shooting, lack of protection and road kill rank high, but mange and its impact far outweighs any other concerns. People are quite traumatised when they come into contact with a wombat with mange. The campaign

Wombats, National Icon ; Mange, International Disgrace offers people the opportunity to express these concerns.



Wombats, National Icon?

Wombats are used regularly as National Icons - and in South Australia, the faunal emblem. They are even used to represent "doing good" environmentally as a few recent advertisements show. Healthy specimens appear on cards and posters, television advertisements and fauna park and government department stationery. It is understandable that Australians and visitors alike are shocked when they encounter a wombat with mange. Mange and how it affects wombats rates as the Society's most discussed and most reported issue for wombats. It causes suffering not only to wombats but to the humans who see them.

Mange is widespread throughout all populations of wombats in Australia with the exception of the Northern Hairy-Nosed Wombat which currently remains unaffected. They have enough problems as it is.

Not that long ago reports began of mange in the Southern Hairy-Nosed Wombat populations as well as in the Bare-Nosed Wombat in South Australia. Mange is now well established in those populations. Wombats in ACT , NSW, throughout Victoria and in Tasmania and on Flinders Island have been reported recently to have mange.

Mange, left untreated causes wombats to die, often a long and drawn out death. Australia's claim that the wombat is a National Icon and a Protected species is taken literally by the general public, both in Australia and Overseas. People are totally confused when they find that "protection" doesn't include protection from disease or infestation.

Protection as most of you here would know is defined by certain ACTS of parliament in each state. The primary differences between a protected animal and an unprotected one in Australia is that you need a license to shoot or keep a protected one.

The term "protected" in its legal sense has little relevancy to what the ordinary person believes "protection" means. Conservation paradigms that promote "common animals" as expendable may explain overriding complacency to unacceptable suffering. So how does a Society that doesn't do any of the things its members do - we don't run a sanctuary, we don't rescue orphans, we don't license carers... "Protect" Wombats when the laws that should don't?



Mange, International Disgrace

On the Society's website there is a lot of information about mange. This talk is not intended to be a primer on the subject, rather an explanation of how the Society's members have responded to the community concern about mange. That being said, some brief information and also contradiction needs to be understood.

Mange in wombats is caused by the *sarcoptes scabiei* mite, the same species of mite that causes scabies in humans and mange in dogs and a variety of other animals. Two varieties of the mite are known, one a canine and the other primate subspecies. While *var. wombatis* is often used to describe mites found on wombats, these mites have not been identified as a separate subspecies.

It is possible from anecdotal evidence that wombats are affected by both sub species. The female mite buries into the skin and deposits eggs in tunnels under the skin. Males and nymphal stages remain on the outside of the animal or person. The female mite is reported to live a maximum period of five weeks within the skin then she dies. If mites are on a host that responds to them for example canine mites on a human, the life cycle will not continue. Such an infestation is described as self limiting, because it will not continue.

People have reported getting mites from wombats and not developing second cycle scabies infestation, a similar finding to that of Lee Skerratt (2001) who undertook one of the few studies on mange in wombats, this could suggest mites of the canine subspecies. However, there are also reports where untreated, mites from wombats on carers have continued to

three months and longer, suggesting the mites completing life cycles and perhaps explained by these being of the primate subspecies.

The Society is encouraging Jack Lighten, a PhD researcher to study the mites afflicting wombats so we can be clearer about which mites are affecting them. Proper mite DNA analysis has yet to be done but such work could lead to future options like vaccines and may in the interim impact on any action taken to assist wombats.

In some areas people are eradicating foxes as a means of reducing mange in wombats, however Flinders Island and Tasmanian wombats have had mange without foxes being present on either island. If wombats are affected by both types of mite, then such action will only be beneficial if the canine subspecies which also affect foxes are involved.

The Society encourages members to help researchers working in related areas collect samples and to encourage their groups to contribute. It encourages the general public to directly donate to projects working in the field.



Why is this allowed to happen to them?

As Australians we are not only preferentially placed to help wombats, but many believe it is part of our global responsibility. Our National response to other country's behaviour in its management and care (or lack there of) of animals also means we cannot expect to take the high moral ground internationally while accepting unacceptable suffering of our own native animals.

In recent times the focus in animal care world wide has been skewed towards animals facing extinction, and in many ways, rightly so; but care must be taken not to allow native animals to suffer or have fewer rights than a domestic animal simply because they aren't about to become extinct. There is a growing demand in Australia that animals must not be allowed to suffer as evidenced by discussions about the live export trade and mulesing. There is International concern about whaling, use of live animals to produce medical products, and inappropriate captivity of certain animals.

The Australian public and the International community has a general notion about what is acceptable and what isn't acceptable with respect to animal welfare. Most reasonable people would not accept or condone allowing a wombat to develop mange. Allowing a domestic animal to be in that state would receive penalties under animal cruelty legislation.

Reasonable people don't consider it reasonable; as an eight year old child put it recently, that this is "allowed to happen to them."



What is happening to them?

Mange can be described by its clinical presentation and this is published on the Society's website. Skerratt thesis (2001) also provides this information.

The public first notice it because of behavioural changes in the wombat. Wombats may be seen out in the daytime or behaving oddly, going near dogs or domestic stock or are found in sheds and under houses. The wombat, seen this way is often covered in thick scabs caused by the female mite burrowing into the skin. The scabby plaques that form often crack causing deep chasms in the skin which bleed and become flyblown, particularly in summer. The wombat can be so severely affected by resulting infections that it smells and its movements are accompanied by swarms of flies in summer. Mites burying in near the conjunctiva of the eye and the soft tissues of the nose and ears render the wombat fairly unresponsive to most things. Wombats are often considered blind (because they are out in the daytime) but unless the eye has been permanently damaged it is the scab encrusting the eye that causes blindness. This has been reported to reverse when the infestation resolves. The build up of mites and crust is likely to make the wombat unable to smell or hear. Wombats recovering from mange infestations are reported as able to see and hear and it is considered a positive sign of recovery when they become reactive. The wombat in the photograph above is being treated.



Are we letting this happen?

In trying to answer the question "Why Do We Let This Happen To Them?", a range of impediments to taking action were identified and developed as a discussion paper and put on the Wombat Protection Society of Australia's web site for comment.

One of the impediments to taking action against this infestation is misinformation about mange. Some people still believe mange is an incurable disease and that there is nothing that can be done at any point. Mange will develop to the point where the wombat is unable to recover. Major systemic and often catastrophic changes occur which lead to death, however these things come as a result of the infestation, they aren't causal. Lee Skerratt showed that perfectly healthy wombats can be infested with enough mites to develop mange and that when the mites are removed they can be perfectly healthy wombats once again.

A subsequent discussion paper, also on site, looked at what rehabilitators and researchers had or were using on mange and what commercially available products had been or were being used to treat wombats with mange.

Most information about treating mange in wombats comes from Lee Skerratt's work where two courses of three injections of ivermectin were used successfully to eradicate infestations. Lee did not trial treatment modalities and as there remains no published comparison of different treatment options, many carers use a series of ivermectin injections when a wombat has mange.

Recognising this method had major drawbacks when applied to free living populations of wombats, the Wombat Protection Society held a Symposium on mange in October 2007 to discuss the issue.

The wombat in the photograph above was euthanised.



Can I do anything to help?

Many rehabilitators from different rescue and rehabilitation groups contributed to the symposium, amongst others.

Following the symposium a range of groups and individuals reported back on wombats they saw with mange and on how they treated them. Some of the best field information comes via release sites where hand reared and released animals able to be recognised return with mange and are treated. It is a devastating experience for carers who have spent long years raising a healthy animal to release; to find it return carrying a potential death sentence. It shows too how rehabilitation for individuals may lead to options for their free born cohorts. The symposium also led to the development of a number of suggestions, one of which was mange mapping. This allows reports of wombats with mange to be logged to a publicly available google map available to and contributed to by anyone anywhere in Australia.

Information about this is also available on our site. The map, serves a number of purposes, including showing mange distribution, and allowing people treating wombats to continue to report on their progress. The map gives people a way of caring and helping by placing an icon on the map in recognition that this should not be happening.

The wombat in the photograph above is being monitored at a release site in NSW.



Is there anything you can do to help the wombat?

Early stage mange on wombats has been reported by members to have resolved using a variety of mange treatments on released and free living wombats. Products which have been used include stock pour ons such as Ivomec, Cydectin and Genesis and dog products, including Revolution, Advocate, Frontline plus, Frontline and Advantage. Some reports of success using sulphur in oil have also been received. Most reports indicate a long recovery period often evidenced initially by the mange not getting worse. This stage can last for a number of months and treaters are often concerned that "it is not getting better". Next reports indicate hair regrowth following ongoing treatments.

No report has shown any single treatment of any product effective and some carers in consultation with their Vet have used products more frequently than normal.

Pour on / spot on products currently rate as more practical in their potential use for eliminating mange in populations of free living wombats than injections or washes or sulphur / oil treatments. There is still a lot of research needed in this area to determine efficacy and to minimise any harm that these products could cause. Some people refuse to have synthesised products (eg; organically registered farms) where sulphur / oil is acceptable. Sulphur / oil is not good around waterways where fish can be affected and may not be good on wombats in cold conditions. Hence what is used and why will need to vary. The wombat in the above photograph was treated regularly at a release site and is now recovering.



Are there different types of mange?

Types of Mange?

Some people believe there are different types of mange and that may explain variable responses to the use of certain products. Some animals are very ill, others remain fat and healthy looking despite hair loss.

Some carers claim one product absolutely works while others will say they had no success with the same product. Skin scrapings often reveal no parasite load making identification of ongoing mite activity difficult and in situations where other animals also with mange are

treated or handled, difficulty in managing mite reinfestation can play a part in whether mites are removed or not.

Two mange presentations are often described by reporters. One is described as white / chalky dry presentation and the other a brown / scabby wet presentation. Wombats in the same area can show apparently different presentations of mange which given similar environmental variables is of interest.

Whether these are representative of different mite infestations (for example one may be caused by canine strain and the other primate) or whether these are simple clinical variations is unknown. These presentations are not explained by clinical progress. The wet mange is often accompanied by minimal hair loss while the initial stages of the white scaly mange show quite dramatic hair loss without scabs forming until later. South Australian carers working with Southern Hairy-Nosed Wombats with mange indicate the white chalky presentation is not on the Southern Hairy-Nosed Wombats but Bare-Nosed Wombats from closer to the Victorian border show that presentation.

The Society has developed a photo bank and encourages and follows up on people who treat mange to contribute.

The wombats pictured in the above photos lived on opposite sides of the same road in Coolagalite NSW. The smaller one with little hair loss died, the older wombat with extensive hair loss is doing well.



**First, do no harm
(neither of these wombats have mange)**

It is likely that free living wombats will regularly reinfest one another until action is taken to treat wombats. Joeys of manged mothers will inevitably carry her mites and when a wombat dies in a burrow, the mites need to find a new host or they die. There seems little point in treating burrows unless it is known to harbour a recently dead wombat. Control can only be achieved by treating wombats with mange rather than ignoring them.

Some carers and property owners regularly treat wombats even where signs of mange are not evident on any particular animal, an approach used with domestic animals. Long term impact of regular treatment with any product has not been described. Impact of synthesised products on lactating females and joeys has not been described. The practicalities of treating free living wombats as often as monthly are difficult and this approach may be more suited to small scale situations like sanctuaries and Fauna Parks and private properties. Any broad scale approach will need the involvement of the wider community and will need to use the safest possible miticides.

The ideal is yet to be found and in each State various legislation dictates what and whether anything is tried. In South Australia any treatment program which removed a wombat from the wild would render it unreleaseable. In Victorian parishes where wombats are unprotected there may be no requirement to seek permission to treat wombats where in other states treatment programs may need to be administered through licensed groups.

It is hoped that research will develop better options in the future, perhaps a vaccine or some other form of permanent means by which to stop mange. There is a long way to go in that respect and all research helps. Victorian, Hayley Schwartz, is studying ion bonding in

wombat blood and needs samples from wombats with and without mange, living or recently deceased. Details about this project are also on site. Free living wombats can be helped directly, and through further research. The Society encourages both.



Can free living wombat be helped?

Those who treat wombats with mange have developed different techniques depending on what treatment they are using.

Treating wombats without having to catch them has led to a variety of approaches. There are pros and cons with all the various ideas including squirting products on with water pistols, (these vary in delivery rate and leak) using garden sprayers to put a wash on from a distance (hard to cover the animal and you generally only get one chance) to using containers to dribble sulphur in oil on (needs constant monitoring and refills / winter / fish issues).

Some people use the fact that some wombats can be approached very slowly and quietly from behind and dose directly onto the wombat. A pre-measured dose is either poured on or squirted on from a needle less syringe. Distance can be achieved by taping a syringe to two long sticks. This can allow dosing in pipes and burrows as well as from a safe distance.

The Society encourages people to share their ideas and experiences and to evaluate problems and share solutions.



Sharing ideas and knowledge

A burrow flap device allows pour on products to be "self applied" and owes its origins to the original container developed to deliver sulphur / oil as wombats come and go. A container of a size suited to the product used (eg; a soft drink cap holds 4mls which is the maximum dose rate needed to treat a 40k wombat with Cydectin) is stuck to a hole (allows the dose to be delivered either as the wombat goes in or out) in a sheet of ply hung from a wire frame in front of a burrow or on tracks or fences used by wombats. Which product works most effectively and whether there are types of mange that resolve better using specific products or specific dose rates and regimes all need ongoing research.

There are many issues to investigate and much more research needed but it is a move in the right direction to begin to take action rather than waiting until an animal is so ill that the only intervention is death.

The Society encourages people working with wombats with mange to share their experiences and knowledge, to document the treatments well and take photographs and to

keep copies of any blood studies or other diagnostic work vets or others may have completed. It is only through working together and co-operatively that we can stop wombats suffering.



Finding non invasive approaches

There is no bank of money available to do the research and field work necessary to quickly determine the best way to address mange in free living wombats. We need to make a sort of tapestry by supporting research which may assist us better understand but in the meantime everyone needs to centralise their field work experiences so errors aren't made and the best and most effective options used.

I would like to take this opportunity to thank all those people who have expressed their love of and concern for wombats and to congratulate all those groups that encourage their members to interact with other carers, share knowledge openly and work together in their separate groups for the welfare of wombats. Some groups have gone out of their way to train members and supply them with treatment products to treat wombats.

It is now important to monitor any issues and problems which may arise where treatment programs are undertaken and to help rehabilitators have the best and most up to date information about whether there are any reported adverse impacts from any particular products used on wombats.

The photo here shows a wombat gate being tested as a possible delivery device for pour on products. There are two interesting features here, the first is that the product was placed on the wooden cross bar and as you can see poured onto the wood rather than the wombat and the other, this was not the target wombat. This sort of follow through will hopefully prevent errors and help groups design and develop treatment programs that work.

The society encourages and follows reports of wombats being treated and will continue to make this information available to carers from any group.

This photo is from Phil Borchard's research on wombat gates.



Testing potential solutions

Whoever it is and whatever they are doing, it is vital that we all share this information and knowledge. The different paradigms groups work within dictate their attitude, training and

therefore outcomes for animals. If you believe there is no conservation value in rehabilitating common animals you will have a different approach to the person who believes each sentient being is worthwhile and deserves to live a life free from suffering. If you live in one State in Australia you will have different options codified in law regarding what you may do.

Different groups working from different paradigms will make different decisions about whether to treat or shoot ill wombats, they will make different decisions about whether to expend funds on ensuring release areas and others are mange free and how and when and whether to treat wombats. As a result there will always be some debate about what should be done. Provided that debate promotes animal welfare rather than human ego then it is healthy .

However something must be done. We owe the eight year old who asked; "Why do we let that happen to them?" a better explanation than we currently can offer.



**Wombat, National Icon?
Mange, International Disgrace**