

# Native Australian Mammals as Pets: An Overview

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## ABSTRACT

This paper looks at how a retail native mammal pet industry may be structured and regulated. The factors which determine a native mammal's suitability to pet keeping are reviewed. The paper also presents a short list of species with sufficient potential to warrant evaluation as pets. This short list was developed on the assumption that there was more conservation value in commercially breeding rare and endangered species as against abundant species. The list is not exhaustive and excludes several common species known to thrive as pets.

## Introduction

The subject material for this paper was presented in the form of handouts to the audience at the Zoological Revolution symposium held at the Australian Museum. The handout material included a flow chart on how a native mammal pet industry may operate, a step by step description of a possible pet acquisition procedure, a review of the factors to be considered in considering a species for pet keeping, a list of endangered native mammals that warranted investigation as possible pet species and a copy of Oakwood and Hopwood's (1999) article titled A survey of the attributes and requirements of quolls that may affect their suitability as household pets.

The handouts were then reviewed with extensive interaction from the audience. The audience interaction is reported in this paper under Discussion.

## So you want to buy an Australian native mammal

Figure 1 provides a flow chart for how a commercial native mammal pet industry may be structured. Within this system the step by step process to acquire an animal would be:

1. Prospective pet keeper walks into an urban mall seeking a Pet Shoppe.
2. The Pet Shoppe has no animals on the premises. The prospective pet owner inspects a catalogue of available Australian native mammals, with a photograph of each species together with a brief summary of the necessary management requirements. Videos of all the available species are on hand.

3. The prospective pet owner pays the purchase price for the pet. The purchase price is a package deal\* which includes:
  - 3.1 NPWS of NSW Licence application fee and pet keeping proficiency test fee.
  - 3.2 The retail price of the animal.
  - 3.3 Educational materials necessary to ensure adequate care for the animal.
  - 3.4 Cost of supply and installation of cages, runs and ancillary equipment.
  - 3.5 Delivery of the pet from the commercial breeding colony.
  - 3.6 Collection of the pet in the advent that it can no longer be cared for.
  - 3.7 Initial supply of "Approved" foodstuffs.
4. The prospective pet owner leaves the Pet Shoppe with the required educational materials (pamphlet and video), an open book proficiency test on the care, handling and feeding of the animal, and the NPWS licence application form.
5. Completed test and licence application forms are forwarded to NPWS licencing branch.
6. Marked test and licence approval forwarded to prospective pet owner.
7. Pet Shoppe notified by the NPWS that the licence has been issued and is billed for the licence and proficiency test assessment. Tradesperson contacted by Pet Shoppe and installation of cages, runs and ancillary equipment initiated. Certification that approved animal care equipment has been installed returned to Pet Shoppe by the tradesperson.

# NATIVE MAMMALS AS PETS

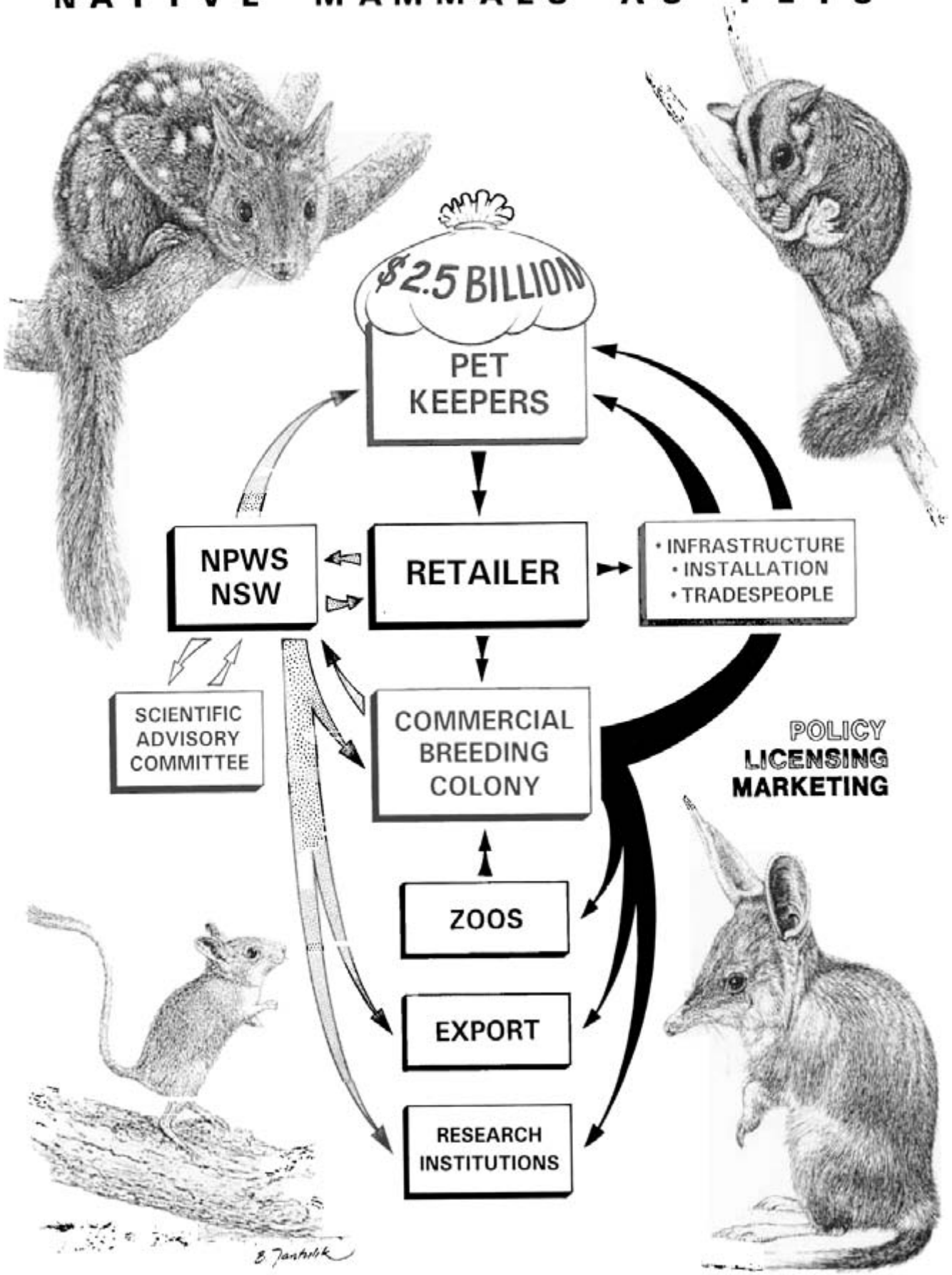


Figure 1

8. Pet Shoppe instructs Commercial Breeding Colony to deliver animal plus initial supply of “Approved” foodstuffs. Pet Shoppe billed by the Commercial Breeding Colony operator for the cost of the animal, cost of delivery, an initial supply of feedstuff and for guaranteed free collection of the animal if it becomes unwanted.

\* All components of the package deal sold by the Pet Shoppe conform to the recommendations of a wildlife service Scientific Advisory Panel.

## Regulatory control

Each Australian State has statutory control over its wildlife. So while authority is vested in various government departments policy still needs to be developed in relation to wildlife management, especially in relation to pet keeping. It is proposed that scientific advisory committees need to be established to advise on policy and controls appropriate to a native mammal pet industry. A satisfactory committee composition and brief for NSW may be:

### 1. Composition

#### Chair

National Parks Wildlife Service NSW nominee

#### Permanent Members

Agriculture NSW Welfare nominee

Agriculture NSW Geneticist nominee

Australian Veterinary Association nominee

Pet Industry Joint Advisory Council nominee

Royal Zoological Society NSW nominee

Zoological Parks Board nominee

#### Co-opted members

Relevant scientific expertise for species under consideration

### 2. Briefs

- 2.1 List, in priority, rare and endangered native mammals adaptable to commercial captive breeding
- 2.2 Supervise the production of educational materials on the management, feeding, and handling of each species listed. Material to include a how to care for pamphlet, a how to handle video and a proficiency test for intending pet keepers.
- 2.3 Design caging, feeding and management accessories for each species. Specify standards for materials, construction and installation of pet holding equipment.
- 2.4 Design breeding programmes for the commercial colonies with a mandatory

requirement that a breeding nucleus of wild strain animals be maintained.

2.5 Recommend procedures for identifying animals sourced from the commercial breeding colony. DNA markers and individual animal markers (such as microchips) to be deployed where appropriate.

2.6 Recommend specific pathogen free breeding animal status.

Endorse as “Approved” ancillary commercial products including, feedstuffs and equipment

## Factors to consider in assessing the suitability of a species as a pet.

Individual people successfully cope with a wide range of unusual pets. However, for any species of animal to be commercially viable it must exhibit a number of essential characteristics. Additionally, from an animal welfare viewpoint it must be able to thrive in an urban environment. The following criteria have been divided into those essential to commercial pet keeping and those necessary for any species to make a popular pet:

### Major Considerations:

#### A No Response to Any One of the Following Criterion = Unsuitable to General Pet Keeping

1. Is the diet of this species relatively cheap and readily available? If not, is there a commercial supplier of the necessary specialised feedstuff?
2. Is the animal safe and easy to handle?
3. Is the animal easy and cheap to accommodate?
4. Is the animal able to be bred prolifically within a commercial breeding colony?
5. Does the animal thrive in captivity?

### Lesser Considerations:

#### A No Response to Any One of The Following Criterion = Less Than Perfect Pet

1. Is the animal undemanding in its daily feeding, watering and enclosure cleaning requirements?
2. Is the animal robust and not in need of regular specialist or veterinary attention?
3. Is the animal free of zoonotic disease causing organisms?
4. Is the animal quiet?
5. Is the animal odour free?
6. Is the animal non-property damaging?
7. Is the animal interactive and “affectionate”?
8. Is the animal aesthetically attractive?

## Endangered Australian mammal species short list for commercial breeding: feasibility studies

Three criteria have been used for listing the following species:

1. Rare or locally extinct status
2. Suited to the urban habitat (home unit or 1/4 acre block)
3. Pet appeal and suitability

### Family Dasyuridae:

Eastern quoll *Dasyurus viverrinus*

Western quoll *Dasyurus geoffroi*

Spotted-tailed quoll *Dasyurus maculatus*

Kowari *Dasyuroides byrnei*

### Family Peramelidae:

Bilby *Macrotis lagotis*

Eastern barred bandicoot *Perameles gunnii*

Western barred bandicoot *Perameles bougainville*

Southern brown bandicoot *Isodon obesulus*

### Family Burramyidae:

Western pygmy possum *Cercartetus concinnus*

Eastern pygmy possum *Cercartetus nanus*

### Family Petauridae:

Squirrel glider *Petaurus norfolcensis*

### Family Macropodidae:

Parma wallaby *Macropus parma*

### Family Muridae:

Greater stick-nest rat *Leporillus conditor*

Dusky hopping mouse *Notomys fuscus*

Mitchell's hopping mouse *Notomys mitchelli*

Northern hopping mouse *Notomys aquilo*

Plains rat *Pseudomys australis*

Carpentarian rock-rat *Zygomys palatalis*

Central rock-rat *Zygomys pedunculatus*

**Note.** This list is not exhaustive. The majority of the species listed have or had a NSW distribution. Others listed have an urgent conservation priority.

## Reference

Oakwood, M. & Hopwood, P.R. 1999. A survey of the attributes and requirements of quolls that

## Discussion

Think of the Sydney basin as it was 300 years ago and an image of pristine bushland springs to mind. Today we see suburbia bounded by Kuringai Chase National Park in the north, Royal National Park in the south and the Blue Mountains National Park to the west. If we think forward another 300 years what do we imagine? Will suburbia give ground to Chatswood style development? Is the Japanese high rise model the one we are following for Sydney?

One thing is certain. Massive habitat change has and is continuing to occur in the Sydney basin. Habitat change is not a new concept and is part of our evolutionary history. As new habitats form we expect them to be colonised by plants and animals. So in this new urban habitat which animals will be the colonisers. What will *Animus homeunitus* look like? And if we can influence that colonisation which species do we pick?

The assertion of this paper is that we should and do influence the animals that may become established in urban and suburban environments and so should think about rare and endangered species as alternatives to the more traditional pets such as dogs and cats. In essence the paper advocates that the pet industry dollar (\$2-3billion pa) be tapped to drive commercial breeding programmes for endangered species that would make excellent pets. It would not cost a \$1 of government money to drive this conservation initiative.

There is a strong contingent of animal activists, animal liberationists and conservative biologists in the audience who will not support this proposal. An important issue is to try and tease out why the objections are so strong?

may affect their suitability as household pets. *Australian Zoologist* 31:pp 365-375

## QUESTIONS & ANSWERS

**INTERJECTION:** Welfarists - animal welfarists, excuse me.

Animal activists are concerned with animal interests. Pets are seen as animals with diminished status. This objection is coupled with the certainty that some pets are invariably mismanaged, neglected or abused and so opposition to the proposal is entrenched irrespective of conservation gains. What activists overlook of course is that with this proposal a vast number of rare animals that would never have had the benefit of a life would be bred into existence. Clearly, even within activist philosophy the gains should outweigh the problems.

Conservative biologists subscribe to the hands off, leave them in their natural

environment philosophy of conservation. Whereas this viewpoint is eminently suited to wilderness areas and national parks it has no application in the urban habitat which is substantially a man made jungle of concrete, bitumen and steel. Clearly different management philosophies need to be applied to the different environments with at least three categories of land use; wilderness, agricultural lands and urban areas being recognised.

One point needs to be made before we go into general questions. Nobody should fly the argument that native mammals cannot be kept as pet species. The simple fact is that they already are. Just to give two examples, several hundred licences have been issued in South Australia to keep hopping mice, and in the United States sugar glider possums are widely kept. The real question is not if it can be done, but rather how to do it well.

**KATHLEEN BUTTON:** If you are going to propose this sort of thing there has to be strong licensing requirements. With reptiles there has not been enough emphasis on really understanding them and looking after them properly.

**PAUL HOPWOOD:** I agree with you entirely. There are many examples of unsatisfactory practice. For example people being allowed to keep sulphur crested cockatoos in small cages. The issue is not only one of licensing but also education.

**GREG CLANCY:** I do not think that there is a lot of value in keeping native animals long term because selective breeding will be away from the wild type. Have you considered the genetic issues.

**PAUL HOPWOOD:** You are correct about private individuals wanting to breed for animals with novelty characteristics. However, the essence of my proposal is that the commercial breeding colonies will be under the supervision of scientific advisory panels. The conservation merit of the proposal is that the breeding colonies will be required to maintain the wild genetic type. Once that is guaranteed, breeding for pet attractiveness in animals to be sold out of the colonies becomes a commercial decision. To give an example of how this may not be all bad we could look at the dog. Initially bred from the wolf, we now have a multiplicity of breeds or greater biodiversity. My world is richer for cattle dogs, kelpies and spaniels which are now present in addition to wolves. Like you I am not a fan of dogs bred with brachycephalic heads or budgerigars that look as if they have come out of a paint spray shop! So this is where the advisory panels could be expected to make the value calls!

**CATHY HEMERY:** Many Australian native mammal species are nocturnal. Does this pose pet keeping problems?

**PAUL HOPWOOD:** Yes it does. If you are dealing with a nocturnal animal, there is little point in trying to take it for a walk at 11 o'clock in the morning. However, if you think of our urban lifestyle we are often up at 6am and back home to dinner by 7pm. Okay, so after dinner you slump down in your lounge room, exhausted after a hard day at the office. Now this is just about the right time for your nocturnal, or semi-nocturnal hopping mouse to strut his stuff up and down the aquaria enclosure kept beside the TV.

So there are pets and there are pets. If you want your hopping mouse to bring in the paper from the front lawn you need to upgrade to a dog. With pet ownership it is very much a matter of matching the pet owners expectations with what the pet is and can do. Providing this is done wisely our human experience can only be enriched by a wide selection of pet choices.

**MARGARET BEAUMONT:** Historically cats and dogs have been man's most adaptable pets. Dog and cat ownership is thought to significantly decrease the convalescence period from illness. Are you suggesting that dog and cat ownership be wound down?

**PAUL HOPWOOD:** I do not believe in excessive social engineering. If I were to say that dogs and cats are out then I think that a lot of my veterinary colleagues would quite rightly be rather cross with me. Dogs and cats provide particular and good interactions that only can be had from dogs and cats.

What I am saying is that we should have a wider mix of pets. People should have the option to keep native mammals as well as our traditional pets. So, no, I am not saying away with dogs and cats. Yes I am saying that personally I would prefer to see fewer cats. Yes I am saying that from a public policy viewpoint we need more native mammal species in the Australian pet mix.

**JEFF HEMMINGS:** Keeping native animals is a practical way of educating Australians about them. Public awareness is one of the benefits to come out of what Dr Hopwood and Professor Archer are proposing.

**PAUL HOPWOOD:** Strongly agree.

**LYNDA STONER:** Who funded your research?

**PAUL HOPWOOD:** You want to know whether I am speaking to a vested interest?

**LYNDA STONER:** Yes.

**PAUL HOPWOOD:** I am not corrupt and so do not speak for a vested interest. My salary is paid by the University of Sydney and that institution bears the bulk of the research cost for my work. Project costs are solicited from any industry body willing to contribute to the research. Cheques can be sent to the University of Sydney and moneys will be gratefully accepted receipted and acknowledged. I gain no personal benefit from such donations. At the moment the research account stands at about \$12000. Of this money \$2000 has been contributed by the Pet Industry Joint Advisory Council. This money was an earmarked donation to develop a questionnaire for the purpose of assessing any species for its pet potential. Money is accepted on the understanding that research outcomes and recommendations will be objective and in the national interest. For example, my recommendation that pets not be kept on pet shop premises is not one that PIJAC would welcome. Thank you for your question as it is necessary to keep financial issues transparent.

**LYNDA STONER:** Hamsters have been used as pets for decades yet I believe that there is welfare evidence to show that they are not suited to pet keeping. So how can you advocate that we use Australian animals of which we know so little. Animals are individuals and not just a means of fund raising.

**PAUL HOPWOOD:** Your question implies that some animals are of nervous disposition and therefore fail to thrive in captivity. Without commenting on the actual status of hamsters, what you say is true. Some species do not thrive in captivity for a number of reasons and should not be kept as pets. For any one particular species it is simply a matter of objective assessment. If a species is shown to thrive in captivity there is no welfare bar to keeping them as pets.

**LUCY FISH:** I have two concerns. Firstly how do you expect people to relate to small native mammals kept in a fish tank type enclosure? Secondly, the controls you propose will make native animals expensive to acquire and this is likely to foster an illegal trade.

**PAUL HOPWOOD:** I agree that it is not possible to have a deep and meaningful conversation with a hopping mouse. That is not the sort of pet that it is. However, people love to watch their antics. These little guys are delightful characters. They do all sorts of herbs up and down the enclosure floor. They scratch around in the sand, they have big eyes, and kids love them. So that is about as much as you get out of the interaction and personally I think that is enough to justify keeping them.

With the illegal trade there will always be a criminal element in our society. But as we are talking rare and endangered animals I suspect that the cost and difficulty and risk of wild trapping will be greater than the reward. Who would want to go from Sydney to Tasmania to trap a wild eastern quoll when a captive bred hand raised and therefore more docile animal could be purchased in Sydney. Also we need to remember that microchipping makes identification very easy. I see your concern as a matter that requires regulatory control but unlikely to be a significant problem.

**MARK PEARSON:** Wild animals cannot be domesticated. They are not interested in living in our lounge rooms. Why cannot we have a proper revolution which is really in the animal's interests? Why cannot we return natural habitat to these animals?

**PAUL HOPWOOD:** I am pleased to see that the most important question came last.

**INTERJECTOR:** Conservation not consumerism!

**PAUL HOPWOOD:** Mark, your question comes from your animal interests centred philosophy of life. Now that is fair enough, and I encourage you to hold it and pursue it. However, you must acknowledge that in the wider community you have Jewish, Islamic and Christian peoples all with philosophies contrary to yours. Further, if you consider aboriginal hunter-gatherer cultures then their very lifestyle is the antithesis of your animal interests viewpoint.

So how can these tensions be resolved? In all the great democracies of the world resolution is through the ballot box. The real issue here is philosophical and not technical. Thus it will be decided on political and not biological grounds. I would like to accommodate your viewpoint but not to the detriment of people holding to other philosophies of life or to the detriment of a net total conservation effort. I stressed at the start of the talk that animal activists should carefully weigh up the long term consequences of the native mammal pet proposal. If animals are allowed to go into extinction, then they do not exist into future generations and do not have the benefit of a life or of having any interests at all. I fail to see how that is in the animals interest! So as a person from a dominant community philosophy of life viewpoint how can I respect your philosophy without endorsing it? In my view the common ground is to build into the native Australian mammal pet keeping proposal sufficient safeguards to ensure the welfare of the animals.

**MICHAEL ARCHER:** Mark Pearson's question was also directed at me.

It would be wonderful if everybody just started pouring heaps of money and energy into looking after the environment but it is not happening. People and governments want to see money spent on other things. So what practical measures can we take to mitigate adverse environmental impacts?

In my office here in the museum I have an aquarium that makes a point. It contains a fish called the Lake Eacham rainbow fish. It was taken into the aquarium trade and now thrives in captivity. It is extinct in its original habitat. The only reason we still have it is because it was taken into captivity and looked after by people who had an interest in its conservation value.

The traditional ways of looking after eastern quolls failed miserably. Now they are extinct on the mainland of Australia and survive only in Tasmania. Where is the harm in trialling their reintroduction into urban Sydney? Why not use economic models that increase the populations of cows and sheep to do the same for our native animals?