

Submission to Biodiversity Legislation Review

AUSTRALIAN RESEARCH INSTITUTE FOR ENVIRONMENT & SUSTAINABILITY



A review of the *NSW National Parks & Wildlife Act 1974* needs to ensure it supports urgent conservation initiatives, such as the Wildlife Guardians Program described on page 2.

Australia accounts for over 40% of the world's mammalian extinctions since 1800.¹

Despite substantial investment, the decline in Australia's biodiversity has not been arrested or reversed.² The causes are many and complex, the most important of which are loss of habitat and the introduction of feral predators. These problems will take many years to overcome, and in the meantime, the number of threatened species is increasing.³

Climate change is likely to exacerbate the effects of existing threats and introduce additional pressures.⁴ For example, more forest fires will reduce habitat for animals that live in hollows and logs.

Australia already has the highest mammal extinction rate in the world⁵, and in NSW mammals have experienced the highest as well as the greatest number of extinctions – and the trend is deteriorating.⁶

Current conservation methods are clearly not enough.

Contributing problem #1: People are alienated from native animals

Australians hardly know anything about their native animals. Ask them about quolls, bettongs, phascogales or dunnarts and you'll get blank looks. This results in a dangerous apathy towards their conservation. What you don't know, you don't care about. Keeping native mammals alienated from the Australian people has not resulted in their protection. In fact, it has contributed to their decline. Now the active involvement of many people is required for their survival.

Required solution: Bring native mammals and people together in a controlled and regulated way, to promote conservation action.

The single most important tool for empowering a person to be active in related environmental areas is for them to be motivated through a personal empathy.

Contributing problem #2: "Surplus" animals in captive breeding programs

Captive-breeding programs for threatened species have limited resources which quickly become exhausted caring for "surplus" animals: those that are too closely related to each other, too old for breeding, or all of one gender. Surplus animals make up an average 25% of captive-bred populations, and (if they are not illegally euthanased) their care tends to exhaust a program's resources before viable release populations can be achieved.⁷

Required solution: A cost-effective, regulated way of removing surplus animals to allow breeding programs to more rapidly reach release populations.

Contributing problem #3: Exotic pets

Australia has one of the highest levels of pet ownership in the world, with cat-ownership currently increasing.⁸ Australians are always going to share their lives with animals, but the current list of allowable native species in NSW precludes all mammals except for dingos and two rodents. The only other choice is to breed more of the very animals that contribute to the devastation of our native fauna.

It is fortunate that community attitudes have changed considerably since the native mammals which once threatened the survival of the favoured rabbit were systematically poisoned, and the last wild Tasmanian tiger was shot under a government bounty system. However, the NSW Government still maintains a policy of keeping people separated from native mammals even when this policy has clearly not achieved the desired outcome. It is time for a rethink if we are to save the species that remain.

Some reports have recommended native animals be kept as pets⁹ because it is argued that then people will care about their plight in the wild.¹⁰ However, there is understandable concern about the lack of control in such a plan, particularly when over 100,000 Australian pets are abandoned each year.¹¹

Required solution: Provide a regulated opportunity for trained individuals to care for selected native species.

The *Wildlife Guardians Program* : A perfect complement to *NSW Saving Our Species*

The Australian Research Institute for Environment and Sustainability at Macquarie University has developed a program that overcomes the three problems identified above.

The Wildlife Guardians program transforms an underlying cause of species decline (people) into a powerful conservation resource. By training volunteers to take over the housing and care of surplus animals from the captive breeding programs for threatened species, those programs are able to optimise each breeding season and more rapidly reach their target release populations. The Wildlife Guardian Program encompasses strict safeguards to ensure the location of every animal is always known, while providing an opportunity for concerned individuals to contribute to saving a species from extinction.

How does it work?

Trained volunteers each donate a small amount of their own time and money by adopting one or more surplus animals from captive breeding programs and caring for them at home, providing a potentially enormous and previously untapped resource base.

At the same time, a more enlightened Australian population is given the opportunity to learn about the unique animals with which we share this land.

- Greater numbers of threatened species can be bred for release.
- Community ownership of, and responsibility for, our biodiversity is broadened, resulting in further action for conservation.
- Collected biological data is made available for scientific research.

Program overview

APPLICATIONS AND TRAINING

Applications for Guardians will be invited from private individuals, particularly those with a positive history of animal care. After screening, successful applicants will be required to attend training to learn how to care for the specific animal they will house. They will also be required to sign a formal letter of agreement, setting out their obligations as a member of the Program.

LICENCES

Native animal keeper licences will be obtained under a similar arrangement to that with wildlife rehabilitation groups to allow the Guardians to care for native mammals on behalf of the Wildlife Guardians Program, under the terms of the licence.

HUSBANDRY HANDBOOKS

Detailed and comprehensive husbandry handbooks, including contact details for dietary suppliers, will be produced in consultation with groups already caring for the particular species involved.

ANIMALS PLACED WITH GUARDIANS

Surplus animals from captive breeding programs partnering with the Program will be placed with registered Wildlife Guardians to be cared for, for the rest of their short lives.



PHOTO: BARRITT & MAY (CREATIVE COMMONS)

ANIMAL IDENTIFICATION

Animals will be micro-chipped, or otherwise identified, before being placed with Guardians.

VETERINARY CARE

A register of participating vets with experience in native animals through their work with wildlife rehabilitation groups, will be made available to the Guardians.

DAILY COSTS PAID BY THE GUARDIANS

The Guardians will be responsible for the day-to-day expenses of the animal/s in their care (including enclosure costs, food and veterinary care), thereby sharing the ongoing financial burden of a large breeding program among many individuals and enabling outcomes that would otherwise be impossible.

EVERY ANIMAL REMAINS WITHIN THE PROGRAM

Guardians will monitor the health of each animal and report regularly to the Program office at Macquarie University. When an animal dies, a veterinary assessment will be required to certify the cause of death. If Guardians wish to leave the Program, their animal/s will be transferred to another Guardian, so the location of every animal is known at all times.

Fortunately the majority of Australian mammals are small (most would fit inside a shoebox); they are relatively easy to care for; and they have short lives, so caring for them does not require a long-term commitment.

COLLECTION OF RESEARCH DATA

Zoologists, vets, geneticists and other researchers may request that Guardians keep specific records that contribute to their particular research.

POST-GRADUATE RESEARCH

Macquarie University post-graduate students from the Department of Biological Sciences and the Department of Environment and Geography can also undertake beneficial research tasks as part of their practice-based assessment. These students will be supervised by academic staff.

RESEARCH BY PACE STUDENTS

Macquarie University undergraduate students could also provide their voluntary skills, knowledge and enthusiasm to undertake additional tasks identified by the recovery project teams. This would be arranged through Macquarie University's PACE program which enables students to work with partner organisations in a range of workplace activities as part of their degree. PACE units that might contribute to the Wildlife Guardians and associated release programs include:

BIOL349 Biodiversity and Conservation

BIOL388 Advanced Science (Biology) 3

ENV301 Environmental Management

FOSC300 Participation and Community Engagement in Science.

SPECIALIST GENETICS ADVICE

Em/Prof Dick Frankham is currently advising on the recovery of the Tasmanian devil and has offered specialist conservation genetics advice to the Wildlife Guardians Program.

CONTINUING EDUCATION

The Program will continually disseminate relevant emerging data to all stakeholders, including advisors, Guardians, zoos, vets and scientific researchers.

PROMOTION

If deemed appropriate following successful pilots, promotional opportunities include relevant online e-lists and web forums, major and local newspapers, relevant lifestyle magazines, popular science magazines, attendance at conferences and community groups, plus television programs such as Totally Wild, Better Homes and Gardens, Bondi Vet and Gardening Australia.

FUNDING

Funding for a pilot of the Wildlife Guardians Program has been gratefully received from a philanthropic trust.

TOWARDS A FINANCIALLY SUSTAINABLE FUTURE

After the initial pilot, the Program could charge Guardians a fee for each animal placement, plus an annual cost to participate in the Program. This would encourage only those with a genuine commitment to be involved, and would be a move towards a more financially sustainable, fee-based model.

OUTCOMES OF THE WILDLIFE GUARDIANS PROGRAM

The Wildlife Guardians Program provides immediate practical assistance to captive breeding programs for threatened species, plus the long-term benefit of community engagement and education. It will also play a valuable role in motivating action for the preservation of biodiversity and building a more sustainable future. There are also many specific benefits.

1. Benefits to threatened species

- More animals, with greater genetic diversity, can be bred more quickly.
- Long-term breeding programs can become economically viable.
- Larger populations can be released into protected wild habitats at one time.
- Collected research data makes a valuable addition to existing knowledge of habitat and husbandry requirements for each species.

2. Benefits to all Australian wildlife

- Raised community awareness of threatened native animals and their need for suitable habitat results in further action for habitat preservation.
- Native flora grown as part of the environment enrichment for the animals within the Program also benefits free-ranging wildlife.

3. Benefits to participants

- Guardians enjoy the privilege of caring for one of Australia's unique animals.
- They gain an increased sense of purpose by directly participating in saving a species from extinction.
- They also have the opportunity to teach others about Australia's fascinating wildlife.

4. Benefits to the Australian scientific community

- Scientific researchers can request the collection of data, and gain access to data already collected, to benefit their work.
- Production of detailed, species-specific husbandry handbooks contribute to the sharing of knowledge.
- Sharing accumulated knowledge benefits wildlife authorities, zoos, rehabilitation groups and the general scientific community.

5. Benefits to all Australians

- More Australians get to know about the native species that share our land.
- The community's sense of ownership and responsibility for our biodiversity is broadened.
- All Australians, and the wider global community, benefit from the continued existence of one of the richest biodiversities on Earth.

SUITABLE SPECIES

The selection criteria for mammals that would be suitable to be included in the *Wildlife Guardians Program* include:

- Simple enclosure requirements
- Ease of handling
- Daily maintenance requirements
- Suitability to urban environments
- Human health and safety.

Australian threatened species that would be suitable for assistance from the *Wildlife Guardians Program* include:

- Eastern quoll
- Dibbler
- Numbat
- Greater bilby
- Eastern barred bandicoot
- Tammar wallaby
- Brush-tailed rock wallaby
- Yellow-footed rock wallaby.

The eastern quoll has been identified as the most suitable species for the pilot program.



PHOTO: LOCHMAN

NSW SAVING OUR SPECIES

The *Wildlife Guardians Program* would be a perfect complement to the *NSW Saving our Species Program*, and enable the rapid introduction of large release populations to protected areas.

FUTURE POTENTIAL

Following proven success, the Program could be expanded to assist a wide range of breed-for-release programs. If at any time it is deemed no longer necessary, it could easily be discontinued. Most native mammals have short life-spans and the residual captive populations held by Guardians would quickly disappear.

If the next generation of kids don't have Australian animals or plants up front in the universe of things they care about, what hope do these unique Australian species have of being cared for in the future?

SUPPORTERS

Supporters of the *Wildlife Guardians Program*, include:

- Em/Prof Dick Frankham, Macquarie University
- Prof Lesley Hughes, Macquarie University
- Dr Paul Hopwood, previously University of Sydney
- Prof Chris Dickman, University of Sydney
- Prof Mike Archer, University of New South Wales
- Dr Rosalie Chapple, University of New South Wales
- Dr Maria Cardoso, quoll genetics & translocations, University of New South Wales
- Dr Meri Oakwood, quoll researcher, previously University of New England
- Dr Mina Bassarova, Conservation Science Analyst, WWF
- Dr Mark Eldridge, Australian Museum
- Prof Tim Flannery, previously Macquarie University
- Dr Sarah Legge, National Conservation and Science Manager, Australian Wildlife Conservancy
- Dr David Roshier, Regional Ecologist – Southeast Australia, Australian Wildlife Conservancy

Conclusion

In an ideal world our native animals would live freely in the wild. But in the last 200 years we have desecrated the Australian landscape, including populating it with foxes and cats – alarmingly efficient killers – and many of our native mammals are disappearing. In 20 years time, when even more species have gone extinct, how shall we account for our neglect?

We have the opportunity to build a future where Australians care as much about quolls and potoroos as they do about kangaroos and koalas, and where the conservation of natural habitat is considered paramount. By saving our endangered species from extinction while we overcome the problems we have created, we make the ideal world a possibility for the future.

Further information

Manager

Australian Research Institute for Environment and Sustainability
Macquarie University NSW 2109

¹ Australian Bureau of Statistics 2002, *Measuring Australia's Progress*

² Australian Government 2011, *State of the Environment 2011*

³ NSW Government 2012, *NSW State of the Environment 2012*

⁴ NSW Government 2012, *NSW State of the Environment 2012*

⁵ NLWRA, *Australian Terrestrial Biodiversity Assessment 2002*, National Land and Water Resources Audit, Canberra (quoted in NSW State of Environment 2006)

⁶ NSW Government 2012, *NSW State of the Environment 2012*

⁷ Frankham, Richard 2009 Conservation geneticist at Macquarie University, personal communication

⁸ Australian Companion Animal Council Inc. 2014
http://www.acac.org.au/pet_care.html

⁹ Mike Archer and Bob Beale 2004. *Going Native*. Hodder Headline Australia

¹⁰ Australian Government 2010, Rural Industries Research and Development Corporation, *Australian Native Mammals as Pets*

¹¹ RSPCA 2012, National Statistics, 2012