



# FAUNA

Research Alliance

For more information contact:

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## WHY FAUNA Research Alliance?

FAUNA RA strives to find long-term solutions for the conservation challenges that exist for the unique animals and ecosystems of Australia and New Zealand. Isolated from other continents for millennia, Australasia holds a substantial part of global biodiversity. On the other hand, since European settlement our wildlife has experienced large scale and continuing extinctions caused by agricultural land use, urban development, changed water use, loss of animal-friendly Aboriginal land management and introduced species.

## Our goal is to help wildlife win!

We do this by establishing innovative ways to protect wildlife against emerging global threats like climate change and by returning the many species presently missing from much of the landscape.

For too long wildlife problems have been dealt with by ad hoc crisis management.

FAUNA RA was formed to meet the challenges in the sector comprehensively.



Cartoon by David Pope/National Museum of Australia

Our nationwide work includes:

- Re-wilding projects to return wildlife missing from the landscape and to rebuild ecological system functional complexity;
- Resolution of the conflicts between the needs of agricultural production and wildlife;
- Development and use of new technologies such as gene banking to provide for more resilient future wildlife populations.

Despite FAUNA RA's 'local' focus our approach is of global relevance because our goal is to establish proven strategies and evidence-based processes relevant for wildlife everywhere.

## THE CHALLENGE

Since 1788 Australia has lost 54 species of vertebrates: 23 birds, 4 frogs and 27 mammals. Many of the mammals are iconic marsupials. In some rural and remote parts of Australia 50 percent of mammals are locally extinct. We need to stop the loss of individual species, particularly those driving ecosystem function, and to rebuild wildlife populations and ecosystems so that they are more resilient for the future.

Australia has a good record in native plant revegetation through community action by Landcare groups, Natural Resource Management organisations, private landholders and NGOs. Corridors initiatives are now linking these local actions into landscape-scale systems. FAUNA RA will assist these groups with new field tools and technologies to identify and more effectively restore highly interactive wildlife species in the landscape.

However, if wildlife restoration is to be successful in the long term, more people in the community must be convinced that wildlife and ecosystem health is a matter of fundamental importance to our society: that biodiversity is important to our society in the way that the quality of education or the treatment of cancer are important.

Programs to change attitudes, values and behavior need the expertise of social scientists and economists. In consequence, practitioners from a diverse spectrum of disciplines are working together on FAUNA RA projects.

The Alliance has built a strong and committed membership. Our network of researchers and practitioners connects FAUNA RA with the diverse wildlife sector across Australia and New Zealand.

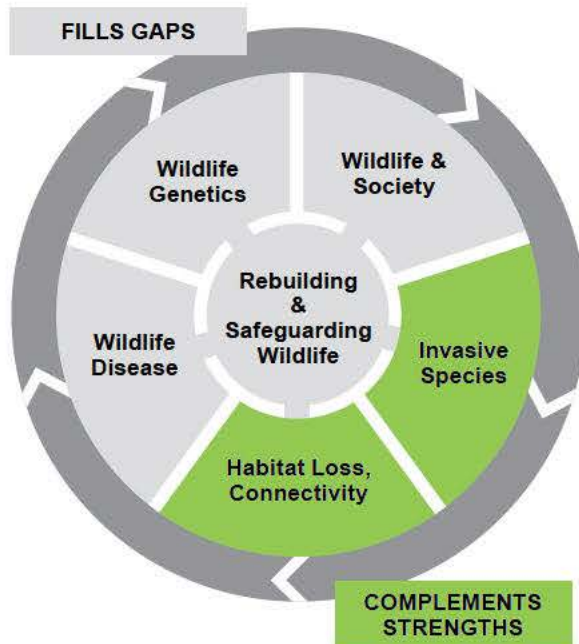
Our goal is to unite individual and institutional capacity across the diverse sector - research institutions, zoos, government conservation agencies, industry groups and conservation NGOs - for innovation in practical wildlife conservation.



## Taking a Systems View

Most importantly FAUNA RA is able to also apply leading-edge complex system modeling expertise to produce user-friendly decision tools that will help land managers identify and deal with difficult problems involving multiple threats, issues and management options.

## Filling Capacity Gaps and Complementing Strengths



The FAUNA Research Alliance agenda complements existing national research centres and consortia by focusing on four areas of research where the evidence-base for policy and practice is poor and the tools and capacity to act are very limited: 1) Wildlife disease, 2) Loss of genetic diversity, 3) Engagement of the community for wildlife protection, and 4) Comprehensive strategies to safeguard and rebuild wildlife populations for the future.

Our action research projects are currently established across three themes:

- **Re-wilding for Resilience**
- **Wildlife, People and the Economy**
- **New Technology for Wildlife**

### 1. Re-wilding for Resilience

Re-wilding is the emerging global paradigm in wildlife conservation. Reintroduction of species, especially top predators, to restore ecosystem function is now common in the United States and Europe. Australia and New Zealand have

yet to fully embrace this highly promising strategy. However, it is not without risks, both environmental and socio-economic. FAUNA RA researchers and land manager partners have the research and practical skills to establish best practice, assess risk and engage the community in the return of lost species to landscapes. Our first targets are marsupials like quolls, bettongs, bandicoots, bilbies and the Tasmanian devil, which was present on mainland Australia only 500 years ago.

The theoretical basis for re-wilding is strong but there is a need to develop the knowledge base for its practical achievement, and documentary evidence of its environmental, social and economic benefits is needed to drive policy.

FAUNA RA's vision includes equipping private landholders and community groups with the tools for wildlife restoration to complement their native revegetation expertise.

## Current Projects

There are currently three re-wilding projects underway with major land manager partners in different ecosystems and with different suites of species. These projects in Victoria (Re-wilding the Desert), South Australia (Re-wilding Southern Yorke Peninsula) and in the Australian Capital Territory (Returning the Shadow) all have the goal of learning how to effectively return lost species and to document the changes these species then bring to ecosystem function.

## Lets return our unique wildlife to the landscape and our backyards!

### 2. Wildlife, People and the Economy

National solutions are needed to reduce the conflict that exists between agriculture, urban growth, resource development and the needs of wildlife. Although Australia does have an enviable conservation reserve system, around 60% of the landmass is used for some form of agriculture. While there is growing support within the farming sector and industry bodies for the improvement of conservation outcomes on agricultural land, there is insufficient practical knowledge about how this is to be achieved.

### Wildlife solutions that don't engage agricultural land are hardly solutions at all!



## Current Projects

There are two current agriculture/wildlife interface projects underway, one in Victoria (Changing the Land-use Paradigm) and one in Western Australia (Future Farm). The long-term survival of many species depends upon finding ways to permit its coexistence with productive agriculture. There is also a need to learn how to better manage undesirable impacts of wildlife such as the destruction of crops by kangaroos. These projects address such questions in contrasting production and ecosystem situations.

## 3. New Technology for Wildlife

Gene storage is at present a completely neglected wildlife risk management strategy. (Plant seeds of economic and environmental importance are, by contrast, stored against future crises) FAUNA RA researchers include world leaders in gene storage and reproductive technology for Australian and New Zealand wildlife. FAUNA RA researchers were the first in the world to successfully collect, freeze and recover living sperm of marsupials and frogs.

## Current Projects

FAUNABank, a national consortium established by FAUNA RA, is marshaling presently fragmented activity across Australia and New Zealand to provide national frameworks and new technologies and best-practice protocols to make wildlife long-term genetic management practical. The storage of the 'seeds' of animals (sperm, egg and embryo) poses greater technical challenges than the storage of plant seeds but offers all the same advantages. It conserves the genetic abundance of the present for use in the future. Genetic diversity is widely accepted to be the best insurance against extinction, especially in a changing world.

**If we don't conserve the current genetic diversity this critical resource will be lost forever!**

## FAUNA RA Research Products

Each Alliance project addresses on-ground issues affecting Australian wildlife and develops practical solutions for its conservation. Each project provides a set of products that form the basis for the extension of the specific project solutions to national problems.

We will provide models and decision support tools; new technologies; application protocols; intervention and preparedness strategies and protocols; professional and community training packages; bio-economic models and evidence-based inputs, including cost-benefit analysis to policy development.

Training of the next generation of wildlife researchers and professionals is an integral part of all FAUNA RA projects.

The 'projects' described here require long term programs of coordinated action, monitoring and stewardship if they are to have the fundamental impacts that we envision.

## Structure and Governance

The FAUNA Research Alliance is a (non-profit) company limited by guarantee and a registered charity with DGR status. The Board is independent of the researchers and has extensive relevant leadership, governance and business skills. The Hon. Bob Debus is the chairman. Drs John Rodger and Carmen McCartney who led the formation of the Alliance are the foundation CEO and Business Development Manager.

## A Lost Ecosystem Function

Rabbits are a familiar problem across much of Australia and cause hundreds of millions of dollars of damage each year. In early settlement times the quolls, cat-size marsupial carnivores, kept the rabbit under control. Unfortunately quolls were poisoned and shot to protect the rabbits. Then, the poisons used to control rabbit plagues killed the remaining quolls and eastern Australia lost a form of free and sustainable natural pest control. Fortunately these species still exist in Tasmania, and in isolated pockets on the mainland, so it is possible to return the quolls and restore their important roles to our mainland ecosystems. However, to do so successfully and safely would mean innovation not only in biology but also in ways of engaging the understanding and support of the broader community.

**We seek partners and investors who believe that "business as usual" is not an acceptable response to the continuing decline of our unique wildlife.**