
INTERNATIONAL
KOALA
CENTRE OF EXCELLENCE
Research
prospectus
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Join us to build a better understanding and a lasting legacy

The International Koala Centre of Excellence (IKCE) was established to provide coordination and seek funding for koala research, and to improve the management and conservation of koalas.

IKCE is seeking new partnerships to build a better understanding of koalas and ensure healthier outcomes for koala populations through innovative research and solutions.

IKCE recognises that our ability to inform koala management and conservation is maximised when the knowledge and expert capabilities of our partners in universities, industry and government are brought together with philanthropic partners.

Strong partnerships are critical to leverage and build capacity to address key knowledge gaps. Partnering enables us to address emerging and cutting edge issues in a timely, informed and coordinated approach.

Join us to build a better understanding and a lasting legacy.

The International Koala Centre of Excellence invites support across four areas of research:

- **Koala insurance population at Cleland Wildlife Park:** IKCE is establishing a captive research population at Cleland Wildlife Park to provide a resource for better understanding the captive management of koalas and the role of captive populations in in koala conservation.
- **Koalas in the landscape:** we need to improve our understanding of the distribution and abundance of koalas in the wild, how these wild populations respond to environmental change (including climate change), and their role in the broader ecology of ecosystems. We need this evidence to better manage wild koala populations and their habitats now and in the future.
- **Koala health and wellbeing:** we need to better understand the biology of critical koala diseases, and the importance of these diseases to the management of wild and captive koala populations. We also need to better understand how the genetics of wild and captive populations impacts on the health and persistence of koalas.
- **Koalas and the community:** we need to better understand how captive and wild koala populations contribute to the social, economic and personal wellbeing of people and communities, and how koalas are impacted by interactions with urban and suburban environments. This will enable decision makers to improve how we engage with the community on the value of koala and habitat conservation.

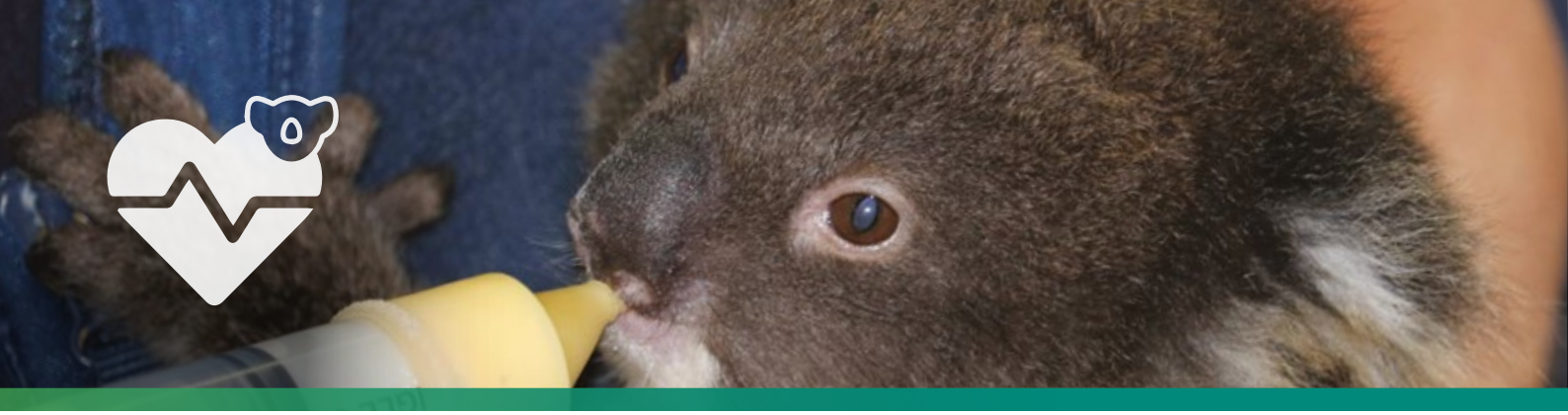
Koala insurance population at Cleland Wildlife Park

Project	Description	Policy driver	Potential Partners/Investment
Understanding an appropriate captive population size to establish an insurance population	Establishing an insurance population to support wild koala populations requires an understanding of how many individuals are required in a captive population. This will be supported by genetic and disease studies, and involve partnering with other organisations that hold captive populations of koalas.	A captive insurance population may be needed to improve the genetic and disease status of koalas nationally. Improving the process of captive breeding of koalas will improve the genetic health and disease status of captive koalas, and enable the ability of these koalas to support the conservation of wild populations should it be required.	Cleland WP, DEW, Zoos SA, Longleat, other zoos and captive breeding facilities.
Understanding the genetic health of koalas in the Cleland Wildlife Park insurance population	This project will understand the genetic diversity of the existing Cleland insurance population, and how the genetics of this population can be enhanced through exchange with wild and captive koalas from other sources. It will also improve our understanding of the implications of captive population genetics on their contribution to the conservation of wild populations should it be required.	Managing the genetic health of the Cleland WP captive population will ensure that this population is sustainable and can make the best contribution to captive and potentially wild populations in the future.	Cleland WP, DEW, Zoos SA, Longleat, University of Adelaide, Australian Museum.
Infrastructure to support the maintenance of an insurance population	The establishment of an insurance population for conservation and research purposes requires adequate housing, veterinary and research infrastructure.		Cleland WP

Koalas in the landscape

Project	Description	Policy driver	Potential Partners/Investment
Monitoring the distribution and abundance of koalas in South Australia	We currently have poor information regarding the distribution and abundance of koalas in South Australia, and particularly in the Mt Lofty Ranges and south-east SA. Surveying the distribution of koalas will provide the fundamental information with which we can predict responses to future environmental change, and where to manage risks to koala populations, such as over-browsing, and human-wildlife interactions (e.g. dogs, cars).	Fundamental information for managing and conserving koala populations and habitat.	Flinders University, University of Adelaide, DEW.
Tracking the movement of individual koalas	Understanding how individual koalas use different landscapes spatially will fill critical knowledge gaps with respect to population dynamics, habitat requirements, landscape connectivity etc. Technology now exists by which we can track individual animals (using GPS technology, mobile phone and satellite telemetry etc.) in real time.	This project will help managers and the community understand the habitat requirements and use of koalas in South Australia, and improve our ability to manage and conserve wild koala populations (including overbrowsing, interactions with dogs, cars etc). Tracking individual animals has also been shown (in other species) to provide significant citizen science and community engagement opportunities, through direct connection with individual animals.	University of Adelaide, Flinders University, technology companies, DEW
Understanding the genetics of South Australia's koala populations	Improving our understanding of the genetic health of South Australia's koala populations is important both for managing these populations locally, and for better understanding the role that South Australia's koalas could play in the conservation of koalas nationally.	This would also allow us to understand how we can better manage free-living and captive koala populations in order to improve the genetic health of the species nationally.	Flinders University of South Australia, Department for Environment and Water, Australian Museum, Smithsonian Museum

Project	Description	Policy driver	Potential Partners/Investment
Understanding the impact of koala density on tree health and koala habitat	We currently have a limited understanding of the relationship between koala density and tree health, including tree mortality and potential for recovery. In addition to monitoring tree condition and koala density at regular monitoring sites, koala exclusion experiments would be undertaken in areas of different koala density (including no koalas) to test the explicit impact of koala browsing on tree condition. This would allow us to separate the effects of koala browsing on tree health, from other factors that affect tree health, such as insect attack, disease and drought.	By improving our understanding of this relationship, we can better focus our management of over-browsing to those areas where koala densities are considered to be having a negative impact on tree health, and therefore koala habitat	University of Adelaide, Flinders University of South Australia, DEW.
Predicting the response of South Australia's koala populations to environmental change, population status, disease, habitat condition, and management interventions	This project would develop an integrated genetic-population-habitat model, that incorporates the effects of climate, fire, heatwaves, drought, genetic health, disease status and management.	This integrated model would allow managers and the community to understand the potential future impact of environmental change on free-living koala populations and inform alternative management strategies for the conservation and management of koalas in these landscapes.	University of Adelaide, Flinders University of South Australia, DEW **EXISTING PROJECT.** Prof Corey Bradshaw (Flinders University).
Understand the broader ecological implications of the impact of koalas on woodland habitats	Overabundant koalas in South Australian and Victoria impact on food tree condition and survival. This has the potential to impact both koala habitat, but also habitat for other species (including threatened species). Improving our understanding of those broader impacts will allow us to better communicate the need for koala population management, and also identify other management tools to maintain or restore these habitats.	The risk of habitat loss posed by unsustainable koala densities is potentially greater than the impact on koalas (e.g. other dependent fauna). Understanding these broader impacts will help managers communicate the need for intervention with respect to high koala densities.	Victorian Government. Could potential undertake this work through a series of student projects (honours, PhD). Need to identify potential research partners.
Koala ecology, population dynamics and impacts associated with Tasmanian Blue Gum plantations	There are expectations on the TBG timber industry (and particularly KIPT, Kangaroo Island) that they will manage the animal welfare risks associated with timber harvest. However, there is currently a limited understanding of the population dynamics of koalas, and how koalas will respond to alternative koala management approaches, in these plantations. A particular concern is the potential impact that those koalas currently in plantations may have on the surrounding native vegetation post-harvest.	Managers, including the hardwood timber industry, need a better understanding of koala densities, and their behavioural responses to harvest, in order to minimise animal welfare risk and potential impacts on plantation timber and native vegetation.	Kangaroo Island Plantation Timber and other hardwood forestry companies. This project will depend on KIPT's proposed Koala Management Plan (which will form part of their Harvest Plan), and so the specific research questions will need to relate to the content of this plan. Need to identify potential research partners.



Koala health and wellbeing

Project	Description	Policy driver	Potential Partners/Investment
Investigation into oxalate nephrosis, and the retrovirus present in South Australian koalas.	This project aims to understand the causes of the kidney disease oxalate nephrosis, and how retrovirus infection relates to disease expression in koalas.	The South Australian Koala Conservation and Management Strategy has identified the importance of research into the health status and genetic structure of koala populations	**EXISTING PROJECT.** Longleat have funded research by Dr Rachael Tarlinton (University of Nottingham)
Investigation of the cause of oxalate nephrosis, a fatal disease in koalas	This project aims to investigate the cause of oxalate nephrosis, a fatal kidney condition of high prevalence in South Australian koalas, by determining genetic, dietary and environmental factors in the disease. It will also include investigating tools for the early detection of oxalate nephrosis	The South Australian Koala Conservation and Management Strategy has identified the importance of research into the health status and genetic structure of koala populations	**EXISTING PROJECT.** Dr Natasha Speight & Dr Wayne Boardman (University of Adelaide). Potential for national partnerships and partnerships with Longleat. This project could be undertaken in collaboration with a potential Wildlife Research Hospital (University of Adelaide)
Improve our understanding of the genetic health and disease status of captive and wild koala populations	The aim of this proposal is to understand the disease and genetic status of the SA captive koala population at Cleland, and compare this to genetic variability and disease status across wild populations. With particular interest in the population in the South Gippsland. The Strzelecki Ranges in the South Gippsland in Victoria are thought to be one of the few remnant genetically-diverse populations of koalas in Victoria. The koalas from this area were not heavily impacted by translocations of koalas that occurred elsewhere in Victoria. This population could be of interest for the long-term genetic health of the koala but its disease status needs further research.	The South Australian Koala Conservation and Management Strategy has identified the importance of research into the health status and genetic structure of koala populations	Australian Museum, University of Sydney, NSW Government, Vic Government, Cleland WP, Longleat. The application of this research would need to be undertaken in the context of what role the South Australian government see the South Australian captive population (Cleland) playing in tourism, education, and national koala conservation. This project could be undertaken in collaboration with a potential Wildlife Research Hospital (University of Adelaide)
Investigate approaches to improve forage management for captive koala populations	This research would focus on how to maintain a sustainable and appropriately diverse forage source for captive and rescued koala populations, and how variation in forage sources and species impacts on the health of captive koalas.	The South Australian Koala Conservation and Management Strategy has identified the importance of research to improve the diet and broader management of koalas in captivity	Cleland WP, other national wildlife parks, Longleat.
Understanding the disease status of the wild populations, and the local and national implications of disease.	Nationally, disease management of wild koala populations is consistently raised as an issue for conservation. The South Australia koala populations have the potential to contribute significantly to our understanding of the disease implications on koala conservation (e.g. using the chlamydia-free status of Kangaroo Island koalas)	The South Australian Koala Conservation and Management Strategy has identified the importance of research into the health status and genetic structure of koala populations	NSW Government, Queensland Government
Research into the development of vaccinations for disease such as chlamydia and KoRV	Chlamydia and KoRV (particularly KoRV-B) have resulted in significant population declines in the eastern states. A lower prevalence of these diseases in SA with a chlamydia-free status in Kangaroo Island could provide an opportunity to establish vaccination trials.	The South Australian Koala Conservation and Management Strategy has identified the importance of research into the health status and genetic structure of koala populations	NSW Government, Queensland and University of Adelaide and University of Sunshine Coast (Peter Timms who has started work in this area), Longleat. This project could be undertaken in collaboration with a potential Wildlife Research Hospital (University of Adelaide)

Koalas in the community

Project	Description	Policy driver	Potential Partners/Investment
Improving the fate of rescued koalas in the wild	Sectors of the community invest significantly in the rescue, care and release of injured wild koalas. This project would investigate the short- and long-term fate of rescued and released koalas, and identify opportunities to improve survival.	The community and government have a strong interest and expectations for ensuring that outcomes for rescued koalas are beneficial, and minimise harm.	Wildlife care organisations; DEW; state and national universities
Improving our understanding of human—koala interactions	An opportunity exists to improve our understanding of how koalas interact with human populations, including vehicles and pets (dogs). It would be possible to combine a range of techniques, including social science, citizen science and direct tracking of individual koalas to better understand how koalas interact with people, raise the profile of koala-human interactions in the community, and identify opportiunities to improve these interactions in ways that benefit people and koalas.	Management agencies require better information with which to reduce the impact of urban and suburban environments on wild koala populations, in order to better design mitigation and engagement strategies.	Social science expertise, citizen science expertise from state and national universities
Community perspectives of koala conservation and management	This project would develop an improved understanding of community expectations and attitudes to the management of wild koala populations, particularly in areas where they are overabundant. The research would need to focus at multiple levels (local, state, national, international), and would be used to both guide future management, and identify barriers to engagement and communication.	Policy makers currently rely on a limited understanding of community expectations with respect to koala management, and these expectations vary with scale (local, national, international). A better understanding would help managers ensure that koala population management is both meeting these expectations, and that they are communicating the need for management effectively.	Cleland WP; other state government agencies; university social science expertise.
Koalas and nature-based tourism in South Australia	Tourist experiences with wild and captive populations in South Australia potentially play a significant role in attracting tourists to South Australia. An opportunity exists to improve our understanding of what role the species plays, and how South Australia can design koala-based experiences that fit the expectations of tourists.	The tourism industry and government would like to maximise the social and economic benefits of captive and wild koalas for visitors and tourists to South Australia, in order to guide the design of tourism experiences to maximise this value.	Longleat, Cleland WP, tourism operators, universities with nature-based tourism and environmental economics expertise
Koalas as a flagship species	Koalas are easily Australia's most iconic wildlife species, and could potentially play a powerful role in improving the profile of our less well known, and often more threatened, native wildlife. This project could aim to improve our understanding of what marketing and communication approaches are likely to provide this broader benefit to biodiversity.	By better understanding how the iconic status of koalas can be used to leverage support for other species, managers can design their communication (with respect to e.g. fundraising and other behavioural change) to maximise the value of this leverage.	Conservation marketing and conservation psychology expertise (e.g. RMIT ICON Science); Cleland; Zoos SA.

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Public Commentator (Tour Down Under) and Conservation Advocate

Trish Liggett
Wildlife and Conservation Advocate

Teresa Palmer
Actress, Writer, Producer and Director

IKCE Chief Executive Officer

Professor Chris Daniels
BSc (Hons) PhD DSc FAICD

Chris holds adjunct professorships at University of Adelaide and University of South Australia. He has held senior leadership roles in a wide range of government and community organisations. Chris is actively involved with nature conservation and urban sustainability. Until taking the role of IKCE CEO, Chris had been the Director of Cleland Wildlife Park for almost two years. He is focused on conserving wildlife and connecting people with nature.

IKCE Board Members

Ian Drummond - Chair
Ian Drummond is an entrepreneur and environmentalist who has a background in education and current business interests in tourism in the Northern Territory and South Australia.

Kris Helgen - Deputy Chair
Kristofer Helgen is a professor of biological sciences and deputy director of applied conservation at the University of Adelaide.

Sandy Carruthers
Executive Director, Strategy, Science and Corporate Services, and Chief Information Officer, at the Department for Environment and Water SA.

Brian Cunningham
25 years experience as a Chief Executive in both the private and public sectors in Australia and has wide ranging experience in leading and managing successful organizations over that time.

Kristina Roberts
Extensive experience in executive leadership and management. She has worked with local and state governments in the areas of business and economic development.

Yvonne Sneddon
Yvonne is a professional non-executive company director with more than twenty years' experience on boards and audit, governance and risk committees.

For more information, and for ways to partner with IKCE, please visit

www.koalacentre.org

Partners

Cleland Wildlife Park

LONGLEAT

Government of South Australia

Research organisations

THE UNIVERSITY of ADELAIDE

Flinders UNIVERSITY

University of South Australia

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