

Region: South Asia

Species: Dingo

Title: Ecological roles of dingoes in Australian landscapes

Summary: Land used for extensive sheep and goat grazing across Australia is presently experiencing a rapid resurgence in the use of exclusion fences intended to facilitate the local eradication of dingoes, Australia's largest terrestrial predator. Dingoes are common and widespread, but their local eradication within large fenced areas offers the opportunity to investigate their ecological roles, including their potential roles in mesopredator release and trophic cascade processes. This project involves the implementation of large-scale and long-term classical experiments to evaluate the responses of mammal, bird and reptile communities to the complete removal of dingoes. The project commenced in 2012 and is expected to continue until at least 2025.

Researchers involved: Benjamin Allen, Geoff Castle, John Carter, Deane Smith, Peter Elsworth, Lee Allen

Links to project: None

Photo credit: Benjamin Allen



Region: South Asia

Species: Dingo

Title: Genetic health and status of K'gari wongari (Fraser Island dingoes)

Summary: The conservation and management of K'gari wongari (Fraser Island dingoes) is highly contentious. Many former issues of public concern (e.g. dingo diet, health, movements, abundance etc) have largely been resolved following recent increased effort to systematically address these concerns through independent scientific evaluation and open-access publication of key datasets collected and maintained by DES through its Queensland Parks and Wildlife Service & Partnerships (QPWS&P). However, public and scientific concern remains about the genetic health and status of dingoes on the island, including the 'number of breeders' present. Formulating appropriate dingo management policy is more difficult without this information. The overall aim of the project is to provide QPWS&P with robust and policy-ready information on the genetic health and status of dingoes on K'gari (Fraser Island) – information that also meets stakeholder expectations and is widely supported by the scientific community. This will be achieved by following a stakeholder-led, expert-informed, and independent co-innovation approach that includes stakeholder and expert workshops, along with independent scientific analyses of existing DNA data held by QPWS.

Researchers involved: Benjamin Allen, Linda Behrendorff, Susan Miller, Jacqueline Bishop and various collaborators

Links to project: None

Photo credit: Linda Behrendorff



Region: South Asia

Species: Dingo

Title: Exploring domestic dog admixture and biogeography in the Australian dingo

Summary: Despite widespread interest in the identity of dingoes across the Australian landscape there has been limited research into the presence of geographic variation with high-density genomic technologies. New genomic techniques can also be used build knowledge about the occurrence and extent of domestic dog admixture in dingoes. Dingo x domestic dog hybridisation and admixture is believed to be one of the most serious threats to the long-term conservation of dingoes. A majority of samples contributed to the research project are from opportunistic collection of samples by citizens, trappers, landholders, and conservation organisations from deceased free-ranging dingoes. This project will inform conservation goals at both a continent and regional scale. The project commenced in 2018 and is expected to continue until at least 2023.

Researchers involved: Kylie Cairns, Mike Letnic, Mathew Crowther

Links to project: <https://www.facebook.com/dingogenetics>

Photo credit: Michelle J Photography, Cooma, Australia.



Region: South Asia

Species: Dingo

Title: Searching for the New Guinea dingo in Papua New Guinea

Summary: The New Guinea dingo is elusive in its highland home. This project embodies a three-decade long quest to find free-ranging New Guinea dingoes and describe the cultural connection between New Guinea dingoes and Indigenous Papuans whilst gathering information about their possible distribution in New Guinea. DNA samples collected from suspected dingoes and village dogs will be studied to identify traces of dingo.

Researchers involved: Rose Singadan, Janice Koler-Matznick, Kylie Cairns, Benjamin Allen.

Links to project: None.

Photo credit: Rose Singadan



Region: South Asia

Species: Dingo

Title: Conservation and management of dingoes on K'gari (Fraser Island)

Summary: K'gari (Fraser Island), is a World Heritage area off the coast of Queensland, Australia with an isolated population of 100-200 dingoes of national interest and conservation concern. This is an ongoing program of research into diet, health, movements, breeding, and the effects of management decisions on the ecology and conservation of dingoes on K'gari. Current dingo management practices on the island focus primarily on areas where dingoes come into conflict with humans. Understanding their diet and feeding ecology is fundamental to the better management and conservation of dingoes and the resolution of human-dingo conflicts in a high-visitation place.

Researchers involved: Linda Behrendorff and Jenna Tapply.

Links to project: None

Photo credit: Linda Behrendorff



Region: South Asia

Species: Dingo

Title: Dingo ethological and comparative studies: Examining dingo biology and behaviour

Summary: Although the genus *Canis* is one of the most widespread mammal genera, the dingo is the only representative of the genus in Australia. The dingo is easily mistaken for a dog, but it is distinct from dogs in terms of genotype, phenotype, and ecological function, and that they live in the wild completely independent from humans. The canids from which dingoes are descended arrived in Australia over 5000 years ago, either with people or independently via a land bridge. Their domestication status on arrival remains uncertain. Dingoes were either descended from fully domesticated canids that reverted in Australia to a semi-feral state; partially domesticated and subsequently the process of domestication was frozen by the absence of conditions needed to support it; or were never domesticated. Either way, the dingo is close to being a “missing link” in the process of the evolution of the dog and thus a highly sought-after research subject for those concerned with domestication and other phenomena. For over a decade I have been conducting hands-on non-invasive experiments with captive and free ranging dingoes, and using them as comparative models to domestic dogs and wild canids around the world. Published examples of behavioural studies I have conducted in this area include exploring spatial problem solving, tool use, responsiveness to human social cues, reliance on humans for assistance during problem solving, the function of play bows, the personality and behaviour of dingoes living as companion animals, parental behaviour (such as nipple use and diurnal patterns of nursing), cannibalism, denning behaviour, and the reaction to the death of conspecifics. Biological studies I have conducted include encephalisation (brain size), reaction to stress in captive environments, and reproductive traits. I have also conducted several unpublished works have been conducted on comparative anatomy between dingoes and domestic dogs, including hyper flexibility of joints (neck, hips and thoracic limbs) as well as orbital angle. The conclusions from these studies, and those of other researchers, highlight how dingoes are a unique wild Australian canid, and in all ways are more akin to wild canids than domestic. More broadly, this work has been used to promote dingo conservation by enabling a greater understanding of the species, as well as providing useful information that can be built upon in the development of effective dingo management programs. Various studies in this space remain ongoing.

Researchers involved: Bradley Smith and various collaborators.

Links to project: None.

Photo credit: Bradley Smith



Region: South Asia

Species: Dingo

Title: Exploring human-dingo conflict and non-lethal approaches to dingo management

Summary: Contact between dingoes and humans is inevitable, and not always positive. Our ongoing research attempts to understand knowledge and attitude towards dingoes, as well as the conflict between dingoes and humans in urban environments (e.g. in tourist areas, townships and mining operations) and between dingoes and livestock (e.g. livestock depredation). Consultancy in this space includes work with state government wildlife agencies, local councils, mining operations and Indigenous Protected Areas Australia-wide. Examples of published work include determining the drivers of dingo management practices, historical and modern attitudes towards dingoes and their management, as well as discussion papers relating to the importance of, challenge and solutions to implementing non-lethal management. We actively seek ways to foster co-existence between humans and dingoes across all contexts- particularly the use of non-lethal approaches that help mitigate conflict. Published examples where we have developed and tested innovative methods of managing wild dingoes include aversive conditioning, hand-held deterrents, fladry, bio-boundaries (using scent and sound), and automated shepherds (inflatable moving human effigies). Several projects relating to understanding and mitigating conflict with dingoes remain active.

Researchers involved: Bradley Smith, Rob Appleby, Neil Jordan.

Links to project: [Human-wildlife Co Existence Lab](#)

Photo credit: Bradley Smith

