

Dingo Management and Monitoring Case Studies in Australia

The following case studies describes some of the dingo monitoring and management programs occurring throughout Australia that are focussed on minimising lethal control. This information provides important context and background for the management options proposed for Byron Shire Council.

Mid-Coast Council Dingo Management Procedure and Myall Lakes Dingo/Dapin Project

Mid-Coast Council have a management procedure for dingoes in the coastal strip of the Local Government Area (LGA) that runs from Hawks Nest to Seal Rocks. This area covers of approximately 250 km² (2.5%) of the 10,000km² LGA, and functions as a peninsula, isolated from the rest of the LGA by the Myall River and Myall Lakes System. The bulk of the land tenure is Myall Lakes National Park, with small townships, holiday parks and campgrounds nestled within the National Park. The project operates on National Parks, Council and Crown land, but not on private land.

The Mid-Coast Council Dingo Management Procedure has been operating for 4 years, focussing on human-wildlife conflict areas. The project arose as a way to manage regular interaction between humans and dingoes in local campsites and holiday villages; and following community concern regarding culling of dingoes. Dingoes living in Myall Lakes National Park frequently enter local townships and, where human-dingo interactions may happen and dingoes can be potentially fed or become habituated to people, they occasionally become aggressive.

Broadscale culling of dingoes can exacerbate problem caused by aggressive dingoes by disrupting pack structure. The aim of the management procedure is to keep healthy dingo populations in the area and reduce the risk of problem animals through managing human behaviour (signs, leaflets, fines for feeding dingoes and an on-line community reporting system), and applying an evidence-based, systematic procedure for managing problem animals.

The Mid-Coast Dingo Management Procedure classifies all local dingoes according to a behaviour class, and gives a clear, step-wise procedure for identifying and humanely euthanize animals that are classed as dangerous. Identifying and euthanising only individual problem animals minimises disruption to dingo pack structure. Euthanised dingoes are sent to Taronga Zoo for processing then returned to local indigenous communities who then repatriate the dingo back to Country. Not everyone in the community supports culling of high risk dingoes, but having a clear step-by-step monitoring and management procedure in place makes it easier for the community to understand reasons for culling problem animals. However, in the past few years it hasn't been necessary to cull any dingoes, which is attributed to successful community engagement regarding feeding dingoes etcetera.

Key to the success of the Mid-Coast Council Dingo Management Procedure, is a partnership with the University of NSW, NSW National Parks and Taronga Zoo, as part of the Myall Lakes Dingo/Dapin Project ([Myall Lakes Dingo Project – Carnivore research and coexistence \(carnivorecoexistence.info\)](http://carnivorecoexistence.info)), which is conducting extensive monitoring of the local dingo population. Funded by UNSW, the project includes cage-trapping and collaring of dingoes by a veterinarian from Taronga Zoo, together with extensive camera monitoring.

Monitoring provides data on dingo home ranges, diet, food sources, family trees, pack size and structure, pup survival and DNA. It also enables the research team to identify each individual dingo – the team now know 95% of individuals in the local dingo population. These data are used by Mid-Coast Council to manage inappropriate feeding sites and to identify specific problem individuals that required further management.

Non-lethal cage trapping of dingoes is carried out within the National Park as part of the dingo collaring program. Trapping is done under a scientific license, and live release of trapped dingoes is possible because Mid-North Council have a scientific project which allows effective risk management in place as well as monitoring and community education. If a dingo is accidentally caught in a cage trap outside of the conditions of the scientific license, legislation requires that the animal be euthanized. The Myall Lakes Dingo Project Managers indicated that implementing a non-lethal cage trapping program in the remainder of the LGA would be difficult because of land tenure issues, risk management and the conflict with NSW biosecurity legislation. Cage trapping is also less likely to be successful outside of National Parks because dingoes in agricultural landscapes are generally much more wary of traps due to the history of lethal control.

Outside of the project area, a range of different methods are used to managed dingoes and feral dogs in the Mid-Coast LGA. Over the majority of Mid-Coast LGA, where the landscape is predominantly agricultural, management of wild dogs, including dingoes, is led by LLS, who support rural landholders to control wild canids using methods such as baiting and trapping. (University of NSW are interested in testing the use of non-lethal canid deterrents in these areas in the future). In Council reserves where foxes impact native wildlife and where camera and footprint monitoring indicate dingoes are absent, foxes are controlled by 1080 baiting and shooting. In urban/suburban areas free-roaming domestic dogs are captured by Council rangers and taken to the pound.

University of NSW camera monitoring in areas where dingoes are not a targeted species for pest control, suggests cats and foxes occur in relatively low numbers in these areas. Anecdotally, researchers have observed dingoes, cats and foxes coexisting in agricultural parts of the LGA, together with a whole range of native species.

In the Myall Lakes Dingo Project area, researchers haven't experienced issues with dingoes breeding with domestic dogs. This is attributed to Dingo social pack structure being intact due to lack of broadscale lethal control, which reduces risk of interbreeding. In dingo packs it is common for both parents to be involved in rearing pups, however UNSW researchers suggest that this is less likely to happen when dingoes interbreed with domestic dogs, resulting in low survivorship of offspring.

K'gari Dingo (Wongari) Management Procedure

Under Queensland legislation the dingo is listed 'native wildlife' but protections only apply to 'protected wildlife' (threatened, near threatened and least concern). However, in national parks such as K'gari, dingoes (or wongari) are protected as a 'natural resource'.

All wongari are monitored by the rangers on K'gari. Wongari are caught in soft jaw leg hold traps. Rangers haven't observed any injuries to the leg with soft jaw traps, but the traps are monitored hourly, and when they catch a wongari, they massage its leg after releasing it from the trap to help with any bruising or stiffness. Trapped wongari are approached gently and restrained using pin poles to hold the neck and foot, so that they can be sedated before being microchipped, tagged and weighed.

The development of the project that led to today's approach include four programs:

- Risk intervention.
- Research program: Three broad research areas (Themes) were identified and outcomes articulated to advance K'gari Island dingo conservation and risk management, and human safety:
 - Theme 1. Dingo Conservation and Ecology: Population Estimates and Trends and Dingo Conservation Genetics
 - Theme 2. Dingo Behavioural Management and Direct Intervention: Minimising Opportunities for Negative Dingo Interactions
 - Theme 3. Human Management and Education: Traditional History and Management and Human Attitudes to Dingoes
- Communication and education.
- Evaluation and review
 - Dingo Working Group comprised of technical experts from universities and other organisations.

The Myall Lakes Dingo Management Procedure is based on the K'gari Dingo Management Procedure, and uses a similar program of public education and enforcement to manage interactions between humans and wongari. K'gari rangers closely monitor camp sites and there are strict penalties for feeding wongari or leaving food around.

Because wongari are tagged and monitored, rangers know what's happening in the population and are able to identify and manage individual problem animals where they do become aggressive and dangerous. Killing wongari is a last resort and, through monitoring and public education, they are able to reduce the risk of this occurring.

Minyumai IPA Dingo Research Project

Indigenous rangers from the Minyumai IPA are undertaking preliminary monitoring to learn about dingoes living in this area and develop a culturally informed conservation program. Minyumai IPA covers approximately 2000 ha between Bundjalung National Park and Tabbimoble Swamp Nature Reserve. The ex-pastoral land is now densely forested and surrounded by adjacent forested areas, mostly in public ownership but with a small number of neighbouring private landholders.

The monitoring program is intentionally low-key, to minimise impact on dingo behaviour and enable the rangers to be on, and learn about, country. The rangers are building up a picture of the number of dingoes using the reserve, where they travel and what they eat. Monitoring is primarily by motion-sensitive cameras, sited where dingo tracks are identified. A small number of baited cameras are used to help identify individual dingoes, but most camera monitoring is passive. Rangers review camera monitoring data using the open source Wildlife Insights app ([Home | Wildlife Insights](#)).

Rangers are also collecting scats for DNA analysis. DNA scat analysis is a relatively low cost method - approximately \$14/sample, plus ranger resources to collect scat. DNA analyses of scats can differentiate between foxes, dogs and dingoes and can indicate diet.

Current monitoring indicates the presence of around 20 dingoes, one fox and no cats. Other feral animals in the IPA include cattle, that are managed with thermal drone surveys and shooting, and feral pigs, that are trapped and shot. Dingoes appear to mostly be feeding on macropods, while foxes eat smaller animals. To date no koalas or livestock have been identified in dingo scat studies.

The Minyumai rangers work closely with National Parks staff on other conservation, land management and threatened species management within the reserve. Baiting, primarily for foxes, occurs on National Park land, although the rangers would like to extend their dingo monitoring program into the National

Park in future. The Minyumai rangers are currently receiving training from K'gari Butchulla Aboriginal corporation and Queensland National Parks rangers, to give them the skills to carry out trapping, collaring and tagging of local dingoes, should funding for more extensive monitoring become available.

Byrangergy Grass Reserve Feral Animal Monitoring

In 2023 Reconeco Pty Ltd was engaged by Byrangergy Grass Reserve Trust to undertake a program of feral animal monitoring and control at the Byrangergy Grass Reserve and adjacent private properties. The program included infrared (IR) camera monitoring undertaken pre and post control and two rounds of soft-jaw leg-hold trapping over 16 nights, in winter and spring, using SIM enabled IR cameras to monitor traps, and cost around \$22,000.

Eight IR cameras were installed for 104 trap nights and data used to plan a control strategy based on feral activity at different locations.

Winter camera monitoring identified multiple fox sightings (possibly from a single pair of foxes), one domestic dog, but no feral cats or wild dogs. Monitoring in spring identified the same fox pair, one feral cat and repeated appearance of two wild dogs. Reconeco corroborates Myall Lakes data on reports by staff who say they see dingoes, cats and foxes all occupying the same area in this region – they're just active at different times to avoid each other.

However, no feral animals or wild dogs were trapped during winter or spring trapping programs, despite using an array of trap sets and lures. Camera monitoring indicated an abundance of food resources (prey species) at the site, which may make predators less inclined to investigate the lures and trap sets used.

There was significant variation in the numbers of feral animals using the site both between and within the two monitoring periods. ReconEco recommend highly targeted control at a site like this, with methods such as ground shooting or detection dogs/fumigation of fox dens used when property owners notice increases in feral animal activity.