Submission No 199

INQUIRY INTO DINGOES IN NATIONAL PARKS IN NEW SOUTH WALES

Name: Name suppressed

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Submission to the NSW Parliamentary Inquiry into Dingo Management in New South Wales

Submitted by:
Capacity: Personal submission

Subject: Evidence-based dingo management, ecological function, conservation and cultural outcomes for New South Wales

I welcome the opportunity to provide a submission to the NSW Parliamentary Inquiry. This submission draws on my doctoral research into dingo morphology and ecological interactions, as well as my current professional experience working with First Nations Peoples on dingo-related matters. The central proposition of this submission is that dingo management in NSW should move away from broad-scale lethal control and toward a more targeted, evidence-based and culturally informed approach that recognises the ecological role of dingoes as apex predators.

1. Genetic Status and Hybridisation

- **Regional variation and misconceptions:** Public and policy concern about the genetic extinction of dingoes across Australia should be treated with caution. This PhD research involved measuring dingo skulls from major museum collections across Australia and found strong morphological consistency in dingoes across most mainland bioregions. Museum skin collections and early settler artworks also show that dingo coat colour has historically been variable, indicating that colour alone is not a reliable indicator of hybridisation.
- **Targeted hybridisation:** Peer-reviewed morphological research indicates that hybridisation is concentrated in specific high-density south-eastern forested regions, where animals may exhibit shorter and broader snouts. This regional pattern is important because it overlaps with areas where this research also examined the beneficial ecological role of free-ranging, self-sufficient dingoes.
- **Morphological consistency:** Across most mainland bioregions, dingoes remain fundamentally consistent in shape, discouraging blanket assumptions about hybridisation.

- Parr, W.C.H., Wilson, L.A.B., Wroe, S. *et al.* **Cranial Shape and the Modularity of Hybridization in Dingoes and Dogs; Hybridization Does Not Spell the End for**

Native Morphology. *Evol Biol* **43**, 171–187 (2016). https://doi.org/10.1007/s11692-016-9371-x

- Crowther, M.S., Fillios, M., Colman, N. and Letnic, M. (2014), **Updated description of the dingo**. J Zool, 293: 192-203. https://doi.org/10.1111/jzo.12134

2. Ecological Role and Policy Impacts

This ecological research used a paired-design approach across forested national parks in eastern Australia. This involved comparing parks where dingoes were routinely controlled with neighbouring parks where they were not routinely controlled. The research included surveys of small and medium mammal assemblages, predator activity and vegetation structural complexity. The findings indicate that lethal control of dingoes can trigger unintended ecological consequences.

- **Mesopredator release:** Suppression of dingoes can increase the activity or abundance of red foxes (*Vulpes vulpes*). The relationship between dingoes and feral cats is less direct and more difficult to detect through standard survey methods, noting that cats use different habitats and behaviours, including arboreal refuge use.
- **Decline of small and medium mammals:** Increased fox activity is strongly associated with declines in vulnerable small and medium-sized ground-dwelling native mammals, commonly referred to as critical weight range mammals.
- **Trophic cascades and vegetation structure:** Areas with consistent dingo presence can suppress the abundance or behaviour of large herbivores, including macropods such as kangaroos and wallabies. This can help maintain understorey vegetation complexity, which provides important habitat for a range of native fauna species.

- Colman NJ, Gordon CE, Crowther MS, Letnic M. **Lethal control of an apex predator has unintended cascading effects on forest mammal assemblages**. Proc Biol Sci. 2014 Mar 11;281(1782):20133094. doi: 10.1098/rspb.2013.3094. PMID: 24619441; PMCID: PMC3973261.

Lethal control of an apex predator has unintended cascading effects on forest mammal assemblages - PMC

- Colman, N.J., Crowther, M.S. and Letnic, M. (2015), Macroecological patterns in mammal abundances provide evidence that an apex predator shapes forest

ecosystems by suppressing herbivore and mesopredator abundance. J. Biogeogr., 42: 1975-1985. https://doi.org/10.1111/jbi.12563

3. Recommendations

Recommendation 1: Develop genuine partnerships with First Nations Peoples. Dingo policy should be informed by place-based engagement with Traditional Owners and Aboriginal communities, recognising longstanding cultural relationships with dingoes from the past to the present day. Although my doctoral research did not formally partner with First Nations Peoples, my current work in this area has demonstrated the value and importance of First Nations leadership, knowledge and participation in dingo management.

Recommendation 2: Apply lethal control methods cautiously in conservation areas. Where lethal control is used, it should be targeted, risk-based and directed toward the intended management objective, such as fox control, while avoiding unnecessary disruption to dingo social structure and ecological function.

Recommendation 3: Recognise and protect the ecological role of dingoes as apex predators. NSW policy should acknowledge the role of dingoes in maintaining vegetation structural complexity, limiting mesopredator impacts and supporting conservation outcomes for critical weight range mammals. Management should be based on monitoring, clear risk thresholds and targeted intervention only where necessary.

Recommendation 4: Invest in non-lethal alternatives. Government should support the development and adoption of non-lethal approaches to reduce conflict between dingoes and livestock enterprises. These may include improved exclusion fencing, guardian animals, deterrent systems, monitoring, rapid response protocols targeting specific animals, and husbandry practices that reduce predation risk while preserving apex predator function.

4. Conclusion

The evidence presented in this submission supports a shift in NSW dingo management from broad-scale lethal control toward a more targeted, evidence-based and culturally informed framework. Dingoes should not be managed solely as pests. In many landscapes, they perform important ecological functions that can support biodiversity conservation, vegetation structure and the persistence of vulnerable native mammals. A risk-based approach that integrates science, monitoring, non-lethal tools and First Nations knowledge would provide a stronger foundation for long-term conservation and land management outcomes.

5. Research Basis

Colman, N. (2015). *Morphological variation and ecological interactions of Australia's apex predator — the dingo (Canis dingo)* [Doctoral thesis, University of Western Sydney].