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Paddy Pallin Science Grant

Carrion and Scavenging as an Ecological Indicator

University of Sydney

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Project Summary

Animal carcasses (carrion) are important components of ecosystems, providing food for many scavenging animals and decomposing to release nutrients into the soil. In addition, carrion is a hotspot of animal activity that attracts a range of fauna, especially predators and omnivores, therefore allowing us to readily gain an insight into which species are present in a landscape. However, human driven changes are causing greater loads of carrion to be deposited in the environment than would occur naturally, especially after culling feral animals. This may disrupt the regular dynamics of communities of scavengers in addition to wider ecosystem processes. Further, dingoes (*Canis lupus dingo*), a native apex predator and key scavenging species, are subject to lethal control measures in many parts of Australia, even in conservation reserves. In doing so, potentially destabilising food webs and degrading communities of scavengers. We aim to assess the role of dingoes within communities of scavengers post-culling of pest animals, thereby gaining an insight into the intactness of the ecosystems of study and how these apex predators and scavengers influence broader ecological community dynamics around carcasses. Specifically, we plan to study the response of both scavengers and non-scavenging animals (such as sensitive species like birds) around carcasses within areas of different dingo management programs, with a focus on the prevalence of invasive species. Ultimately, seeking to provide guidance for conservation measures that involve culling pest animals and dingo control.

Biography of Rhys Cairncross

I am passionate about Australia's environment and the unique biodiversity we are lucky to share this continent with. This was first sparked in me as I spent much of my childhood and adolescence at my family's farm near Tabulam in Northern NSW. I am interested in both flora and fauna, but have always been particularly interested in zoology. Whilst I especially love less-understood species like herpetofauna and invertebrates, I am excited for my PhD as it has relevant management implications for a variety of fauna including mammals and birds. Prior to this, I finished my undergraduate degree in 2021 having completed an Honours assessing how invasive wasps affect the dynamics of scavenger communities in Kosciuszko National Park before subsequently working in ecological consulting until I began my PhD in July 2023. I wish to use my career to conserve and support Australian biodiversity at a time when it has never needed us more.