June 9th 2021

To: the Editor-in-Chief,

Professor Mark A. Burgman,

Centre for Environmental Policy,

Imperial College London,

London,

United Kingdom

Professor Burgman,

Please consider our manuscript ‘Quantifying wildlife conflicts by combining eDNA metabarcoding and traditional diet analysis’ for publication as an article in Conservation Biology.

Conflicts between iconic species are increasing globally with mounting pressures during the Anthropocene. This paper presents and applies a reproducible and modular framework for wildlife interaction surveillance that is of broad interest to the Conservation Biology readership and community. We combine traditional morphological and modern DNA metabarcoding assays to quantify predation incidence and impacts to a vulnerable prey species.

Specifically, we offer: (i) a multi-assay method for comparison of target species identification – producing a more reliable prevalence than that offered by the traditional assay alone; (ii) a reproducible protocol for DNA metabarcoding analyses for identifying target prey species from predator scat samples; and, (iii) an applied haplotype polymorphism analysis for genetic diversity and probable abundances of target species within and between samples using shorter base-pair target DNA.

Importantly, we provide critical quantitative information for the management of a contentious wildlife conflict in southern Australia, between two species of conservation concern – the recovering long-nosed fur seal and the culturally important little penguin. This conflict has resulted in repeated calls to cull the fur seals. The predator is now recolonizing its former range in Bass Strait and risk assessments are required to predict impacts on seabird populations. This research provides a critical step towards an up-to-date cumulative impact assessment for threats to little penguins in southern Australia.

We present original work carried out by the authors and acknowledge the requirements for publication in the Society for Conservation Biology’s prestigious journal, Conservation Biology. We appreciate your time and attention in considering this manuscript.

Sincerely,

On behalf of all co-authors,

Natasha Hardy