SYMPOSIUM

USING TECHNOLOGY TO REDUCE WILDLIFE-VEHICLE COLLISIONS:

Identifying future directions and opportunities for research trials.

TUESDAY 21 MAY 2024

Aerial UTS Function Centre,
Bldg 10/Level 7, 235 Jones St, Ultimo, NSW
and Online via Zoom

Christine Connelly
Victoria University

Presentation materials
| Accessible here

ABSTRACT

Virtual fences do not affect wallaby and possum roadkill rates

Roads present a major challenge in urban areas, causing a variety of negative consequences for motorists and impacting wildlife populations through habitat fragmentation and wildlife-vehicle collisions. Numerous roadkill mitigation measures have been proposed, however, these can be costly or have little demonstrated benefit. One proposed solution that has gained wide appeal in Australia is marketed as a "virtual fence" and comprises a series of roadside bollards with sound and light emitting devices designed to trigger an avoidance response from nocturnal animals. In addition to reducing roadkill, virtual fences could allow natural dispersal and movement behaviours, unlike physical fences. Previous studies have shown mixed success and the evidence to support the use of virtual fences remains unclear. Other projects may be constrained by suboptimal timeframes and/or lacking an appropriate experimental control. Here, we report on the results of a long-term, three-year study monitoring wildlife roadkills each week. Our project featured a BACI and crossover study design to provide a robust evaluation of the technology's effectiveness in reducing roadkill. We carried out our research on Phillip Island, a hotspot for wildlife-vehicle collisions in Victoria and an area with significant wildlife conservation values. The presence of virtual fences did not reduce roadkill rates of the most frequently encountered species, swamp wallaby (Wallabia bicolor) and brushtail possum (Trichosurus vulpecula), nor for all wildlife species combined. Virtual fences are unlikely to provide a long-term reduction in wallaby and possum roadkill rates.

BIOGRAPHY

Christine Connelly is a Lecturer in Environmental Science with the College of Sport, Health and Engineering and a Research Fellow within the Institute for Sustainable Industries and Liveable Cities at Victoria University. Her research is focused on using cross-disciplinary approaches to solving biodiversity conservation issues in Australia, drawing on over 15 years' experience in ecology and environmental management, across the private, government, non-profit and academic sectors. Christine is an expert in developing long-term citizen science projects and has extensive experience in working with local communities to develop and implement bespoke, relevant, and scientifically robust monitoring projects, using contemporary technologies such as motion-detecting cameras and bioacoustic recording devices. Christine completed her PhD in environmental science at Deakin University, carrying out applied field- and lab-based research on the urban ecology of a representative woodland bird species, the Eastern Yellow Robin. Other notable projects include research at Monash University exploring vegetation change in box-ironbark forests of central Victoria over the Millennium Drought and establishing an exciting bioacoustics project in partnership with Museums Victoria and local community groups, to monitor birds and build Victoria's first state-specific library of bird sounds.