NSW ROADSIDE ENVIRONMENT COMMITTEE

NSW REC
Newsletter

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BirdLife Australia Powerful Owl Project, IFM Investors Grant

Last year, Ausgrid secured an IFM Investors grant for a BirdLife Australia Powerful Owl project to investigate nest tree selection by urban Powerful Owls.

Powerful Owls are Australia's largest nocturnal bird. Adults reach approximately 60 cm in length, have a wingspan of up to 140 cm and weigh up to 1.45 kilograms.

Powerful Owls are a NSW listed threatened species, their breeding season is April to October and during the last breeding season there were approximately 177 active breeding territories within the Greater Sydney Area.

Nest trees are critical for the survival of Powerful Owls, yet hollow-bearing trees are in short supply, particularly in urban areas.

To better protect the birds on the ground, BirdLife Australia's Powerful Owl Project has used the grant funds to investigate and measure key features of each nest tree and it's hollow.

BirdLife Australia is now compiling a database of the key features of nest trees and creating a checklist of features for land managers to use to identify potential nest trees.

Nest tree information will be updated each year as new trees are identified. The project is due for completion in the coming months.

Find out more about the Powerful Owl Project at

https://birdlife.org.au/projects/powerful-owl-project/

Photo: Simon Zhu

Contents

Symposium: Using Technology to Reduce Wildlife-Vehicle Collisions (21 May 2024)

Wildlife-vehicle collisions are a significant risk to human safety, threat to wildlife conservation, and an animal welfare concern.

Transport agencies around the world are building fences to prevent wildlife from accessing roads and railways and installing underpasses and overpasses to allow safe crossing. There are many situations where fences and crossing structures are not feasible, and technological approaches, such as animal detection and deterrent systems, are being considered. This symposium will explore the evidence base and the ecological and technological considerations underpinning the different options to reduce wildlife-vehicle collisions and enable a synthesis and direction forward including opportunities for future trials.

This symposium will bring together ecologists, transport agencies, technology experts, all levels of government, NGOs, industry, and the community.
The technology to be discussed includes:

- Animal detection and identification systems
- Animal deterrent systems (e.g. virtual fences)
- In-car and roadside warning systems for motorists
- Vehicle automation.

This symposium will be available for attending in person and online.

This event is proudly sponsored by

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wsp | Environment Institute of Australia and New Zealand | ANET

Register at https://www.eianz.org/events/event/symposium-using-technology-to-reduce-wildlife-vehicle-collisions

Updated TfNSW Biodiversity Management Guideline

The Biodiversity Management Guideline provides advice on the practical actions required to minimise and mitigate impacts on biodiversity during infrastructure construction activities. It is expected that the strategies set out in this Guideline will be integrated into all the following:

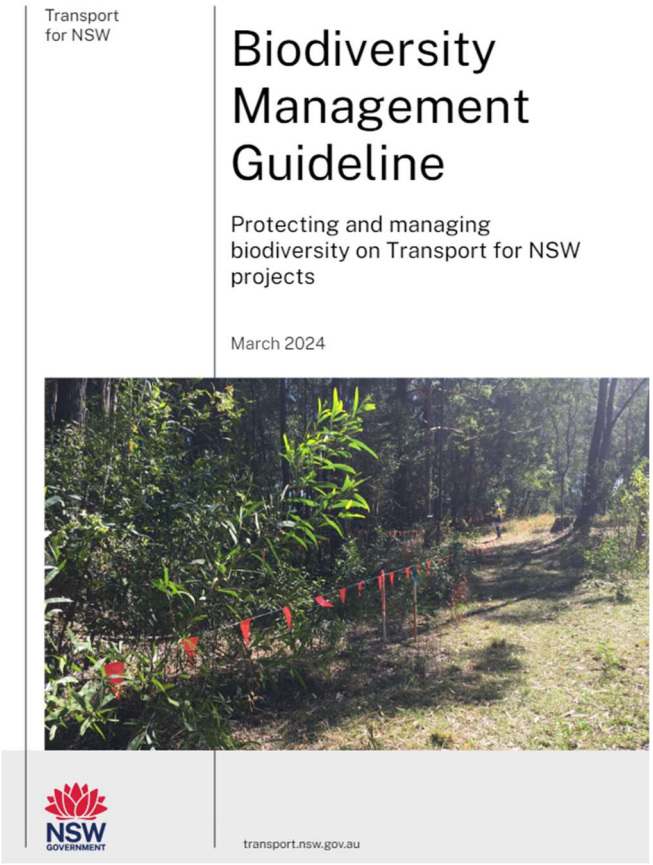
- Construction Environmental Management Plans (CEMP) including sub-plans relating to flora and fauna, e.g. Flora and Fauna Management Sub-plan (FFMSP).
- Environmental Work Method Statements (EWMS).
- Contract specifications.

While not explicitly designed for this purpose, this Guideline may also inform the routine management and maintenance of Transport for NSW (TfNSW) infrastructure, including exempt development.

TfNSW welcomes informed innovation and well justified deviations from this Guideline acknowledging that there are knowledge gaps in our understanding of effective biodiversity mitigation and that there can be a range of mitigation options to address key risks.

The Guideline can be accessed at https://www.transport.nsw.gov.au/system/files/media/documents/2024/best_practice_biodiversity_guidelines.pdf

For more information about the Guideline, please contact Julie Ravallion (Senior Specialist –Biodiversity) julie.ravallion@transport.nsw.gov.au



Biodiversity and NSW linear infrastructure corridors

Biodiversity is the variety of life forms, including flora and fauna and the genes they contain and the ecosystems in which they live.

Australian ecosystems contain many species found nowhere else in the world. There are over 220,000 kilometres of public roads in NSW including over 40,000 kilometres of State and Regional roads and over 180,000 kilometres of local roads.

Many roads, particularly in rural areas, exist within a ‘roadside reserve’ which provides a buffer between the road and neighbouring lands. ‘Road reserves’ cover approximately 1 million hectares, of which about 50 per cent contains native vegetation.

There are also over 10,000 kilometres of rail lines in NSW including active and inactive freight lines and sidings, Light rail, railways and Sydney Metro. Like road reserves, remnant vegetation can be found in some rail reserves which cover approximately 55,000 hectares, of which about 42 per cent contains native vegetation.

Linear infrastructure corridors, including road and rail reserves, often contain important biodiversity that is rare in the surrounding landscape and can provide the habitat connectivity needed to maintain viable habitats overtime.

Source: TfNSW Biodiversity Management Guideline (2024)

Photo above: Stephens Banded Snake (Brenton Hays)

Photo below: Sloane’s Froglet (David Hunter, DPE)

Vast numbers of illegal ‘ghost roads’ used to crack open pristine rainforest

Roads are expanding at the fastest pace in human history. This is the case especially in biodiversity-rich tropical nations, where roads can result in forest loss and fragmentation, wildfires, illicit land invasions and negative societal effects.

Many roads are being constructed illegally or informally and do not appear on any existing road map; the toll of such ‘ghost roads’ on ecosystems is poorly understood.

Researchers (Engert et al. 2024) use around 7,000 hours of effort by trained volunteers to map ghost roads across the tropical Asia-Pacific region, sampling 1.42 million plots, each 1 km² in area.

The intensive sampling revealed a total of 1.37 million km of roads in our plots - from 3.0 to 6.6 times more roads than were found in leading datasets of roads globally.

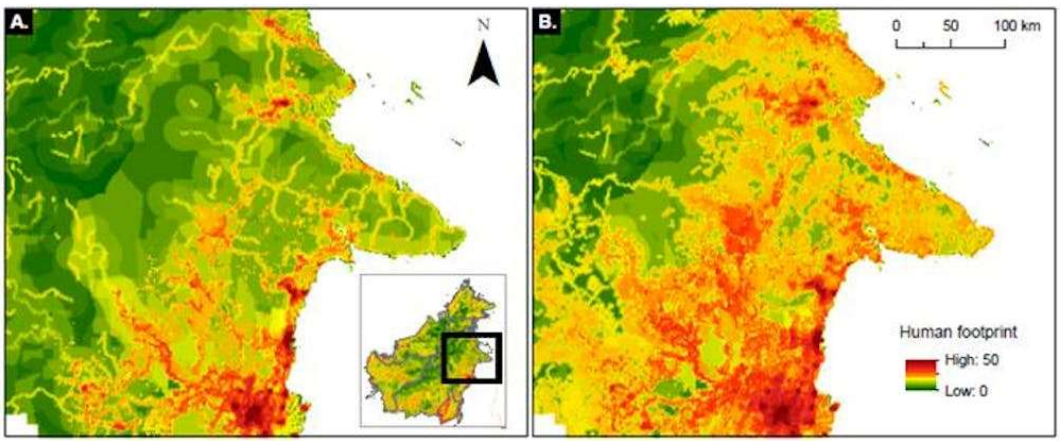
Across their study area, road building almost always preceded local forest loss, and road density was by far the strongest correlate of deforestation out of 38 potential biophysical and socioeconomic covariates. The relationship between road density and forest loss was nonlinear, with deforestation peaking soon after roads penetrate a landscape and then declining as roads multiply and remaining accessible forests largely disappear.

Notably, after controlling for lower road density inside protected areas, the researchers found that protected areas had only modest additional effects on preventing forest loss, implying that their most vital conservation function is limiting roads and road-related environmental disruption.

Collectively, the findings suggest that burgeoning, poorly studied ghost roads are among the gravest of all direct threats to tropical forests.

Read the full article at https://theconversation.com/roads-of-destruction-we-found-vast-numbers-of-illegal-ghost-roads-used-to-crack-open-pristine-rainforest-227222

Below: Human footprint in section of rainforest in eastern Borneo showing no mapping of ghost roads on left and mapping of ghost roads on the right



Beyond crippling bias: Carcass-location bias in roadkill studies

Wildlife roadkill studies need to cope with a mismatch among recorded carcasses and actual road mortality.

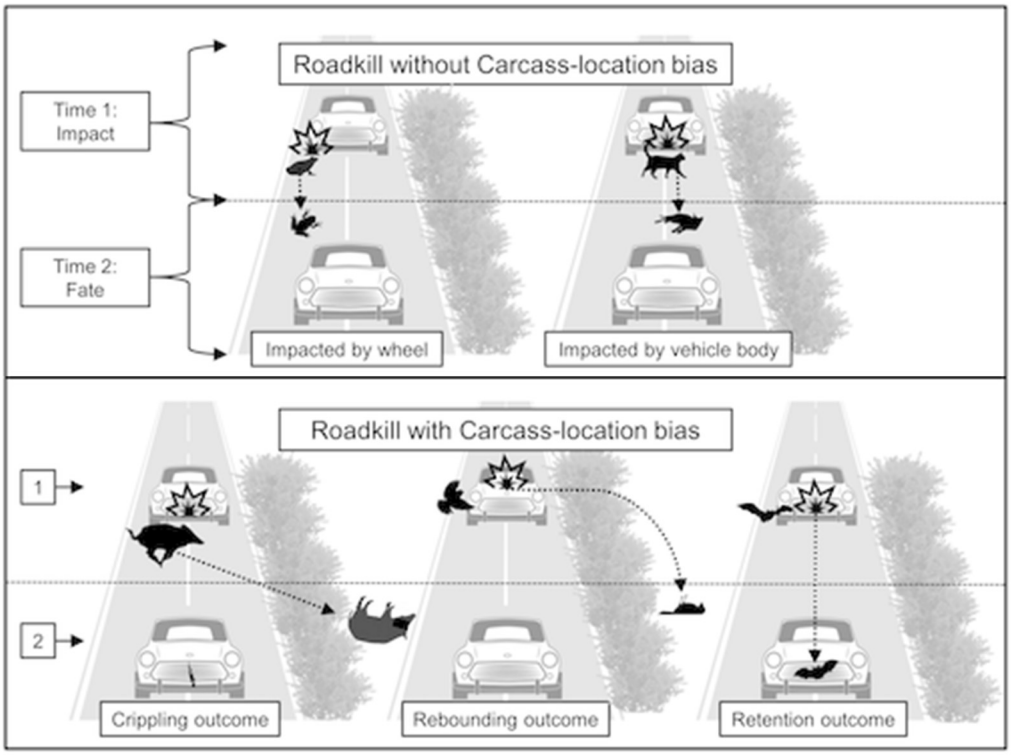
Researchers (Roman et al, 2024) focused on carcass-location bias as the uncertainty related to the ultimate fate of a roadkilled animal at the time of collision, which can make it much difficult, or even impossible, to be recorded during a typical roadkill survey.

Such outcomes can probably be affected by different species traits, and, in order to make a first evaluation of this hypothesis, the researchers opportunistically collected 150 direct observations on the ultimate fate of roadkilled vertebrates.

Approximately one third of them were affected by carcass-location bias, so extremely difficult to be recorded through typical roadkill surveys, entailing a considerable and overlooked source of error for roadkill studies and mitigation actions based on them.

Read the full article at:

https://conbio.onlinelibrary.wiley.com/doi/10.1111/csp2.13103



CHECK OUT THE REC's WEBPAGE

https://www.transport.nsw.gov.au/operations/roads-and-waterways/committees-communities-and-groups/committees-and-groups/roadside