

Tech insight to Tasmania's roadkill hotspots

Driving past an animal carcass on the road is a stark reminder of the impact humans have on the environment. Concern for wildlife deaths on our roads is high among many Australians, but what can we do to reduce this problem?

In Tasmania, the level of roadkill is particularly high, as reported in a recent article published in *Wildlife Research* (vol. 35, pp. 712–726). The authors estimated that the annual roadkill in the state equates to an average of 30 animals killed every hour, or almost 300 000 per year. Is this an acceptable, or even sustainable, impact?

The general population's concern about this issue in Tasmania and elsewhere is obvious, as expressed through media interest and complaints in letters to local papers. Reactionary management responses so far include road signage, information to tourists, clean-up by councils and voluntary speed limits.

Over 50 per cent of the roadkill was observed where vehicle speed was greater than 80 km per hour.

But the effectiveness of these solutions is unknown, and may be improved with targeting problem roadkill areas. Data to guide such management decisions, however, are lacking in Tasmania.

The authors therefore measured the distribution and abundance of roadkill in Tasmania from a vehicle equipped with a GPS and laptop computer for logging. The surveys covered more than 15 000 km over three and a half years. Animals from a wide range of taxa were encountered, with the 10 most common accounting for over 99 per cent of roadkill. The brushtail possum and Tasmanian



Brown bandicoots are one of many native species killed on Tasmania's roads. *Alistair Hobday*

pademelon were the most common species hit by traffic.

Interestingly, roadkill were concentrated in particular locations, so-called hotspots (areas of road less than 1 km in length), which in aggregate comprise about 20 to 30 per cent of the total distance travelled along a particular route.

Secondly, there was an association between speed and roadkill – over 50 per cent of the roadkill was observed where vehicle speed was greater than

80 km per hour. This suggests that a reduction in speed at dusk/night in the black spot regions could effect a considerable reduction in animal deaths.

Delivery of this information to road managers will now allow targeted mitigation efforts, which in time are expected to reduce Tasmanian roadkill.

In the meantime, identifying these regions for individual drivers represents a challenge, and the authors have again used a combination of new technology to offer a solution. They have posted their data to the internet (www.roadkilltas.com), and all drivers can now download maps identifying the roadkill hotspots.

Even better, for drivers with a vehicle GPS, point-of-interest (POI) files can be downloaded. Just as POI files identify the location of speed cameras, bathrooms and children's playgrounds, they now also identify the roadkill hotspots.

When the POI file is selected, the driver is alerted when the vehicle approaches a hotspot, and the speed can be reduced for that road segment. As a first step, the authors hope to see the POI files added to every hire car in Tasmania. Similar solutions could be enacted elsewhere in Australia – baseline data just need to be collected.

A longer term approach for improved awareness of roadkill is being attempted with media (e.g. a roadkill documentary) and driver education.

Living in areas with wildlife is a privilege, and acceptance of high levels of roadkill is misplaced. How we treat wildlife says a lot about the 'ethics of society' – just as we care for domestic animal welfare, so should we value, accommodate and protect our native wildlife.

● **Alistair Hobday**

More information: Hobday AJ and Minstrell ML (2008) Distribution and abundance of roadkill on Tasmanian highways: human management options. *Wildlife Research* 35, 712–726.

* This online version has been altered from the original.

Roadkill myths

Research has revealed a number of 'explanations' for high levels of roadkill in Tasmania, which suggest there is nothing humans can do but accept the problem, including: 'Tasmania has a lot of wildlife; therefore we will have a lot of roadkill.'

'Tasmania has no foxes, thus the high roadkill is to be expected as wildlife numbers are high.'

'Tasmania has lost its large predator (the Tasmanian tiger), and devil numbers are also declining, thus we have more animals.'



The arguments against this acceptance are:

Ethical: management of high wildlife populations using vehicles is accepted cruelty to animals.

Logical: there are a lot of kids near schools, but an acceptance of collisions is not satisfactory – humans modify their driving behaviour near schools.

Economic: collisions with animals damage vehicles, injure people.

Social: tourists and other citizens are negatively impacted by roadkill.

Biological: for some species (e.g. Tasmanian devils) roadkill is likely to reduce the population size. Foxes are not native to Tasmania, so suggesting they will 'fix' the roadkill problem is nonsensical. Similarly, the absence of Tasmanian tigers is hardly an acceptable excuse for more wildlife killing.

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