Roadkill By Delia Falconer FROM: The Monthly

It is a cold morning on the Tasman Peninsula, south of Hobart, and I am holding a dead wombat's paw. It is a surprisingly dainty thing, as elongated as a baby's foot. The pads are plump, unscarred and scrupulously clean. The palm is gently cupped.

Dr Alistair Hobday squats by the animal's right ear. "He's had a blow to the head, blood's come out here," he says. "The crows haven't got at the eyes or penis yet. So that would be last night. I reckon he's been smacked on the side of the body there, and someone picked him up and dragged him off."

The wombat, a huge male, has been turned silver by the mist that drifts along the road beside us. Its legs are stiff, and a marsupial overbite exposes two white teeth. Because it looks as if it might still take a breath, I place my hand on the circle of pale pink skin at its breastbone, from which the hair whorls outward. The barrel chest is cool, but still gently springy to the touch.

Hobday frowns, and stares out at the eucalypt forest for a moment. In spite of the weather he is wearing shorts and sandshoes. "Looking at the feet or the hands of the animal, I think, is where you get more empathy or sadness for the death."

Hobday is a marine biologist who lectures in zoology at the University of Tasmania and monitors fish stocks for the CSIRO. He and his partner, Melinda Minstrell, a student of rural health, are enthusiastic hikers. Five years ago, appalled by the number of dead animals they saw on the roads during their trips, they began a study in their spare time. This year they published the findings, which they hope will cut the state's legendary roadkill by half.

I lived with a scientist for two years in the '80s. Hobday's lean energy and carefully articulated speech are familiar, along with the sense of driven inquiry. Before beginning this study with Minstrell, he had already been using their LandCruiser's odometer to log interesting birds he spotted en route - otherwise, he says, "you can waste a lot of time in the car."

When the US government removed Selective Availability from its Global Positioning System (GPS) in 2001 - because it was developed as a military tool, its pinpoint accuracy had been scrambled for other users - Hobday quickly grasped its potential. He attached a GPS unit to the driver's left-hand mirror. Each time he spotted a carcass, he would press a trigger to record the car's location and speed, while Minstrell entered the code for each animal into a database on their laptop. Between 2001 and 2004 the couple logged 150 journeys of an average 1000 kilometres, repeating the same routes each season.

Their findings confirmed anecdotal evidence: Tasmania is Australia's roadkill state. The couple counted an average 2.7 carcasses per kilometre of roads. They estimate that each year on the island around a million animals are killed by cars.

"Brushtail possum ... rabbit ... brushtail possum. That's been about five things in a kilometre." Hobday is still in the roadkill-spotting habit.

On a low rise, between dry paddocks and plantation forest, he brakes suddenly. The pademelon, which already has a slightly hollow look, was probably hit a couple of nights ago. The crows have pecked out its eyes, leaving almond-shaped red pits. Hobday nudges its back legs apart to check its sex, then paces restlessly along the verge, where the ground slopes away through yellow gorse toward the shadows of the firs.

Among the weeds, he finds the brittle skeleton of a wallaby near a paint tin and some old bottles, then walks in the other direction. "Here's the creek," he says. The wet grass splits into a congress of dozens of narrow silver tracks, each darting upward from the water. Fresh khaki droppings litter their intersections. It is staggering to see how many animals must have gathered here. It is like walking into a backyard where a party has just finished.

Hobday pulls a small digital camera from his pocket and takes a photograph before we climb back into the LandCruiser's heated cabin. Not much later, we come across the remains of a tiger cat, a smooth pink bundle with a thin scrap of tail, he will not take a photo, but pauses respectfully instead. "It's not a good way to go," he says at last, "to be rolled over and turned inside out." As we continue driving, the peninsula's steep cliffs and early convict settlements are obscured by sweeping sheets of rain.

Winter is actually low season for Tasmania's roadkill, Hobday tells me, "possibly because animals are moving less. There's more water around, animals aren't breeding, so you don't have naive animals moving out of their parents' territories and having to cross boundaries." Another factor is light. "Most animals are moving around at dusk, and in winter dusk is happening earlier than peak-hour traffic. It may be an offset."

Most of Tasmania's roadkill occurs in the evening, probably between five and eleven o'clock. For this reason, Hobday and Minstrell tried to do their driving in the daytime, when the only animals they might hit were dogs and cats, rabbits and some birds. Their only contribution to the state's roadkill was two sparrows.

We have seen few remains for some time, Hobday points out, because the road is winding slowly through steep forest. Animals are less likely to cross here, and are fairly easy to avoid. Open pastureland, on the other hand, attracts wallabies and possums: in cleared areas, the trees are often on either sides of the road, as the roads authority owns the uncleared 30-metre strip, and animals will cross to reach them.

This may be the couple's most important finding: roadkill occurs in hotspots. The key factor is speed; hotspots are most likely to occur where cars can accelerate above 80 kilometres per hour. "For example, we've just come out of a built-up area. And when I'm leaving my job for the weekend, the first thing I do when I get out of a built-up area is to put the accelerator down."

It is not that Tasmania has ignored its roadkill problem until now. Most current measures attempt to change animal behaviour. These include creating escape ramps on roads with high banks; dumping boulders in ditches where permanent damp and new grass shoots attract wildlife; meshing off certain areas; and changing the angle of cat's-eye reflectors on posts at the road's edge so that car headlights are projected further ahead. Some drivers even swear by the "Roo Shoo", a high-frequency whistle attached to the car's front bumper.

But Hobday and Minstrell argue that it is more effective to change human behaviour by lowering speed limits in high-roadkill zones. Ninety percent of roadkill occurs in the 10 percent of the state's roads where cars can travel above 80 kilometres per hour. The couple estimate that if drivers were to slow from 100 to 80 kilometres an hour in Tasmania's hotspots - which would add only three minutes to the drive from Hobart to Launceston - they could halve the roadkill toll.

Hobday is optimistic. "People struggle to make choices with a problem that's big. People need to know about small choices they can make to bring about a solution."

On the landward edge of the peninsula, the weather clears at last. Gums dip white trunks into a flat, rock-fringed inlet. Cormorants fish from lichen-covered boulders. And now Hobday, who has been focused on explaining his project, and not influencing my experience, begins to open up. It is a common pattern, he says, for scientists to begin with fire in their bellies, learn to become less emotional as they professionalise mid-career, and rediscover their passion with age. When I confess that I am seeing dead animals everywhere - having just mistaken the end of a log for a wombat - Hobday agrees that your eye gets tuned in. "Years later, as I'm driving, I'll find myself thinking, That's where I saw that quoll or wombat."

Hobday hopes that if people are presented with precise information about Tasmania's roadkill hotspots, rather than the ubiquitous yellow diamonds with pictograms of koalas or wallabies, they will make good decisions. "If you're going through a road-construction area and there's nobody actually working on the road, it really frustrates people. I think that similarly for road signs to have effectiveness you ought to say, 'High roadkill area next 800 metres'. We're asking you to do something for the next 800 metres. That's not too onerous."

And yet, as the road begins to open out again, Hobday finds his mind returning to the bottles we found near the wallaby skeleton in the bush. "I find it pretty disturbing: people are making a conscious decision to throw something out and taking no ownership for the fact that actually this is your land, this is our country and you're choosing to treat it this way. It's like swearing at your mum - who swears at their mum?"

Perhaps knowledge of hotspots is only part of the equation, and imagination is the other. For me, the revelation of this journey has been to stop and touch roadkill - not only to see a tiger cat rolled inside out, or dead silver gulls, but also to reconceive the road itself as only one path that intersects with a whole lot of others. The busy congress of crisscrossing silver paths through grass; the progress of a wombat's pale, almost translucent feet, buffed to a low sheen by the forest floor.

"Bandicoot." Hobday pulls over, between the dry paddocks that lead to the Coal River. The animal's tapered hind feet are crossed, its eyes sunk, its long pink tongue lolls out across the asphalt. Hobday shows me the cause of death: a small band of red, thin as a wedding ring, that ringbarks its rat-like tail. A few metres back, in the dark soil among new grass shoots, Hobday finds a neat hole. A few metres further on, by the paddock's barbed wire fence, he finds another.

"It's corny," Hobday says, "but I wonder what they've been doing beforehand. He ate here, then here - and then he went out onto the road