Plenary session 1: Wildlife management

Three plenary sessions were recorded on the day of the forum (21 October 2006). The first was after the first set of speakers - on wildlife management. The recording was imperfect in this session, so some material was lost. The second plenary session was after the second set of papers – on roadkill. The third plenary was after the third session – on wildlife tourism. The plenary sessions were professionally recorded by Spark and Cannon. The transcripts were edited only to render the spoken word into the written word (eds).

Adrienne Grant (University of Sydney, Biological Sciences): How many of those cats that were in the study had toxoplasmosis?

Mike Calver: We didn't check. We don't know. If you think it's a really important question, we are still in touch with the owners. They've been very cooperative. If you think it's worth making a check, then definitely we could do so. Why would you be interested in carrying out that check?

Adrienne Grant: Because spread of toxoplasmosis by cats through the natural wildlife is a problem.

Mike Calver: Fair comment. It was certainly one of the things that I mentioned that the transmission of disease is potentially an issue. It isn't something that I emphasised in the conclusions at the end, but I take your point. Basically the only way that you're going to prevent the spread of these diseases is if the animals [cats] are confined, so thank you for the suggestion. We'll have a word to our owners and see whether or not we can collect those data.

Conny Harris: How big is the population - the human population - of Anglesea?

Graeme Coulson: The number of residents is about 2,000 so it's really a small town, getting up to about 20,000 in summer.

Jacqui Marlow: Vets say they do work *pro bono* on native animals. A lot of times you take native animals to vets and frequently by the time the carer has picked them up they've just been shuffled out the back. They don't take priority. Could you elaborate, and could you bring this up with your vet people at your meeting.

Robert Johnson (Taronga Zoo; South Penrith veterinary clinic): It is a problem, and it's one that I don't think I can solve, but I mean I get out there and I talk to vets. I talk to groups like this, and I push the importance of native animals being treated, and the animal welfare issues above everything, that they should be put in a room apart from dogs and cats. We actually have appointment times for our wildlife carers and they are seen on appointment.

We have certain periods throughout the day; first thing in the morning, last thing - at the end of morning consultations and then at the start of afternoon consultations in my private practice. It's important that they're not treated as second-rate citizens. Vets worry about not being paid. I think it's part of our community work that we do this work *pro bono*. They worry about the drug costs. What we do with WIRES, we have a WIRES pharmacy, a dedicated pharmacy in a cupboard that is only used for WIRES animals.

When stocks get low we just order some stuff in, and we bill WIRES at cost, and so there's no angst about, you know, "Oh, gee, that bottle of Medican that I bought that I'm using in my practice, you know, WIRES is sucking me dry." That doesn't happen in our practice, and more vets should do this, and I think it would make it easier. I've never ever looked at what it costs me to treat native animals. I come across vets all the time who say, "Do you realise the amount of money that I've invested in treating wildlife over the years?" I don't care. It's not an issue.

I think with veterinarians and their approach to the treatment of wildlife we get down to the human side of things again, and I don't think there's an easy solution I'm afraid. I'm a policy councillor on the Australian Veterinary Association, and Rupert Woods also is on that policy council, and you have two enthusiastic and, I think, caring veterinarians that are hopefully doing their bit. I don't think it can be settled overnight.

Cilla Norris: I'm a vet nurse, and been with WIRES for 12 years. When I teach my students about taking a possum, for example, to the vet, they're not allowed to leave the possum or the animal at the vet. They must make an appointment, go in like any other person, stay with the vet while the vet looks at it, and then go away with the medication. So that also avoids the animal being put out the back. So that might solve something, I don't know.

Robert Johnson: That's well and good, but sometimes veterinarians don't want people hanging around for procedures, so the animal then has to stay, and that's important to understand as well. Quite often I allow the carers to stay and watch procedures, but it can be problematic, but we don't keep WIRES animals overnight. The only WIRES animals we keep overnight are reptiles, because I don't think they stress as much as birds or mammals. It's a carer issue. The last thing we do at night is we really make sure that mainly the WIRES carers - there are other animal welfare, wild animal welfare agencies as well - they come and pick up those animals, and they're where they should be; with the carers.

Brenda Kranz (University of Adelaide): I have a question of Mike about the cats. I'm wondering if you have any information on what the fundamental differences are between predator groups and the non-predator groups.

Mike Calver: I think in terms of our study we specifically asked for predator animals, and in terms of the characteristics of the group that we got, roughly equal sex ratios of them, so I don't think that sex is a factor.

Pp 93 - 95 in *Too close for comfort: contentious issues in human-wildlife encounters,* edited by Daniel Lunney, Adam Munn and Will Meikle. 2008. Royal Zoological Society of New South Wales, Mosman, NSW, Australia.

There was no stand-out breed amongst the animals that were volunteered as being predators. The age of the animals was quite low. The average age was about five, I think, for the females, and four and a half for the males. So if you want a profile of a hunter, no particular breed, youthful and whether it's male or female really doesn't seem to make much difference.

In terms of whether you can identify characteristics of a cat that would be a non-hunter, from our particular sample, we're not in a position to say. But certainly from what I've read in a number of studies that have been done in general describing the characteristics of cats that hunt, probably the overriding characteristic of a good hunter is that it would seem to be youthful. So once they get over about seven years of age they tend to lose interest. So either you keep them all locked up until they get to seven, and then you make them available for people to take as pets, or you look at other measures if they're younger.

Brenda Kranz: Does desexing have any effect?

Mike Calver: All of our cats were neutered, and desexing may or may not have an effect. It's very very difficult to actually sort that out in an Australian context where you're talking about 92 per cent plus of the cats are actually neutered. Now, obviously that 8 per cent that isn't neutered is responsible for all our dumping cat problem, and so it's a huge concern even from that small percentage of cats. But in terms of whether or not it has an effect on hunting, well 92 per cent are neutered and it doesn't stop them, they get out there. In fact one of our cats, after the study had finished, was involved in a road accident and had a front leg amputated. The owners tell us she still catches.

Tim Lynch (DECC NSW): My question is for Mike. You had, I think, 167 mammals captured, how many of those were non-natives; rats and mice? You also mentioned atrophic interactions, say between cats and introduced rodents. Could you elaborate on that point?

Mike Calver (Murdoch University): I didn't actually mention in my talk what proportions of native species were represented amongst those killed. In the case of the mammals, only one of the species was actually a native species, and that was the southern brown bandicoot. So certainly, as far as the mammals were concerned, predominantly the fauna caught was introduced. In the case of the birds, the position is completely reversed and almost all the birds caught were native species.

So moving on to the second part of your question, when you were asking about the potential influence on rodents, I think that that is a real issue. We all know that rodents will, of course, prey for instance on nestlings and bird eggs. So if you actually have a situation where cats are currently exerting a predatory pressure, and you remove that predatory pressure, then possibly the rodents might cause more damage. We have no data on that, but I think it's an area that is worth investigation.

Interestingly enough, one of the things that we had hoped to find with the bib, given that the manufacturer claims that it's only effective for birds and not for other fauna, we were actually wondering if it was potentially a device that would solve problems on bird capture for animals that were free roaming, but would still allow them to keep a lid on the rodents. Unfortunately, it doesn't look as though that's the case.

Martin Denny (Mount King Ecological Surveys): To Peter, have you done any modelling to find out what percentage of koalas need to be sterilised to hold the population constant or bring it down, and the second question is - have you done the studies long enough to find out what happens after the six years when the contraceptive starts to, presumably, peter out, and they've still got another, say, six years of breeding potential?

Peter Menkhorst: The first question. Yes, we had a PhD student, Natasha McLean, look at a really considerable database of all the koalas, based on all the koalas that we've handled over the last few years, working out age-specific fecundity and life expectancy and so on. She was able to produce quite a sophisticated model of koala populations, both chlamydia negative and chlamydia positive, and so we have those estimates of the proportion of females that need to be treated, and it's around about 87 per cent, I think, to get a steep decline that will reduce populations rapidly, within say five to six years of completing that level of treatment. So it's quite a high percentage that is the target.

The second question, what happens after the implant runs out, the answer seems to be that we haven't actually followed individual animals after the six years that was done in our trial study. But, certainly, if you remove an implant before that period, the female starts cycling again, and can reproduce successfully the very next breeding season. So that's another advantage of these implants, because it gives you more flexibility in looking after the population. If you want a particular female or a proportion of females switched off for a certain period and then turn them on again so that you're not restricting the genetic diversity in future generations, that can be done by recapturing animals and removing the implant.

There are other implants that are being looked at by the moment by a group called the Koala and Kangaroo Contraception Program, and they're looking at Deslorelin, which is a commercial product that's used widely in dogs and so on, and that seems to work well in macropods and koalas for two years. Again, there's a suite of different contraceptive tools that could be used to achieve particular desired outcomes.

Mike Calver: Just a quick comment on the observation that Harry Recher made, that he doesn't like cats. To my knowledge he's owned at least two, and I guess the observation is that, like them or loath them, they are going to be very much part of the suburban wildlife scene for a long time.

Cathy Hemery (Coastal Environment Centre). I have a question for Darryl Jones in regard to magpies. You intimated that certain people are selected for magpie assaults. I wondered if you'd care to comment on that factor a little bit more widely.

Darryl Jones: The question was about the selectivity of the magpies targeting specific individuals; something we've really looked closely at. There's a huge number of theories around about all these kinds of things: colour, long hair, all sorts of stuff. Absolutely none of those had anything to do with it. We don't know. We don't know why that person and not those people got attacked. What we did do, though, was a completely separate project.

Sitting safely in my office, I got some of the students to approach magpies that were not aggressive, and these were known magpies that we were working on for other reasons. I got the students to simply walk up towards the nest - we knew there was a nest there - and think threatening thoughts, but do nothing more. They did that for 10 days in a row. All they did was approach the nest knowing that there's a nest there. It took on average 6-8 days for those magpies to then start attacking those people. So it doesn't take much to figure it. They are very sophisticated, they watch what we do, and the things that they think are threatening are not necessarily the things that we think are threatening.

The truly amazing thing relates to the first student who ever did this work, Nick Cilento. I was working with Nick - totally forgotten all that stuff - five years later we drove to this site and he went, "I remember here. There's something about this place." Now, there had been no reports of attacks ever since that time. He stepped out of the car, whack; five years later that magpie hadn't swooped on anybody, but it remembered him. So these are smart birds that can remember individuals.

Gwen ..(not transcribable).. South Australia. Question for Peter. With the koalas that you've translocated, and you showed a map of quite broad distribution, are you monitoring the density, and is there any indication of an increase of the effect on the broader habitat?

Peter Menkhorst: The answer is effectively no. We don't have the capacity to monitor populations widely. We really only monitor those populations that we're trying to manage to test the effectiveness of the managing efforts. But in general, over most of Victoria, if the habitat is mixed species eucalypt forest or woodland, there are no obvious signs of over-browsing problems.

But with the notable exception of forests in the Otway Range, blue gum forests in particular, my sort of worst nightmare might well be happening down there where there's very extensive forests in mountainous country, and a huge population of koalas, and over browsing becoming apparent on a fairly wide scale. I simply don't know how we'll manage that if that eventuates, and I think it's probably unmanageable.

Don Fletcher: I found your presentation teasing me, Peter. It sounds like it's taken you a few years to get those koalas tagged and implanted, and it's going to take a couple more years, I think you said, before you get up to the percentage you need to get to where it might start reducing density. That sounds like not long before the time you're going to have to start replacing the implants because they've reached the end of their life. Can you comment on that, and then magnify your efforts and talk about koala management generally and talk about magnifying the effort, and what it will cost the Victorian government to do this across the range of the koala?

Peter Menkhorst: Yes, you're right. We're in our third spring. We think we should hit the 85 per cent treated target next year, which will be in the fourth year. So we'll have perhaps two years' grace, and we'll have to start again, you're dead right. But the proportion of fertile females will of course be much lower then. But that just makes it harder to find the fertile ones amongst all the infertile ones. So it's a massive problem, and this is really - as I said, it's a trial of can we manage koalas on this sort of scale.

In terms of across the rest of the state, there are currently five sites where over-browsing is a problem. Mount Eccles is by far the largest. The other sites involve only a few hundred or up to perhaps 2000 koalas on French Island. So perhaps 1000 females, and they're pretty well all fertile, because it's chlamydia free. So that's one-twelfth of the magnitude of the Mount Eccles problem. So I think if we can handle Mount Eccles we can handle anything else that we've got currently, unless the Otways nightmare continues to grow.

In terms of the monetary cost, we're looking to reduce it as much as possible. We're hopeful that, in future, we won't need to anaesthetise the koalas, and we won't need vets. We plan to inject these implants in a similar fashion to how you would inject a PIT tag, and so it can be done by trained park staff or so on, at the foot of the tree, and then the animal just put back in the tree. So there are certainly a lot of potential ways to reduce the costs.

The other big cost - the big cost is catching the koala in the first place, and if we can - we're looking at ways of remotely implanting contraceptives; perhaps via a dart, and this is where Deslorelin has some potential, because it's a liquid not a solid tube. But at the moment it probably costs about $300 per animal. So it's a lot of money. If we catch 2000 this year at $300, you can do the sums, and it's very hard to fully cost an operation like this because it's so big: to build in all the costs of all the staff and the vehicles and everything else is a little bit difficult. But, yes, as I said, it's more money spent on koalas at these five sites than probably all the other wildlife management activities in the state combined.