

REPORT ON PROCEEDINGS BEFORE

ANIMAL WELFARE COMMITTEE

**INQUIRY INTO PROPOSED AERIAL SHOOTING OF BRUMBIES IN
KOSCIUSZKO NATIONAL PARK**

CORRECTED

At Macquarie Room, Parliament House, Sydney on Monday 18 December 2023

The Committee met at 9:30 am

PRESENT

The Hon. Emma Hurst (Chair)

The Hon. Robert Borsak

Ms Abigail Boyd

The Hon. Wes Fang

Ms Sue Higginson

The Hon. Stephen Lawrence

The Hon. Bob Nanva (Deputy Chair)

The Hon. Aileen MacDonald

The Hon. Peter Primrose

* Please note:

[inaudible] is used when audio words cannot be deciphered.

[audio malfunction] is used when words are lost due to a technical malfunction.

[disorder] is used when members or witnesses speak over one another.

The CHAIR: Welcome to the first hearing of the Animal Welfare Committee's inquiry into the proposed aerial shooting of brumbies in Kosciuszko National Park. I acknowledge the Gadigal people of the Eora nation, the traditional custodians of the land we are meeting on today. I pay my respects to Elders past and present, and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of New South Wales. I also acknowledge and pay my respects to any Aboriginal and Torres Strait Islander people joining us today.

I ask everyone in the room to turn their mobile phones to silent. Parliamentary privilege applies to witnesses in relation to the evidence they give today. However, it does not apply to what witnesses say outside of the hearing. I urge witnesses to be careful about making comments to the media or to others after completing their evidence. In addition, the Legislative Council has adopted rules to provide procedural fairness for inquiry participants. I encourage Committee members and witnesses to be mindful of these procedures.

The Hon. PENNY SHARPE, Minister for Climate Change, Minister for Energy, Minister for the Environment, and Minister for Heritage, before the Committee

Mr ATTICUS FLEMING, AM, Acting Coordinator-General, Environment and Heritage, NSW Department of Planning and Environment, affirmed and examined

Mr ROBERT SMITH, Executive Director, Park Operations Inland, National Parks and Wildlife Service, NSW Department of Planning and Environment, affirmed and examined

The CHAIR: Welcome to the witnesses this morning and thank you for giving the time to give evidence today. Minister Sharpe, you have already been sworn in. Does anyone want to start with a short opening statement?

The Hon. PENNY SHARPE: I might just do a quick one, if people are okay, really just to give the Committee an update of where it's at. I know you'll have a bunch of questions. As people would be aware, I signed off on the changes to the forms of population control that can be used in Kosciuszko National Park in relation to the horses. In November there was a preliminary trial undertaken over a couple of days that involved the RSPCA and an independent vet. The outcome of that, I think people are aware, has been published. There has been some more work undertaken in the last week or so, and we can give you the details on that in terms of the use of aerial shooting.

I can update the Committee, though, that from late 2021 to the end of September there were 2,517 horses removed from the park. Of that 1,022 were removed by ground shooting and 793 were rehomed. From September to December, just under 1,000 horses have been removed from the south part of Kosciuszko National Park. One hundred and ninety-five of those were either rehomed, euthanised or sent to the knackery, and 802 have been shot using aerial shooting. That is the update to date. We can obviously get into the details of all of that, but I do know that members of the Committee were very interested in the standard operating procedure. Chair, with your permission, I've got it here to table for the Committee so that you can have it today.

The CHAIR: Thank you. Yes, please.

The Hon. PENNY SHARPE: The other thing that I can update the Committee on is finally we've had the estimated numbers of the horses in the park. The annual survey was done, as it normally is, in October. The range of the number of horses we believe to be in the park is between 12,934 and 22,536. Just to explain that a little bit, we basically have a 95 per cent confidence that there are at least 12,934 horses in the park. But, again, I know that Committee members will have questions about that as we go through. I don't know whether there's anything that Mr Fleming or Mr Smith want to add, but we can go from there.

Ms SUE HIGGINSON: Minister, just for clarification, for the first figures you gave about the 2,517 removed, what was the period?

The Hon. PENNY SHARPE: Yes, good question. From late 2021, so that's over the last two years.

ATTICUS FLEMING: That's from the commencement of the plan.

The CHAIR: I might start with a couple of questions in regard to the preliminary kill that took place. I note that it took place during foaling season and 35 foals were killed. Two foals that were under one week old were found on their own and killed—split up from their family groups. Given that the specific animal welfare assessment report stated that the presence of very young foals at the time of year created an animal welfare risk, I'm wondering why the decision was made to do it during foaling season.

The Hon. PENNY SHARPE: I'm happy to hand over to Mr Fleming first, but the first thing I want to say is that no-one sitting here or across the national parks service is happy about the need for us to reduce the number of horses in the park. As you'd be aware, there's been a lot of effort undertaken to use a range of different methods to remove them from the park, including rehoming and doing that work. I just wanted to say that up-front. My understanding from the preliminary program is that, yes, foals were killed as part of that program. That is part of the procedure. The decision, as part of the preliminary program, was to make sure that foals weren't being left behind. The advice that we also have in relation to what happens with the foals is that there are cases of maternal abandonment and there are also cases, which are not well documented in the literature, that talk about them being hidden away and separated from the mob. I might hand over to Mr Fleming around more details to deal with that.

ATTICUS FLEMING: I might add to what the Minister has said up-front, which is that no-one in the National Parks and Wildlife Service enjoys doing feral animal control. Whether it's horses or whether it's any other species, it's something that, in most cases, we are legally required to do and obviously need to do to protect our national parks and threatened wildlife. I think the team do a very, very good job in very challenging circumstances. The issue of foals is one of those really challenging issues for everyone. We are very aware that

there are times of the year when the risk is higher, and we address that risk. In a sense, we do everything we can to minimise that risk by including a series of things in the standard operating procedure which minimise the risk of isolated foals being left alone. The two foals you referred to that were observed in the preliminary program, I don't think the conclusion was that they were separated. There are a range of reasons why foals could be on their own. They may have been abandoned by their mother, for example. As part of the program, the team identified two isolated foals and they were shot.

The CHAIR: But it seems very likely that that was the cause, because the other explanations in the report said that it could be due to this and then there was a recognition that that had never been seen before in brumbies in the wild. As one of the potential reasons for them being on their own, it seems highly likely.

The Hon. PENNY SHARPE: No, maternal abandonment has definitely been seen.

The CHAIR: I'm not talking about maternal abandonment.

The Hon. PENNY SHARPE: About the caching, yes.

ATTICUS FLEMING: We recognise that there are risks associated. One of the risks is that there are foals that have been abandoned by their mothers. But there is a risk that disturbance—there could be a range of possible sources—causes foals to become isolated. The way in which we address that is to ensure that the standard operating procedures have a range of very specific measures. One of those is that the team in the helicopter must, at all times, keep a look out for isolated foals—whether they're isolated through disturbance or whether they're isolated because they've been abandoned—and those isolated foals are to be shot. I apologise. It's really confronting to be saying that, but that's built into the procedures.

The CHAIR: Was there a consultation with the RSPCA specifically around the fact that the shooting would happen during foaling season? What was their advice in regard to running a shooting program during foaling season?

ATTICUS FLEMING: We consulted the RSPCA in the development of the standard operating procedure.

The CHAIR: I'm just curious about the foaling season.

ATTICUS FLEMING: I'm doing my best to answer your question. Then obviously the RSPCA were invited and were observing the preliminary program. There's an open invitation for the RSPCA to be present at any operation they choose to audit going forward. The short answer to your question is yes, the RSPCA were aware and provided input into our standard operating procedures. I think their conclusion after that preliminary program was that everything was done in accordance with the standard operating procedures, and they didn't recommend any changes to—

The CHAIR: I've only just seen the new standard operating procedure. I haven't had a chance to read it. What you're saying is in the standard operating procedure you're allowing the shooting of foals during the killing program and that the RSPCA have approved that and said that they didn't see that as an animal welfare risk, that they were comfortable with that and that they're comfortable with that going forward?

ATTICUS FLEMING: I am doing my best to answer your question, but I do want to answer it properly. I don't want to pull things out of the standard operating procedure in isolation. You need to look at the totality of measures.

The CHAIR: I understand the RSPCA might be fine with this document; I don't know what's in the document, so I can't ask about that. What I'm asking about, simply, is the idea that the shooting has happened during foaling season—whether that was specifically consulted on and whether the RSPCA had given you a position on that specifically?

ATTICUS FLEMING: The RSPCA has said that the standard operating procedure, which includes—

The CHAIR: Does the standard operating procedure include—

ATTICUS FLEMING: —shooting all year round.

The CHAIR: During foaling?

ATTICUS FLEMING: Correct, and with the series of measures to minimise the risk of isolated foals, the RSPCA is happy with that.

The Hon. PENNY SHARPE: We acknowledge that the shooting is happening at this time of the year. The reason why that is occurring is because the numbers of horses in the park remains too large. The damage that's being done is very significant and increasing because the population has been so large and has been growing.

The decision to reduce the number of horses as quickly as we can is for two reasons. One is to arrest the damage that's been undertaken and the threats that the horses are providing to a range of other species, and to water and soil and those kinds of things. Secondly, getting down to the 3,000 horses that everyone is trying to work to means that in the future there are fewer horses that will have to be removed from the park. We're dealing with this because the population is too large. We're trying to get it down in the shortest period that we can, in the most humane way that we can do it, which is why the preliminary programs and the careful work that's being done with independent vet oversight, with auditing from the RSPCA and its observation, and which is ongoing, is so important.

Ms ABIGAIL BOYD: Chair, can I ask a question on those numbers?

The CHAIR: I've just got one more question and then I'll throw back to you. I wanted to ask about the Government report on the median time between the final shot and when the horse was checked, which was given as three minutes. Could I get the mean and the range of those times? I just find that the median is a very odd statistic to report.

ATTICUS FLEMING: Just to be clear, you're talking about the time between the animal being shot and the vet inspecting the 43 that were inspected on the ground.

The CHAIR: Correct.

ATTICUS FLEMING: I can take that on notice.

The CHAIR: If I could get the mean and the range—as I said, the median is an odd statistic to report. Was there a large outlier to cause that statistic to be reported instead of, say, an average?

ATTICUS FLEMING: I'm confident that that's not the reason why the median is used, but I'll have to take on notice the specifics of your previous question.

The CHAIR: Could you take that on notice? Also, if there was a large outlier, could you report that to me as well?

ATTICUS FLEMING: Of course.

Ms ABIGAIL BOYD: I wanted to touch on those numbers a bit more. I understand that the current shooting program, and specifically the number of horses being targeted at this point, is based on reducing the number to 3,000 horses by 2027. I also note that the Senate inquiry said that although there were differing views on the estimates of the numbers of horses, there was this upward trend. Given the recent numbers that show a 7.3 per cent reduction in the last year, on that trajectory we'd be looking to getting down to 3,000 by 2033—so about six years after. Obviously, that's quite different to what we imagined before. Will there be an adjustment now in the numbers that you're targeting in order to bring that population down to 3,000 by 2027?

ATTICUS FLEMING: We initially looked at the trajectory and the rate at which we could remove horses if aerial shooting was not available and thought that we might be able to get to the target by about 2030, 2031. That was, I think, quite optimistic. Obviously aerial shooting gives us another tool, so we now have a range of tools available, and we will continue to use all of those tools.

Ms ABIGAIL BOYD: Is the number going to be changed based on these new figures, which have shown something different? Are we going to be adjusting the approach based on the different numbers that come in year after year?

ATTICUS FLEMING: Yes, sorry. Obviously the 3,000 doesn't change. That's the number that we need to reduce it to. Aerial shooting means that I'm confident we can—with that tool—get to the statutory target within the statutory time frame. I think where your question is going is really how do we determine when we are getting to that 3,000. I would just break that down and say there is 68 per cent of the park under the plan where we are required to have no horses. Some of that 68 per cent currently has horses, so in those parts of the park, in a sense, we continue to remove all horses because the target is zero. There are then retention areas that is 32 per cent of the park, and that's where the 3,000 population needs to be. To answer your question, yes, each annual survey gives us another data point which helps us determine how many horses need to be removed from those retention areas. Going forward what we will do is continue to refine the survey. Next year, for example, the plan is to do targeted surveys in those retention areas rather than just across the whole park.

Ms ABIGAIL BOYD: I understand that basically the driver is to get down to that 3,000 number as quickly as possible. I assume, there have been baseline ecological studies done already. Has there been consideration given to the ecological shock of undertaking something quicker than expected? If the numbers were to reduce tomorrow to 3,000, are we expecting any sort of ecological shock, or would that be "job done" in your view?

ATTICUS FLEMING: We're rolling out quite a detailed ecological health monitoring program in Kosciuszko. We've got 125 sites with all sorts of camera traps, acoustic devices, everything else, to track changes in health over time. I think that's the best that we can do—really track the changes, including the response. There's also some dedicated water quality monitoring that's being undertaken. We will be tracking the change that happens. But if you're asking whether I expect any adverse ecological impacts as a result of reducing horse numbers, the answer is no.

Ms ABIGAIL BOYD: No, not quite. I wouldn't want you to take that away from this. No-one is disputing the impact of horses in Kosciuszko. What I'm asking is when we are assessing the effectiveness of horse population management, are we looking at doing this in a way that ensures a net benefit to the environment? Has any consideration been given to, for example, the rate of depletion in the population and whether that will have any differing impact on the environment than what is expected under the current plan?

ATTICUS FLEMING: I think the best answer is to say, yes, we are considering all of those things. We're having to take into account a whole range of factors. One of the factors is continuing to look at—and we are going to take a fairly cautious approach in terms of the rate of removal going forward. Our starting point really, for example, is to use the bottom of that confidence interval in starting to calculate the number of horses that need to be removed initially, to be testing that through the measures that look at the ecological health of the park and through dedicated surveys in these retention areas. This is, in a sense, a very significant initiative in terms of the health of a very important national park. It is in some respects breaking new ground and so we are taking the cautious approach and we are looking at all of those factors—the impact on the health of the park—but also the welfare aspects of the operation are so important. We're very conscious that there's a target of 3,000 at the end of the day in those retention areas, and so we're taking a cautious approach to ensure that we meet that target in a considered way in the time that we've been given under law.

The Hon. ROBERT BORSAK: Mr Fleming, you talk about the welfare aspects of what you're doing and obviously that's very important. The Minister talks that way all the time and that's much appreciated. But, at the end of the day, why did the National Parks and Wildlife Service need to develop a brand new, uncirculated SOP for horse shooting, which we only just got handed today? What's the difference between that SOP that makes it more adequate than the old one?

ATTICUS FLEMING: The old one was about 10 years old. I can't remember the exact date, but it's about 10 years old.

The Hon. ROBERT BORSAK: What's changed? I've just had a quick look through it. Nothing's changed.

ATTICUS FLEMING: For example, we use lead-free bullets, which was not contemplated at the time.

The Hon. ROBERT BORSAK: But that's got nothing to do with what I'm asking, does it? That has no bearing on humaneness, really, does it?

ATTICUS FLEMING: We use thermal imaging.

The Hon. ROBERT BORSAK: Copper expanding bullets?

ATTICUS FLEMING: Actually, I think the bullets that we're using—

The Hon. ROBERT BORSAK: Are for environmental reasons, not humane reasons.

ATTICUS FLEMING: Well, I think the bullets that we're using now do contribute to the welfare outcomes. But thermal imaging, for example—

The Hon. ROBERT BORSAK: A .308 bullet, lead core, is not as good as a copper bullet—is that what you're saying? Are you qualified to say that?

ATTICUS FLEMING: No. I'm saying that in order to deliver the best welfare outcomes, we rely upon a range of things. One is the training of our staff; two is the quality of the equipment.

The Hon. ROBERT BORSAK: But you haven't answered my question. I asked why did you need a new SOP.

ATTICUS FLEMING: Because there is a range of differences, if you'll let me go through them. One is thermal imaging is available now and is part of what we use in our operations. That wasn't there 10 years ago.

The Hon. ROBERT BORSAK: Such as?

ATTICUS FLEMING: The thermal imaging equipment that the guys in the helicopter use—

The Hon. ROBERT BORSAK: But the majority of your shooting is being done in daylight, isn't it?

ATTICUS FLEMING: The majority of it is, but there are times—if we're up early in the morning, for example—where the thermal imaging works very well. That was evident last week, for example, when we were conducting operations. That's one example of a change that's happened in the last 10 years. I would say the move to lead-free bullets is important. There's a range of other scenarios. I'm happy to take it on notice and give you an answer of a few dot points that sets out the differences.

The Hon. ROBERT BORSAK: Yes. We'll take it on notice. It'll make interesting reading on how it differs from what they used in Guy Fawkes and what's been floating around since then.

ATTICUS FLEMING: The difference with Guy Fawkes is we're using different helicopters. We're using different rifles. We've got thermal imaging gear. We use the repeat shooting in a way that's evolved, and the training of our staff is a lot better. So I would say there are very significant differences.

The Hon. ROBERT BORSAK: Is it more humane to put 15 shots into a chest of a horse that could weigh up to 400 kilos?

ATTICUS FLEMING: I don't know if you've read the independent vets' report—

The Hon. ROBERT BORSAK: I have read it.

ATTICUS FLEMING: —but I think the results are outstanding and they demonstrate that the staff are well trained.

The Hon. ROBERT BORSAK: No, but I'm asking you do you think it's humane.

ATTICUS FLEMING: I think it is humane, yes.

The Hon. ROBERT BORSAK: On what basis? How are you qualified to say that?

ATTICUS FLEMING: I think it's humane, because what our repeat-shooting policy does is ensure that—and, again, I know this is confronting, so I apologise for answering the question this way. But if we—

The Hon. ROBERT BORSAK: Well, it is confronting and if you really wanted to confront the reality of what you're doing, you would not be using .308 150-grain copper bullets.

ATTICUS FLEMING: Sir, I'm happy to—

The Hon. ROBERT BORSAK: You would be using an adequate calibre designed to kill large animals—large-boned animals—that are running.

ATTICUS FLEMING: Sir, I'm happy to answer your question if you'd give me time to answer it. I think the repeat-shooting policy contributes to a very good welfare outcome because—and to be clear about it, the repeat shooting does not mean a shot goes in and then we wait to see the impact of the shot. It means that there are multiple shots to the target area literally within seconds and that is an important component in ensuring the most rapid death possible.

The Hon. ROBERT BORSAK: I ask you again: Does the SOP allow for pumping an average of 7½ to 15 shots into a horse? Does the National Parks and Wildlife Service consider this to be an indication of a highly trained and competent shooter?

ATTICUS FLEMING: Yes and yes.

The Hon. ROBERT BORSAK: It is?

ATTICUS FLEMING: Yes.

The Hon. ROBERT BORSAK: So pumping 15 shots into an animal in its chest while it's running is humane?

ATTICUS FLEMING: The standard operating procedure requires repeat shooting. It doesn't require 15. It says at least two, from memory, so it requires repeat shooting—

The Hon. ROBERT BORSAK: So why did you end up shooting some animals—and we don't know how many—15 times?

ATTICUS FLEMING: I will have to take that on notice. The average, or the median I think it was, was 7.5 shots per animal.

The Hon. ROBERT BORSAK: That's right. Would you be—

ATTICUS FLEMING: But can I just say the advice that we have from the experts, including the vets and the RSPCA—and I think this was a recommendation even from the review of the Guy Fawkes incident—is that the repeat-shooting policy will contribute to better welfare outcomes.

The Hon. ROBERT BORSAK: I don't think anyone's arguing that a second shot is needed, but why are 15 shots needed?

ATTICUS FLEMING: Well, 15 was the maximum; the median was 7½.

The Hon. ROBERT BORSAK: Why are 7½ needed? If I shot a pig 7½ times or 15 times in the chest with a .22 Rimfire, would you consider that humane?

ATTICUS FLEMING: My response to you—

The Hon. ROBERT BORSAK: Or if I stabbed it 15 times, would that be humane?

ATTICUS FLEMING: My response to you is this: My expectation is that we deliver the best possible welfare outcome and part of that is ensuring the most rapid time to death.

The Hon. ROBERT BORSAK: I put it to you that you're not ensuring the best humane outcomes for these horses.

ATTICUS FLEMING: Well, I put it to you that at a median—

The Hon. ROBERT BORSAK: On any estimation, that is not the case.

ATTICUS FLEMING: A median time to insensibility of five seconds is an exceptional welfare outcome, and that is based in part on the repeat-shooting policy, so I disagree with you.

The Hon. ROBERT BORSAK: We're not talking only about repeat-shooting policy. Repeat-shooting policy requires one shot, two shots, maybe three—that's it. But to get to 7½ and then to get to 15 indicates inadequate calibre, poor targeting and a whole other range of issues around what you're trying to do. It's not humane.

ATTICUS FLEMING: I won't argue with you. I just disagree with your statement. I will refer you to the—

The Hon. ROBERT BORSAK: Relying on bits of paper from the RSPCA, asked for on 30 November and signed off on 1 December, is mind-boggling.

ATTICUS FLEMING: I will refer you to the independent vets' report, which does make it clear that of the 43 they inspected on the ground—again, with apologies for being confronting about the detail—

The Hon. ROBERT BORSAK: Did the two independent—

ATTICUS FLEMING: —the bullets penetrated with no trouble, penetrated the target area, and in many cases were exiting the other side of the animal. If not, they were basically nestled under the skin on the other side of the animal. So there was clear evidence there from the independent vet that the combination of ammunition and rifle that we're using generated a good welfare outcome.

The Hon. ROBERT BORSAK: Okay, then I'll ask you this question, Mr Fleming. Did the two independent veterinarian observers of the trial shoot in Kosciuszko National Park have any academic background in ballistics as applied to humane killing of animals and any practical shooting experience of feral animals, including horses?

ATTICUS FLEMING: I'll take that on notice.

The Hon. ROBERT BORSAK: You'll take it on notice? Alright. That one's too hard.

Ms SUE HIGGINSON: I realise how hard this inquiry is and the giving of evidence, and that it is something that we are legally required to do. The results from September to December—for want of a better term—are arguably promising results in that it would appear that this is the first program where we've seen evidence that we could be on track to reduce feral horse numbers within a period of time. Is that how you read those numbers?

ATTICUS FLEMING: Yes. I think the introduction of aerial shooting will enable us to get to the target. It's very early days but the results, I think, support that conclusion, yes.

Ms SUE HIGGINSON: In terms of the staff, is this providing some hope that the work that the people are doing is valuable and rewarding work in the sense of being commensurate to how awful and difficult it is?

The Hon. PENNY SHARPE: Look, I'm really happy to speak about this because it's actually a really important issue. National Parks and Wildlife Service staff are extremely professional and work very hard. The inability to control the population of horses as they have grown so large in Kosciuszko National Park has been a real issue for them for a long period of time. The advice that I received when I became the Minister, which said we're not going to be able to meet the target that's legislated and we're very concerned about the impact on the park, was real. I've been there twice with them and have seen all of that. The other point, though, that I do want to put on record is that people find this to be a challenging issue, and locally it can quite confronting. We've had to put in place and national parks has put in place a range of upgraded security arrangements in relation to national parks staff.

But I can say that I met with a group of staff after the preliminary program recently, and what they said to me was that they were very pleased with how it had gone and that the animal welfare outcomes had been good, that they believe they now have enough tools in their toolbox to be able to do what they consider to be their professional responsibility, which is to look after Kosciuszko National Park and to ensure that the damage is limited as much as possible. I think that they are hopeful that we'll be able to get the numbers down so that, rather than spending time on dealing with that, they can actually do the other work, which is the other conservation work, the protecting of the 30 endangered species of both plants and animals that are in the park and the restoration of the waterways at the heart of what's been done there.

But I would also say my observation of the national parks staff is that we asked them to do a really difficult job. If we want to talk about some of the other control options that we've had, they haven't been adequate at all in terms of the health and welfare of horses and the health and welfare of the staff that work at national parks. Trapping horses that are wild is a really dangerous thing. We did trial, and there were trials of shooting them in those pens. I don't think anyone thinks that that is a good outcome. I think that the removal of them from the park has also often been not good, and it has an impact on people. They see their job as actually looking after the park and doing what we ask them to do.

That's a long way of saying I think that they believe that we are doing the right thing, that's necessary to look after this, our only alpine park, and I agree with them. I suppose what I'd say is "cautious determination" to get this done is coming from the Government and from myself as the Minister, because I believe that it's the most important thing we can do to actually look after that park. It will have an intergenerational impact in relation to the restoration of grasslands, the catchment restoration that will happen and, obviously, far less pressure on those other endangered species that really are under pressure as a result of the number of horses.

Ms SUE HIGGINSON: Do you have some idea on when we might start to see some improvement in terms of those ecosystem problems that we're seeing, particularly the ones identified by the Commonwealth Threatened Species Scientific Committee that led to the kind of conclusion that horses are literally going to be the direct threat to survival, just in terms of those time frames and whether we're doing that work around what we think the decrease in numbers would look like to start to tip the scale, where we can start talking and looking at recovery?

The Hon. PENNY SHARPE: I'll hand over to Mr Fleming, but the first thing I'd say is that, the fewer horses there are—one horse does a lot of damage on its own. But it's also been decades in the making. These things don't turn around really quickly. We've really taken limited action for the last 20 years, and that's why we've got the sort of numbers of horses that we've got as we see them. So my view is and the Government's view is that, the sooner we can get the horses down to a manageable population—and that's where we can also trial, do much more rehoming, do the kind of reproductive trials and those kind of things that we want to do—the better. But, the fewer horses there are, as quickly as possible, the less damage that's being done. There are so many of them in such a concentrated area. That's the challenge. But that's why there's a lot of monitoring. I might hand over to Mr Fleming to talk about that.

ATTICUS FLEMING: I would just add that obviously it's a fairly complex system or systems in the park, so it is a little bit difficult to predict, and we are breaking new ground, in a sense, by removing a large number of feral herbivores, so we will track that change and measure it. My expectation, based on other parts of Australia where large feral herbivores have been removed, is you get rapid recovery of some aspects of the environment and others take a little longer. The only other point I'd make is that to drive the recovery that we want to see does require an integrated approach to all of the various challenges, and that means also continuing the work that we're doing on deer, on pigs, on getting fire management right and trying to tackle weeds. And they are all very big challenges.

The Hon. ROBERT BORSAK: Minister—

The Hon. WES FANG: The crossbench has taken 35 minutes of this hour already.

The CHAIR: That's fine. I was going to actually—

The Hon. ROBERT BORSAK: We don't want you asking silly questions. We want you to ask sensible questions, not about your sugar-free Kirks.

The CHAIR: Order! The Hon. Wes Fang has the call.

The Hon. WES FANG: Robert, seriously, mate, that's ridiculous.

The Hon. ROBERT BORSAK: I am serious.

The CHAIR: Order!

The Hon. WES FANG: Thank you very much for attending today. I want to go to the actual monitoring that is occurring in relation to the trial and in relation to the aerial shooting. Are the aerial shoots at the moment being recorded, either by camera on the rifles or—is there a 360 camera on the helicopter that is able to independently record the actual culling?

ATTICUS FLEMING: No.

The Hon. WES FANG: Is there a reason why we're not recording it at the moment?

ATTICUS FLEMING: It is contrary to the FAAST aerial shooting guidelines.

The Hon. WES FANG: It seems to me that we put body cams on a number of emergency services workers—police, ambulance, these days—not only to protect them but also to protect the public. It would seem to me unusual that the technology would exist to be able to record not only the shots that are fired from the rifles that your staff are carrying, but it would also be possible to use 360-camera recordings on the helicopter so that there's a way of independently verifying the outcomes that you're achieving, yet there seems to be a refusal to do that, and I don't understand that. Can you explain to me why you would refuse to record these things?

ATTICUS FLEMING: I think, to the extent you're asking about transparency, that's why we had the independent vet there for the preliminary program. That's why the RSPCA have an open invitation to observe and audit any and as many of the operations that they wish to. That's why we're publishing data. We're certainly aiming to provide the right level of transparency.

The Hon. WES FANG: In relation to that, then, is the RSPCA invited to fly along on the helicopter and monitor it whilst airborne?

ATTICUS FLEMING: The RSPCA observed from a separate helicopter.

The Hon. WES FANG: How close is that helicopter in formation to the aircraft that's conducting the shoot?

ATTICUS FLEMING: I'd have to take that on notice, but certainly close enough for them to have good visibility of what is happening.

The Hon. WES FANG: Are they flying with doors off?

ATTICUS FLEMING: I'd have to take that on notice. I don't have that.

The Hon. WES FANG: I recall, during estimates, part of the reason why an independent person could not be part of the team on the helicopter was cited as the requirement for training et cetera with doors off.

The Hon. PENNY SHARPE: There's CASA regs about who can be on when and whether you've got particular training.

The Hon. WES FANG: I'm quite aware. That's why I was—

The Hon. PENNY SHARPE: Yes, but my understanding is that's why there's a separate chopper. That actually allows that to occur. But we can get the details. I suspect that they're not going to be flying around with doors off in the observing chopper, but we can get all of that detail.

The Hon. WES FANG: I'd appreciate that.

ATTICUS FLEMING: I'll correct this if I get it wrong. There were two particular requirements with the CASA rules. One was, when you're doing that kind of low-level flying that was involved in the survey effort, you could only have people on the helicopter if they had a specialist role. But, secondly, when you're using the booms, that also limits who can be on the chopper and what you're doing. The third factor with the survey, of course, is that we need that to be a repeatable, standardised approach, and that involves one chopper, not a second chopper flying along beside it.

The Hon. WES FANG: I'm going to come to the numbers shortly. Obviously, you may not be aware, Mr Fleming, but I have some experience in relation to helicopter operations.

ATTICUS FLEMING: I am aware.

The Hon. WES FANG: Some of what was provided by way of evidence, I have not been able to reconcile with my knowledge, and so I'm just trying to get some understanding of that. You've said that the RSPCA have an open invitation to observe the culling, and you've said that independent vets have actually monitored the trial of the aerial cull. Is it open to independent observers in general?

Would you be prepared to let a member of Parliament or independent staff from another welfare agency view the proceedings, given that you won't allow the recording of the cull?

ATTICUS FLEMING: At the moment, I am focused on ensuring that our operations are consistent with the FFAST guidelines, but I'd be happy to take your request generally around transparency on notice to consider whether there is any additional measure that we could take to provide even greater transparency.

The Hon. WES FANG: Because I was going to suggest that the Hon. Robert Borsak and I, perhaps, might have the appropriate training, at least in some respects, to attend and provide the Committee some insights.

The Hon. ROBERT BORSAK: I'd be happy to attend.

Ms SUE HIGGINSON: I'm a horse lover. I'll come too.

The Hon. WES FANG: I just wanted to say that, for transparency, because at the moment I'm finding it very hard to reconcile that we can't record these things. We can record body cams of emergency services, and that can often provide detailed evidence for issues that arise later. I would have thought that the recording of the shots that are fired and the 360 from the helicopter would be a minimum that we would be recording in relation to transparency on this. That it's not occurring makes me very, very suspicious.

Ms SUE HIGGINSON: Is it for all the other animals as well?

The Hon. PENNY SHARPE: Can I just say one thing—a couple of things—about this. One is that no-one is trying to hide anything here. We're actually being extremely open about the way in which this is being done, in a way that hasn't occurred before. Aerial shooting is not unusual over a range of different animals across the State. In fact, thousands of animals are culled in that way. The requirements in relation to that are not any different, in terms of the concerns around animal welfare, than they are for horses. The difference here is that the horses are new, and I accept that this has been a very controversial issue for a really long time. I understand that people have really deeply held and passionate views around whether this should be done or not and the way in which it is done, and no-one is denying any of that. But the point that I want to make is that we're happy to look at options around further transparency measures.

But the other point I want to make is that this is not unusual. This is an important part of what we're doing. I acknowledge that it hasn't been done for over 20 years in New South Wales, and so it has drawn a lot of interest. But this is the way in which we have to tackle the threats for a range of different invasive species and, as the Minister, I don't see that as being any different. I care about the way in which a deer is culled versus a horse versus a pig. It is the exactly the same, which is that we have to do it to the highest available standard. I suppose that's a long way of me saying, Mr Fang, that I'm really happy to look at other measures.

I really do reject any suggestion against the professionalism of the independent observers or the work that the RSPCA does, or that the work, particularly, that national parks and wildlife staff do, is anything less than absolutely professional and with a priority eye, obviously, to the animal welfare outcomes, which—and let's be honest about what we're talking about. It means that these animals die. We're happy to look at transparency. I've been trying to be very transparent around this and give you as much information as I can, and I'm happy to keep doing it. But I really just want to flag that this is not unusual. There is nothing new about this. The issue here, though, is how can we improve it so that you're satisfied with the work we're doing. We're happy to look at it.

ATTICUS FLEMING: And just to add, over 900 hours of aerial shooting of other species in Kosciuszko National Park in the last—I think it's about three, 3½ years. There is a lot of aerial shooting of other species that has been carried in Kosciuszko National Park.

The Hon. WES FANG: I appreciate that. We're running short of time, so I'm just going to follow through on a few more things quickly, if I can. You'll see I've tendered two maps provided to you. There is obviously the wild horse management plan—you'd be familiar with that one. The other map that I've tabled is a study of the endangered animals on the location of the park. Have you seen this map before, Mr Fleming?

ATTICUS FLEMING: I think what you have mapped there—yes, the AIS sites. Obviously, just looking at it, I don't know whether you've got the locations correct or all of the AIS sites included. But, yes, I understand what you're trying to represent.

The Hon. WES FANG: Okay. So that indicates where you'd find the predominant areas that have the endangered species that the Minister has spoken about.

ATTICUS FLEMING: No, that's not a correct statement.

The Hon. WES FANG: How would you describe this map then?

ATTICUS FLEMING: Having just seen it, I'm not sure I would offer a description.

The Hon. PENNY SHARPE: Sorry, did you do this map, Wes? Was this yours?

The Hon. WES FANG: No, I received this map.

The Hon. PENNY SHARPE: Where is it from?

The Hon. WES FANG: I received it from a source, that indicated—

The Hon. PENNY SHARPE: From a national parks source?

The Hon. PETER PRIMROSE: Point of order: If a member tables something and is asking questions, knowing the provenance of it would help determine its authenticity and validity.

The Hon. WES FANG: Well, that's exactly what I'm trying to determine.

The CHAIR: The member might want to give some details about what he thinks this map represents or where he thinks it comes from. You may not necessarily have to name who provided it.

The Hon. PENNY SHARPE: If you take us through what you think we're looking at, that would be helpful.

The Hon. WES FANG: What I'm trying to determine is if this map correlates with the information that you have available to you that indicates where there are certain locations of study that have indicated there are endangered species, and how that correlates to where—

The Hon. PETER PRIMROSE: Point of order: Again, as I raised previously—I'm not trying to interrupt your questions—

The Hon. WES FANG: You are. You're trying to cut my time.

The Hon. PETER PRIMROSE: —but I would like to know, if you're asking—

The Hon. WES FANG: It's another attempt to cover up stuff.

The CHAIR: Order! This is going to take longer if we don't allow him to speak.

The Hon. PETER PRIMROSE: I'm simply asking, if a map is tabled—I'm looking at it. We've just received it, as have the witnesses. You're asking questions about whether it correlates or whatever, but you can't tell us what the provenance is.

The Hon. PENNY SHARPE: Just to be clear, we don't know who has done the map. It's okay; you don't have to tell us. But let's just be clear. You don't know who has done the map, and so we can't—we're very happy to take on notice and look at this, but—

The Hon. WES FANG: Given the amount of time, what I might do is put some written questions on notice to you around these maps, and how—

The Hon. PENNY SHARPE: If you can explain what the assumptions are in this map—this doesn't actually mean anything, the way that it has been presented.

ATTICUS FLEMING: Mr Fang, the AIS sites that you're seeking to map—they are important areas, but they are not the only habitat for threatened species. I would just make that point.

The Hon. WES FANG: I will put the questions on notice in relation to those maps, given that we have only got a little time. I wanted to come to the way that the numbers are being developed. Have you used the same methodology that you have for previous counts in relation to the most recent numbers, which are the 12,934 to the 22,536 that you provided today?

ATTICUS FLEMING: The 2020, 2022 and 2023 surveys were Kosciuszko specific, so they are the three most comparable. As I think we may have talked about in estimates, the 2023 survey is using the same

methodology—same design. There were small adjustments to the design, in particular increasing the length of transects.

The Hon. WES FANG: Did you employ any additional technology—i.e. drones, thermal imaging, other methods—to help refine the count?

ATTICUS FLEMING: Not in the 2023 count, but we are actively considering how we may deploy that additional technology going forward.

The Hon. PENNY SHARPE: I just want to talk to you about the drones, because there is actually excellent work being done in the department around—

The Hon. WES FANG: Koalas.

The Hon. PENNY SHARPE: They're doing koalas, they're doing greater gliders, but the technology isn't right at the moment to be able to give the accuracy that you need. Obviously, being able to measure apples with apples over time means that the drones aren't quite ready. But I'm very keen, and the Government is keen, to see drone technology used because it is just better over time. But it's not there yet to actually be able to use it in a comparable way as we're working with just this population in particular.

The Hon. WES FANG: But, Minister, how does that correlate with the announcements of recent weeks that you're using the drone technology around koalas?

The Hon. PENNY SHARPE: We're not counting them; we're identifying them. It's a different—we're not using them for population-based surveys. The drones are being used and trialled to see where we can find the thermal imaging—obviously very important for nocturnal species like greater gliders. It's not being used for population counting. We're not ready to do that. But, I would say to you, as these things get better, I think in the future that we will be doing that—but we're not there yet.

The Hon. WES FANG: Because, the numbers that you've got now, you've basically got a variance of just under 10,000, which is effectively half—up to half—in the variance. So we need a better way of determining the numbers.

The Hon. PENNY SHARPE: We're always looking at doing that. The point that I'd make about—

The Hon. WES FANG: Why is the drone technology not ready?

The Hon. PENNY SHARPE: Well, because the technology is evolving all the time. The ability to do it on the accuracy of the transects versus the distance sampling that's currently being done is not able to be done. It is improving all the time. I think there's good news here. To suggest that we could just pick up the drones and do an accurate count is just not correct, and not the way that we're going to do it. If we can just go back to the variance issue, this is a very big park. It's bigger than Bali. It's our largest national park. Things are very dispersed. The counting method that we use is the one that is used for many animals. It is considered to be best practice. Is it perfect? Probably not, but I don't think any of the surveys that we do are perfect. But we are very confident that the numbers are right. Whether it's 12,000 or whether it's 22,000, there are two things that I'll say about getting down to 3,000: There are still too many in the park and we have to use every method that we can to reduce it, to reduce the harm on the park. That's what we're trying to do.

The Hon. ROBERT BORSAK: Just a quick question there, Minister. You talk about 3,000. How do we know when we get to 3,000?

The CHAIR: Order! The Hon. Aileen MacDonald has one question, and then we're moving to Government questions.

The Hon. AILEEN MacDONALD: I'll change tack a little bit. I'm interested in what impact the wild horse numbers have on the Aboriginal heritage archaeological sites. Can the impact be remediated or repaired, to your knowledge?

The Hon. PENNY SHARPE: I can do a little bit about it. Obviously a lot of the Aboriginal cultural heritage, from the discussions that I've had with First Nations people who are connected to the park, is landscape based and linked to storylines. Things like the connection with the southern corroboree frog and the moths in the caves, the bogong moths, and all of those things are tied up together. Some of that is being harmed just because the horses basically trample that area. If those animals disappear then that's obviously a very big impact. There are more specific sites, though, and I might hand over to Mr Fleming around that. But there's an individual species level and then there are particular sites that were very important, particularly journey sites for young men and young women—those types of things. But the impact with the horses is where they're destroying and harming waterways and grasslands, is my main understanding of that.

ATTICUS FLEMING: I don't think there's very much I can add to what the Minister said, other than to note there was some detailed work done with an Aboriginal advisory group in the course of preparing the plan. I'd be happy to take it on notice and provide that.

The Hon. AILEEN MacDONALD: Thank you, if you could.

The Hon. STEPHEN LAWRENCE: I think Ms Sue Higginson had a similar question, which I'm happy to cede to her.

Ms SUE HIGGINSON: I have one really short question, thank you. Given that the population grows 15 per cent to 20 per cent each year, what will we do when we get to 3,000 in terms of the variation? Will we use the upper end? Will we have more advanced population estimates at that point? What's our plan?

ATTICUS FLEMING: The plan certainly is to have dedicated surveys in those retention areas. There are three main retention areas, so there'll be surveys focused on the population in each retention area. As you say, there will be fluctuations, including foals and the normal growth rate of horse populations in those areas, so we will need to do some ongoing control. We'll have a suite of measures available to do that, and I think the Minister has indicated previously that at that point we can also look at the immunocontraception and related opportunities.

Ms SUE HIGGINSON: Did the Senate inquiry think that 3,000 was reasonable or that there should be no horses in our national park?

The CHAIR: Does the Government not have any questions, just to confirm?

The Hon. STEPHEN LAWRENCE: We do have a few questions.

The CHAIR: Ms Higginson, you've had a lot of questions in this session as a participating member, so we will go to Government questions.

The Hon. STEPHEN LAWRENCE: I have a couple of questions for Mr Fleming. I understand there have been threats made to staff involved in that program. Are you able to tell us a bit about how the Government is responding to that and ensuring the protection of staff?

ATTICUS FLEMING: Yes. I won't repeat the threats because the threats are very—let's just say they're nasty and they're very unpleasant. I would just acknowledge the impact that that has on staff and say what an amazing job the team has done in those circumstances. We've got a range of measures in place. We've had external consultants providing advice on the additional security measures we need in offices, whether that's additional cameras or whether that's security guards. We've had advice on what staff need to do in their own homes to ensure additional security. We've had to upgrade infrastructure around depots and so on to ensure that there was no risk to the staff. There've been a whole range of measures put in place and, sadly, those threats are continuing, so we'll need to be vigilant on an ongoing basis.

The Hon. STEPHEN LAWRENCE: In terms of the community concerns that might be causing those sorts of threats, how exceptional is the aerial shooting of horses compared to other species of animals?

ATTICUS FLEMING: As I said earlier, we've done 900 hours of aerial shooting in Kosciuszko National Park for pigs and deer just in the last—I think it's three years. Each year across the State we're doing, at the moment, close to 1,400. I might be out by a little bit, but I think over the last few years it's been in that order: 1,300 or 1,400 hours of aerial shooting every year. So it's not exceptional; it is a routine and very important feral animal control measure. Of course, for many constituents—I'm from the country, so I hear from rural landholders all the time about how important it is that we do feral animal control and that we reduce the numbers of feral animals in and around parks.

The Hon. STEPHEN LAWRENCE: The shooting of feral animals, whether aerial or not, is common across Australia. Is that correct?

ATTICUS FLEMING: Yes—I would say yes is the short answer.

The Hon. STEPHEN LAWRENCE: Can you give us a sense of the training and the expertise of the staff involved in the aerial shooting and how they make sure that animal welfare standards are met?

ATTICUS FLEMING: Yes. We have a very detailed training program. If you want to be doing aerial shooting as part of the National Parks and Wildlife Service team, there's a really extensive range of measures. I'd probably have to take it on notice to actually go through all of the measures, but you do training up-front and then each year there are various things you need to do—minimum hours, ongoing professional development and you need re-accreditation. I think it's in year two and then every three years after that. The sort of training you're doing is everything from your marksmanship from the ground, from the air—there's a very extensive list of training that's required.

For people involved in the horse program, we've got additional requirements which basically mean they need to have done some ground operations—ground shooting of horses in Kosciuszko—so that they are familiar with the animal and with the terrain and everything else. We are really going above and beyond what could reasonably be required in terms of training, and that is demonstrated in the report from the independent vet, where—and I do just want to put this on the record—the outcomes are exceptional. The animal welfare outcomes delivered by our staff in that preliminary program are exceptional, and that is a testament to their skill and a testament to the fact that they see welfare as the most important thing.

The Hon. STEPHEN LAWRENCE: Under that plan of management, broadly, are horses still able to be rehomed? If so, how many are being rehomed?

ATTICUS FLEMING: Yes. I think the number up until the end of September was 793 that had been rehomed since the plan commenced, and there have been some more rehomed since 1 October. We have a range of tools. What will happen over time, as we approach and as we reach the 3,000 target, is the mix of how we use those tools will evolve.

The Hon. STEPHEN LAWRENCE: Lastly, Mr Fleming, what's in place to ensure the safety of visitors to the park while those aerial operations are taking place?

ATTICUS FLEMING: Again, there's a long list and I will forget some of them. But there are closures in place. We have sentries at areas where people might, if they choose to ignore those closures, seek to gain access. We obviously do risk assessments, so there are detailed risk assessments done. There are a lot of notifications, and we've upgraded our notification program and procedures. But then, when our team are in the air, there are a series of measures that are required. The shooter cannot take a shot without getting clearance from others in the helicopter. The shot must be in a particular zone in terms of the helicopter. The risk that anyone will be injured—we have enough procedures in place to ensure that that risk is essentially eliminated.

The Hon. ROBERT BORSAK: In the recent trial program, I think 272 horses or something were shot. What happened to the carcasses?

ATTICUS FLEMING: So 43 of those carcasses were moved in accordance with our carcass management plan. But, as you know, the standard practice across Australia—private or public land—is for most carcasses to decompose in situ. We've mapped out areas where we'll move carcasses. They're areas that, say, are within a particular distance of waterways or a particular distance of campgrounds.

The Hon. ROBERT BORSAK: That was going to be one of my questions. Were any carcasses left in waterways?

ATTICUS FLEMING: No.

The Hon. WES FANG: My last question is in relation to the SOP you tabled this morning. It has on the second page after the title page a number of related documents. A number of those documents say "In preparation as of November 2023" and there's a number of other documents listed underneath that. Are you able to table the documents 1 through 8, which are the SOPs that relate to it? It would appear that this document is a draft or relates to other SOPs, including killing in yards, mustering, euthanasia problem, wild horses and some of the other documents—firearms management manual et cetera, aviation safety policy. Could you table those documents listed in the related documents for the Committee to also cross-check, please?

ATTICUS FLEMING: We'd be happy to table the other approved SOPs.

The Hon. WES FANG: Thank you very much.

ATTICUS FLEMING: By the way, this document is the final SOP. I apologise that the date is not in there, but it's 9 December of—

The Hon. WES FANG: Yes, I wasn't sure whether this was part of a draft, given that it says "In preparation as of November"—

The Hon. PENNY SHARPE: No, it's the final—when did you approve it?

ATTICUS FLEMING: I approved on 9 December, which was a Saturday, I think.

The CHAIR: Thank you for your evidence. I note that there were several questions taken on notice, which the secretariat will be in contact with you about. I'm assuming there will probably be more questions on notice as well, and I'm sure we'll be inviting the department back later in this inquiry, but thank you again. Thank you as well to the Minister for your attendance this morning.

The Hon. PENNY SHARPE: Thanks, everyone. If I don't see you, have a very good break. We will see you in the new year.

(The Minister withdrew.)

(The witnesses withdrew.)

(Short adjournment)

Miss JILL PICKERING, President, Australian Brumby Alliance, before the Committee via videoconference, sworn and examined

Mrs NIKKI ALBERTS, Vice President, Australian Brumby Alliance, before the Committee via videoconference, affirmed and examined

Ms TARA WARD, Managing Solicitor (Volunteer), Animal Defenders Office, affirmed and examined

The CHAIR: I welcome our next witnesses. Do the ADO witnesses have an opening statement they'd like to give?

TARA WARD: Yes, we do. Thank you, Chair. I note that because things have changed since the submissions, when aerial shooting was just a proposed control method, my statement is possibly a tiny bit longer than would normally be the case. It's only a matter of three minutes rather than two. Thank you for the opportunity to make this opening statement on behalf of the Animal Defenders Office. As a community legal centre specialising in animal law, we acknowledge the inherent value of animals as sentient beings as enshrined in the animal welfare law of the jurisdiction from which we operate. I say this to clarify that the Animal Defenders Office cares about the wild horses and the native fauna species in Kosciuszko National Park. It is possible to do both. It is not possible, however, to care about the welfare of a wild animal while sanctioning a particularly violent and cruel method of killing those wild animals. These actions are inherently contradictory.

We know that aerial shooting is cruel. We now have the recently released *Animal Welfare Assessment of Aerial Shooting: Kosciuszko National Park*, which confirms this view. According to the assessment, some horses were chased by up to three helicopters and then killed over a period of more than nine minutes; that's almost three Melbourne Cup races. Animals were shot repeatedly, some for up to 15 minutes. We don't know how many of these were wounding shots or kill shots. Almost all shots were to parts of the body that do not render the animal immediately insensible. Despite the high-powered projectiles and guns used by the shooters, only one out of almost 300 shots was to the head, which is the target recommended in the current standard operating procedures. Lost foals less than a week old were also shot. We don't know if that was while they watched other horses being killed or while other horses watched the foals being killed. Either way, by any benchmark, this treatment of animals is cruel.

The recognition of animal sentience in ACT law refers to both physical and mental welfare. New South Wales' own animal welfare law states that tormenting or terrifying an animal unnecessarily or unjustifiably is animal cruelty. In our view, this method of killing wild horses is unnecessary and unjustifiable. It cannot be justified by reference to the law regarding desired numbers of horses by certain dates in Kosciuszko National Park. The numbers and dates are not legislated. They are not in the Kosciuszko Wild Horse Heritage Act 2018. They are in the *2021 Kosciuszko National Park Wild Horse Heritage Management Plan*, an administrative document.

We know that document can be amended because it was amended only a few weeks ago, not through Parliament but by the Executive. These numbers and deadlines are not set in stone and nor should they be. They should be constantly reviewed and updated as science and practical considerations affect the ongoing management of the environment. To conclude, implementing a cruel method of killing wild horses without peer-reviewed research or publicly released standard operating procedures—and only in order to meet the unrealistic administrative deadlines—simply cannot be justified. Thank you.

The CHAIR: Is there an opening statement from the Australian Brumby Alliance?

JILL PICKERING: Yes, there is. That would be Nikki.

NIKKI ALBERTS: If the New South Wales Government and the National Parks and Wildlife Service had moved quickly to implement their management plan, aerial shooting wouldn't have been needed. But an unacceptable four-year delay from the 2018 Act to the November 2021 Act plan release, and little interim management, has resulted in significantly more horses dying. The National Parks and Wildlife Service further compounded this tragedy by not following their plan sequence of trap-remove, while concurrently developing protocols for trap site euthanasia, aerial mustering and ground shooting. None of the protocols were developed. Instead, aerial shooting began in November 2023, a mere 11 days post the revised management plan release in October 2023.

The ABA do not support aerial culling at all. Humane death is defined by the RSPCA themselves as an animal is either killed instantly or rendered instantly insensible until death ensues and is to occur with no pain, suffering or distress. Consider, if a veterinarian or owner shot a horse in the chest as a method of euthanasia, let alone if they chased it to the point of exhaustion first, they would be prosecuted for cruelty. Control methods

should be justifiable, socially acceptable and systematically planned. Introducing aerial shooting this way is against international consensus principles for ethical wildlife control. The National Parks and Wildlife Service's aerial shooting trial failed to meet these principles, and it was not "humane". Time from shot to not moving was assessed from the air. On-ground checks were not done until the reviewer landed and walked to each of the only 16 per cent of physically examined and confirmed dead wild horses.

Dr Berman's 2023 research identified a safe, sustainable horse population for cohabitating with native species. A key indicator for helping native species is to do pre- and post-activity species counts, but no baseline records are kept. Instead, mass shooting of horses, with no empirical evidence, continues. The heritage Act requires horses to be retained in areas of heritage value and stated by both the scientific and community advisory panels as safe for native species. The risk is high that brumby population numbers are overstated and horses in retention areas have been shot.

An expert witness on a better approach to ascertaining the numbers, biostatistician Claire Galea, is addressing the inquiry just before lunch. She is better positioned to give full details on this. But from the position of locals who travel through the park and ride there, myself included, "overstated numbers" is an understatement. Between August 2023 and November 2023, 2,256 KNP horses were removed mainly by shooting, with some rehoming. We believe the National Parks and Wildlife Service has lost its licence to manage KNP heritage horse values, and we call for an urgent and genuine consultation review to be conducted to retain or, indeed, to rebuild to 3,000 horses by 2027.

The CHAIR: We'll now go to questions. I'll start with a couple to Ms Ward. In your submission, you talk about how brumbies are protected under POCTAA, and I understand that this means that certain treatment of brumbies can result in criminal offences of animal cruelty or aggravated animal cruelty under the Act. In your professional opinion, is it likely that this aerial shooting program will constitute animal cruelty under our criminal laws as they currently stand, given that shooting a moving target from the air can never be 100 per cent accurate and is a known welfare risk?

TARA WARD: To clarify, the Animal Defenders Office is not an enforcement agency under animal welfare laws, so I preface my response with that. Such a question would also be well put to enforcement agencies such as the RSPCA. However, as users of animal welfare laws, it would certainly be my opinion that there would be grounds for making a complaint under the Prevention of Cruelty to Animals Act for animal cruelty. The definition of an act of cruelty in section 4 (2) of POCTAA includes, as I think I mentioned, references to tormenting and terrifying. There would be no doubt that those animals would be, especially those chased for a longer time—and that's above the average. Even according to the terms of the assessment report, there would've been animals who were chased for far longer than the average, and that could be considered to be an unnecessary act of cruelty. That would constitute an act of cruelty under POCTAA, in my view.

The CHAIR: You also mentioned the Guy Fawkes aerial shooting program, which gave rise to 11 animal cruelty charges. Can you expand on this and the nature of those charges, and whether there's a difference with the current aerial shooting program? Or could we see the same sort of animal cruelty charges happen again?

TARA WARD: Chair, I'm not familiar with that event, which happened in 2000, from that perspective. My fellow panellists may be better positioned to respond to that, because they've put out a report that is generally available on that incident. What I would say is what we've said in our submission, and that is that it is a very common occurrence in the animal cruelty space to have either charges dropped or charge bargaining occur. That's an all too frequent occurrence. It is no reflection on whether or not animal cruelty did or did not occur; it is just a reality of our criminal justice system. In this case, I understand that 11 or 12 charges were dropped and one was proceeded with. But that is, again, I would suggest, just a common occurrence within the criminal justice system and no reflection that those events that could have sustained a charge of animal cruelty didn't occur.

The CHAIR: I might go to the Brumby Alliance, but I want to get your legal thought about one other thing. I'm happy for you to take this on notice because it wasn't anything that you mentioned in your submission. There have been significant questions raised about the number of the brumbies in the park and the methodology used to estimate those numbers, and many locals have argued that the number is already under 3,000. Given that the plan states that a target population of 3,000 horses should be retained, and there's no authorisation under the plan or the wild horse heritage Act to kill or remove horses if the number is already under 3,000, do you think that there's a legal question as to whether the Government is authorised to conduct lethal control methods like aerial shooting under that plan, if we don't know the number or if the number is potentially under 3,000?

TARA WARD: That would be worth looking into—the connection between the imprimatur, so to speak, to go ahead and remove horses, whether that's by lethal or non-lethal control methods. If the number has been achieved in the one zone where the plan intends there to be brumbies of around 3,000, there would be no point.

Therefore, it could be challenged, I would suggest, on the grounds that it's unnecessary. So any animal welfare concern would certainly be unnecessary, and that could amount to an animal cruelty offence under POCTAA.

The CHAIR: Before I go on to other Committee members, I want to see if the Brumby Alliance had anything further to say about the Guy Fawkes aerial shooting and the 11 animal cruelty charges that had come from that, and if you had any background information to provide the Committee.

JILL PICKERING: We provided a report because rumours were starting to surface saying that everything had been over-inflated and over-hyped. Interestingly, it was incredibly hard to find any information on the website at that time. It was almost as though nothing had ever happened. But I persisted, and we found quite a bit. We have a link on the ABA website I can send to you if you wish to look at the report. But the message we got was that definitely there were a lot of inhumane actions, including horses being found on the ground by horrified locals up to several days after being shot. They were plea bargained to one claim of poor welfare. It was interesting to hear you say that that can often happen. So all I can say is that, pretty much, we support what Tara has said and we don't want anything like this ever repeated again.

The Hon. WES FANG: My first questions are to Ms Ward. You mentioned in response to a question from the Chair that your organisation isn't an enforcement agency. How many enforcement agencies are there in New South Wales?

TARA WARD: There are two approved charitable organisations, the RSPCA and Animal Welfare League, and then New South Wales police. Every police officer is also an authorised officer under the Act.

The Hon. WES FANG: In relation to that then, it's effectively the case that, short of the New South Wales police looking at any issues that arise out of the trial that was recently done and any further aerial shooting, other than the police, the only two organisations that can really prosecute would be the RSPCA and the animal defenders—

TARA WARD: Animal Welfare League.

The Hon. WES FANG: Thank you. Given that the National Parks and Wildlife Service has coopted—that is the word that I'll use—the RSPCA in part of the assessment process of looking at the trial, would that not then create a conflict of interest in the RSPCA seeking to possibly prosecute later? Can you see where I'm travelling with this? You've got the RSPCA as—

TARA WARD: A potential witness, yes.

The Hon. WES FANG: Yes—the most likely organisation that's going to lead any animal cruelty prosecution that would occur out of this aerial culling program, having been involved by the National Parks and Wildlife Service, in effect, endorsing the trial's result and also appearing to look into the conduct of that trial. There's a conflict of interest there, isn't there?

TARA WARD: There certainly could be a perceived conflict of interest in the sense that if, say, a member of the public came across what they regarded as evidence of animal cruelty and wished to make a complaint and made that complaint to the RSPCA, if that wasn't investigated or pursued, there would be the perception of a conflict of interest because they were involved in that side of things. So that is a potential issue. But, having said that, I'm sure the RSPCA is a totally professional organisation. It may have been that they had vets, for example. Of course, I understand they're appearing today, so I hope these questions are put to them.

The Hon. WES FANG: I'm sure that they will be.

TARA WARD: From an outsider's perspective, if they had vets as observers during the assessment and yet any complaint was handled by a completely separate arm of the RSPCA—their inspectorate—then one would hope that sufficient protections against any sort of conflict of interest would be put in place.

The Hon. WES FANG: You could imagine that any defence that would be mounted by the National Parks and Wildlife Service would, in part, include the fact that the RSPCA endorsed the trial and its findings, and was witness to the conduct of that trial in relation to any future aerial culling arrangements that it might have, if there were to be charges brought against it. Does that create a potential issue?

TARA WARD: Yes. It really points to the fundamental weakness in the animal welfare and animal protection regulatory framework in New South Wales in that we don't have an independent entity responsible for enforcing our animal welfare laws. The RSPCA is a private charity. You can understand an entity such as the National Parks and Wildlife Service wanting to call on the RSPCA to be observers in this trial, but unfortunately they are also the enforcement agency—a private charity—under our animal welfare laws, which are, of course, criminal laws. That is yet another reason why we need a separate office of animal protection or office of animal

welfare that would be responsible for the enforcement side of things. This is a great example of the need for such an entity.

The Hon. WES FANG: You're going to have to forgive me because I'm not exactly experienced in this realm, shall we say. I've forgotten the other enforcement agency. The animal—

TARA WARD: The Animal Welfare League.

The Hon. WES FANG: I should write that down.

TARA WARD: AWL for short.

The Hon. WES FANG: How many prosecutions have they brought recently? Do you have any idea of that? Are they as experienced in bringing prosecutions as the RSPCA, for example?

TARA WARD: I'm sure they are, but their numbers are much smaller because of the small size of the organisation. But that is definitely a function of that organisation and they do bring prosecutions.

The Hon. WES FANG: Is there another organisation that could have conducted the oversight of the trial that wouldn't have been the RSPCA? This is an opinion that you might want to proffer or not. Would the RSPCA have been in a position to indicate that it wasn't going to provide clearance or endorsement of the trial, given that they will potentially be conflicted, should there have been a future animal welfare prosecution? Given that they were the entity that led the Guy Fawkes prosecution of the then Government previously, surely there must have been some alarm bells that went off within the RSPCA to say that this potentially gives us a conflict of interest.

TARA WARD: Again, I would agree. As a member of the public observing from outside how these things work, a member of the public would be understood if they questioned that choice. There would be other organisations. One that immediately comes to mind is the Australian Veterinary Association, for example.

The Hon. WES FANG: Which is the exact one I was thinking of.

TARA WARD: Yes.

The Hon. WES FANG: Could the Australian Veterinary Association perhaps have provided a similar endorsement of the national parks—

TARA WARD: I wouldn't want to speak on their behalf.

The Hon. ROBERT BORSAK: The Australian Veterinary Association don't get tens of millions of dollars off the Government every year, as the RSPCA does.

TARA WARD: It could be a question of resources, exactly, or whether they do that kind of role. I'm not sure. I'm not familiar enough with that organisation. But, certainly, from an outsider's perspective there would be a question of whether we should have the same organisation engaging in that sort of observation role as well as a potential enforcement role.

The Hon. WES FANG: I can see other members are champing at the bit.

The CHAIR: I will move on to the crossbench.

Ms SUE HIGGINSON: Thank you very much for your excellent evidence. This may be to Ms Pickering or Ms Ward. In relation to the Guy Fawkes, going back 23 years now, are you aware of the report that was done by Dr English about the results of that? He, at the time, was the president of the Australian association of veterinary conservation and at the time was the head of the department of veterinary clinical sciences at the faculty of veterinary science at the University of Sydney. Are you aware of his findings about the Guy Fawkes event?

JILL PICKERING: Can I just say something? Tara is welcome to add to it. I've read that report. The interesting thing is that immediately after the shooting, when the horror of the animals being shot and yet still alive was occurring, both the RSPCA and Dr English said that it was inhumane and should not have occurred. Yet, amazingly, a few months later, things reversed and Dr English has written a much milder version of what was found. So from our perspective we find it hard to accept that it was less inhumane than he originally stated.

Ms SUE HIGGINSON: Can I just ask on that, do you not think that that's because by the time he wrote his report he'd actually had the opportunity to review the actual evidence of what took place on the ground? I'm not suggesting, by any means, that what happened was anything other than what he says in the report and that there was a finding that there was an animal that, despite having two bullet wounds, was found alive.

JILL PICKERING: There were 12 cases altogether that were found and charges laid. They were plea bargained to one. So I think you'd probably better ask the AVA and Dr English.

Ms SUE HIGGINSON: I was just checking if you were aware of that report. Ms Ward, in relation to the discussion about the plea bargaining, do you have experience in criminal law and those kind of proceedings?

TARA WARD: Limited, yes.

Ms SUE HIGGINSON: Is it your understanding that normally, however, charges will be dropped because there isn't sufficient evidence to prove beyond reasonable doubt—that's normally the basis upon which a plea bargain will take place?

TARA WARD: My experience in the animal welfare space is that there are a range of other considerations that are relied upon to reach that same outcome. The problem is that the public is not privy to those because often these decisions can happen in chambers or as negotiations between the parties, so when the parties present in court it's just a two-minute dismissal of the charges. Unfortunately what occurs leading to those changes, we just don't know. But it is astounding for those observing because it seems as though the evidence that has been provided—it might have been as part of a complaint—is pretty robust.

The question of whether there's enough evidence to prove beyond reasonable doubt is usually not the first problem that springs to mind or is understood to be the reason why these matter are—but that points to a bigger problem with trying to reach conviction of animal cruelty charges. It is that so often this happens when charges are dropped or plea bargained down to virtually nothing and the public doesn't know why. It's a real problem. I don't think it's just a straightforward "there wasn't enough evidence" because often there's too much evidence in the sense that there's a lot of compelling evidence.

Ms SUE HIGGINSON: In its submission, the Government has suggested that a lot has changed since 2000—23 years ago—in how operations are undertaken now, including in terms of technology, the advances in thermal technology and different helicopters used et cetera. Do you accept that what the Government is doing now is probably a bit different to what happened when the Guy Fawkes operation was undertaken?

TARA WARD: One would hope so because, otherwise, what's been the point of the 23 years? So, definitely. This is the whole point. Since then we've had the standard operating procedures released in 2011. Now even they are out of date, presumably because of this very issue.

Ms SUE HIGGINSON: We got one tabled today actually, very late in the piece.

TARA WARD: Right, because the public hasn't been privileged to see that yet, so we've been in the dark. So, exactly. Also, one would have hoped that there would be more research as to the impact on not just the horses but the environment et cetera of these methods in that terrain. That's a disappointment, that there hasn't been the research that one would have hoped would have filled the space of the 23 years.

Ms ABIGAIL BOYD: In a lot of the submissions there's conversation about limited evidence on aerial shooting and the results of aerial shooting, but it seems to be nearing a consensus that on-ground shooting is more humane or—I mean, it's shocking either way, but the idea that one head shot would be a far more humane way to do this. Firstly, is that your understanding? And why is that not being used instead of aerial culling, do you think?

TARA WARD: I'm not in a position to be able to answer the second part of your question. Regarding the first part, I just would note—and, again, this could be put to the AVA if they're appearing—that they recently reviewed and published an updated version of their policy paper on, I think, the shooting of wild horses. That was just July this year. They again considered that aerial shooting is less humane than ground shooting. That's a very recent reappraisal of the situation. As to why it's not being used, that's a practical consideration that, unfortunately, I'm not able to respond to.

The Hon. ROBERT BORSAK: Ms Ward, in your opening statement you said that you believed that there should be space for the wild horses in the park and obviously native animals, that both have to be accommodated. Is that what you said?

TARA WARD: That isn't exactly what I said.

The Hon. ROBERT BORSAK: Can you elucidate on what you said?

TARA WARD: Yes, I said—sorry, my computer's gone dead. It was that one can care about the welfare of both horses and native fauna. In other words, it's just the common sort of criticism that "you only care about this one species or this type of animal and therefore you don't care about the other".

The Hon. ROBERT BORSAK: How does that express itself in the practicalities of what's being done then? Or is that just a wish that sits up in the clouds and you don't worry about the detail of how that dirty work gets done?

TARA WARD: It's called ethics, and it's an ethical position.

The Hon. ROBERT BORSAK: But ethics also requires outcomes to be useful.

TARA WARD: Yes. So that would require a proper consideration, including research into other or non-lethal methods of control. It would also require very rigorous research and review of the current situation in the national park. How is the environment adapting to these vastly altered ecosystems of which these naturalised animals are a part?

The Hon. ROBERT BORSAK: So you're saying that the wild horses are now part of the changed ecosystem of the park and have equal rights there to native animals?

TARA WARD: Unfortunately, in our legal system, no animal has rights. But their interests should be considered, and their welfare should be considered, and not different approaches taken, depending on rather arbitrary considerations.

The Hon. ROBERT BORSAK: But you haven't answered the question. You jumped straight to rights. Are you saying the interests of the corroboree frog, a rare and endangered species in the park, are equal to wild horses? Is that what you're saying?

TARA WARD: Fundamental interests—they're all sentient animals, so definitely that is what I'm saying.

The Hon. ROBERT BORSAK: What level or number of horses should be allowed to be in the park to express the sort of ethical outcomes you're talking about?

TARA WARD: I'm not a scientist. I would, with the greatest of respect, leave that to the ecologists, the scientists and the experts upon whom we rely for those kinds of views and expert opinions.

The Hon. ROBERT BORSAK: Since the wild horses don't have any natural predation, what would keep their numbers under control, from an ethical point of view, as far as you're concerned?

TARA WARD: The non-lethal methods, and I'm sure others—I notice that Ms Pickering has her hand up—would be in a position to respond to that. But as a lawyer I have access to the same sort of management plan et cetera. It has approved non-lethal methods, in the plan, and it would be interesting to know whether they have been explored fully, and the viability of those methods, whether peer-reviewed research in that terrain has been carried out. That's what one would hope would be happening.

The CHAIR: Ms Pickering, did you have something to add?

JILL PICKERING: Yes, thank you. There is a study that has been done and that was published early this year by Berman and co. That identifies a scientifically robustly challenged base on what is a sustainable number. For the east alps of Victoria, it is 250 dung piles per hectare, which is the same as nine horses per square kilometre. We already have a long, detailed study with two other scientists and it does involve the ABA as an advocate in funding, but it is a deliberate work to do what we feel is the only way to resolve this conflict, and that is to have horse advocates and scientists working together on the same goal to find what is safe for native species that also can allow lower numbers of wild horses to coexist without injuring the native species.

The Hon. ROBERT BORSAK: What is that number for the park, then, based on the number of dung heaps per—

JILL PICKERING: I'll repeat what I just said, and that is it's 250 dung piles per hectare, which is the same as nine horses per square kilometre. There isn't a total. A total infers like a standard area, but you have to localise it to particular areas, as the Kosciuszko plan has identified. Certainly, the scientific advisory panel that advised the Government on this plan said you need to assess each area that horses can be retained in for what is the number—you have to sort of translate it to a number—and that is a safe level.

The Hon. ROBERT BORSAK: So you don't have a safe number or a safe level that you're advocating for?

JILL PICKERING: I have per area.

The Hon. ROBERT BORSAK: And how many is that?

JILL PICKERING: Nine horses in one square kilometre is the density.

The Hon. ROBERT BORSAK: Yes, but the whole park is the management area, isn't it?

JILL PICKERING: No. You have to take each retention area to say what that is.

The Hon. ROBERT BORSAK: But horses move.

JILL PICKERING: I can take that on notice and give you information.

The Hon. ROBERT BORSAK: Could you take that on notice, please? That would be good.

JILL PICKERING: Right.

Ms SUE HIGGINSON: Just on that, Ms Pickering, how does that factor in the declining status of some of these species that are now on the brink of extinction? How can such a generalised and broad proposition based on a particular criterion take into account the ever-facing threats, now that the Commonwealth Threatened Species Scientific Committee has identified horses as likely being the cause of extinction of some of the 12 or 13 particular species that we're looking at? How do we reconcile that?

JILL PICKERING: Their view was based on the total area and the total numbers. The number is still increasing and they need it to come down. We agree that too much of any species is not healthy for the environment, including humans. Dr Berman's study factored in not just horses but the main impact signs that were picked up by these three scientists, and that was from horses, deer, fire and humans, because that's the only way to help native species—by controlling all impacts. The Government tells us that the impacts from deer and pigs are managed by shooting, but there's nearly one million deer in the eastern Victorian alps alone.

That means they have to remove 550,000 a year to even keep pace with one million. Their shooting numbers come nowhere near that. They're not even arresting the increase. But horses are easy to see. They are focused on and encouraged to be seen as the key threat, but the reality is all impacts have to be taken into account and balanced with the actual level of species that are found in those areas. For instance, the Government at the moment—and I have been to a scientific conference last week and asked several people what are the records of the individually key threatened species' actual numbers in the park? "There are no records kept," they say, "absolutely none."

They are working blind and they are assuming that what they see as impacts is causing problems, but it would be solved instantly by having ongoing annual counts of what each of the threatened species are they're particularly worried about and then, after a year of shooting, doing another count. This is normal process in most scientific circles: You have an assumption, you trial an action, you check to see if it's helped, or not, the species you're trying to help. This is never done. For brumby advocates, which we are, this is horrifying: to think that all these horses are being shot—inhumanely, in our view—when there's no on-ground evidence to show the numbers have improved because of it.

Ms SUE HIGGINSON: So just—

The CHAIR: Sorry, I just want to check if Government members have questions.

The Hon. STEPHEN LAWRENCE: Just a few questions, yes, for Ms Ward. Was I right, in understanding your evidence, Ms Ward, that you thought—

JILL PICKERING: I can't hear you.

The Hon. STEPHEN LAWRENCE: Sorry, I'm talking to Ms Ward, actually. But I'll try to talk louder.

JILL PICKERING: Sorry.

The Hon. WES FANG: Don't be so rude, Mr Lawrence.

The Hon. STEPHEN LAWRENCE: Indeed. Am I right in thinking, Ms Ward, that your concern about conflict of interest is based on the fact that the RSPCA could be a witness to the aerial shooting?

TARA WARD: It's not my concern. That was Mr Fang's line of questioning, but one certainly can understand where it's coming from. That could be a potential, I think, yes, perception of a conflict of interest there in that they observed the very activity that would then be the sort of subject of any potential animal cruelty charge.

The Hon. STEPHEN LAWRENCE: Are you aware from your experience in the law that the New South Wales police appear as the prosecutor in the large majority of criminal prosecutions in New South Wales?

TARA WARD: My limited experience or exposure to the criminal justice system in New South Wales is that that has been my experience.

The Hon. STEPHEN LAWRENCE: Are you aware that in many of those cases police are witnesses—that they've seen and done things that are relevant to the case?

TARA WARD: Exactly, yes—so it does happen—and that there are presumably systems in place to enable that to happen. It's just that in this situation we've got a comparatively small private organisation that has these multiple functions. There is a lot of concern in the community about that—that a small private entity has a responsibility for enforcing criminal laws. It's the only space in which that happens, and there are, I think, totally justifiable questions about that, regardless of what the private entity is. This is no reflection on them, but just the

fact that that is a fundamental aspect of our animal welfare regulatory framework is a real cause for concern, and hopefully will change.

The Hon. WES FANG: Thanks for backing up my position, Stephen.

The Hon. STEPHEN LAWRENCE: From your experience, would you agree that indeed it's not unusual for police to lay charges arising out of police operations?

TARA WARD: That would be, presumably, the norm.

The Hon. STEPHEN LAWRENCE: I suppose, in fairness, I just want to suggest to you that this concern about conflict of interest that you to some extent have adopted is not something that has any substance to it.

TARA WARD: To clarify, I haven't adopted it but I've said that—

The Hon. WES FANG: I love the way he verbals. It's so nice.

The Hon. ROBERT BORSAK: That's really getting verballed, isn't it, eh?

The Hon. WES FANG: Yes.

The Hon. STEPHEN LAWRENCE: I said that you have adopted "to some extent".

The CHAIR: Order! The witness can respond to that.

The Hon. STEPHEN LAWRENCE: She's a lawyer. She's more than capable of responding to it.

The Hon. ROBERT BORSAK: The response should be, "Don't verbal me."

TARA WARD: What I said was that it would be understandable for a member of the public to have that view that there is a perception of a conflict of interest.

The Hon. STEPHEN LAWRENCE: Thanks, Ms Ward.

Ms ABIGAIL BOYD: Ms Pickering, your evidence just before was really interesting from the sort of scientific side of things. The Australian Government's Threatened Species Scientific Committee, when they talked about the impact of horses in the park, didn't refer to them as being the only risk or the sole risk but as causing compounding damage and as being one factor—a very significant factor—in the damage that's being done to the environment. What are the other factors? What else could the Government be doing if it's not targeting the horses?

JILL PICKERING: For a start, it doesn't appear, from the numbers we hear being killed—of deer and pigs—that the reality on the ground is reducing the numbers at all, because, for instance, the rate of increase annually for horses is about 18 per cent, give or take a couple of points; for deer, it is 55 per cent, which is double; and for pigs, it's 70 per cent. So the numbers being shot—even the 900 hours of shooting over three years is only 300 hours a year. I don't think you can shoot 550,000 deer in that time. So although they claim to be managing the other numbers, in our view they underestimate the totals because they're hard to see—they're nocturnal—and they misjudge what is required to reduce the numbers.

But horses stand there. They're easy seen—they go out in the day. They tend to bear the blame for anything that is seen, but there are other ways of testing a presence, which is what Berman and his two other scientists did—by dung piles, by eyeballing the detail of hoof prints. For instance, a deer print almost looks like a horse print in reverse. The only difference is that, instead of the little frog bit on a horse, the deer has the mud coming up between the front two claws. So it's quite easy to mistake, particularly if you are focused—and convinced that horses are bad—on deer numbers.

We took Parks Victoria to court. During cross-examination, the study that one of your Committee referred to when they said even one horse can be causing too much damage—that very study was highlighted in cross-examination to be false on three sites or more, where the sites were labelled "deer" but by the time the report counting was done they'd changed to "horse". There's a bias to tend to default to "horses are wrong". We agree too many of anything is no good, but it needs specific areas and specific numbers to be managed, and Parks in New South Wales do not seem to be doing that.

They wasted four years before starting to implement, and now, all of a sudden, it's an urgent case to get the numbers down by 2027. They're not consistent. If they'd managed when the numbers were 6,000, by fertility control and rehoming, we would not be in this situation. They must rely on talking with the locals, getting consensus and involving the locals, who can help them manage. They won't do that. They let the numbers build up and, all of a sudden, it's panic. "Now we have to aerial shoot, so let's have a new standard operating procedure, let's get it assessed by the RSPCA and let's move on." That's the impression we get. I think I've probably wandered, sorry, from your initial question.

The CHAIR: We have run out of time, but I want to thank all of our witnesses for coming to give evidence today. I think there were a couple of questions taken on notice, which the Committee's secretariat will be in contact about. There may be further questions on notice from the Committee, which we'll be in contact with you all about.

(The witnesses withdrew.)

Dr CATHERINE TIPLADY, Committee Member, Sentient, The Veterinary Institute of Animal Ethics, before the Committee via videoconference, sworn and examined

Ms KARRI NADAZDY, Assistant to the President, and Horse and Livestock Representative, Animal Care Australia, affirmed and examined

Ms RACHEL SYDENHAM, Small Mammals Representative, Animal Care Australia, affirmed and examined

The CHAIR: I now welcome our next witnesses. I might see if Animal Care Australia has an opening statement, and we'll start with that.

KARRI NADAZDY: Thank you, Chair. I ask that this statement be tabled. I'm Karri Nadazdy, assistant to the president of Animal Care Australia, and I'm also the horse and livestock representative, and I have trained feral horses myself for rehoming. Today I'm joined by Rachel Sydenham, the Animal Care Australia small mammals representative. And, for the benefit of today, Rachel is currently in the process of training two rescued brumbies from Kosciuszko. The brumbies were originally trapped in Kosciuszko National Park and then sent to a rehoming organisation and were then rescued again. We hope this Committee takes the opportunity to find out more about Rachel's experience throughout that process.

Animal Care Australia represents keepers and breeders of pets and companion animals nationally, and our goal is to promote and encourage high standards in all interactions with the animals in our care. When rescued wild horses become someone's horses and their responsibility, they become a part of our purview. Animal Care Australia supports the protection of native flora and fauna above that of any introduced species. However, Animal Care Australia also believes that good animal welfare must always be prioritised before cost and convenience.

We strongly believe there is a way forward that provides for the continued regrowth and wilding of areas of destruction while still providing for an area or areas where the public and heritage value of the brumbies can be maintained. Animal Care Australia proposes the New South Wales Government adopt a One Welfare model, recognising that animal welfare, biodiversity and environment are all connected to human wellbeing, and assist with the establishment of a multifaceted environmental centre, brumby sanctuary and outdoor adventure activity centre, all open to the public. This centre would be located outside of the protected areas of the park and would manage nature conservation through rewilding, with a wildlife hospital and attached veterinary and animal educational facility, brumby rehoming centre, museum, and tourism outdoor adventure activities, as well as accommodation and dining. We are not suggesting it is funded or operated by the Government but that government leadership and initiative drive the project forward.

Animal Care Australia also supports the need for greater resourcing and research into more viable and humane alternatives to the current lack of proper management of both the national park, wild horses and other feral animal numbers. For far too long, that mismanagement has been resolved by massive culling in great haste rather than proper policy that not only reduces feral numbers but maintains that reduction. Animal Care Australia looks forward to sitting down with the Government to develop sensible, practical and better strategies and regulations around the rehoming of wild horses. We would like to thank the Chair and the Committee for inviting us to appear today, and we welcome your questions.

The CHAIR: Thank you. I think Dr Tiplady is online now. Do you have an opening statement on behalf of Sentient?

CATHERINE TIPLADY: Yes, I do. I am a veterinarian and committee member of Sentient, an independent Australian veterinary association dedicated to animal welfare advocacy based on the ethical implications of animal sentience and the findings of animal welfare science. Wild horses exist in the Kosciuszko National Park and other alpine areas of Australia because of human intervention. On ethical grounds, we therefore have a responsibility to ensure their welfare is a priority when developing strategies to manage their populations. The RSPCA defines humane killing as when an animal is either killed instantly or rendered insensible until death ensues without pain, suffering or distress. Aerial shooting cannot be described as humane because accurate head shots from the air cannot be guaranteed. Sentient does not support aerial shooting of wild horses due to the likelihood of horses being distressed and suffering injuries during the helicopter chase and after shooting.

Published evidence we have on aerial shooting of brumbies is the study conducted in central Australia by Hampton and others in 2017, who found that 37 per cent of horses were not killed instantly and immediately. We urge the New South Wales Government that they resist ongoing pressure from environmentalists to adopt aerial shooting of wild horses. We support, instead, non-lethal options such as exclusion fencing around vulnerable areas such as endangered frog habitats, trapping and rehoming of horses, immediate investment in fertility control and, where horses require euthanasia, performing this on the ground, which minimises the risk of missed shots causing non-fatal injuries. Given the department has determined to reduce killing to reduce the population of wild horses

in the national park, there is a whole suite of alternatives to aerial shooting that would be more humane. These include mustering into yards and shooting or dart-tranquillising, followed by captive bolt. Thank you.

The CHAIR: I might start with a couple of questions to you, Dr Tiplady, if that's okay. I want to get an understanding from a veterinary perspective. First of all, we just heard from the previous witness that it is illegal to terrify an animal. I want to understand, from a veterinary perspective, are the animals terrified if they're being shot—aerial shooting, sort of chasing them down—and what is actually going on for the horses when they're being shot through an aerial shooting program?

CATHERINE TIPLADY: Other studies—the one I mentioned before—found that the median chase time of horses was 42 seconds. That's quite a long time of being actively pursued by helicopter. This is completely foreign and terrifying to horses, I'm sure. They've been living free and wild. The noise, the shooting, their family members suddenly being struck by bullets and falling in front of them, alongside them, being injured—this would be absolutely horrific, I'm sure.

The CHAIR: I want to get an understanding, too—sorry, this is a bit graphic and specific, but if you think about what a horse looks like and you think about shooting an animal from above, my understanding is that you're often likely to hit the animal in the spine. The reports most recently talked about the fact that most of the shots were in the thorax. What does that mean for an animal? We were hearing as well, earlier this morning, that it could be up to 15 or 17 shots and the animals could be alive for several minutes after that. What does that mean as a welfare impact for the animal?

CATHERINE TIPLADY: It's totally unacceptable that any animal would have to endure this suffering and is totally unnecessary that it's done in this way. A horse's brain is quite small. To shoot a horse when you're directly in front of them is quite challenging. You have to imagine this specific area located, like drawing a crisscross from the base of the ear to the eye diagonally across, and there is a very specific area that is going to be most likely to guarantee instant death. You're not going to get that in a galloping horse through rough terrain surrounded by their family members. You just can't be that accurate. The thought that they're being hit through the spine and they're laying there, potentially thrashing and twitching—that's what I would be expecting from spinal injuries in a horse who has been shot in the spine.

The CHAIR: How long does it normally take a horse to die if they've been shot in the spine, and what's the pain level for that animal?

CATHERINE TIPLADY: It would be extreme pain, but the distress would be very, very high. They've instantly become paralysed. So maybe their front legs would be working as they're laying on the ground; their hind legs may not be working normally. That's what we see in spinal injuries. They're basically paralysed from the site of the shooting downwards towards the tail. It would be a very prolonged, agonising time for them. And if they were left there to die, it could be days, I imagine.

KARRI NADAZDY: Could I please add to that? We have an image in our submission of what Ms Tiplady is actually talking about. It is on page 5 of our submission. We have the image of the horse's brain as well as the section you need to hit. It is literally a three-inch triangle that is lethal to the horse, and it is the only acceptable way of instantly killing a horse. You can see in the image, the chance of hitting that from a helicopter is very, very slim.

The CHAIR: Thank you. My other question, just before I move on, is that this shoot occurred during foaling season and 35 foals were killed. At least two that were less than one week old were found lost after the helicopters flew over, and they were also killed. I am happy for both of you to jump in. What are some of the welfare concerns around conducting a kill like this during foaling season? I might throw online first to Dr Tiplady.

CATHERINE TIPLADY: Yes, I think that is appalling to think of foals being shot. When you said "lost", do you mean—how do you describe "lost"?

The CHAIR: They were found on their own. This morning they said that they could have been abandoned by their family groups. However, this was after helicopters flew over.

KARRI NADAZDY: And that's not normal horse behaviour, to abandon their foals.

The CHAIR: How often would that occur?

KARRI NADAZDY: It doesn't.

The CHAIR: It doesn't occur?

KARRI NADAZDY: Mares leave their foals behind if they're dead.

CATHERINE TIPLADY: It's extremely, extremely disturbing to hear that.

KARRI NADAZDY: And it's against the regulations.

CATHERINE TIPLADY: It shows this isn't a humane way of controlling horses at all. The suffering would be immense.

KARRI NADAZDY: The regulations do say that shouldn't occur during foaling season. That's been really clear. We were surprised to find out there was a trial—so-called trial—aerial cull during foaling season, when one of the foals that was found lost still had its umbilical chord and had never had its first drink. This is the timing that we're getting with these culls. That's not okay.

The CHAIR: There was some other reason written in the report. I don't know if you've read it, but they had also recognised that very rarely happens—well, it's never been witnessed to happen in horses.

KARRI NADAZDY: That was caching. They're talking about how deer will cache their babies sometimes—you know, how they hide them in the bushes, and the mother goes off and does whatever she does, and comes back and gets them. There is no record anywhere—whether domestic or wild, anywhere in the world—of horses having that sort of behaviour. They're not related to deer in any—the nearest living relatives of horses, evolutionarily speaking, are hippopotamuses. They are nowhere near related to cows; they are nowhere near related to deer. They do not show the same behaviours. So, yes, this is not something that's been seen in horses before.

The CHAIR: Do you think that almost certainly, then, the two young foals that were found had been separated by helicopters and the shooting?

KARRI NADAZDY: It seems likely. The report did also say that they targeted the foals first. They approached family groups and targeted the foals first, and in the report it said to specifically not have stray foals. However, at the end of the report they said, "Well, there were two foals. We didn't know where they came from; we just found them at the end." That means that they did not successfully target foals to start with, because where did these two come from? And then there were additional foals that were found by bushwalkers and horse riders that have just turned up out of the bushes. Those foals have also been found, so there were several more.

The CHAIR: Do you have concerns about targeting the foals first? What does that mean for a family group?

RACHEL SYDENHAM: It shouldn't be done in foaling season, full stop.

KARRI NADAZDY: Yes, there's no other way to put it. It's against the regulations. Okay, the regulations are not enforceable. That's fine, but it still shouldn't be done; it's unacceptable. We saw the same thing at Singleton. It shouldn't happen.

The Hon. ROBERT BORSAK: I want to ask a question of Dr Tiplady. What's your skill, experience and knowledge of handling and controlling large mammals such as horses?

CATHERINE TIPLADY: I've owned many horses, been in pony club and worked with horses. Currently I'm not working as a vet with horses, and I haven't worked with brumbies, but I've worked with all sorts of horses.

The Hon. ROBERT BORSAK: So you don't have a lot of experience, if any, in dealing with wild horses?

CATHERINE TIPLADY: I haven't worked as a vet for wild horses.

The Hon. ROBERT BORSAK: You haven't—sorry?

CATHERINE TIPLADY: I haven't worked as a vet dealing specifically with brumbies—handling them.

The Hon. ROBERT BORSAK: Do you support non-lethal methods of control?

CATHERINE TIPLADY: Yes, I do.

The Hon. ROBERT BORSAK: Given that you don't have experience with wild horses, how would you control, in a statistically relevant way, up to 23½ thousand wild horses in Kosciuszko National Park using non-lethal methods—which have been used quite extensively in the past?

CATHERINE TIPLADY: The numbers are huge, and I realise it would be very challenging to get the numbers down significantly over just a few short years. I don't think lethal methods are a humane approach. I also think your numbers are going to swell up again within a few years. I think, longer term, humane methods of control, immunocontraception for the mares and passive trapping and rehoming of suitable horses are a much more humane approach than just shooting them from the air.

The Hon. ROBERT BORSAK: But, Dr Tiplady, that has been done in that park and other parks in New South Wales for decades and decades, including the more than 20 years since aerial or any sort of culling of

horses was banned, and we've ended up in this situation. How can you give evidence like that and assert that it would actually work, especially in these circumstances? Where is your evidence that has worked in other environments—for example, in the Northern Territory, where they have a huge wild horse program?

CATHERINE TIPLADY: I'm just here to say that I don't believe it is a humane approach for controlling horse numbers. I think the numbers [audio malfunction].

The CHAIR: Dr Tiplady, you've gone silent again.

KARRI NADAZDY: Could we add to that? One comment that you made there, Mr Borsak—

The Hon. STEPHEN LAWRENCE: I don't think the witness is finished.

CATHERINE TIPLADY: [Audio malfunction] suffer, and I don't think it should be done.

The CHAIR: Sorry, Dr Tiplady, you were on mute again. I might get you to take that question on notice because there are some audio problems, but I want to give you the opportunity to reply.

KARRI NADAZDY: One thing that you just said was that non-lethal methods of control have been done for decades and decades. We would argue that it has not been done. The horses have never been managed properly. We've had a strategy where we neglect the horses and then we cull them when there are too many of them. That's not management. If a farmer managed their animals like that, RSPCA would be all over them. This is not management, so we would argue that we've never managed the horses properly. They've never been actually managed. Nobody has ever contained the horses. We don't even know how many there are. If we had a team of people actually overseeing these animals, we would know how many there are. This is what we need.

The Hon. ROBERT BORSAK: But if you looked at the surveys that the Government has done, they say that there are between 12,000 and 23½ thousand within the confines of the park, and they've done the counts twice. Are you saying that those counts are irrelevant?

KARRI NADAZDY: Yes, and it's an estimate, but the estimate has a variation of 10,000 animals. This is not a count.

The Hon. ROBERT BORSAK: No, but they're scientifically endorsed counts using grid systems that are used by people like—

RACHEL SYDENHAM: The scientific data there is flawed because it's based on crap. Sorry, it doesn't even biologically support what horses do.

The Hon. ROBERT BORSAK: I don't accept that "crap" is a scientific statement.

RACHEL SYDENHAM: No, sorry.

KARRI NADAZDY: We have a biostatistician coming up next, and I think that's probably the best person to speak about results as we are not involved in any of that. However, what we are here to speak about today is that we actually need to manage the horses, because it has not been done.

The Hon. ROBERT BORSAK: We're all on the same page as far as that's concerned.

KARRI NADAZDY: Yes.

The Hon. ROBERT BORSAK: How will you make that work using non-lethal methods?

KARRI NADAZDY: We don't say that you can't use lethal methods.

The Hon. ROBERT BORSAK: Flying in helicopters is lethal, so the only way that you are lethally allowed to shoot a horse from a helicopter is in the front of the head, which you know is impossible.

KARRI NADAZDY: That's why we're against aerial culling.

The Hon. ROBERT BORSAK: Then what sort of culling are you talking about—ground shooting?

KARRI NADAZDY: Yes, ground shooting. Passive trapping and shooting is acceptable. What we have suggested is that the population that is to be maintained in the park—the 3,000 to 4,000 horses that are part of the Kosciuszko Wild Horse Heritage Act—would be retained first, so those horses put aside so that you can ensure that their genetics are good and their confirmation is good and these horses are sound and healthy. You would then have to deal with the remaining horses in the park.

The Hon. ROBERT BORSAK: How would you do that?

KARRI NADAZDY: I would do it through passive trapping and shooting, as well as rehoming, of course. That goes without saying.

The Hon. ROBERT BORSAK: But you are aware of the fact that horses have been trapped, rounded up, rehomed and sent to the knackery for the last 20 years out of Kosciuszko National Park?

KARRI NADAZDY: Yes, but without any management. The idea of managing is to ensure that you control the populations in the park, not neglect them.

The Hon. ROBERT BORSAK: With all respect, I think we can trust the National Parks and Wildlife Service to do it within a program.

KARRI NADAZDY: Really?

The Hon. ROBERT BORSAK: Yes.

RACHEL SYDENHAM: I wouldn't.

KARRI NADAZDY: No.

The Hon. ROBERT BORSAK: Why wouldn't you?

KARRI NADAZDY: Because look at what's happened in the last 20 years. There's your evidence—it's not working. One of the things—

The Hon. ROBERT BORSAK: No, I think the evidence shows that the systems of management that you're talking about that they were pursuing—capture, rehoming, sending to the knackery—have been totally inadequate in dealing with the rate of natural increase of horses in the park.

KARRI NADAZDY: I'm not sure if you've actually read our submission.

The Hon. ROBERT BORSAK: Because those animals have no natural predators in the park.

KARRI NADAZDY: Yes, that's right, and that's a problem. That's why we need to manage the population of the horses. One of the problems we see with contraceptives is that they haven't been tested in Australia. We have native animals that are different to every other animal in the world, and these contraceptives have not been tested for what will happen to those animals.

The Hon. ROBERT BORSAK: Are you aware of the kangaroo control programs that were run and controlled by Dr English in the ACT years ago?

KARRI NADAZDY: That's contraceptives for kangaroos. I'm talking about the contraceptives for horses.

The Hon. ROBERT BORSAK: They were actually catching them and nutting them.

KARRI NADAZDY: Yes, we would absolutely support gelding the horses.

The Hon. ROBERT BORSAK: So how would you geld a 450-kilo stallion in the bush?

KARRI NADAZDY: The same way you—

RACHEL SYDENHAM: They're doing it now in New Zealand in the wild horse project.

The Hon. ROBERT BORSAK: So you would catch them? The wild horse project in New Zealand also involves shooting them from helicopters.

RACHEL SYDENHAM: And that's one person.

KARRI NADAZDY: You can do that; we've done it with rescue. We get unhandled horses in all the time and we geld them. It's not a problem.

The Hon. ROBERT BORSAK: The natural increase of 23½ thousand horses a year will require how many to be gelded?

KARRI NADAZDY: Sorry, you're saying there are 23,000 new horses every year?

The Hon. ROBERT BORSAK: I'm saying there are 23½ thousand horses in the current population.

KARRI NADAZDY: Possibly—possibly only 12,000.

The Hon. ROBERT BORSAK: Okay, let's say between 12½ thousand and 23,000. How many would you have to catch to geld?

KARRI NADAZDY: Half of them.

RACHEL SYDENHAM: Considering most groups, the way horse herds function—excuse me, I'm not used to a microphone. The way horse herds function is you get bachelor groups. If you have people on the ground who are intimate in understanding and getting to know each herd individually, which is not hard to do—

KARRI NADAZDY: And what the brumby groups already do.

RACHEL SYDENHAM: Yes, what the brumby groups are already doing, as well as other people in New Zealand and over in the US are currently doing with wild horses and the Appalachian wild feral horse populations—and they're just single, individual people doing all this work, not a whole bunch of people like we've got on the grounds of Kosciuszko. You can work out who your bachelor groups are. They're probably the easiest ones to target and move into other areas to actually get done.

The Hon. ROBERT BORSAK: How many would you need, proportionately, if you have these statistics to hand, to geld to ensure that the horses that weren't gelded didn't move into other areas to take advantage of the females that are in heat during the rut?

KARRI NADAZDY: Most brumby herds—most horse herds universally—are around five to 12 individuals. That's one male and the rest are female. You only need to geld that male.

The Hon. ROBERT BORSAK: So another one wouldn't take his place as soon as it was available?

KARRI NADAZDY: No, because once that stallion is mature and you geld him, he still thinks he's a stallion. He will still behave with his mares as a stallion. He will still protect his mares—

The Hon. ROBERT BORSAK: But I put it to you—

KARRI NADAZDY: This is what Rachael and myself do have experience with, with wild horses.

The Hon. ROBERT BORSAK: I put it to you, as commendable as your process is, how is that possibly humane?

KARRI NADAZDY: How is it not humane?

RACHEL SYDENHAM: How is it not humane?

KARRI NADAZDY: They get anaesthetic, they get maintenance—

RACHEL SYDENHAM: They're not being shot 17 times—

KARRI NADAZDY: —they get checked over. That is humane.

RACHEL SYDENHAM: —randomly to just die on the ground and potentially injure themselves, break a leg in the process after being terrified—

The Hon. ROBERT BORSAK: That's exactly what would happen if you tried to catch them live.

KARRI NADAZDY: We're not talking about rounding them up with helicopters—

The CHAIR: I'm going to move on to further questions, noticing the time. I know that the Hon. Aileen MacDonald had some questions.

The Hon. AILEEN MacDONALD: Dr Tiplady, in your submission and opening statement you said wild horses exist because of human intervention and that Sentient opposes aerial shooting of wild horses. Does Sentient hold the same view on other wild or feral animals that exist in our parks—because of human intervention?

CATHERINE TIPLADY: I can't comment on the other wild animal policies and beliefs. I'm just here today to talk specifically about the brumbies. They are not a natural wild animal in Australia. They were introduced and let go. Ethically, we need to help them in a humane way.

The Hon. AILEEN MacDONALD: In terms of deer, pig and other animals that have been introduced that aren't natural to the Australian landscape?

CATHERINE TIPLADY: Yes, any animal should be treated ethically and with all respect to their welfare needs.

The Hon. AILEEN MacDONALD: Does that mean you would oppose aerial culling of deer and pigs?

CATHERINE TIPLADY: Yes. I'm just going to focus on the brumbies today. But if an animal cannot be killed instantly and humanely, I don't think aerial shooting is the way to go.

The Hon. WES FANG: I just wanted to ask about the rehoming experience and how successful you find it is when you're able to transport a captured brumby from KNP and take it offsite to retrain it, to rehome it. What's

the experience like? How easy is it? How do you find that experience provides benefit not only to you but obviously the brumby?

KARRI NADAZDY: If I can start, I will then pass onto Rachel. Rachel's had a successful rehoming experience; I've had an unsuccessful rehoming experience. I've worked with brumbies, but other people's brumbies. When I tried to obtain my own—10 years ago now—I couldn't do so. It couldn't be done. NPWS have a policy that if you want to take directly from them, you can only take a minimum of five. It's not an option to take one or two. There are requirements—which I believe are in the regulations, but don't quote me on that—that say that you must stock-crate them from the park. Stock-crating is not safe for horses, but it's the only way to stop the horses from jumping out onto the road. These horses are often transferred directly to the knackery—usually Meramist, so KNP all the way up to Queensland. They arrive injured; they arrive with cuts, scratches. They're fighting with each other inside. It's not good welfare. We don't like seeing that. If horses need to be slaughtered, they should be done locally.

The other thing is that because you can't choose the horses—you have to take five and you can't choose them—you can't take the ones that are necessarily suitable to be ridden horses, the ones that will be friendly. You can't test them so you don't know what you're going to get. The rescues are then taking these animals that they have to rehome and some of them are not suitable. Some of them are injured. Even if they're not injured when they left KNP, they're injured when they arrive. That is a bit of a problem.

Then it goes into the unregulated rescue. As we heard last Friday in the pounds inquiry, rescues and rehoming organisations have zero regulation, zero oversight, zero reporting and zero accountability. Their rules and their standards are set by them. In my case, it meant that they would not allow me to adopt a horse from them—I just wanted one—because I rent. Because I rent I wasn't eligible, so I couldn't have a horse. That's one less home that you have that horse going to. I was going to say something else but—

The Hon. WES FANG: Just before I get your insights, Ms Sydenham, could I draw then from your response that if it was a circumstance that trapping and rehoming could allow a process in between where, for example, a horse that is suitable to be broken in and ridden could be identified early and perhaps horses that were not suitable might be selected to then go onto processing, shall I say, it might actually improve the success rate that we have with the rehoming?

KARRI NADAZDY: Yes, 100 per cent. You just reminded me what I was going to say. This is why we have proposed this brumby wonderland. I recommend that Robert Borsak read it. We have put in here basically a centre where all of these inputs can come in. Horses that are suitable to stay in the 3,000 protected herd would remain in the rewilding sector. The horses that could be rehomed could be retrained and rehomed onsite without having to do all that travel, like you're mentioning. It then means that rescue groups could come and select the horses that they know they have homes for, which would increase their rehoming rates. It would also mean that people like myself who are familiar with unhandled horses could come and take those unhandled horses as well, because they will at least have been halter broken before they leave the property.

We can then have more oversight and transparency because we'd allow the public in. We would then have tourism activities. They can meet a brumby. When people interact with animals, they have more empathy for those animals and they want to look after those animals. Having them at a distance and seeing them on a screen is not the same. Then we can also have veterinary care onsite. By having all of this onsite, we would be able to eliminate a huge number of the problems we're having, not just for this inquiry but for our pounds inquiry, for our veterinary inquiry and another one that I've just forgotten. All of these problems could be solved to some degree through our proposal with brumby wonderland.

RACHEL SYDENHAM: First of all, just so we're clear, I am actually a conservationist. That's what I originally started training in. I love the environment. I have worked with wildlife. I'm all about conserving our wildlife, especially when there's a lot of endangered animals out there. I'm also a horse lover. I do have brumbies. I've worked extensively in the equine industries, from racing through to performance horses and sporting horses. I'm active in sporting and that with the horses.

Brumbies aren't your normal horse, okay? You can't even put them in the same basket. They're completely different. Quite frankly, the two girls that I purchased—and I am their third owner—didn't have the best start. Basically, they were trapped in the Kosciuszko National Park and then their first owner bought them, along with a whole bunch of other horses, from the rescue that they were moved to. Obviously I don't know if they did their background checks on people—maybe they do need to do that a little bit more—but those horses were only in this person's care for a very short time when they were then rescued by a couple of ladies.

These horses were absolutely emaciated, one to the point that they thought they were going to lose her because she was so sick. I do have photos. Then they came in to me. These lovely ladies nursed them back to

health. They were on a big property to roam with 13 other horses and a whole bunch of cattle, but due to them having to move they were up for sale. These two fit the criteria of what I was looking for and it was somewhere I could travel to, so I purchased them. They were only minimally handled.

They're teaching me a lot. I've got them at the stage where I can get on them and they're fantastic. I'm sorry to say it, but you know in *The Man from Snowy River* how they say, "You will never find a better doing horse"? They ain't wrong. These things are so smart. They're so willing and so forgiving, and they're teaching me a lot. I will say, after seeing the photos and knowing the history of these two mares that I bought—and they're only babies—the rescue sold them to the first person or had them advertised as yearlings. They were not. The one that almost died would've been lucky if she was eight months old, if that, when she was up for sale. Clearly, they didn't screen the person, or maybe this person seemed to be a really good smooth talker, but he let these horses down. And he is known in the community to be not a very nice horse person or keeper of horses even. Ultimately, I do have the article about my horses if you want to have a brief—

KARRI NADAZDY: We'll table that document, if that's okay, and you can have a read of it.

The Hon. ROBERT BORSAK: Ms Sydenham, why wouldn't you do the same with stallions?

RACHEL SYDENHAM: Do the same what?

The Hon. ROBERT BORSAK: What you're doing with the mares.

RACHEL SYDENHAM: At this point in time, the mares are what were available. I would not have discriminated if it was a colt or a filly. It was just a matter of these girls being available. Originally, I was going to buy one. I actually bought them both because they were both trapped together. They were both raised together, and I didn't see the point in separating them because brumbies are very family oriented. They live in herds. I didn't see the point in separating them from each other.

KARRI NADAZDY: But the male horses are more popular. Most horse people want the male horses. They want them gelded, which you can do. That's fine. But stallions get to a certain age where, once they've been a stallion for that long, it's hard to change their behaviour. So you tend to want to get them younger and make sure you geld them. But for older stallions, in competent hands, there is no reason why you can't geld them. Ideally, you'd geld them. Some people want to leave them entire. There's no reason to. But in competent hands, there's no reason you wouldn't train a stallion. They are no different to any other horse.

The Hon. ROBERT BORSAK: Stallions are not more difficult to handle, in your view?

RACHEL SYDENHAM: No.

KARRI NADAZDY: No, and we both do have experience with stallions.

The Hon. ROBERT BORSAK: You quoted New Zealand's experience with wild horses. Do you realise that, when the Kaimanawa were there, there were only 1,700 wild horses there?

KARRI NADAZDY: Yes. They trialled the contraceptive programs, which failed, and now they've gone to gelding.

The Hon. ROBERT BORSAK: Do you know that it's down to 300 now?

KARRI NADAZDY: Yes.

The Hon. ROBERT BORSAK: The difference was brought about by helicopter shooting.

KARRI NADAZDY: Yes. It doesn't mean we approve it. You might be interested—it is referenced in our submission—that Knepp Castle is one of the premier rewilding programs in the world. They use horses to restore former farmland. There are a couple of other programs in the UK that do it successfully. They actually manage the horses. There is a management team that oversees the animals. If you look up Knepp Castle and how they do it, it's all environmentally based. It is conservation based for the native animals, and we should be doing the same thing here. We're absolutely set up for it. We have the resources. We have the facilities. We don't even need Government to pay for it. All we need is bipartisan support. That's all we need.

The Hon. ROBERT BORSAK: I think your attitude is highly commendable, but do you understand that Kosciuszko National Park by itself, not including the State forest around it, is 6,900 square kilometres?

KARRI NADAZDY: We're not suggesting the horses should be in 6,900 kilometres. We have said the horses need to be contained to certain areas of the park. I really recommend you read our submission. You will find most of your questions are answered in there.

The Hon. ROBERT BORSAK: In previous evidence we got from the brumby people, they talked about so many dung piles per square kilometre. If you extrapolate their numbers out—and I don't know whether you would agree with that or not—you're looking at a population of something like 63,000 to 70,000 horses.

KARRI NADAZDY: We're not supporting that. We support containing the horses to certain areas of the park. We want to see them used in rewilding programs. We want to see them fenced in, on large areas but not on the whole park. There is no reason to have horses all over the park. It's not necessary. We can maintain the herds. We already have a wild horse heritage Act that states that this was meant to have been done. This was from 2018 and, going through the objects of this Act, none of this has been implemented. We only just had the draft plan by the advisory committee. It was only released earlier this year. Was it the end of last year? I've forgotten. I'm sorry. We are way behind the eight ball.

The Hon. ROBERT BORSAK: One quick question. You mentioned rewilding. Does that mean you would release horses into the wild?

KARRI NADAZDY: No, that is not what I'm talking about. That's why I really wish you'd read our submission.

The Hon. ROBERT BORSAK: I've asked you a question. I've read your submission. I've asked you a question, please. Can you answer it?

KARRI NADAZDY: What rewilding refers to is restoring neglected land back to native land. Horses are uniquely suited to doing this job. Cows can't do it.

The Hon. ROBERT BORSAK: We're talking about the national park.

KARRI NADAZDY: Hang on. You asked me a question. Please let me answer it.

The Hon. ROBERT BORSAK: We're not talking about agricultural land.

KARRI NADAZDY: Yes, a lot of Kosciuszko is. A lot of the land on the outskirts of the park and on the edges of the park has been used for cattle grazing for centuries. What we're proposing is that horses are then used as the intermediary step between removing those cattle and restoring the land to its wild state. That's what rewilding is about. It's a conservation process. It's not a horse process.

The Hon. ROBERT BORSAK: It's a terminology borrowed from the UK, actually.

KARRI NADAZDY: Yes, it is.

The Hon. ROBERT BORSAK: It's got nothing to do with Australia.

KARRI NADAZDY: It's got everything to do with Australia because it applies.

The CHAIR: Our time has come to an end but thank you. There might be further questions from the Committee, which we will send to you.

KARRI NADAZDY: Please.

The CHAIR: I think there may have been a couple of questions taken on notice but, again, the Committee will be in contact with you all about those. Thank you again for attending today and for providing your evidence and your detailed submissions. That goes to both organisations.

(The witnesses withdrew.)

Mrs CLAIRE GALEA, Independent Biostatistician, sworn and examined

The CHAIR: I now welcome our next witness. Thank you for attending today. Did you have an opening statement that you'd like to begin with?

CLAIRE GALEA: Yes, I do, because I'm really nervous and, after that, now I'm really scared. But that's okay. I'm just going to read these two pages, if that's okay, so I can try and get my confidence up.

The CHAIR: Yes, 100 per cent.

CLAIRE GALEA: I normally sit behind a computer, so coming out here in front of people is a little daunting. I'm a full-time biostatistician and PhD candidate. I have been a statistician for over 25 years, and I've analysed all forms of data, ranging from military to biological, educational and medical. I specialise in teaching, lecturing in and scrutinising complex time-based data and examining trends over time. I have published over 60 peer-reviewed papers, including my master's dissertation, which was based on trends over time, as are the documents that I have reported on in my submission to this inquiry.

My submission is far more detailed than this introduction can ever be, but I thank the panel for the opportunity to highlight just a few specific examples from it, prior to questioning. I started looking into the methodology—distance sampling—applied by Stuart Cairns from Cairns Consulting in December 2019, long before COVID began, which feels like a lifetime ago, sitting here. That was for counting kangaroos. The very same methodology used to count kangaroos is used to count the wild horses in the Kosciuszko National Park. After four years of looking at this data, I have (a) appeared as a witness at the New South Wales parliamentary inquiry into the health and wellbeing of macropods, where much of what I will go through today was also spoken about. Minister Sharpe was in that inquiry, and I quote from *Hansard* records, in which she stated:

... the counting methodology is argued. It does not matter what sort of animal it is. It is a significant issue.

I have (b) appeared as a witness in the Federal inquiry into the management of wild horses—that was at home from my computer and far less nerve-racking than today—and (c) I've done interviews and spoken at functions. I've tried to show the fundamental flaws in the methodology applied by Stuart Cairns and the National Parks and Wildlife Service. The first report I investigated for the wild horses was the analysis of the aerial surveys conducted in April and May 2014 and 2019. This report received great criticism from the University of St Andrews, the very company that designed the software that Stuart Cairns uses. There are three key points that they argued as to what the problems were. The high population growth rate exceeds the published maximum growth rate for horses. If you do the calculations, mares can have seven foals a year in Kosciuszko. The university argued that the estimation of population trends over time is difficult based on this methodology.

Finally, the biggest one for me is that the university stated there should be no population estimate for areas not surveyed, as the assumption behind this modelling is that in the areas where the helicopter does not fly, there are no horses. That is stated by the University of St Andrews, not myself. Let me give you a maths example because that's where I work best. In 2014 and 2019 New South Wales Parks surveyed over 70 per cent of the park and claimed to see 1,748 horses, but after the distance sampling method was applied by Stuart Cairns, that was estimated to be anywhere between 14,000 and 23,500 over the whole park.

There are four key assumptions. As statisticians, we have rules in modelling that we have to follow. If I want to run modelling to project anything, there are rules and assumptions that I have to follow. There are four key ones for this modelling that Stuart Cairns has to follow. Firstly, 100 per cent of all horses are seen. That is not possible. Secondly, the horses or animals that you are counting using distance sampling cannot move and cannot move in groups. But horses run, and they run in herds, and horses are randomly spread equally across the park. So if you divide the park up into grids, you put your horses equally, randomly spaced. Obviously we have heard they run in groups and herds, so they are not equally spaced. Finally, the key assumption that Stuart Cairns and national parks state is that to do any reliable modelling—these are their words, not mine—you need to see a minimum of 60 to 80 clusters of horses.

To give you an example, in 2014 they saw 10 horses—not clusters. That is a lot fewer than 60. A cluster is more than one, by the way. In 2019 they saw five horses, not 60. Then they added the two years together. So they added 2014 to 2019 and got 15 individual horses, not 60 clusters, and then modelled. That is fundamentally flawed. You can't project time trends with one time point by adding them together. These fundamental assumptions that have failed make any population estimates completely and utterly unreliable. This work, contrary to what Stuart Cairns or national parks will say, has never been independently, academically peer reviewed by a non-government agency or a company that is not financially interested in the work. There has never been any imagery provided to verify any of the counting. They have the raw numbers, but they don't publish them.

Apparently, as of October this year, you have the same probability of seeing a horse under the trees as you do in open terrain. I find that hard to believe. I have two recommendations to the inquiry today. Firstly, that an independent investigation into the current counting methodology, the mathematical and statistical modelling of all population trends over time, be urgently undertaken. A moratorium is needed to halt the trapping and shooting of wild horses until this can be done. Secondly, that new and globally applied methodologies of population counting, by way of imagery, be immediately adopted, and an independent recount must be undertaken— independent of national parks, government and Cairns. Using imagery, it will provide permanent records of populations and allow for correct, mathematically accurate observations to be made over time.

The CHAIR: Thank you for your statement and thank you for your time today. I understand you're very nervous.

CLAIRE GALEA: Sorry.

The Hon. WES FANG: There is no reason to be.

The CHAIR: Take a moment if you need it. You've got some water. But also feel free to take any questions on notice as well if you don't feel comfortable answering at the time.

CLAIRE GALEA: Thank you.

The CHAIR: I am going to start with a couple of questions myself. I know you met with the New South Wales Government and asked them to implement a number of changes to the count methodology.

CLAIRE GALEA: Yes.

The CHAIR: My understanding is that those changes that you asked for didn't happen. Can you talk us through some of the changes you recommended, why you recommended them and what that means for the second count that was done without those changes?

CLAIRE GALEA: Sure, absolutely. We didn't recommend that many changes. What we wanted to do was—each year the National Parks and Wildlife Service do their annual headcounts by flying the helicopters on their survey pattern. We asked that that exact headcount be repeated. We didn't want it changed. We didn't want the helicopter changed. We did not want anything changed. We wanted to fly the exact same flight path that national parks do every year, we wanted the same counters, we wanted the same pilot—exactly the same. We just asked that on the left-hand front side of the helicopter, an independent photographer was present in that helicopter. This independent photographer had estimated that he could obtain 7,000 to 8,000 individual photos, clearly identifying every single animal seen over two consecutive days.

So if we flew on day one—normally national parks fly one day. All we asked was to fly the flight for two days and have a photographer. We wanted to replicate basically what they are doing in Victoria. Parks Victoria use mark and resight. They put a photographer up in the plane—they also have video images, but they take photos of every single animal. They identify them by their unique markings. We agreed that we would give all imagery to everybody—media, government, national parks or anybody who wanted it. Everything that we got would be made public. After those two flights were done, we would sit down at a roundtable, work through the numbers, have a look at the horses and negotiate where we would go from there. I don't believe we asked for a lot of changes—just a photographer in that helicopter.

The CHAIR: What was the reason that you were given for those changes to be rejected?

CLAIRE GALEA: I believe that the photographer couldn't fly in a helicopter that had an open door. When I asked for the mark-resight to be used, Atticus Fleming said that he wasn't aware that it was being used in Australia, contrary to the fact that it is being used in Victoria, and they are using very well. That was what was given to me.

The CHAIR: Given that they did the most recent recount in the normal method, in your professional opinion, the data that we were given, is that reliable?

CLAIRE GALEA: It is 100 per cent not. No, it is not. I can go through the modelling assumptions, like I said to you. The assumptions are failed clearly by the methodology. But I must reiterate, please, that this is the University of St Andrews who criticised this work as well. They say that the methodology that they used is difficult to work on time trends. They won't provide any imagery of what they saw. Now they won't even provide us with the raw numbers of horses that they saw. We work on probability of detection for seeing an animal—obviously the higher the better. They are looking at around 40 per cent, and then they come up with an average of 57 per cent that's the same in open terrain as a treed area, but you're only 60 metres or 100 metres off the ground. I don't understand how the probability of detection can be assumed to be the same in totally different vegetation.

Thousands of publications argue against that assumption. I think it's very concerning. We don't even have the raw numbers, anyway, for what they saw.

The CHAIR: Are you surprised that the counting methodology that is used in Victoria was rejected in New South Wales?

CLAIRE GALEA: Yes, I was very surprised. It's got standard mark-resight. It's used across the globe. I may point out also that Parks Victoria has used thermal imagery. We felt that the best compromise was having the photographer for mark-resight. We even gave them the identification charts for horses—blazes, stars, stripes, colours and everything—that are exactly the same as Parks Victoria, but that was rejected.

The CHAIR: The October 2023 survey stated that there was a 95 per cent confidence interval that the population was between 12,934 and 22,536. You have raised concerns about this extremely wide confidence interval.

CLAIRE GALEA: That's correct.

The CHAIR: Can you explain in layman's terms, for the Committee's benefit, what the concerns are in regards to having such a large confidence interval? Is that normal in these situations? What sort of confidence interval would you look at if you were trying to find a 95 per cent confidence interval?

CLAIRE GALEA: Sure, excellent. Even when I'm lecturing on this, I spend a whole two-hour lecture on confidence intervals when I'm teaching stats. It's not an easy thing to get. In summary, what you're looking at, if you're going to do—95 per cent confidence interval means that if you were to do exactly the same survey 100 times, you could be 95 per cent certain that that population estimate that you got lands between that confidence interval. If you were to do that survey 100 times exactly the same way, you would be 95 per cent certain that it would. A confidence interval wider than 10 per cent is a little concerning. We'd want to know why the width is so wide. To give you an example, in 2022 the confidence interval was 46 per cent. They flew further in 2023. They were supposed to be refining the methodology, but the confidence interval went even wider to 55 per cent. In effect, we cannot be certain at all that the true population lies anywhere near that. But, again, we don't have the raw numbers. We have no evidence to back anything up. It's extremely concerning. It would be very hard to publish a peer-reviewed academic paper with a 55 per cent confidence interval.

The CHAIR: The reason, really, for aerial shooting—and there was obviously quite a big discussion about the humaneness of aerial shooting and the welfare impact of aerial shooting, but generally what's given is that we've got these significant numbers of animals in the park, which is over 22,000 horses, as a justification for aerial shooting. Are you suggesting that we don't actually know how many horses there are in the park, so therefore, until we have the correct data as to how many horses there are, we can't decide on any kind of management—or even if management is necessary?

CLAIRE GALEA: Yes. That's correct, and as the University of St Andrews said—in 2014-2019—they saw 1,748 horses in 2019. They quote, there should be no population estimation for areas not surveyed, as the assumption is that the population areas where the helicopter doesn't fly is zero. So we should be going on the fact that there are 1,748 horses in that park, obtaining imagery across as much area as physically possible—whether by drones, fixed wing or any to obtain that—and verify the count. But that count must be independent and independent of myself—everybody. It must be completely independently retaken until we have that valid number.

The CHAIR: You mentioned Dr Cairns.

CLAIRE GALEA: Yes.

The CHAIR: Do you feel comfortable with his qualifications to be able to undertake that work?

CLAIRE GALEA: I'm not sure I'm at liberty to question his qualifications—Stuart Cairns. I question his methodology.

The CHAIR: You are questioning the methodology that is used.

CLAIRE GALEA: Correct. Yes. I've been looking at it for four years. It's the same for kangaroos. By his population estimates, mares can have seven foals and kangaroos can have 24 joeys a year by these distant sampling methodologies—incredible population estimates they come up with.

The Hon. WES FANG: Ms Galea, your testimony this afternoon is explosive—absolutely explosive—and I think that what it is doing is actually providing some context as to the earlier evidence we heard today, particularly from the Government, in relation to why it is that they are not allowing the recording of the conduct of the aerial shooting.

The Hon. STEPHEN LAWRENCE: Point of order: Is that a question or a speech?

The CHAIR: Does the Hon. Wes Fang have a question coming?

The Hon. WES FANG: I was coming to my question.

The CHAIR: I suggest you come to the question.

The Hon. WES FANG: It is explosive because it gives context to the evidence that we heard today. Are you able to indicate what recording methods national parks have used in relation to their surveys of a visual nature?

CLAIRE GALEA: In Victoria or New South Wales?

The Hon. WES FANG: In New South Wales.

CLAIRE GALEA: We have no imagery for New South Wales. I know they have done a trial comparing three different methodologies, but they didn't undertake any of that. Can I point out, in the response document that was given to me as to why they rejected our recount, they said that when the population was significantly reduced they would undertake mark-resight. I can't understand why they won't undertake mark-resight now, when the numbers can't be verified or there's no imagery to support the numbers anyway.

The Hon. WES FANG: You have sought to have evidence recorded from the survey, and that has been denied by National Parks and Wildlife Service.

CLAIRE GALEA: As far as I understand, it's them that make the decision. I'm not sure if it's them or Labor Government. I don't understand; sorry.

The Hon. WES FANG: And you have provided them the clear examples of how the methodology is not correct and how they can have further confidence in the numbers by making small changes.

CLAIRE GALEA: That's correct. I provided them the document from Parks Victoria—of what they're using. Yes, that's correct.

The Hon. WES FANG: Are you able at all to model what you expect the numbers might be, given the raw data that Mr Cairns has used to provide his estimated figure?

CLAIRE GALEA: I guess that comes down to the assumption that, if he didn't see 60 to 80 clusters, you cannot undertake any reliable modelling. He should not be doing it.

The Hon. WES FANG: Is there any method by which the raw data that exists can be used at all to model the number of horses in the park?

CLAIRE GALEA: If we flew over the two consecutive days—like we proposed—using mark-resight, as CSIRO have used. It's called like a Lincoln-Petersen estimator—CSIRO Publishing, 2008. We use that estimator. So you fly the first day, you take images, look at all the horses, fly the second day—exactly the same flight path—and you compare how many horses you saw on both the same days and how many you missed on either day, and then you use an estimator to work out for that error over the two consecutive days. So there's CSIRO published methodology, yes.

The Hon. WES FANG: What I am asking is, given the raw data that you have seen that is being used at the moment to provide the 95 per cent figure of between 12,000 and 22,000—I think it is.

CLAIRE GALEA: I don't have that raw data. They won't publish it.

The Hon. WES FANG: So they will not provide the raw data.

CLAIRE GALEA: No. We don't have it. Sorry if I didn't make that clear.

The Hon. WES FANG: No, you might have. I am just trying to tease out what is available and what we can actually cross-determine from the evidence that is provided to us. The raw data is not being provided, so you are not able to make any assumptions on that.

CLAIRE GALEA: That's correct.

The Hon. WES FANG: On the data that is published—the data that's used to give you some evidence of how they established the 12,000 to 22,000 figure—are you able to use that data to extrapolate a more accurate figure?

CLAIRE GALEA: No. We're not provided sufficient information to undertake it with any statistical integrity at all.

The Hon. WES FANG: I am going to play devil's advocate here. Do you think it is possible that the fact that they will not allow cameras to record the horses while they are culling or while they are doing the surveys, that they will not release the raw data sets and that the data that is published is not able to be used to cross-check the numbers is perhaps a deliberate strategy by the National Parks and Wildlife Service to muddy the waters so that they can claim there are potentially more horses in the park than would normally exist?

CLAIRE GALEA: I guess, from where I stand as publishing in peer-reviewed academic literature, if I wanted to publish a document of this nature, I would have to justify a very good reason to the journal why I would not provide my database.

The Hon. WES FANG: Who is cross-checking this? We keep getting told this is peer reviewed and that it is being endorsed by other entities. Who is providing that endorsement to National Parks and Wildlife Service?

CLAIRE GALEA: We've been told ourselves as well that it's a Queensland Government agency and the CSIRO have done this. Both are not independent of the Government, and they're not academic literature, so we question why. And this was put to record in the macropod inquiry. Why has this not been peer-reviewed independent academic literature?

The Hon. WES FANG: I have one more question and it relates to other means of surveys. You have spoken about the other methods of surveys which can be done with the helicopter and the visual method, but we know recently there have been advances in things like drone technology—

CLAIRE GALEA: Correct.

The Hon. WES FANG: —temperature, thermal imagery.

CLAIRE GALEA: Thermal imagery and RGB imagery.

The Hon. WES FANG: Is there perhaps a better way other than flight paths and helicopters that could potentially capture the number of horses in the park? Could you provide insight into that?

CLAIRE GALEA: Certainly. There are three different main ways. There are currently drones looking over the Great Barrier Reef that have a flight path time of 12 hours, which would not intervene with any animal horse path at all, whatsoever. Those drones are producing incredible results. There's RGB imagery. That's like taking the images together, and it forms a colour image like a recipe as the RGB images come together to present a full colour picture of the horse. And there's thermal imagery, which is obviously also being used by Parks Victoria and is incredibly useful. This is the methodology we need to be using—thermal imagery and RGB. We can't assume that counting a horse on the open terrain—under trees is different. We need thermal imagery to look through those trees.

The Hon. WES FANG: The Minister said today that that technology was not mature enough to be used. Do have any evidence that might indicate otherwise?

CLAIRE GALEA: Yes, I could. I don't have them with me, but I could certainly provide you with academic literature saying that thermal imagery is definitely being used to count wild horses.

Ms SUE HIGGINSON: Thank you for your evidence. What makes you assume that any errors in the count lead to an overestimate and not an underestimate?

CLAIRE GALEA: Not an underestimate? In the fact that they haven't seen the minimal amount of horses to do any modelling. If they needed to see a minimum of 60 clusters—so let's say they needed to see 120 horses minimum per location. If we have a look in the 2014 document, in all of north Kosciuszko—open terrain, medium terrain, Bago, Byadbo and Snowy—they didn't see them. They're not seeing enough horses to do the modelling.

Ms SUE HIGGINSON: But your fundamental premise is that the methodology is flawed. How can you then make the assumption that it is an overestimate and not an underestimate, particularly based on the fact that my understanding of what you were saying is, Cairns says that where you cannot see them, you do not count?

CLAIRE GALEA: No, that's the University of St Andrews that said that Cairns should not be doing that.

Ms SUE HIGGINSON: My understanding is that in his 2019 report—the whole extrapolation of the parts that you have taken—he basically says that, where you do not see, then you cannot count. He makes that assumption.

CLAIRE GALEA: He makes that assumption and then still estimates across the entire park.

Ms SUE HIGGINSON: I'm still not clear on why you say, then, that that flaw would not therefore lead to an underestimation—or could it have led to an underestimation?

CLAIRE GALEA: The modelling shouldn't have been undertaken in the first place. We should be using those raw actual count numbers of what's there.

Ms SUE HIGGINSON: I accept that's your premise but, given it's so flawed, it could therefore lead either way, essentially.

CLAIRE GALEA: Without imagery we'd have no way of backing it up. But they won't let us take imagery.

Ms SUE HIGGINSON: So it could lead either way, ultimately, because we don't have that. Is that what you're saying?

CLAIRE GALEA: We have no evidence to support their count.

Ms SUE HIGGINSON: Your main observation is about the clusters, and that the clusters are below the recommended number of 60 to 80. I think that is your evidence.

CLAIRE GALEA: Yes, Stuart Cairns states that to do any reliable modelling, that's the minimum to see.

Ms SUE HIGGINSON: That's the minimum?

CLAIRE GALEA: Yes.

Ms SUE HIGGINSON: Do you accept that this is only relevant to the 2014 and 2019 counts, and it's not true for the 2020, 2021 and 2022 counts?

CLAIRE GALEA: I know that's his account for across all his counting for distance sampling.

Ms SUE HIGGINSON: So there were 301 in 2020, there were 458 in 2021, and 419 in 2022?

CLAIRE GALEA: That's collective. Can I just draw your attention to another concern by the University of St Andrews? The University of St Andrews clearly states that they should not be grouping the areas together when they model. They are four distinct locations and they should be modelled separately. Stuart Cairns applies a global detection function. What should happen, according to the University of St Andrews, is each location needs to see that minimum number of 60 to 80 clusters in order to do the modelling. And each—

Ms SUE HIGGINSON: But that was the case in the 2020, 2021, 2022 report. And I don't think your—

CLAIRE GALEA: Not for each location. Each individual location must see a minimum of 60 to 80 clusters in each block in open terrain and medium terrain. Because, remember, he—

Ms SUE HIGGINSON: So you're saying that that wasn't the case in those three reports?

CLAIRE GALEA: Not across every single open and medium terrain in all locations. Each one needs to meet that minimum requirement and then should be modelled individually. Because if you've got one area that doesn't meet that minimum requirement and you've got another area that does, you can't just group them together and then go, "Well, I'll run the modelling that way." Each section must meet that minimum requirement.

Ms ABIGAIL BOYD: Just to clarify, from a layman's perspective, if you're doing the count, you're going out and you're trying to find that 60 to 80 clusters. So if they're doing the count and they're not seeing that, it's because they couldn't find them? Or have they just got to the 10 or whatever and gone, "That's it, we're off home?" Why—

CLAIRE GALEA: They flew their transect length at what they set. If the transect length is set at 720 kilometres, then they fly that path and that's the number of horses they saw. But you have to remember that when they're looking out on their pole, and they've got their 150-metre sight length from the helicopter, a change of elevation in the helicopter of 10 metres can make a massive difference in your sight length from that chopper. And without imagery which is set—so exact reading from an imagery—you can look at the error as anywhere up to 20 to 50 per cent human error as the helicopter goes up and down, let alone as the person tilts their head. So we have nothing to verify what they're doing.

Ms ABIGAIL BOYD: I know this sounds very basic. Just to understand, they're actually sitting in there, and they're writing—they're going, "Okay, there is one. There's one. There's one." Is that what they're doing?

CLAIRE GALEA: Well, they speak. They record as well what they do.

Ms ABIGAIL BOYD: Okay.

Ms SUE HIGGINSON: My understanding about the methodologies and the changes that will be made is that they are based on the size of the area and also the repeatability of what we have done. My understanding is that the Government has suggested it will do resight methods as the population decreases in size. Is that a fair

management approach? Is that something that sounds reasonable to you, given where we are now, the compelling and legal requirement—ethical and moral—to reduce the population, and also this commitment to improving how we undertake population estimates?

CLAIRE GALEA: I think, until it can be verified—if they saw 1,748, the university states they shouldn't be doing any estimation where they don't fly. There shouldn't be anything done until we have an imagery recount done.

Ms SUE HIGGINSON: Do you mind if I just ask, for the purpose of this inquiry, have you ever been published in any ecological work or any journals or have you got any ecological expertise?

CLAIRE GALEA: No, my expertise is all in trends over time. It varies from everything, from humans to weapons to movement of—all different things I published in. But, no, not in specific species. I have only looked into kangaroos and horses and this distance sampling of population trends.

Ms SUE HIGGINSON: With that, though, is it fair to say that a lot of the work that you have done would be related to—

CLAIRE GALEA: Trends over time. Yes, that's correct.

Ms SUE HIGGINSON: And numbers where you can actually count the actual thing that you're taking an analysis about, whether it be patients in medical science—that sort of thing?

CLAIRE GALEA: No. Obviously with flight paths of weapons we use estimation as well. We can't test every single weapon. No, so we've used—yes.

Ms SUE HIGGINSON: Thank you. What is your PhD study in?

CLAIRE GALEA: My PhD studies are on trends over time as well.

Ms SUE HIGGINSON: Relating to what?

CLAIRE GALEA: Cognitive science, I'm in the field of now. I've been in many fields as I take my trends over time. I'm looking at patterns of behaviour over one year—looking at six-month intervals of an intervention of a program and then what happens over time.

Ms SUE HIGGINSON: In relation to animals?

CLAIRE GALEA: No, this is in relation—I'm going back into humans now for my PhD.

The Hon. WES FANG: You're not exactly discrediting her, Sue.

Ms SUE HIGGINSON: Sorry? No, I'm just—

CLAIRE GALEA: No, that's fine. I'm not—

The Hon. WES FANG: I think you're actually building her credibility, if anything. But thank you.

CLAIRE GALEA: No, I'm not ashamed to hide my PhD. I'm doing my PhD in a global study. It's going to be one of the largest studies in the world based on shared book-reading behaviours in parents and children. I have moved away from animals and medical, and that's a decision I have taken on personal grounds, too. Sometimes I think, "I have fought this fight. I've been on this panel before. I have sat in this room before." I have heard Minister Sharpe agree with me and then throw everything I said out the door. Sometimes when you keep smashing your head against a brick wall, trying to fight, showing that this is fundamentally flawed—if you don't fly there, you don't estimate; this is the University of St Andrews—it can get quite demoralising. So I'm doing my PhD in an area where I might be able to try and make a little bit of difference and get books into the hands of children, and I'm not ashamed to hide that.

The Hon. WES FANG: Great questions.

The CHAIR: Ms Abigail Boyd, did you have any follow-up questions?

Ms ABIGAIL BOYD: I am aware of your work in the macropod inquiry and I know that that was quite groundbreaking and really changed the hearts and minds of a lot of people on that inquiry. I'm sorry that that hasn't been acknowledged, and the impact followed up on by Minister Sharpe. I guess, just coming back again to that really good question from my colleague about—we know, or rather I personally accept the evidence you've given as being that this counting methodology has not been done to these particular standards, as you have listed. The question about why we are thinking that the numbers have been overestimated rather than underestimated is a key one, and that's what I was trying to get at before. Is it that they thought they would see 60 to 80 clusters and then

just didn't, or are we assuming that, because that number of clusters wasn't seen, that's why the number must be lower? Or is it not that? Is it just that we just don't know?

CLAIRE GALEA: I think the distance sampling is the significant question. We need to be looking at that methodology. If we look at that—so they saw 10 and five and add them together. When you don't see enough and you add two years together—basically, in 2014, the 10, and 2019, the five. When you add them together, you get one single time point of 2016. So roughly there's 8½ at 2016. That's not a time projection. But how do we go from 1,748 to 23,500? This is in the distance sampling. It's not just in wild horses. In the kangaroos, they went from 508 to 300,000. This methodology, where they're not seeing sufficient animals, is in question. That's what I'm arguing.

We want the annual headcount from the National Parks and Wildlife Service. We wanted to replicate. We wanted to do that. Come back to the table. And I said in the meeting with Labor and national parks—I can't remember who else was in the room—once those numbers come back, yes, I was open to modelling if you saw sufficient numbers of animals. Absolutely, I would be open to that. But if you don't, you don't model. Same as in any work. If you don't meet those model assumptions—if I go to publish something and the statistical reviewer comes back to me and says, "Well, can you show me your raw data? Where are your model assumptions?", I can't publish if I don't meet that.

Ms ABIGAIL BOYD: When we were talking about the Victorian experience, we were saying that here the latest numbers we have are about a 10,000 variation and 95 per cent confidence of that 10,000 variation, which is quite wide. I forget what the method is called—mark-resight?

CLAIRE GALEA: Mark-resight.

Ms ABIGAIL BOYD: When that is used for counting in Victoria, what is their confidence level like?

CLAIRE GALEA: Much lower. I think I'd have to calculate it out myself, but I have the report here for what they have. Sorry, do I have to table this now I'm referring to it? I'm sorry.

The CHAIR: You can if you'd like to.

CLAIRE GALEA: I've emailed it to people. So their confidence interval, they saw a population of 252. The estimated abundance of that in their confidence interval was 196 to 349.

Ms SUE HIGGINSON: Ms Galea, has your report on all the methodology critiques been peer reviewed?

CLAIRE GALEA: No, it's been reviewed by other statisticians but not peer reviewed. I'm happy to put it out for peer review, but the problem is that it's not my data. I didn't generate the data. I've used work from the University of St Andrews. This is the data that's put by national parks and Stuart Cairns that we're just questioning the methodology over. I'm happy to have it put out for peer review. The University of St Andrews peer reviewed the 2014-2019 work and critiqued it—really, really ripped into it.

The Hon. WES FANG: If a complete new survey using a method that you felt comfortable with was to be engaged now by National Parks and Wildlife Service so that you had confidence in the number of horses, how long do you think it would take? If the resources were provided to you and the expertise was provided to you, how long would it take to do the survey? How long would it take to generate the figures?

CLAIRE GALEA: That's a great question. If we had two days' flying time, the photographer needed three days and possibly a week, I would say you could do the entire project in two weeks.

The Hon. WES FANG: You could have an accurate figure that you would have confidence in, in two weeks?

CLAIRE GALEA: Yes, that's correct.

The Hon. WES FANG: Over the Christmas-New Year break there could be a helicopter provided to you—

CLAIRE GALEA: Yes.

The Hon. WES FANG: So you'd need two days' helicopter time?

CLAIRE GALEA: Yes. When you're using mark-resight in Victoria, you always do the same thing two days in a row and you hope you get the same weather. If you need a day in between—but you'd need it done within three days. If it's more than two days—say the first day's sunny and then it rains for two days—then you'd have to repeat days one and two. You need two consecutive days' flying or 48 hours apart. That's all you need.

The Hon. WES FANG: How long would you estimate the flying per day would be?

CLAIRE GALEA: It's approximately six hours, was what we put forward—exactly what National Parks and Wildlife Service fly anyway, in the same chopper that they were flying. We were not changing anything they wanted.

The Hon. WES FANG: Realistically, all you're asking for is 12 hours of the National Parks and Wildlife Service helicopter?

CLAIRE GALEA: Correct.

The Hon. WES FANG: And a photographer. Would you have a photographer available?

CLAIRE GALEA: We had an independent photographer, who's won an incredible amount of gold awards just this year on wildlife photography. But I would be open to having any photographer—video camera stuck on the bottom of the helicopter—who has experience in photographing wildlife from helicopters. I want to make everything public—not I but we, anyone. It's not about myself; it's trying to verify the numbers. That's what needs to happen.

The Hon. WES FANG: But, I mean, 12 hours of flying time in a Squirrel—that would be no more than about \$3,000, \$4,000 an hour. We're talking about figures around about the \$40,000 mark for the total cost, so the New South Wales public could have confidence in that, despite the extraordinary costs we're currently going through with the current cull.

CLAIRE GALEA: I'm not aware of any of the costs of the current cull. But, yes, I think when we put forward our plan, it was coming in around \$35,000—was what would be needed, including analysis. Then we asked that after it's done we sit down again for two weeks and we have everyone in the room and look at the numbers and see what we've got. It's 100 per cent open.

The Hon. WES FANG: How much do you think they spend on the current survey method?

CLAIRE GALEA: I saw a figure of \$115,000, but I'm not sure. I'd have to verify that. Do I say "take that on notice"? Sorry!

The CHAIR: You can take that on notice. I am going to have to throw to the Hon. Bob Nanva.

The Hon. WES FANG: Can I ask one more question?

The CHAIR: One more, quickly.

The Hon. WES FANG: The Victorian studies, the mark-resight—is all that data published?

CLAIRE GALEA: Yes. Well, it'd be nice if we had each individual count, but what they've provided is the number of observations that they record, the actual number of horses sighted, the number of horses sighted on day one and day two, and the numbers of horses sighted once and twice. It's not done by exact location, but I'm sure—I don't know if we could get the detail.

The Hon. WES FANG: So it's a much more inclusive dataset than what's provided by the NSW National Parks and Wildlife Service?

CLAIRE GALEA: Yes. Look, in the 2022-23 reports it's a table as simple as that. We're just asking for the number. It would be great if it was at each location.

The Hon. WES FANG: So Victoria is more transparent than we are. That's great.

CLAIRE GALEA: Sorry, I'm not—

The CHAIR: You don't need to answer that. That was a statement.

CLAIRE GALEA: I don't want to get into that argument.

The Hon. WES FANG: That was a comment.

Ms SUE HIGGINSON: That's the Wes factor; it's okay.

CLAIRE GALEA: Okay, sure.

The Hon. BOB NANVA: Ms Galea, apologies in advance for my very limited technical understanding of these issues; I know that will come as a shock to the rest of the Committee. I just wanted to clarify, just for my mind—is your concern more broadly with the distance sampling methodology in its entirety or with its particular application on this occasion?

CLAIRE GALEA: I would say it's with the entirety because the concerns in the application cross over to macropods as well. It's definitely been used in flawed methodologies multiple times.

The Hon. BOB NANVA: So it's the methodology in its entirety, not the way it's been applied on this occasion?

CLAIRE GALEA: Yes, that's correct.

The Hon. BOB NANVA: Do you believe that statistical modelling can be used for these sorts of complex matters?

CLAIRE GALEA: If you see sufficient numbers, yes. That's my job. I'm a statistician. If I see sufficient numbers, then I model. That's what I do. If you see there are sufficient numbers across all the areas—and the other thing to draw your attention to is how precise the surveys are. When we do survey work, which is what I do, we have to reach a threshold of accuracy. There are times where 83 per cent of their surveys don't meet that level of accuracy. It's not just the distance sampling; it's how accurate their surveys are. If you've only got 17 per cent accuracy, it's almost like forecasting the weather. This is a bit of a concern. It is a great concern to me, as a statistician. Your accuracy should be much higher than 17 per cent.

The Hon. BOB NANVA: The issue that's confounding me at the moment is the fact that distance sampling is so widespread—internationally as well.

CLAIRE GALEA: Yes, it is.

The Hon. BOB NANVA: It has been subject to thousands of peer-reviewed studies.

CLAIRE GALEA: Yes, I agree.

The Hon. BOB NANVA: As I understand it, actual counts in some of those peer-reviewed studies have matched the statistical count using the distance sampling—

CLAIRE GALEA: Yes. You raise an excellent point.

The Hon. BOB NANVA: —which would go to the accuracy of the methodology.

The Hon. WES FANG: You know you're in trouble when she says, "You raise an excellent point." She's going to cane you, mate!

CLAIRE GALEA: Sorry! No, then I'd question why does this not—if they saw 1,748 and the University of St Andrews ripped it apart and said, "Your growth rates exceed", "You can't model where you don't see", and "It's difficult, this methodology, based on what you're doing, if the very people that designed the software have serious concerns with what Stuart Cairns is doing." Why does it not match other peer-reviewed publications?

The Hon. BOB NANVA: So it's not the methodology of distance sampling per se that is your concern; it is the way it's been applied on this occasion?

CLAIRE GALEA: Not just on this occasion, because it's also being done with the macropods as well. This very same distance sampling modelling is used to derive the population estimates of macropods and their quotas as well—by the same person.

The Hon. BOB NANVA: So the preferable approach that you've nominated for this scenario is the mark-resight model? Is that right?

CLAIRE GALEA: Yes, mark-resight is one, definitely, but I think we should also be using thermal imagery and RGB imagery as well.

The Hon. BOB NANVA: This Committee has received other submissions from ecologists with experience in, I suppose, controlling populations of animals. Are you aware of a Dawson and Miller review into the mark-resight model?

CLAIRE GALEA: Yes. I don't have it with me.

The Hon. BOB NANVA: As I understand it, it says that it is a model that only works for small, isolated populations, not populations of potentially thousands of animals.

CLAIRE GALEA: Yes, that's correct. But according to their numbers, we're not looking at thousands. The maximum number that they saw was 1,748. If we have mark-resight and we have a photographer who can capture images between 7,000 to 8,000 within a six-hour period, it would be more than sufficient to be able to be done. But as I said, we need RGB and thermal imagery as well. Just provide everything. Let's be completely transparent. We only need two weeks to get it done.

The Hon. WES FANG: Just put your hands in your pocket, Bob!

The Hon. BOB NANVA: In terms of the application of the resight model in Victoria, is that in a small, isolated population?

CLAIRE GALEA: It is in a smaller isolated population. But I could provide you so many publications where mark-resight has been used on aquatic animals in much larger areas—many, many examples. It's the gold standard for capturing imagery on wildlife. I can provide you many examples, if that would help.

The Hon. BOB NANVA: Just a final question from me, with respect to drones and thermal cameras—again, not being an expert in the field. Ecologists have suggested that before we can use those methods there would need to be evidence published in recognised ecological journals to show that those methods work for the relevant species and habitat that you try to apply them to. On this occasion, with respect to this issue that we're dealing with, that has not been the case; therefore, they don't recommend using it. What would your response be to that?

CLAIRE GALEA: I can understand that and go back to the same thing: if we have a photographer with the imagery plus the thermal imagery plus the RGB, we have it all done on the same helicopter—or fixed wing, whichever it is—over two consecutive days. We provide all three. We have all the evidence. All parties come to the table with everything we have.

The Hon. WES FANG: Put your hand in your pocket, Bob. Let's go. Come on.

The CHAIR: We have come to time, but I know there is one more quick question from Ms Sue Higginson, if you're happy to stay one more minute?

CLAIRE GALEA: Yes, sure.

Ms SUE HIGGINSON: I'm just curious. With the assumption that we've only seen 1,000 or so animals, what do you say then is possible, based on the proper application of a methodology not done by Stuart Cairns but done by the University of St Andrews?

CLAIRE GALEA: As I said, if they see sufficient animals of 60 to 80 clusters in individual areas, then we can investigate the modelling, but you certainly can't do it in any of these in 2014. We wouldn't have been able to undertake any modelling at all. You can look at it where you see 60 to 80 clusters but only in that one open area, and you cannot combine open and treed areas, which is now what they're doing and which makes less sense. So if we have separated open and treed across each of the four areas, so we have eight different counts, then we look at the numbers within those counts and question the assumptions: What assumptions of that modelling do we meet, and can we undertake it?

Ms SUE HIGGINSON: Just on that, though, between September and December there's actually been over 1,000 animals removed or culled, so are suggesting then, based on what we have got, there won't be many horses in the park now?

CLAIRE GALEA: Well, without the imagery, I can't say that. There's nothing to verify it. If they saw 1,748 and 1,000 have been removed, that certainly makes less than the 3,000 number that they were talking about. But I can't get 10 plus five to add to 60, so I'm not sure. Again, I just can't stress enough: We have nothing to verify what they're doing. Even when we ask them, "Please, can we just put a photographer up at any cost?", it was rejected.

The CHAIR: Thank you so much for coming to give evidence today. I hope that was fairly painless. We thank you for your time and also for sharing your expertise. We really do appreciate it.

The Hon. WES FANG: Fascinating.

The CHAIR: I believe that there were some questions taken on notice, which the Committee secretariat will be in contact with you about, and there may be further questions from the Committee, which they will also be in contact with you about.

(The witness withdrew.)

(Luncheon adjournment)

Mr STEVEN COLEMAN, Chief Executive Officer, RSPCA NSW, affirmed and examined

Mr SCOTT MEYERS, Chief Inspector, RSPCA NSW, affirmed and examined

The CHAIR: I now welcome our next witnesses. Do either of you have an opening statement?

STEVEN COLEMAN: Yes. On behalf of the RSPCA NSW, thank you to the Committee for the opportunity to provide further information about our role in this longstanding matter. We appreciate the sensitivities and the passion on both sides of this debate. However, as per usual, RSPCA NSW's role in this matter, as an independent regulator, is to stay focused on the decisions made by the New South Wales Government and to ensure that they comply with the Prevention of Cruelty to Animals Act.

This issue has been the subject of much emotive debate among even our own members, supporters and volunteers. Finding appropriate control methods for animals that are wild is simply not easy nor palatable, particularly when one of those methods involves culling. It's important for the Committee to note that RSPCA NSW's focus on this issue is not just restricted to wild horses. It includes understanding how all control methods impact all species. This includes culling programs on other introduced species, including pigs, deer, goats, wild dogs, cats, and of course the impacts on the native animals that remain in Kosciuszko National Park and elsewhere across New South Wales.

In our 150-plus years of existence, it's our experience that the community places different values on the lives of different species. RSPCA NSW does not differentiate between the species or circumstances, nor does the Prevention of Cruelty to Animals Act. It is our belief that all animals should be given consistent science-based consideration when managing them. Aerial culling can be, and is, an effective culling method. That's why aerial culling of many species has continued right across Australia for many decades and is still practised today for species outside of wild horses. If aerial culling were inherently cruel, we would oppose its use against all species, not just wild horses.

We recognise National Parks and Wildlife Service's legal requirement to manage wild animal populations in their parks and the impact that introduced species can have on these delicate environments, and we understand the reality of alternative methods. For example, trapping and rehoming may appear to be a kinder option. However, having witnessed firsthand the passive trapping, loading, transporting, unloading, and then reloading for the wild horses that may not be considered attractive enough to then be selected, placed onto trucks and transported to a knackery, in our view needs further examination, as does the due diligence required by future rehoming groups and individuals.

Any wild animal that intersects with a human as a result of any culling method is faced with exhibiting one of their two instinctive behaviours—that is, fight or flight. If the community think that trapping and rehoming is more humane, as opposed to culling in the park, then I look forward to being able to explain this particular method with this Committee in the pursuit of sharing facts. In this regard, there is much for the New South Wales Government to consider when choosing methods that limit adverse welfare outcomes into the future. RSPCA NSW is unwavering in its commitment to animal welfare and the independence of our inspectorate. As we have done for the past 90 years, our inspectors will continue to investigate allegations of cruelty, whether it be about New South Wales Government practices or the NSW National Parks and Wildlife Service, or indeed the public.

Irrespective of the culling methods that the New South Wales Government chooses to take, the RSPCA NSW inspectorate will continue to conduct independent investigations against the Prevention of Cruelty to Animals Act. Much has been said and debated about the use of fertility control as one method of managing wild populations in Australia. We have been watching this space and look forward to further research in this regard as a non-lethal method of population control. However, until such methods are ready, RSPCA NSW must remain focused on current methods and ensuring compliance against the Prevention of Cruelty to Animals Act.

Going forward, RSPCA NSW urges the New South Wales Government to continue efforts and allocate resources in wild animal management for all species to prevent situations such as this one we are currently experiencing. We look forward to taking your questions on this matter and discussing how, out of the options currently available, RSPCA NSW can play its role to ensure that the New South Wales Government best manages the appropriate control of wild animal populations in national parks, based on our firsthand experience and observations, together with the science.

The CHAIR: I might start with a couple of questions. You refer to the RSPCA Australia submission to the Federal inquiry in your submission. Am I correct to say that RSPCA NSW endorses the comments made by RSPCA Australia in that submission?

STEVEN COLEMAN: Yes.

The CHAIR: RSPCA Australia said in their submission that pursuit time is an important factor in relation to animal welfare impacts, particularly mental impacts such as fear and fatigue. They went on to make a recommendation that maximum pursuit times or distance should be specified in an SOP in regard to shooting. Do you agree that this is a potential welfare risk, and do you agree with any government's maximum pursuit time that you have reviewed that they have sent to you?

STEVEN COLEMAN: It is a component that should be factored in, and it should be one that is discussed in practicalities, yes.

The CHAIR: We've only just been provided with the standard operating procedure, but are you very happy with this standard operating procedure?

STEVEN COLEMAN: To say "happy" is probably not the best description—"content". Given aerial culling of horses hasn't occurred for in excess of 20 years, there's still work to be done. Any opportunity to refine and improve the current standard operating procedure is one that we would pursue.

The CHAIR: The RSPCA Australia submission also indicated that to reduce welfare impacts of aerial shooting, it should only take place in open areas with minimal vegetation, flat terrain and cooler temperatures to avoid heat stress in horses. I'm wondering how you reconcile this position with the preliminary aerial shooting that occurred in undulating terrain in Kosciuszko National Park and the fact that it was happening during summer months and during foaling season? How do those ideas work together, then?

STEVEN COLEMAN: There are a number of factors in what you've described. I'll let our chief inspector talk to the issue of his firsthand observations. Any submission that's provided, be it by RSPCA NSW or RSPCA Australia, is theoretical in nature, based on references. It's potentially dangerous to restrict certain activities where processes can be improved.

The CHAIR: Did you have something to add to that, Mr Meyers?

SCOTT MEYERS: To respond to the question around the foaling season, I've been in the national park a number of times over the last five years. During that time, I've noticed there is no particular foaling season that I've observed. In the real world, when we breed domesticated horses, we have a breeding season from September or a foaling season from 1 August through to about November or December. That is a commercial season. In the wild, these animals breed whenever the conditions are right.

The CHAIR: Which experts gave you that advice?

SCOTT MEYERS: That's my observation, and that's from my own knowledge.

The CHAIR: From your own knowledge? Can you explain what your expertise is in horses?

SCOTT MEYERS: In breeding horses? I breed and show horses.

The CHAIR: Are they brumbies?

SCOTT MEYERS: No, they're not. I breed and show quarter horses. I have done for about 30 years. I've also worked both in Australia and internationally with breeding horses, so I'm very well aware of the breeding seasons.

The CHAIR: But you've just said that there are no breeding seasons.

SCOTT MEYERS: In the wild.

The CHAIR: When you say you've witnessed that, just yourself, and you haven't sought any kind of expert evidence on it, what does that mean—that you went out there and you saw some foals at another period of the year compared with what the experts are saying?

SCOTT MEYERS: Yes, absolutely. In the park, I would have been there in January. I've been in June, July, October, December and November more recently. I've observed foals at each of those occasions.

The CHAIR: Have you observed more foals at certain times to suggest there is suddenly no foaling season?

SCOTT MEYERS: No, not particularly.

The CHAIR: We spoke to the Government this morning and to the Government department. Originally, the PestSmart SOP for aerial shooting recommends that it doesn't take place during foaling season, and the Government's own animal welfare assessment report recognised that doing it during foaling season created animal

welfare risks. But they said that the RSPCA supported the change for the SOP that did allow it to happen during foaling season. We know that 35 foals were killed. Two under a week old were lost and also shot. Are the Government's assertions correct that the RSPCA has changed their position and they are supporting the shooting during foaling season? And that's why? You personally don't believe that there's a foaling season anymore—is that the basis?

SCOTT MEYERS: Personally, I don't believe there is a particular foaling season.

The CHAIR: Is that the reason why the RSPCA has changed their position on aerial shooting happening during foaling season?

STEVEN COLEMAN: Yes.

The CHAIR: I also want to ask you about the Guy Fawkes aerial shooting and what conversations the Government has had with you in regard to changing the processes that they're doing so that the same occurrences of cruelty don't occur again during aerial shooting.

STEVEN COLEMAN: Yes, I can offer some advice or observations around that. Prior to 2000, RSPCA NSW had very little, if anything, to do with aerial culling. The information that our organisation had at the time was all but zero. Post-Guy Fawkes, we made a conscious decision as an organisation to understand what aerial culling was all about, because aerial culling continues for other species, and it was appropriate that we understood the process, understood the theory and understood the practical approach to aerial culling.

Leading up to and including many, many discussions that we've had on any number of committees around New South Wales on this issue and other issues to do with culling programs, we were faced with a situation where, in the lead-up to the Government's decision, there was one of two pathways. We could either do nothing and wait for complaints to arrive, or we could do what we thought, and think, is the responsible approach. That was understanding the nature of this particular program, the complexities and the sensitivities. In the end, on the issues relating to animal welfare, we thought that it was irresponsible not to provide advice to a government that had reached out to us to get some advice.

The CHAIR: My question was what advice have you given the Government to make sure that the same cruelty that happened at Guy Fawkes doesn't happen again? What were the specific bits of advice to change what originally happened, and what are they implementing?

STEVEN COLEMAN: Prior to Guy Fawkes, we had no knowledge of any SOPs by Government. This time around, now we understand.

The Hon. WES FANG: Would you have prosecuted the Guy Fawkes cases now, knowing that there is an SOP?

STEVEN COLEMAN: If there's a variation from the existing SOP and, therefore, a breach of POCTAA, the answer would be yes.

The CHAIR: In your opening statement you said that you won't consider the use of things like immunocontraceptives until we're ready. Recognising that they've been used successfully in the US for over a decade now, and we're now down to a one-dart system that is being used very successfully, what more is needed to consider something like that to be ready? I note that there is not even, at the moment, an openness to run a trial in Australia. I know previous witnesses said that it's difficult to look into it because there hasn't ever been a trial. There's a rejection of a trial. What do we need to do to be ready or to even allow a trial to happen?

STEVEN COLEMAN: With my understanding of what is currently in existence, the quantity of animals involved in this program are such that that's not practically applicable. As stated in our opening statement, the RSPCA would love to see investment and research into practical fertility outcomes because that's the obvious pathway going forward, which is why we would also urge the New South Wales Government to allocate resource and investment in those protocols so that when the Government gets to whatever number they believe they need to get to, consistent with that legislation, it has to be factored in.

The CHAIR: Do you support a trial taking place now? I know that it's been rejected because the idea is that there's "too many" horses—and I put that in inverted commas because that's come under strong question as well. But, regardless, I'm sure a trial can take place at any point in time, no matter how many horses there are. Do you agree that a trial needs to take place now so that we have that research to see if it works?

STEVEN COLEMAN: I wouldn't disagree but what I would say is this: Again, if I understand it right, if you need to re-dart a particular animal—

The CHAIR: I'm just talking about the one-dart system.

STEVEN COLEMAN: I'm not aware of the one-dart system. But if an animal is going to be pressured under the use of a helicopter, for argument's sake, and there's an opportunity for it to be culled humanely, in the current circumstances, in the absence of what I understand to be a practical fertility control program—

The CHAIR: I am wondering why you say it is not a practical fertility control program. I'm just getting confused. A darting program does create terror in the horses in the same way, because it's by helicopter. But I'm trying to work out why you consider it a higher welfare outcome to shoot that animal than to dart them with an oocyte growth factor, which is the one-dart system.

STEVEN COLEMAN: If the objective is to ensure that that animal cannot reproduce, culling it humanely stops it from reproducing. If we were in receipt of information—

The CHAIR: But I'm asking you, why is one more humane than the other? Why is killing the animal a better humane outcome than a fertility program?

STEVEN COLEMAN: I'm talking about the objective of the fertility program, to stop it from breeding. If there was a fertility program right now that could be used in Kosciuszko National Park, we would support that.

The CHAIR: I'm just wondering why you don't think that the oocyte growth factor that's being used in the US isn't.

STEVEN COLEMAN: I'm not familiar with that program. I'm not familiar with the terrain or the quantities or the type of animals that that's being used on.

The CHAIR: It is used on very similar terrain as Kosciuszko National Park. They have full control over the number of horses in that whole area. As I said, they've been using immunocontraceptives now for over a decade. I'm surprised that as the leading animal welfare agency you're not across these alternatives which the animal welfare organisations in the US are saying are more humane. I'm quite surprised to hear that you've never even heard of them or haven't considered them in regards to what you would give as a recommendation to the Government in regards to what they do going forward.

STEVEN COLEMAN: Our Federal colleagues are way more across the scientific research about what's happening in this country and elsewhere, and we'd be happily guided by that. But I'm not aware of any program that currently exist—because, if it did, we would support it.

The CHAIR: I'm telling you there is a program that exists.

STEVEN COLEMAN: Okay.

The CHAIR: So you would support having a look into that program?

STEVEN COLEMAN: Yes.

The Hon. WES FANG: I will have to rapid-fire my questions, sorry. I have quite a few. If you have a former racehorse, could you describe for me the rules around euthanasia of that racehorse? Let me rephrase. Are there strict rules around how you euthanise a racehorse?

STEVEN COLEMAN: In what context?

The Hon. WES FANG: Could I put a racehorse out in a paddock and shoot it 15 times in the guts, without prosecution?

STEVEN COLEMAN: Unlikely.

The Hon. WES FANG: Why is it then that the RSPCA is allowing the New South Wales Government to do that to horses in the national park?

STEVEN COLEMAN: I'll refer to my colleague, but that's not what we've seen.

The Hon. WES FANG: Okay, 7.5 times. If I was to put a racehorse in a paddock and shoot it 7.5 times in the guts from a helicopter, would I be prosecuted under New South Wales law, Mr Meyers?

SCOTT MEYERS: Potentially you would be, but that's not what I observed in Kosciuszko. I didn't observe any horses being shot in the gut.

The Hon. WES FANG: What did you observe then?

The Hon. ROBERT BORSAK: In the thorax.

The Hon. WES FANG: What if I shot a racehorse in the thorax? In the targeted areas under the SOP—if I put a racehorse in a field and shot it 7.5 times, as per the SOP of national parks, would I likely face prosecution?

SCOTT MEYERS: It'd probably be investigated, to start.

The Hon. WES FANG: And yet RSPCA has approved that as a reasonable means of culling brumbies.

STEVEN COLEMAN: We've reviewed the SOPs. We haven't approved any SOP but we've certainly looked at them and provided feedback to the Government.

The Hon. WES FANG: But you can see, obviously, the contradiction here?

STEVEN COLEMAN: Yes, you can, except one's a racehorse and one's a brumby in a park. So you'd have to look at that—

The Hon. WES FANG: You're the RSPCA; you're differentiating between equine animals—one being a brumby and one being a former racehorse. You're judging them because one used to run around a racetrack and you're treating them in a different manner. Is that really the charter of the RSPCA?

STEVEN COLEMAN: Mr Fang, if we were to receive information about a racehorse in a national park that's been gut shot, we would investigate it.

The Hon. WES FANG: And if it was a brumby?

STEVEN COLEMAN: The same thing.

The Hon. WES FANG: Could I ask you, around the recording of culling procedures, we heard this morning that there isn't recording of helicopters—360 cameras on the helicopter—or barrel recordings from the shooters. Is that something that RSPCA should have insisted on so that any welfare concerns could be investigated, that there would be a recording of it?

STEVEN COLEMAN: Mr Meyers did take footage, did take photos, but RSPCA more broadly would always advocate for footage that helps defend or provide firsthand information about an activity.

The Hon. WES FANG: The national parks is refusing to do that. Is that perhaps an indication that there's a problem here, given that we have body cams on police and on ambulance paramedics, that we record any number of things on CCTV, yet national parks is refusing to put a 360 camera on their helicopters and provide barrel recordings of their shooters?

STEVEN COLEMAN: That would be a question for the Government. But in terms of our overall approach—

The Hon. WES FANG: You didn't insist on it for animal welfare concerns?

STEVEN COLEMAN: —to advocacy, we could absolutely encourage and support the use of footage.

The Hon. WES FANG: You didn't insist on that before you provided guidance and recommendations around the SOPs?

STEVEN COLEMAN: No.

The Hon. WES FANG: In relation to conflicts of interests, I've addressed already this morning that you can understand that there's a little bit of concern here that RSPCA is the predominant advocate for animal welfare and so the Government has approached you in that regard to provide advice around the SOP. You may not have approved the SOP, but they've certainly said that the RSPCA has provided guidance and oversight of the trial et cetera. But you're also the entity that's most likely to prosecute any animal welfare concerns. Indeed, you were the entity that prosecuted the Guy Fawkes national park issues. Can you not see that there's perhaps an issue around conflict of interest that you're now involved in providing oversight to the Government? You might be reluctant to actually prosecute the Government, as you did with Guy Fawkes, given that you've been complicit in the approval of these issues. Should you, perhaps, have excused yourself from providing advice here? Should you not have suggested perhaps another entity—the veterinary association might have a better entity—so that you have clean hands should you need to prosecute again?

STEVEN COLEMAN: At the outset we had two courses, or two pathways, that we could pursue. One is what you're suggesting: not be involved at all. That's one option. Would that prevent an organisation like ours prosecuting people? No, it wouldn't. We were approached by the Government to provide feedback on what is a significant culling program. We thought that the responsible thing to do was to provide feedback on their SOPs. We've done that. If the program deviates from those SOPs and/or there's potential breaches of POCTAA, we would investigate. It would be different people, different inspectors. The alternative is, and we're open to it, if the Animal Welfare League were to take up the inquiry, that would be entirely up to them. If it were the police, they could take up the inquiry. We wouldn't be battling for who would investigate it.

The Hon. WES FANG: But then you're pitting the Animal Welfare League against yourselves, in effect, having in some methods provided advice and oversight of this trial. And the Government is not shy in citing the RSPCA as being involved in consultation of this trial. In fact, at every opportunity they seem to point out that the RSPCA has been involved. That is going to make it extremely difficult for you to have objective oversight of any claims of animal cruelty, is it not? Can you see why the public might be concerned?

STEVEN COLEMAN: I can understand that that's one view. I can also understand—

The Hon. WES FANG: It's my view, yes.

STEVEN COLEMAN: That is your view. We also provide advice and commentary on all sorts of industry-based codes of practice. Those processes and the feedback and the consultation that we are involved in, both reactively and proactively, does not prevent and has not prevented the RSPCA from taking on a prosecution.

The Hon. WES FANG: I've got two more questions left and then I will pass over to my colleague. I imagine you heard the testimony this afternoon from Ms Galea around the numbers.

STEVEN COLEMAN: Not entirely—bits and pieces.

The Hon. WES FANG: But you would be aware of her concerns around the numbers.

STEVEN COLEMAN: Yes.

The Hon. WES FANG: To ensure that the numbers have more certainty, given the questions that she has placed around the numbers, would the RSPCA support the Government providing a national parks helicopter for two days of aerial flying so that Ms Galea can arrange for a separate survey so that we can get a more accurate or, as she would indicate, a more scientific number of the horses in the park—so that we are not unnecessarily gut shooting or culling brumbies in the park?

STEVEN COLEMAN: We wouldn't oppose any review around methodologies.

The Hon. WES FANG: Would you support it?

STEVEN COLEMAN: Of course, but that would be a matter between Ms Galea and national parks. But would we oppose it? No, we wouldn't oppose it.

The Hon. WES FANG: It is one thing to not oppose it, but it is another thing to support it and to try to get better animal welfare outcomes.

STEVEN COLEMAN: Sure.

The Hon. WES FANG: Would you support getting a better, more accurate number by the Government providing a national parks helicopter? Let's be honest, they do that much flying—

The Hon. PETER PRIMROSE: Point of order: In terms of procedural fairness, we are having questions asked, with no details, of a witness and asking him on behalf of an organisation to agree as to whether or not he supports that proposal. I just don't believe—

The Hon. WES FANG: What's the problem?

The Hon. PETER PRIMROSE: I don't believe it is procedurally fair to be insisting on an answer—yes or no—from a witness without any detail or certainly anything in writing being provided to him.

The CHAIR: I do think that we've got a very experienced witness here who has attended many hearings. I know that he is also well aware that he can answer it how he wishes.

The Hon. PETER PRIMROSE: He is attempting to.

The CHAIR: Yes. I suggest that you ask the question one more time, nice and clearly, and then we can move on.

Ms SUE HIGGINSON: To the point of order: How do we know that the party you are speaking on behalf of even wants the support of the RSPCA? We are going in a straight circle here, in terms of that procedural fairness that I think Mr Primrose's point went to.

The Hon. WES FANG: I don't think they are going to say that they don't want it, Sue.

Ms SUE HIGGINSON: I don't think you can say that.

The Hon. WES FANG: Would you support that?

STEVEN COLEMAN: We wouldn't oppose it.

The Hon. WES FANG: The last question I'm going to ask is, Mr Coleman or Mr Meyers, have you discussed any of your testimony today with any of the National Parks and Wildlife Service staff?

STEVEN COLEMAN: Sorry, was that question to me?

The Hon. WES FANG: It was to both of you. Have either of you, when you were aware that you would be appearing today, discussed your upcoming testimony with any National Parks and Wildlife Service staff before appearing?

STEVEN COLEMAN: I have certainly had discussions, yes.

The Hon. WES FANG: What did you discuss?

STEVEN COLEMAN: We discussed the observations of our chief inspector and the SOPs.

The Hon. WES FANG: Did you discuss any elements of your testimony? Collusion would be very interesting.

The Hon. STEPHEN LAWRENCE: Point of order: It is quite improper to cast that aspersion on a third party. This is not a court, with the greatest of respect to my friend.

The CHAIR: I uphold the point of order. That is not what the witnesses have said. If you wanted to ask a specific question—but the witnesses haven't implied that.

The Hon. WES FANG: I am asking what the details were of those conversations.

STEVEN COLEMAN: As I said, I have discussed the results of our observations of the trial, but we have also had many discussions for many months about the SOPs.

The Hon. WES FANG: Since you were aware that you would be appearing here as a witness?

STEVEN COLEMAN: Have I spoken with national parks since knowing I was appearing?

The Hon. WES FANG: Yes.

STEVEN COLEMAN: Yes.

The Hon. WES FANG: What did you discuss?

STEVEN COLEMAN: The SOPs, together with the observations of our previous inspections in the park.

The Hon. WES FANG: Mr Meyers?

SCOTT MEYERS: I have had a couple of discussions clarifying the numbers of horses that were ground shot and also shot from the helicopter, and also the distance of a knackery, to confirm whether they went to Meramist or whether they went somewhere local.

The Hon. WES FANG: But you were there to witness those numbers, were you not?

SCOTT MEYERS: I was in a helicopter, observing a helicopter.

The Hon. WES FANG: Was any part of that observation recorded? You said you had photos and footage.

SCOTT MEYERS: Absolutely.

The Hon. WES FANG: Has that been released?

SCOTT MEYERS: No.

The Hon. WES FANG: Will you tender that footage and those photos to the hearing?

SCOTT MEYERS: Yes, I've got them here.

The Hon. AILEEN MacDONALD: Mr Coleman, you mentioned in your opening statement about trapping and rehoming processes and you said "in the pursuit of sharing facts". Can I invite you to outline the impact trapping and rehoming processes can have on wild horses?

STEVEN COLEMAN: Yes. I've observed on a number of occasions, as has our chief inspector and other staff, that it is appropriate and responsible to understand exactly what passive trapping and rehoming is, because it is one of the pathways for national parks, or one of the tools, to pursue. With what I saw, if people think that trapping a wild animal and placing it onto transport, transporting it whilst it is kicking and screaming to a transitional yard, being offloaded kicking and screaming, to then be selected as to whether or not you are marketable or not, and if you are not—for example, if you are a bay or a chestnut, you are not deemed as suitable for rehoming—you are then placed on another truck to go a number of hours, in distress, to a knackery.

We have always been challenged with that pathway because, the truth is, there is no culling mechanism that doesn't involve a level of stress and distress for a wild animal. I just wanted the Committee to really understand that if this pathway is pursued or if it continues, then we also have an obligation, at the other end of horses that are being rehomed, where we now have complaints around some of those brumby owners or people in charge, where the circumstances are not ideal. I just wanted to be really clear. It sounds better than culling from the air, but there is no question in my mind that the level of distress that an animal will go through from a helicopter versus being rehomed is significant.

The Hon. AILEEN MacDONALD: To expand on the Chair's question, when she asked you about culling in the Guy Fawkes park, the RSPCA had 12 charges against the National Parks and Wildlife Service. What has changed since then to inform your organisation's position today?

STEVEN COLEMAN: Back during the Guy Fawkes incident, it became very clear to me that our organisation was deficient in its information and awareness around aerial culling. If we were, as an organisation, to have views about aerial culling going forward, I strongly believed—and I don't regret it one little bit—that we then endeavoured and took it upon ourselves to immerse ourselves in what aerial culling was all about, knowing full well that, whilst the Minister at the time placed a ban on aerial culling of horses, still, pigs, deer, goats and other species were being culled from the air.

We thought that it was entirely appropriate that if we were going to have policies and positions around these types of things, we had better know what we are talking about, or at least have a better understanding of what we are talking about. That is what we have embarked upon. That is why we chose, on being asked about providing advice on the SOPs, that the appropriate thing to do as an organisation, based on our 15 years of immersing ourselves in aerial culling, was that we should provide that advice.

The Hon. ROBERT BORSAK: Mr Coleman, what you're saying is that shooting a pig with a .308 is the same as shooting a 450 kilogram horse with a .308. Is that what you're saying?

STEVEN COLEMAN: No.

The Hon. ROBERT BORSAK: Can you elucidate on what you are saying?

STEVEN COLEMAN: Two different species, two different approaches.

The Hon. ROBERT BORSAK: Hang on. You're shooting the same calibre, from the same rifle and potentially even on the same trip. How is that differentiating or not differentiating?

STEVEN COLEMAN: I guess what I'm saying is that, for a start, you're talking two different types of species. Yes, the same firearm is being used, so the approach and the result is exactly the same.

The Hon. ROBERT BORSAK: But it cannot be. You do not have the same muzzle energy from a .308 as you would get from a 9.3x62, for example. You have not addressed that in your answer at all. You cannot have the same result. A 9.3x62 is designed to kill large mammals. A .308 NATO, and that is what it is—a 7.62 NATO—was designed, at best, to kill a 100-120 kilogram human. Pigs are at that level. Medium-sized game are ideal to be killed. I would say that you do not know what you are talking about.

STEVEN COLEMAN: That's your view.

The Hon. ROBERT BORSAK: You do not agree with me.

STEVEN COLEMAN: No. What I'm seeing, Mr Borsak, is—I've seen pigs get shot with .308s.

The Hon. ROBERT BORSAK: No. I am asking about horses. We are investigating horses here.

STEVEN COLEMAN: Yes.

The Hon. ROBERT BORSAK: Your organisation signed off on the killing of horses by shooting them up to 15 times in the thorax with a 150-grain projectile. Mr Meyers, can you address that? If I did that to a red deer or to a horse—if I was permitted to shoot one—would you investigate me for prosecution?

SCOTT MEYERS: I can only comment on what I saw.

The Hon. ROBERT BORSAK: No. please answer the question. The question is about me.

SCOTT MEYERS: It would depend on what it was. I can only comment on what I saw. I did not see any horses get shot 15 times, 17 times. What I witnessed and what the vet who was with me witnessed was a helicopter hovered a horse, the horse was shot, went to the ground, there were no signs of struggling, there were no signs of paddling, and then we would say we wanted to land and we landed.

The Hon. ROBERT BORSAK: You did not hear the report of the rifle 15 times at any stage.

SCOTT MEYERS: No.

The Hon. ROBERT BORSAK: So how many times, in your view, were you in the air where you adequately saw, of the 270-odd horses shot, for them to come up with that sort of statistic? They said they shot three times—

The Hon. WES FANG: I was about to ask that.

The Hon. ROBERT BORSAK: —with a median of 7.5 and up to 15?

The Hon. WES FANG: You said one shot and the horse fell to the ground. They are supposed to put at least two or three in it. That is what we were told in the SOP this morning.

The Hon. ROBERT BORSAK: They are supposed to put at least two.

The Hon. STEPHEN LAWRENCE: Point of order: Mr Borsak was quite appropriately questioning and Mr Fang interrupted. Now there is a climax of two people questioning at once. It is not fair to the witness.

The CHAIR: Yes, I will throw to the Hon. Robert Borsak.

The Hon. ROBERT BORSAK: My question is going to the adequacy of the tools of trade that the National Parks and Wildlife Service are using and your appropriate qualifications to sign off, as you did on 1 December, for the use of 7.62 NATO cartridges on animals that are large-boned, weigh up to 450 kilograms and, in that sense, have to be shot 15 times to kill them. In your evidence here today, are you honestly saying that is humane?

STEVEN COLEMAN: Mr Borsak, I think what we're saying is, what we saw was not that.

The Hon. ROBERT BORSAK: Well, it is obvious, in the report that has been issued, that is what they have been doing.

Ms SUE HIGGINSON: Can I make a point?

The Hon. ROBERT BORSAK: No, you cannot take a point—

The CHAIR: Is this a point of order?

The Hon. ROBERT BORSAK: —because I am adequately asking the questions and looking for—

Ms SUE HIGGINSON: But that is not what the report said. The report does not say that.

The Hon. ROBERT BORSAK: There is no point of order, unless you want to take one.

The Hon. WES FANG: The average is 7.5, Sue.

Ms SUE HIGGINSON: That is how many bullets were fired. That is not what the report said.

The CHAIR: Order! This is not an opportunity for Committee members to argue against the question. The Hon. Robert Borsak has the call.

Ms SUE HIGGINSON: It is misleading.

The Hon. ROBERT BORSAK: In your submission you stated that SOP HOR002 for aerial shooting of feral horses has been developed by a suitably qualified scientist. How did the RSPCA make this evaluation? Who was the scientist?

STEVEN COLEMAN: You'd have to refer to the PestSmart references. I can't recite them off the top of my head, I'm sorry.

The Hon. ROBERT BORSAK: Was Dr Trudy Sharp involved?

STEVEN COLEMAN: I believe so.

The Hon. ROBERT BORSAK: And Dr Glen Saunders?

STEVEN COLEMAN: I believe so.

The Hon. ROBERT BORSAK: It is very clear, certainly in relation to Dr Sharp, that she has very little, if any, field experience at the stage of her career when she wrote that paper in conjunction with Dr Saunders, who also has very limited, if any, real shooting experience on the ground at all. For them, in that PestSmart paper, to advocate that animals should be shot in the head—a moving target from an aerial platform—is inherently inhumane, unsafe and ridiculous. Do you agree?

STEVEN COLEMAN: What we saw and what we have recommended is that heart-lung shots are the preference from the air.

The Hon. ROBERT BORSAK: How were the vets selected for the independent observation of the trial shooting in Kosciuszko National Park, and what is their practical academic background for shooting horses?

STEVEN COLEMAN: Which independent vet—the one that national parks employed or the one we engaged?

The Hon. ROBERT BORSAK: The one that you engaged.

STEVEN COLEMAN: You can probably talk to that, Scott.

SCOTT MEYERS: We used a specialist equine vet who has a practice and who deals mainly in equines.

The Hon. ROBERT BORSAK: With respect, that does not answer the question. The question is what practical and academic background does that person have in the shooting of horses?

STEVEN COLEMAN: Can we take that one on notice?

The Hon. ROBERT BORSAK: Yes. What scientific evaluation of ballistics and the effects of these projectiles on these animals was applied in your evaluation and sign-off of the Government's request for advice sent to you on 30 November, which you responded to in basically a series of one-liners on 1 December? What scientific evaluation of ballistics and applied projectile science have you as an organisation sourced to give you the qualification to do that letter of advice to the Government?

STEVEN COLEMAN: Chair, is it possible to get a copy of that so I can understand?

The CHAIR: Yes, absolutely.

The Hon. ROBERT BORSAK: Absolutely, happy to.

The CHAIR: You can also take any of the questions on notice.

The Hon. ROBERT BORSAK: I cannot tell who signed it, Mr Coleman, because it has all been blacked out. It has probably been signed by you.

STEVEN COLEMAN: Can we take it on notice?

The CHAIR: Yes, you can.

The Hon. ROBERT BORSAK: Did you sign that letter?

STEVEN COLEMAN: I can't recall. That's why I want to have a look.

The Hon. ROBERT BORSAK: And the Government's letter of a request for information and confirmation—

STEVEN COLEMAN: It looks like my letter.

The Hon. ROBERT BORSAK: It took 24 hours to respond with a series of one-liners. That is very professional!

STEVEN COLEMAN: I am happy to take that on notice.

The Hon. ROBERT BORSAK: Can I have that back, please?

The CHAIR: We can get a copy tabled.

The Hon. ROBERT BORSAK: How much was the RSPCA paid for providing the two independent observer veterinarians on the trial shoot? How did the RSPCA manage its clear conflict of interest since it receives so much funding for its operations from the New South Wales Government? And I am not just talking about this Government; I am talking about the previous one as well.

STEVEN COLEMAN: I'm sorry, Mr Borsak, can you repeat the first question?

The Hon. ROBERT BORSAK: My pleasure. How much was the RSPCA paid for providing the two independent observer veterinarians on the trial shoot?

STEVEN COLEMAN: Nothing. What were we paid?

The Hon. ROBERT BORSAK: Yes.

STEVEN COLEMAN: Nothing.

The Hon. ROBERT BORSAK: You were paid nothing to go through the program and evaluate it.

STEVEN COLEMAN: No.

The Hon. ROBERT BORSAK: So you did it for nothing.

STEVEN COLEMAN: Yes.

The Hon. ROBERT BORSAK: Okay.

The CHAIR: Does the Government have any questions?

The Hon. STEPHEN LAWRENCE: I have one question for Inspector Meyers. You were asked earlier about the difference between a horse owner shooting their horse in a field and a horse being shot as part of this operation. I was wondering if you could perhaps explain to us, in the investigation of animal cruelty offences, how things like intent and motive are relevant to investigations and how they might be relevant in circumstances where horses are being shot under a legally approved program which aims to reduce the amount of horses that have to be killed over time.

SCOTT MEYERS: Yes. I think, domestically, if an owner was to euthanise a horse and chose to do it via a firearm, obviously, it is a head shot. Shooting a horse in the brain is the way to kill a horse instantly or to render that horse insensible. I think the difference, certainly, in how we look at it is, what's necessary, reasonable and justified. These wild horses are part of pest management plans; they're not domesticated horses. So I think, to be able to address that issue in trying to reduce those numbers, if it's a veterinary opinion that a heart-lung shot is a suitable way to euthanise a horse, we rely on that veterinary opinion and that expert evidence.

The Hon. STEPHEN LAWRENCE: I might just ask a question of Mr Coleman as well, because I have got a minute. Mr Coleman, you say in the RSPCA submission that the program will or should, over time, lead to 8,000 fewer horses being killed, and I think that is as a consequence of population growth not being the same. Could you explain exactly what that calculation is?

STEVEN COLEMAN: Can I take that one notice?

The Hon. STEPHEN LAWRENCE: Certainly. Thank you.

The CHAIR: I have one quick follow-up question. The Government said that there is going to be another plane for the RSPCA to be available to witness all the shooting going forward. Will you be in that other plane for every shoot going forward, or are you planning to occasionally be there or possibly not at all? What is the plan there?

STEVEN COLEMAN: I would sincerely hope it's not a plane and that it's a helicopter. There is an open invitation from national parks for the RSPCA to attend at any point, be it—

The CHAIR: But I'm just wondering what your plan is.

STEVEN COLEMAN: Our plan is to audit or check against that program as regularly as is possible, together with responding to any complaints of cruelty that we might receive in the intervening period.

The CHAIR: And will the Government be covering your cost to be able to do that, or will the RSPCA have to cover the cost for that helicopter?

STEVEN COLEMAN: Salary time is at the expense of RSPCA. The use of the helicopter, I'm assuming—that's yet to be determined—that national parks or the Government would cover the cost of the use of that helicopter.

The Hon. WES FANG: Why don't you donate that helicopter time for the count? Two days, that's all they need. Or, alternatively, you could take myself or Mr Borsak, who actually have the training to actually go and observe.

The CHAIR: Thank you. You don't need to answer those questions, but if you have something to add, Mr Meyers—

SCOTT MEYERS: Can I just say, any audit or inspection would be unannounced.

The CHAIR: How could you do it unannounced, if you're in a helicopter?

SCOTT MEYERS: Because we would just turn up there and say, "I want to go and have a look."

The Hon. WES FANG: What about weights and loadings?

The CHAIR: So there would be a helicopter available for you every single day?

STEVEN COLEMAN: Or access via a four-wheel drive, depending on the location and the detail that informants might provide.

The CHAIR: But if you turned up without any notice and you needed to be in a helicopter that day, how would that logistically work?

STEVEN COLEMAN: That can't be.

The Hon. WES FANG: You can't. Weights and loading—you can't do that.

STEVEN COLEMAN: That can't be—that's the reality.

The CHAIR: What do you mean "it can't be"?

STEVEN COLEMAN: In order to second the equipment, the helicopter—we can't just jump into it and take it ourselves. But if we were responding to a complaint that related to a horse that was located somewhere that we could access in the absence of flying aircraft, then we would—and we will.

The CHAIR: But if you were planning to actually be there as per the invite, then it wouldn't be unannounced.

STEVEN COLEMAN: Correct.

The CHAIR: Thank you. That takes us to the end of the session. Thank you both for attending today. I believe that there were some questions taken on notice, and there may be further questions from the Committee as well, which the secretariat will be in contact with you about.

The Hon. WES FANG: I'm going to foreshadow, Chair, in consultation with the Hon. Robert Borsak, that I think we might need to recall these witnesses to the next hearing because I have quite a number of questions that were not addressed.

The CHAIR: That is something that the Committee can discuss offline.

SCOTT MEYERS: Can I also just caution that the photos I am giving you are very graphic.

The CHAIR: Thank you.

The Hon. WES FANG: Mr Meyers, did you say there was video as well?

SCOTT MEYERS: I do have a video file, yes, but it's obviously not included here. I don't have it on a thumb drive, but I can provide it.

The CHAIR: Thank you, that would be appreciated.

(The witnesses withdrew.)

Mr JACK GOUGH, Advocacy Director, Invasive Species Council, affirmed and examined

Hon. Associate Professor RICHARD SWAIN, Indigenous Ambassador, Invasive Species Council, affirmed and examined

The CHAIR: I now welcome our next witnesses. Do you have an opening statement to give?

JACK GOUGH: Briefly. Thank you for the opportunity to give evidence. The Invasive Species Council is an independent, not-for-profit environmental organisation. We advocate for stronger laws, policies and programs to keep Australia's incredible biodiversity safe from weeds, feral animals and other invaders. We are extremely concerned about the significant growth in the population and devastating impact of feral horses in Kosciuszko National Park in recent decades and the failure of successive New South Wales governments to take adequate action to address this. This failure is trashing and trampling the headwaters of the Murray, the Murrumbidgee and the Snowy rivers and it is pushing some of our native wildlife to the brink of extinction.

We note that this inquiry follows a similar inquiry by the Federal Senate, which had over 800 submissions from a wide range of organisations and the public, and held extensive public hearings. The Senate concluded that urgent action to reduce the number of feral horses in Kosciuszko is necessary to save Australia's fragile alpine wildlife and ecosystems. The Senate also backed the use of aerial control as a tool to achieve this. It also follows an extensive public consultation by the New South Wales Government to amend the planning management for feral horses in Kosciuszko National Park, which had over 11,000 submissions. Eighty-two per cent of those submissions were in favour of the amendment to allow aerial shooting—sorry, 82 per cent of the submissions that commented on aerial shooting—and we commend the New South Wales Government for taking action on this.

No-one likes to see animals killed, but the sad reality is that we have choice to make, and that choice is between urgently reducing the number of feral horses in Kosciuszko National Park or seeing the headwaters of our major river systems trashed and trampled and seeing our wildlife pushed to the brink of extinction. We have that choice, and we are very pleased that the New South Wales Government is taking action and that all parties—sorry, the Liberal and National parties, the Labor Party and The Greens all went to the last election with a clear policy in favour of urgently reducing the number of feral horses. I'll pass over to our Indigenous Ambassador Richard Swain to talk about some of the impact he has seen in recent decades.

RICHARD SWAIN: I was born and bred in the Snowy Mountains. My father was the head field tech for the soil con. The soil con were in charge of restoring the mountains from the grazing era—the damage done by hard-hoofed animals that didn't evolve on this country. For the last 28 years I've been a wilderness river guide within Kosciuszko National Park. I've seen nothing but a decline in the park's health since I was a child, and it's due to hard-hoofed and feral animals. The lower Snowy, where I do a lot of my work—35 years ago, the biggest consumer of that environment was rabbits, followed by native species. Today it's horses, followed by deer, followed by rabbits and, last of all, native species. This is in a national park. It's been 50 years a national park.

I would like you, if you have any sense of connection to this country, to view this feral horse debacle through the lens of the native species that evolved there—plant and animal species that evolved there and nowhere else on the planet. They're suffering; they're struggling. They need the best outcome they can have that is achievable today. They needed it 20 years ago, and we've wasted time through politicking. So I ask you, if you have any sense of connection to this country, to please do the right thing.

The Hon. ROBERT BORSAK: Thanks very much for coming in today. In your submission you say shooting is best practice. It states:

Shooting by professionals is the most humane and cost-effective way of culling the feral horse population. There are established codes of practice and standard operating procedures in place that, if followed, ensure a safe, clean, and humane kill in the field (Sharp 2011, Sharp 2016). Professional shooters have access to technology such as thermal imaging devices and suppressors that ensure efficiency. This is best practice to ensure the animal is quickly dispatched in the wild.

Those are your words. My question is can you please explain to the Committee how being shot on an average 7½ to 15 times by a person who is paid to shoot—a so-called professional—is clean, humane best practice, as opposed to one killed by a cleanly-placed one-shot unpaid conservation hunter on foot?

JACK GOUGH: Thank you for that. There are a few things I'd say. Firstly, as has been said by other witnesses before, that number is the median number of shots, and so for a lot of them it's less than that. The way that the standard operating procedures work is that the shooters are encouraged to be putting a number of bullets into that animal because that guarantees that swift kill. That is the way that those standard operating procedures have been set up. Secondly, I would say—and we've seen it in the media recently from some of the hunting organisations—that there are many examples where hunters do not have a clean first kill, particularly when they're not professional hunters, and then often as ground shooters are not—

The Hon. ROBERT BORSAK: Define a "professional hunter" for me, please?

JACK GOUGH: People who have passed through the standard operating procedures and have done the training required by the New South Wales Government to engage in aerial shooting—

The Hon. ROBERT BORSAK: You have seen recreational hunters put between 7½, on average, and 15 shots into animals to kill them, have you?

JACK GOUGH: I haven't, but I would say that there are a number of—

The Hon. ROBERT BORSAK: Okay, thank you. You've answered that question. Your job here is to advocate. What's your practical experience in relation to doing this? How many animals have you been involved in culling?

JACK GOUGH: I haven't been directly involved in culling animals, but we rely on the experts in terms of the standard operating procedures and the way that this is undertaken. Our organisation works across a whole range of invasive species, from protecting Australia at the border from new invasive species coming in, ensuring that governments have programs in place—

The Hon. ROBERT BORSAK: No, your organisation advocates and agitates for that. It doesn't actually do anything, does it?

JACK GOUGH: In terms of directly shooting animals, we're not involved in that. We are certainly involved in—

The Hon. ROBERT BORSAK: Well, even controlling fire ants. You advocate for the control of fire ants but you don't actually do any of that work, do you?

JACK GOUGH: Our job is as an advocacy organisation looking at what best policies and procedures and funding is required from governments to get outcomes for the environment. We work very closely with organisations who are doing that practical work on the ground, but our role is—

The Hon. ROBERT BORSAK: Who gives you your funding to do that?

JACK GOUGH: We are completely donor funded when it comes to our advocacy work.

The Hon. ROBERT BORSAK: So you're saying you get no money, directly or indirectly, from government?

JACK GOUGH: As you've asked previously in questions on notice, we get a small amount of money for one position that has nothing to do with our advocacy to government around work that we do with the National Farmers' Federation and other groups to do with the Decade of Biosecurity, which is about increasing the resources and sustainable funding of our biosecurity at Australia's borders. Yes, we get a small amount of funding from State governments all around the country in order to do that work. That is not someone who reports into our advocacy side of the organisation. It's someone who works directly with a number of partners to deliver that.

The Hon. ROBERT BORSAK: What's your personal background in relation to doing control of horses, culling? What's your personal knowledge and experience of actually what it takes to humanely kill one of these animals?

JACK GOUGH: Mr Borsak, our role as advocates—

The Hon. ROBERT BORSAK: No, I didn't ask about your role. I asked about your role, not your organisation's role—

JACK GOUGH: Mr Borsak, would you like an answer?

The Hon. ROBERT BORSAK: We know what your organisation's role is. It's out there to sell books and make as much noise as possible to get as much funding as you possibly can. Why don't you just come out and say that?

The Hon. STEPHEN LAWRENCE: Point of order—

Ms SUE HIGGINSON: Point of order: It's really rude.

The CHAIR: A point of order has been taken.

The Hon. STEPHEN LAWRENCE: It's way too extreme a way—

Ms SUE HIGGINSON: So disrespectful.

The Hon. STEPHEN LAWRENCE: —to treat an organisation that's come to assist the Committee.

The CHAIR: I would encourage the member to pull back on his own conclusions.

The Hon. ROBERT BORSAK: I can easily rephrase that, but I won't.

The Hon. WES FANG: Maybe I'll have a go. Mr Gough, thank you very much for appearing today. Associate Professor Swain, thank you very much as well. Earlier, in questioning of Claire Galea, Ms Higginson started to dive into a little bit more of the witness' experience. I'm going to do the same in relation to you, Mr Gough. What degree do you have?

JACK GOUGH: I don't have a degree. Is that—

The Hon. WES FANG: You don't have a degree? Okay—

Ms SUE HIGGINSON: Point of order—

The Hon. WES FANG: No, no. I didn't take a point of order on you.

The CHAIR: A point of order has been taken.

Ms SUE HIGGINSON: Mr Fang is comparing a line of inquiry about somebody who drafted a paper that people are relying on in terms of data and analysis of data. Mr Gough is here as a representative of the Invasive Species Council. It could not be clearer. I think the question—

The CHAIR: I encourage the member not to compare the two witnesses. I think that is fair—

The Hon. WES FANG: I'm not comparing them. I'm comparing experience.

The CHAIR: —but the line of questioning is fair.

The Hon. ROBERT BORSAK: To the point of order: I think it's quite relevant for the member to ask for the witness' relevant experience, especially academically, in relation to the areas that—

The CHAIR: As I said, the line of questioning is in order. I agree with that. I am just suggesting the member does not compare it to other witnesses.

The Hon. WES FANG: I certainly wasn't. I don't think he's in any way comparable to Ms Galea. But I'll continue. Mr Gough, your experience in relation to the invasive species of Australia isn't by way of study? You've got no degree in this field?

JACK GOUGH: Would you like to me to give you an answer?

The Hon. STEPHEN LAWRENCE: No, he just wants to grandstand.

JACK GOUGH: I can tell. I've worked for NSW Farmers as a livestock policy adviser. I've worked in New South Wales Parliament, as well, as an adviser. I've worked with the Nature Conservation Council. I've worked across a range of areas in natural resource management, including, in particular, biosecurity and invasive species management over that time.

Ms SUE HIGGINSON: Good question! He is very qualified as an advocate.

JACK GOUGH: I have also worked directly in agriculture over that time. As you would be aware, the way that the Invasive Species Council conducts its advocacy is looking at the evidence, looking at the best practice that is out there and advocating for the funding, the policies and the programs that are required to ensure that our environment doesn't continue to decline due to the impact of invasive species. We know invasive species are one of the greatest impacts—

The Hon. WES FANG: I'm going to redirect you now from that point. I'm asking about your academic experience. In relation to the issues of invasive species of Australia, what academic experience have you brought to this Committee to provide evidence today?

JACK GOUGH: I come to this Committee—

The Hon. STEPHEN LAWRENCE: Point of order: He's already been asked that. He said he hasn't got a degree. This is just a continued attempt to demean people who have come from the community to assist this Committee.

Ms SUE HIGGINSON: Yes, it's so unparliamentary.

The Hon. STEPHEN LAWRENCE: Frankly, it's pathetic.

The CHAIR: Is the member moving to a specific—

The Hon. WES FANG: That interjection leads me perfectly into my next question. At a press conference a number of weeks ago, you described, I think, Ms Hurst, myself and Mr Borsak as "the equivalent of anti-vaxxers". Is that correct?

JACK GOUGH: No, it's not. I can tell you what I said—which was that the reliance on the evidence of Claire Galea, in terms of making assessments of the number of feral horses, was the equivalent of the anti-science rhetoric that we get from anti-vaxxers and the sort of climate change denialists that we get from people relying on people like Ian Plimer when it comes to climate science. That is what is going on here. You've got someone who is advocating a particular set of their own unique research on something without the qualifications.

There is nothing in here that the Invasive Species Council has put together that is about our own unique research. This is us synthesising what is out there for the Committee, but the people that we rely on are the experts. They are the people with experience in conservation biology and wildlife ecology, and people who've got some lived experience on the ground. If you want someone who has actually been involved in the removal of feral horses, I suggest you have a chat to our Indigenous ambassador, Richard Swain—

The Hon. WES FANG: I haven't finished with you yet, Mr Gough.

JACK GOUGH: —who has a huge amount of experience on the ground, has been involved in removal of feral horses and is one of the many people that we rely on—

The Hon. WES FANG: I'll let you keep answering, but I am going to come back to you. You can keep talking, but I'm going to keep asking you questions.

JACK GOUGH: Go for it.

The Hon. WES FANG: Mr Gough, you described those of us that were somewhat critical of the way that national parks has formulated their surveys as the equivalent of anti-vaxxers, yet we've heard—

The Hon. STEPHEN LAWRENCE: Point of order—

Ms SUE HIGGINSON: That's not what he said.

The Hon. STEPHEN LAWRENCE: He's just answered that question clearly.

The CHAIR: I don't think that was a question. Was that a question, or were you—

The Hon. WES FANG: No, I'm getting there.

The Hon. PETER PRIMROSE: Eventually!

The Hon. STEPHEN LAWRENCE: But the member shouldn't seek to get the answer he couldn't get through making a speech to the witness who has just said exactly the opposite.

The Hon. WES FANG: Stop wasting my time, Stephen. Stop running protection for him.

The Hon. STEPHEN LAWRENCE: It's just totally discourteous.

The Hon. PETER PRIMROSE: You're wasting your time.

The Hon. WES FANG: He was a Greens staffer, mate; he wasn't a Labor staffer.

The CHAIR: Order!

The Hon. STEPHEN LAWRENCE: It's just speech-making to get the answers he didn't get.

The CHAIR: We don't need the extra commentary.

The Hon. WES FANG: Apologies, Chair. Mr Gough, we've heard already today that there is a lack of transparency around the way that the numbers are published by NSW National Parks and Wildlife Service—in relation to the brumby numbers. Do you still consider the testimony by Claire Galea to be unreliable given that she's indicated that the raw data isn't published by New South Wales yet in places like Victoria there is a wealth more of information that's provided to independently verify the numbers?

JACK GOUGH: We rely on the work that the New South Wales Government has done to ensure that their assessments have been independently verified. We encourage Ms Galea to seek to have something published in an academic journal if she believes she's got some new evidence to provide on this.

The Hon. WES FANG: And this is where I'm coming back again full circle. What academic qualifications do you or your organisation have to be able to independently verify the information that's provided to you? Just trusting the—

JACK GOUGH: We don't pretend to independently verify it. We rely on the CSIRO.

The Hon. WES FANG: I haven't finished the question yet.

JACK GOUGH: We rely on the university sector who have done that.

The Hon. WES FANG: I haven't finished the question yet.

JACK GOUGH: That is who we rely on. We do not do that independent verification and we've never pretended to do that independent verification, Mr Fang. And I'd like to understand whether the National Party are seriously arguing that when it comes to the management of our feral animals—

The Hon. WES FANG: No. I'm arguing.

JACK GOUGH: —we should not be using aerial control when it comes to deer and pigs.

The Hon. WES FANG: I am arguing. I am not suggesting that your position is The Greens' position.

The CHAIR: Order! Order!

The Hon. ROBERT BORSAK: Mr Gough, you're here to answer questions, not ask them.

Ms SUE HIGGINSON: That was a very good proposition.

The Hon. ROBERT BORSAK: You're not working for The Greens right now.

The CHAIR: Order!

The Hon. STEPHEN LAWRENCE: He's trying to answer. He's being spoken over.

The CHAIR: Stop. We don't need everybody yelling over the top of each other.

The Hon. WES FANG: I agree, Chair. I have more questions.

The CHAIR: Yes, and you've got a moment for a couple more. Your colleague has been patiently waiting to ask hers as well.

The Hon. WES FANG: I will let my colleague go.

The CHAIR: Okay. We will move on to the Hon. Aileen MacDonald.

The Hon. AILEEN MacDONALD: I have only one question and it is to the Hon. Associate Professor Richard Swain. I believe you gave evidence to the Senate inquiry and I just want you to expand on—I think you said "the anguish" caused by the lack of effective management. What damage or impact have you seen in the community that you spoke of earlier?

RICHARD SWAIN: The springs of the Murrumbidgee and the Murray are desecrated by feral horses. They don't get a millimetre out of the ground before they're trampled. The Snowy River, the cumbungi, the bullrush—there's none, next to none, in the hundred kilometres of park. And I know every millimetre of that river. I've even controlled most of the willows through that section. But as for Indigenous sites, they're just being trampled. The Indigenous sites on that river are up on the next level out of the riparian zone. They're the flat, nice camping areas and they're the areas that the stallions use to dust bathe and lay their piles of dung.

You're getting artefacts that could be 20,000 years old being eroded and mixed to hard pack, so you're losing the strata layers where the artefacts used to lay. Archeologically, it would be very hard now in a lot of that erosion to date artefacts. Then the species, the food plants, they're like ice cream. They call them ice cream species to feral animals. All the bulbine lilies and all the orchids, they're all eaten. If they're around, they're hiding under rocks. They're under so much pressure from the feral animals. The kurrajong trees, I said at the Senate inquiry, the only saplings now are around the public toilet blocks because that's where the feral animals won't frequent. So there's the entire landscape that's missing sapling kurrajong trees. It's really sad.

I also roam from the spring where the Murray begins through to the end of the park. I'm the only one licensed to do that. It's an international embarrassment. It's an absolute disaster. You cannot drink the water up there. There are four plots on the Victorian side of the border that've got fences no bigger than this area here. They wouldn't be bigger than a tennis court. The fences are designed to only exclude horses. The difference inside and outside is stark. If you see it, you will not appreciate what we've done to that national park. There's not much of Australia that Australia chose to care for. And, really, most national parks aren't because Australians care but because they're probably too rugged for them to capitalise on in some other way.

This is a national park that Australia chose to care for, you know. McKell rode through it in 1944 and saw the damage done by hard-hoofed animals and declared it Kosciuszko State Park. You know, even back in the

1800s Strzelecki—he's the fellow who named Kosciuszko—wrote to Governor Gipps and said that the squatters of the Monaro are "spoilors of the land, not improvers of the land". We've always known what hard-hoofed animals do, particularly to that soft country, that sphagnum country, and we've allowed this to go on for too long, due to politicking—just politics. Nobody ever went up there and asked the country how it feels about this. It's taken me years to try and get people to turn this around, and I thank Penny Sharpe for doing this. I really appreciate that the Government is finally doing something for that piece of country.

The Hon. AILEEN MacDONALD: I'll just ask a follow-up. If the population could be managed, could you see that some of the cultural sites could be remediated?

RICHARD SWAIN: Yes. Some of the damage is done. A lot of the damage was done in the mid-1800s, but this is just a continuation. But definitely after a cull, not so much the horses but whenever they've done a deer cull, I see a difference straightaway. The horses would make a huge difference if we could get the horses off that landscape, because they are the biggest consumer of that environment.

The Hon. AILEEN MacDONALD: Thank you.

The Hon. ROBERT BORSAK: Mr Swain, what's the optimal number of horses in the park?

The CHAIR: Sorry, Mr Borsak, I did—

The Hon. ROBERT BORSAK: I have just one question.

The CHAIR: Okay. You can throw one in.

The Hon. ROBERT BORSAK: What's the optimal number of horses in the park?

RICHARD SWAIN: For me personally, none. But in the 2016 plan I think the scientists agreed that maybe 600 horses would be negligible damage, that it could be monitored and looked after. The 3,000 figure, that's just a figure that fell out of John Barilaro. I won't say what part of him it fell out of. That is not scientific. It's nothing. It's just a figure to appease John Barilaro. The country will not be able to sustain 3,000. It's about impacts. If there's 10 horses up there right now doing that damage, we need to get rid of 9½ of them. It's that simple. It's about impact. It's never about the numbers. The numbers are nothing but a smokescreen for people to argue over.

The CHAIR: Ms Sue Higginson?

Ms SUE HIGGINSON: Just to both of you—and thank you for coming—in terms of the landscape recovery, I know you just touched on it in terms of cultural sites, do we have any understanding about, firstly, the removal, how the ecologies and the ecosystems can recover or might recover, and what we're looking at in terms of that? Also, perhaps to you, Mr Gough, what we know about the control of the other animals in the park, including through aerial—so both those questions, if I could, please.

RICHARD SWAIN: We have the evidence of the recovery from 1966 through to 19—actually, it was earlier than that. It was 25 years, the soil conservator up there—my father was up there from 1966 to 1975. You get the stock off, the country wants to improve on its own. In the real high country, some of the plants up there only grow a millimetre a year. We were unable to save a lot of it, but the Government put money towards it. It was remediated and then nature was allowed to do it itself. The northern end of the park and the southern end of the park are two different stories. The northern end is a higher sort of rainfall—it's not a rain shadow—so from 1970, when it became a national park, late sixties, seventies, it recovered. Fifteen years later, things were looking really good. Then what's happened in the last 15 years is this horse issue has just started to grow and grow and grow, and we've gone back to square one. Professor Geoff Hope said that a lot of the creeks and the rivers like the Murrumbidgee could be remediated now, but we're getting to the point where it's going to be too late.

Ms SUE HIGGINSON: People refer to it as ecosystem collapse, that sort of thing. Is that what you're suggesting perhaps we're looking at if we weren't going down this path?

RICHARD SWAIN: Yes. The Waterwatch figures for the upper Murrumbidgee are that it's in decline. The bug count is dropping. The river is in decline. You've probably heard of the stocky galaxiids. They live in three kilometres of Tantangara Creek. It's the last bit where the trout can't get to get at them. In that section there were 50 horse crossings. A lot of our native fish didn't evolve in dirty water. They evolved in clear water. So when they lay their eggs they rely on clean cobble for their eggs to stick to clean cobble. If you throw hard-hoofed animals into that ecosystem, they put sediment in it. The eggs can't stick to the cobble and our fish go extinct. That area was fenced 18 months ago. If you were to go there today, it looks totally different to the outside of that fence. The last Government tried to fence that area because they were in this ridiculous situation of trying to not control the horses within the park.

JACK GOUGH: I have a couple of things to add to that. Horses at the moment are only in just over half of the park. That geographic range is expanding as there has been lack of control. We've just had the first example with that count of seeing potentially a reduction in the numbers, reflected by government management effort, rather than what has happened previously where there has been too small a reduction, which has been in response to a really devastating drought in the early 2000s and also in response to the Black Summer bushfires. So it is good news that we're seeing that, because of both reducing the impact on some of the areas where the feral horses are and also stopping that increase in the geographic range, because that is something really at risk here.

In terms of the other feral animals that we have in the park, that is certainly a real concern for us. There are increasing numbers of feral deer and there are numbers of feral pigs there that are causing similar levels of damage. The numbers aren't as high from the surveys as the numbers of feral horses, but the other difference has been that there has been ongoing aerial control going on of those deer and pig populations. I brought here to table for you some information from the New South Wales Government about the numbers of feral animals that have been controlled over the last three years using aerial shooting, ground shooting and trapping. What it shows is that aerial shooting outside of horses in Kosciuszko National Park is basically routine and it's best practice when it comes to the management.

There have been over 250,000 feral animals—pigs and deer—in just the last three years, removed by Local Land Services and national parks in New South Wales using aerial shooting. The figures I've put together here for the Committee, which I can table, show that when it comes to that, about 88 per cent of those were removed through aerial shooting. This is what's routine in Kosciuszko National Park and in that area. Routine aerial shooting has been going on for a number of years when it comes to deer and pig populations. They have been flying straight over the feral horses because of that political impasse over the shooting of feral horses—not because of the science, not because of not having clear standard protocols, not because we don't use aerial shooting for feral horses in lots of other parts of the country. In fact, Local Land Services in the last three years have removed 270—sorry, 270 was with the trial. I'd have to get you the exact number on notice, but it was a number of feral horses out in western New South Wales using aerial shooting. So we are doing this, not on national parks land, already. It has just been an impasse.

We do know one of the differences, though, between feral horses and the feral pigs and deer is that growth rate. As one of the other witnesses said earlier, it is about an 18 per cent growth rate when it comes to feral horses every year. When it comes to deer and pigs, for deer it is about a 35 per cent to 50 per cent growth rate, and for pigs it is well over 70 per cent, which means that we do have an opportunity with feral horses to really get on top of the numbers. If we do have a program of aerial shooting that the national parks are allowed to roll out, we do expect that they will be able to start to get those numbers down over the next couple of years relatively quickly and start to reduce the impacts on the park.

It is a lot more difficult with pigs because you have to remove about 70 per cent, and it's more difficult with deer because you have to remove at least 35 per cent every year just to get a reduction. So we've still got an opportunity with feral horses. I also heard from the RSPCA—I think it is really important for the Committee to be aware of this—that every time we delay, and every time that we only reach the population growth rate or we come under it, it means more horses have to be killed. There is a huge animal welfare cost to delay, and that's something that's really important for us to recognise in this issue.

Ms ABIGAIL BOYD: Obviously, I'm no shooting expert but I'm just learning a little bit.

The Hon. WES FANG: Knock me down with a feather!

Ms ABIGAIL BOYD: I know. It's shocking. I'm learning a little bit today. My big question is—and I think I know what you're going to say, but I'm going to let you say it—why aren't we just doing ground shooting? I get what you're saying about aerial shooting being used for other animals. They tend to be smaller. I've heard the concerns from my colleagues here around how horses are obviously a particular type of animal. If, in your submission, you are confident that ground shooting is humane, why aren't we using ground shooting more than we're using aerial shooting?

JACK GOUGH: The Government has been using ground shooting since the implementation of this plan, which is good news because that means that we have started to see an increase in the number removed. But what we've seen between 2022 and 2023 is potentially a 7 per cent decline, but basically the population has stayed static. The numbers that we're removing—just over 2,000 in that time—are what is needed to keep the population static, and that is with an increased program of ground shooting. The reality is that we have a very large number of feral horses over a very large area that we are trying to get down in a short period of time.

With ground shooting—and this was the advice from national parks and it's the advice that we've had from experts looking at this—you can potentially get above that population growth rate in terms of ground shooting

with a really big increase in the number of resources that go into it, but then you're looking at a very slow decline, which massively increases the number of feral horses that have to be killed over time because they're constantly increasing. With the use of aerial shooting, what it allows us to do is get professionals using a safe, humane technique to remove those animals, and we can do it in quick—

Ms ABIGAIL BOYD: Sorry, can I stop you there? Although we can dispute how humane aerial culling is, all of the submissions seem to indicate that ground shooting is more humane. Is the issue that it's going to take a lot longer to do it on ground and we don't have that time because we need to act urgently? Or is it also an element of cost? If we put more resources into this from a government perspective to pay for ground shooting, could we achieve the same results or not really?

JACK GOUGH: There are a few things to that. I'd love to table a literature review on the humaneness and effectiveness of aerial shooting. This is something that the New South Wales Government put together. This is from them, not from us. In that, it disputes the idea that ground shooting is more humane. Basically, the biggest factor is the skill of the shooter as to which is more humane. That literature review suggests that aerial shooting, under ideal circumstances, can be more humane. That's the first thing on it. The second thing is, when it comes to humaneness, there are a few elements to it. Firstly, there's the humaneness of the specific kill of the specific animal and, secondly, there's the humaneness of killing a huge number of animals because we've slowed down the process of removals, and there's the humaneness of the impact on our native species.

Ms ABIGAIL BOYD: Again, though, I'm focused on whether this is a cost issue. When we're looking at what the best method is and what is most humane, absolutely, the research shows that aerial culling in particular circumstances can be humane—open terrain et cetera. Other studies are showing that the ground shooting can be more humane, particularly in those covered areas. I understand that there's a bit of a mixture, and there's also a lack of data, to be frank. What I'm most concerned about is that we're not choosing one method over another simply because of the cost. That's what I'm trying to get out of you, really.

JACK GOUGH: I think it's something to speak to the National Parks and Wildlife Service about, but there are limits with ground shooting to the ability to remove large numbers of animals in a landscape just because of the vastness of that landscape and the way that they move. The advice we have is that there are limits to being able to do that, even if you have vast numbers of people suddenly going into those landscapes at—

Ms SUE HIGGINSON: Can I ask, though, it is the case that—

The CHAIR: Sorry, Ms Sue Higginson. The Government and I haven't asked any questions, and there is only six minutes left, so I might ask you to put that one on notice. I'll just do a couple of questions and then I'll throw to the Government. I'm wondering if you've met with the Minister for the Environment or anyone in her office about the aerial shooting of brumbies and advocated for this.

JACK GOUGH: Yes.

The CHAIR: How many meetings have you had with the Minister for the Environment's office since Labor formed government about this issue specifically? I'm happy for you to take that on notice if you don't know.

JACK GOUGH: I'm pretty certain only one, which was in the Kosciuszko National Park just after the Government—I haven't met with the Minister about this since then.

RICHARD SWAIN: I was there too.

JACK GOUGH: We were both there.

The CHAIR: Have you lobbied any other Ministers, shadow Ministers or elected members of Parliament on this issue?

RICHARD SWAIN: I have.

JACK GOUGH: You have?

RICHARD SWAIN: Lots.

JACK GOUGH: I've certainly spoken to members of Parliament when I have been at Parliament. I don't know there's been any specific meetings. We had the situation where at the New South Wales election we had Labor, the Liberal-National Party and The Greens all backing a rapid reduction of the number of feral horses in Kosciuszko National Park. That has allowed the Government to then have the freedom to ensure that that occurs. So then a lot of our work has been providing advice right at the start and then working with submissions and things.

The CHAIR: You were lobbying for those commitments from those parties?

JACK GOUGH: We were certainly engaged ahead of the election with parties, making sure that they committed to protecting Kosciuszko National Park and the wildlife there, yes.

The CHAIR: Have you met with any of the MPs in this inquiry about this specific inquiry prior to giving evidence today?

JACK GOUGH: I spoke to Ms Higginson and I spoke to Stephen Lawrence just ahead of this inquiry.

The Hon. WES FANG: Yes, I saw you roaming up on level 11.

The CHAIR: Order. Sorry, I missed the end of that. You said you spoke to Ms Susan Higginson?

JACK GOUGH: And I spoke to the Hon. Stephen Lawrence at the lunch break just then.

The Hon. WES FANG: Oh, I dropped you in it.

The Hon. STEPHEN LAWRENCE: No, he didn't drop me in it at all.

JACK GOUGH: But we were talking about cats.

The Hon. STEPHEN LAWRENCE: There's nothing inappropriate about that at all. And I've met with him before.

The CHAIR: My question specifically was have you met with any MPs in this inquiry about this inquiry prior to giving evidence today?

JACK GOUGH: Yes.

The CHAIR: So if you were talking about cats, that's obviously not about this inquiry.

JACK GOUGH: We mentioned this. I think when you and I met, the Hon. Aileen MacDonald, we also mentioned this—

The Hon. ROBERT BORSAK: Sue says no, he says yes.

Ms SUE HIGGINSON: It was literally 10 minutes ago, upstairs.

The Hon. ROBERT BORSAK: I believe him.

The CHAIR: Order! Order! I can't hear the answers when everyone is talking.

JACK GOUGH: I haven't had specific meetings about this, but it's definitely come up in meetings I've had—probably with you as well, Ms Boyd—to talk about the issue, and with Mrs MacDonald.

Ms ABIGAIL BOYD: Not on this.

Ms SUE HIGGINSON: Not about this inquiry, I don't think.

The CHAIR: About this inquiry, okay.

JACK GOUGH: Well, just about the issue.

The CHAIR: When the Government announced their consultation, did you email your members and encourage them to make submissions?

JACK GOUGH: Sorry, this inquiry?

The CHAIR: No, the Government's consultation.

JACK GOUGH: We definitely went out to our supporters and encouraged them to engage with it, yes.

The CHAIR: Did you provide any pro formas for submissions?

JACK GOUGH: Yes, we encouraged people to make submissions to that, as often occurs.

The CHAIR: How many submissions went through that pro forma system?

JACK GOUGH: I'd have to take it on notice.

The Hon. WES FANG: There were 6,373, according to your website.

JACK GOUGH: Excellent. Well, we did a good job then, didn't we?

Ms SUE HIGGINSON: Yes, good reach.

JACK GOUGH: You should donate to us.

The CHAIR: Did you provide any submission suggestions to the members as well to make a submission, outside of the pro forma, like a submissions guideline?

JACK GOUGH: Sorry, to the members here? Sorry, I don't know what you mean—to the members of Parliament?

The CHAIR: No. In addition to a pro forma, did you provide a submission suggestion to your members to make a submission to the Government's consultation?

JACK GOUGH: We don't have members that we go out to, but certainly just people who support the Invasive Species Council and encourage them to make a submission.

The CHAIR: Sorry, you don't have members of the Invasive Species Council? There's no membership base?

JACK GOUGH: I would have to take it on notice.

The Hon. ROBERT BORSAK: Your annual report says you've got about 230.

JACK GOUGH: I think we may have members as part of the constitutional process, but I'm talking about we have supporters that we engaged with.

The CHAIR: Did you then give submission suggestions to your supporters to make a submission?

JACK GOUGH: Yes.

The CHAIR: And that was in addition to the pro forma?

JACK GOUGH: I think I'm not quite sure what you mean.

The Hon. WES FANG: Just answer yes.

The CHAIR: Some people give submission suggestions, "points that you might like to make in your submission". Other people also have a pro forma. You have said that you have a pro forma. The other question was did you also have submission suggestions that you make to your supporters while encouraging them to make their own submission, outside of the pro forma?

JACK GOUGH: I'd have to take it on notice.

The Hon. WES FANG: Now he's vague.

JACK GOUGH: No, I'm not trying to be vague. My memory is that we went out to our supporters and asked them to make submissions using the pro forma and then engaged with other organisations as well—like, not to supporters but organisations on things that they may like to raise and provided our submission to them.

The CHAIR: Which organisations was that?

JACK GOUGH: I actually can't remember.

The Hon. WES FANG: So vague.

The CHAIR: Order!

JACK GOUGH: I can take that on notice as to which organisations we engaged with. It would have been a large number.

The CHAIR: Thank you. If you could also take on notice if you've got the information as to how many submissions those organisations were able to get through the pro forma as well, that would be useful.

JACK GOUGH: Yes, I can ask them. I don't know how—

The CHAIR: Thank you. The Government has some questions.

The Hon. STEPHEN LAWRENCE: My question for Mr Gough is—I was just wondering if you could explain to us in quite practical terms, because this is not my expertise either—

The Hon. WES FANG: It's not his.

The CHAIR: Order!

The Hon. STEPHEN LAWRENCE: —why aerial shooting is so much more effective and efficient than ground shooting? What, practically, means that it is so, and how much more efficient and effective is it in terms of killing the animals?

JACK GOUGH: Can I throw to Mr Swain first? Because I think it was a similar question you were about to answer.

RICHARD SWAIN: Yes. It's a very rugged park. It's six million hectares. So getting ground shooters even into locations, you would probably have to aerially drop them a lot of the times. With aerial culling you can position the horse, so if it's in a waterway you can landscape position it. You can herd it up a little bit before you drop it. You can also pick off an entire mob so you don't leave foals without mothers et cetera. Ground shooting, you get to shoot, depending on your distance and your suppressor et cetera, whether they scatter or not and your view.

The aerial culling gives you a good backdrop, because all shots are going down. So you have a good backdrop for any projectile anomalies. You can take out an entire mob, so that takes away that pressure as well. The other thing nobody is mentioning is that every day there's horses up there, it is inhumane on all the species that evolve there—every day. So aerial culling is the most effective. We need a rapid reduction because we haven't done it for so long. We now need to get rid of as many per year as there were when John Barilaro started down this journey. Had we just done it then, we wouldn't even be here today. It's basically landscape, distance and topography.

The Hon. STEPHEN LAWRENCE: Thanks, Professor. Is there anything you'd like to add to that, Mr Gough?

JACK GOUGH: I guess the other aspect of it is the ability to move with the horses, if they move, is a function of being in the air and being a lot higher than them. For example, if one of the feral animals goes over a ridge line, that allows you to follow them over that ridge line—something that's not available to you if you're on the ground, so that's a very important aspect of it. The other aspect is—I'm actually not sure if thermal scopes have started to be used with the New South Wales culling program. That's probably a question to national parks—

Ms SUE HIGGINSON: They said they had.

JACK GOUGH: They said they have been? Certainly the use of thermal scopes from the air allows a lot better picture of what's going on, particularly in times where there is lower light, when they're up in the air in the mornings. Also that then allows them to go through some areas of lower canopy cover as well, which otherwise they aren't as able to do—with thermal scopes. You've got a very different picture coming down as opposed to going across into the landscape, so that's why it is more effective.

The Hon. STEPHEN LAWRENCE: I also asked how much more effective? I anticipate that's probably an impossible question, but are you able to give some sort of estimate?

JACK GOUGH: I couldn't but I can take on notice if we've got data on that.

The Hon. STEPHEN LAWRENCE: Thank you.

Ms SUE HIGGINSON: Can I just be clear, though, it is only one—the Government keeps talking about, "It is only one tool in the toolbox." Is that your understanding, Mr Swain?

RICHARD SWAIN: Yes. I've met with even some of the people here today—I've been advocating for this since 2018, that we needed all the tools in the toolbox, and this was the one we were missing.

The Hon. ROBERT BORSAK: Mr Gough, I've heard Mr Swain's answer. What is the optimal number of horses in the park as far as you and the Invasive Species Council are concerned?

JACK GOUGH: We've got a similar response, which is that it depends on impact and that having large numbers of horses in the park is not compatible with the—

The Hon. ROBERT BORSAK: He said none. Are you saying the same?

JACK GOUGH: The information we've been provided is that getting to no horses in that park would be quite difficult. At the moment we've got a plan, which looks at getting to 3,000 horses. That number, as Mr Swain said, has no magic to it. It was made up purely for political purposes. It was a deal that was struck—

The Hon. ROBERT BORSAK: With respect, you're not answering my question. You're obfuscating around the question.

The Hon. WES FANG: No surprise there.

JACK GOUGH: I'm not obfuscating. We would love there to be no horses in our national park.

The Hon. ROBERT BORSAK: I asked you what your opinion and the Invasive Species Council's opinion would be.

Ms SUE HIGGINSON: He just said they would love it to be none.

The Hon. WES FANG: Sue, he's not asking you.

The Hon. ROBERT BORSAK: You are saying it's none?

The CHAIR: Order! Witnesses can answer the question themselves.

JACK GOUGH: It would be fantastic to have no horses and no other invasive species in our national parks. These are areas we have set aside as examples of Australia's native wildlife, Australia's ecosystems. These are areas that we've decided to protect for future generations because of their ecological values, as places that our future generations can visit. They are being trashed and trampled by feral horses. They are being destroyed by weeds. They are being destroyed by other hard-hoofed feral animals like the deer and the pigs. It would be great if we could get to none of them in there and we could have a return of those landscapes to the sort of environment that was there a couple of hundred years ago. It will be unlikely that we get to zero. That is the point that I am making. We will need ongoing management, partly because we know that people tend to release horses illegally into that park when they are sick of their horses.

The Hon. ROBERT BORSAK: What is your evidence for that?

JACK GOUGH: There is significant anecdotal evidence.

The Hon. ROBERT BORSAK: Don't talk anecdotally. What is your evidence for the assertion you made? You just asserted that people take horses and release them into the park.

The Hon. WES FANG: An evidence-based organisation, you said.

JACK GOUGH: I will come back to you on notice with the evidence around that.

The Hon. WES FANG: That would be great.

JACK GOUGH: But it's similar to hunters illegally transporting pigs, for example, into South Australia or deer into South Australia.

The Hon. ROBERT BORSAK: Of course, that's another one: Sambar don't transport themselves from Tasmania by themselves, do they?

The CHAIR: Order! There are too many people talking.

The Hon. STEPHEN LAWRENCE: Point of order: I know that this is uncomfortable evidence in both respects, but, frankly, he should be allowed to give it.

The CHAIR: Yes.

The Hon. ROBERT BORSAK: To the point of order: I should also be allowed to ask the question in reverse and seek an answer because what he just said is simply not backed by any fact. Kosciuszko National Park, primarily, is full of sambar deer, as you know, and they come from where?

JACK GOUGH: They are coming from the south. I have not said that—

The Hon. ROBERT BORSAK: From Victoria.

JACK GOUGH: I have not said that sambar deer were moved into Victoria.

The Hon. ROBERT BORSAK: And fallow deer?

JACK GOUGH: I said that pigs have been recently moved in significant numbers into South Australia by hunters illegally.

The Hon. ROBERT BORSAK: We are not talking about South Australia.

JACK GOUGH: That is something that we know happens all over the place.

The Hon. ROBERT BORSAK: Your implication is that it's happening here. You know that that's misleading and incorrect.

JACK GOUGH: For horses, yes.

The CHAIR: Order! I think we are straying from the terms of reference.

The Hon. ROBERT BORSAK: All you are doing is slandering recreational shooters because that's what you do.

The CHAIR: Order! Mr Borsak, thank you. We have gone over time. If you are happy, we will take one last question from Mr Fang before we go to afternoon tea.

Ms SUE HIGGINSON: Yes, fair game!

JACK GOUGH: Go for it, Mr Fang.

The Hon. WES FANG: Mr Gough, we heard from the Minister that there were about 11,000 submissions, I think, in relation to the Government's request into the provision of aerial shooting. The Minister said that there were about 82 per cent—I think you referenced it in your opening statement. You said that it was good that the Government received 82 per cent of those submissions in respect of supporting aerial culling. Having a look at your website, where you have the pro forma form and you have the example email that you send in, we have SO 52'd the submission, so we should be able to see those shortly. This website here says that it's got 6,373 people who made a submission through this portal.

The Hon. STEPHEN LAWRENCE: It's a gotcha question.

The Hon. WES FANG: If I look at the 11,000 that were made and I take away the 6,373 and I look at the 82 per cent, I get a factor of about 2,600 that were in support of aerial culling and about 3,000 that were opposed to aerial culling. If it is the case that your pro forma form, which you have called for submissions on about eight times on your Facebook page, I think it is, to your 16,000 likes—

JACK GOUGH: Should've made it nine.

The Hon. STEPHEN LAWRENCE: Point of order: This is a completely irrelevant waste of time.

Ms SUE HIGGINSON: Cut, Mr Fang.

The Hon. WES FANG: If it is the case that the pro formas are removed, and that more people were opposed to aerial shooting than were supportive, would you—

The Hon. PETER PRIMROSE: There are so many holes in this question.

JACK GOUGH: What I would say to you, Mr Fang, is that it is not easy for people to make a submission saying that they support the killing of an animal, particularly the killing of an animal through aerial shooting.

The Hon. WES FANG: You made it quite easy through your website.

JACK GOUGH: That is a very high bar for people. This is not saying, "Hey, make a submission to save this tree next door." This is quite a high bar for people to be engaged.

The Hon. ROBERT BORSAK: Especially at Mehreen Faruqi's place.

JACK GOUGH: You have seen there that 82 per cent of 11,000 submissions were in favour of shooting an animal from the air, which is a very high bar. That is because there has been a shift in public opinion. People understand that the impacts are too big. They don't want to see horses killed. No-one wants to see that, but they understand that we've got ourselves into a really difficult situation. That difficult situation—

The Hon. WES FANG: You titled it "Save the Snowys"; you didn't title it "Let's shoot a horse".

JACK GOUGH: It means that if we want to save the Snowys, we need to remove the feral horses quickly.

The CHAIR: Order!

The Hon. WES FANG: You have mislabelled your submission.

The CHAIR: Order!

The Hon. PETER PRIMROSE: Yours was titled "Save the Barra!"

The Hon. WES FANG: Save the Snowys!

The CHAIR: Order! That comes to the end of our session, well and truly. Thank you for coming to give evidence today. I know that there were some questions taken on notice. The Committee may have further questions, which the Committee secretariat will be in contact with you about. Please table any documents that you wish.

(The witnesses withdrew.)

(Short adjournment)

Professor RICHARD KINGSFORD, Professor of Environmental Science, Director of Centre for Ecosystem Science, School of Biological, Earth and Environmental Sciences, University of New South Wales, affirmed and examined

Dr DAVID ELDRIDGE, Centre for Ecosystem Science, University of New South Wales, affirmed and examined

The CHAIR: Thank you to our next witnesses for coming to give evidence today. Do you have an opening statement that you'd like to give?

RICHARD KINGSFORD: Just a very brief one. Just for Committee members, I have been in wildlife management for four decades, with expertise in aerial surveys, invasive species management and freshwater ecosystems. My colleague Dr Eldridge has also been working on wildlife management for a similar time, with experience particularly working in Kosciuszko, horse management, land degradation and invasive species. The Centre for Ecosystem Science at the University of New South Wales has about 60 scientists, including PhD students. We look at and investigate a range of environmental sustainability issues relevant to management so that we can provide some solutions.

Ms SUE HIGGINSON: Thank you for your submission. Obviously I know about some of your work and have followed it. You are probably aware of it, but we have heard evidence about the methodology used and the credibility of that and actually some quite firm discrediting of that in terms of population estimates. I know that you are very familiar with the methods used. What would you say to that in that criticism in relation to where we are right now, the condition of Kosciuszko and the imperative and the need to reduce the horse numbers?

RICHARD KINGSFORD: I understand you are referring to the method of aerial surveys and estimating animal populations. In terms of that background, I do aerial surveys of waterbirds, so I am familiar with the technique generally and the theory behind it. Fundamentally, it is a really important, credible and rigorous method of estimating wildlife populations. People have been doing it all over the world for decades. There is a fair bit of argument—and I have seen some of the argument today—around whether or not you are adequately sampling a particular area because you can't do a census on wildlife. Essentially, part of it is arriving at a useful repeatable index. Let's face it, in public policy we are using indices all the time: We have health indices, we have employment indices, we have economic indices. We also have wildlife indices.

When we do our aerial surveys of waterbirds, we develop an index because we are essentially measuring the same animal populations using the same techniques over time. That's not necessarily the same as an accurate estimate of exactly how many there are there, but it does provide you with an analysis over time, and you can use that to look at trends and impacts that are occurring. My colleague Dr Eldridge has done research on impacts but, certainly, with the number of horses that we have seen in the park and in the alps, they are causing significant damage. I think the estimates that the Government has come up with with their surveys are highly credible.

The fact that they have a rigorous sampling design, the fact that they are essentially using a technique which is repeatable and one that, first of all, stratifies the area into high-density horses and low-density horses, and with very high percentages sampled—we are talking 20 per cent of the area sampled. For most surveys that are done in public policy sometimes, and in wildlife, 10 per cent and above is considered to be a pretty good number.

Ms SUE HIGGINSON: Professor Eldridge, in terms of the best estimates of population based on the methodologies used and the evidence of impacts on the park, can you think of any other way that we could try to improve the ecosystems of Kosciuszko at the moment?

DAVID ELDRIDGE: I can't speak specifically to the veracity of the measurement technique. I understand that it's the best available. It's an index, as Richard has said. The issue is total number of animals, and when you get to the number of animals that we have in Kosciuszko at the moment, they are going to cause a large amount of damage. They are hard-hoofed. Our soils and our plants and our native animals have not co-evolved in the presence of these hard-hoofed animals. They have a large body size. Many of their effects are not direct effects. They're not eating lizards, they're not eating birds, they're not eating the broad-toothed rat, but they are destroying the habitat, and one of the studies that we did showed that they have a significant indirect effect on native mammals by reducing the structure of the vegetation.

That might be fine in western New South Wales or eastern Australia, but in an environment where there is a lot of snow, animals rely on a tall grass cover to provide habitat and to provide protection after it has snowed. These rats build tunnels beneath the snow, and that provides support for them. They're able to live during the winter events and they're able to forage freely. What horses do is they reduce the amount of grass. The grass is too short, you can't make those tunnels and the animals just perish. So I think the biggest impact of these horses is that they are reducing habitat quality. Getting rid of horses or getting the horses down to a sustainable level—

and we could argue all day about what sustainability means, but getting them down to a much lower level than they currently are today—is the only way that I see that you can protect this fragile ecosystem. And it's going to get more critical as we move towards a hotter and a drier environment.

The CHAIR: Are there any questions from the Opposition?

The Hon. WES FANG: Did you have the opportunity to observe some of the evidence that was given earlier in today's hearing?

RICHARD KINGSFORD: I didn't, but I have talked to my colleague who did observe some of it.

The Hon. WES FANG: Did you catch the evidence from Claire Galea?

RICHARD KINGSFORD: I didn't, but, again, my colleague gave me some background on that, yes.

The Hon. WES FANG: She indicated that the peer reviewing that the Government cites as supporting the methodology employed by National Parks and Wildlife Service in relation to the brumby numbers is not actually academically peer reviewing. It is reviewing by other organisations. In your experience, is it appropriate to not have an academic-type review? The second part of that question is, on a scientific and evidentiary basis, when the organisation that has developed a methodology is criticising the application of it—which Claire Galea indicated was the case—what should happen?

RICHARD KINGSFORD: I'll go to your last question first. I'm not aware of what that criticism is. I have read the latest report from national parks in terms of the 2023 results and methodology. I'll come to your first question a bit later. In reading that, it's quite clear there's a rigorous and transparent methodology backed up with references to peer-reviewed literature throughout, both in terms of aerial surveys but also in terms of statistical models that are used. I certainly have a lot of experience peer reviewing papers and I've published a lot of peer-reviewed papers, and I read that, as I would, as a referee. Certainly I felt that—and with my background on aerial survey—it was a rigorous approach. Having said that, to the first part of your question about what is the process: normally the process, as you said, is to publish your papers in peer-reviewed journals, and that builds the credibility of the methodology.

I do think there's an opportunity with the work that is being done for that to be submitted for peer review. Some of the earlier surveys were peer-reviewed—I'm aware of that—and the methodologies. I think, sometimes, where you've got fairly rapid surveys each year, it takes time to go through that peer review process. In lieu of that, governments—it's not just governments but many organisations—will embark on a peer review by identifying experts in the field, and my understanding is the national parks have consulted experts in terms of methodology. My understanding is that they have assessed it as being rigorous and certainly that would be my view.

The Hon. WES FANG: I have just found that it was the University of St Andrews in Scotland that developed the computer model that is being used to develop the range of numbers that we are seeing—the 12,000 to 22,000 or thereabouts. They reviewed the 2014 and 2019 reports from National Parks and Wildlife Service, and they had certain criticisms around the way that the implementation of that modelling occurred. In circumstances where the University of St Andrews, which developed the computer model, is criticising the implementation of that, does that not ring alarm bells? Let me rephrase. Should that ring alarm bells in relation to the academic rigours that have been applied to the modelling of these numbers?

RICHARD KINGSFORD: My response to that would be probably to take that on notice and come back to you. I need to read what that criticism is, because there's a range of criticisms that people make about these things without being specific about what that criticism is and the assumptions. Then I would need to—

Ms SUE HIGGINSON: Can I add one point for you?

The Hon. WES FANG: Sure.

Ms SUE HIGGINSON: Particularly in relation to 2014 and 2019 counts, the argument first came from the clusters. Because the cluster was below the recommended number of 60 to 80, there was then criticism about the application of the methodology and the extrapolation. However—and I tried to put this earlier—the 2020, 2021 and 2022 counts did not repeat that same issue. Given your aerial surveying, I wonder if you have an understanding of this cluster aspect?

RICHARD KINGSFORD: Look, I don't. Again, I would like to take that on notice and come back to the Committee. But the issue is that often we're talking about different groups of animals. A lot of the time, a cluster for elephants is going to be much bigger than a cluster for horses or a cluster for another species, and models are, inevitably, approximations of reality. They're going to be subject to a whole lot of uncertainty. But, as somebody involved in this, I would need to unpick some of those assumptions and come back with a considered response.

The Hon. WES FANG: I have two more questions in relation to what you just effectively provided an answer to. As you said, these models are estimations. We have a circumstance where the current numbers that have been modelled provide us a number between 12,000 and 22,000, give or take a couple of hundred. That variance is astronomical when you are talking about a percentage difference. You could almost say that it is somewhere between a half to one, or one and then double. When you have a model that provides that variance between the two estimated numbers, does that not provide some level of concern as to the methodology?

RICHARD KINGSFORD: I'm not convinced it's a model that is giving you that variance. This actually might be real in the sense that you've got a lot of variation in those populations across that sampling regime. Any sampling of populations in any survey will have an estimate of variance. Most of what we as communities see are samples of human indices, and they tend to be quite defined. We're talking about a very variable environment with horses across that. I think there are still credible estimates. The fact that they're reporting uncertainties is very important.

The Hon. WES FANG: But if I was to put that in other terms, the variance would be like saying Australia has somewhere between 25 million and 45 million people, and we're just not sure—we know they're somewhere in the middle there. To have that sort of variance would be unusual, would it not?

RICHARD KINGSFORD: Well, for people, I'm sure. The challenge, I think, is we're talking about a wild environment and we're talking about highly variable group of species. I think, unless you do much higher, more intense sampling—

The Hon. WES FANG: You've just led me to exactly where I was about to go, which is that there's an indication from Claire Galea that there is perhaps a better way. She has indicated that that might be using drones and thermal imaging and RGB cameras and the like, but at least there's another method that is being employed in Victoria that seems to be providing better numbers. Where there is a better way, is there not a requirement on us to have those rigours put on the numbers?

RICHARD KINGSFORD: Getting a better way doesn't actually deal with the problem. Essentially, you need a repeatable method that allows you to see what trends are over time. I'm not convinced—and we use a lot of drones. We've tried drones and videos on aerial surveys. They've all failed, and they're not able to actually cover the sort of ground that's required. We should always be looking at innovative ways of doing things. But, inevitably, we need to then ask ourselves the question: How does that then compare to long-term data using the same methodology over time to give us, if you like, a more accurate estimate? Unfortunately, there's no panacea here in terms of methodology.

Ms SUE HIGGINSON: Can I just give you, Professor, what we're actually talking about? I know what Mr Fang is getting at. What we're talking about now—and this was tabled this morning—is 12,934 as the lower end—

RICHARD KINGSFORD: I understand that.

Ms SUE HIGGINSON: —and 22,536, with a 95 per cent confidence of the 12,934. The Minister tabled that from the October annual survey today. Given your expertise in doing exactly this, do those numbers provide any outlier to you, or does that seem perfectly within the methods?

RICHARD KINGSFORD: I mean, they're 95 per cent confidence limits, so the chances of a 12,000 are very slim in a 95 per cent confidence limit. That's why the average is in the middle. That's the most credible answer. The extremes are less credible. So you can't just say it's likely that it's going to be 12,000 or the other figure at the higher end. It's much more likely that it's in the middle, and that's essentially what the probability will tell you.

Ms SUE HIGGINSON: Thank you.

The Hon. ROBERT BORSAK: Professor Kingsford, the system you use primarily is grid-based surveying, is it not?

RICHARD KINGSFORD: We use transects. Are you talking about waterbirds here, or are you talking about—

The Hon. ROBERT BORSAK: I'm starting with waterbirds. And then how is that adapted to the environment that you would find in Kosciuszko National Park?

RICHARD KINGSFORD: It's a completely different technique, except that we obviously are doing aerial surveys. With waterbirds, we can't hold wetlands on survey bands. In Kosciuszko National Park, there's a distance sampling approach where transects are counted, with 150 metres within those transects.

The Hon. ROBERT BORSAK: So the surveys—and there's some well-published data on surveys in the park going back to, I think, 2004. Have those surveys always been done using the same processes as we're seeing now, to your knowledge?

RICHARD KINGSFORD: Much the same. I'm not totally across that, but I think most recently they've been trying to use the same techniques.

The Hon. ROBERT BORSAK: Professor Eldridge, can you shed any light on that?

DAVID ELDRIDGE: I'm sorry, that's slightly out of my area of expertise.

The Hon. ROBERT BORSAK: Okay, thank you.

The Hon. BOB NANVA: I have a question about another model that was put to the Committee this morning by Mrs Galea—the mark-recapture model—which is the approach being taken in Victoria. Do you have any views on that, in terms of whether it could be applied as a methodology at Kosciuszko National Park?

RICHARD KINGSFORD: My understanding of mark-recapture with aerial surveys—

Ms SUE HIGGINSON: Sorry, I think it was mark-resight. I don't think it was recapture, and I think that's a different model, possibly. There are three models.

RICHARD KINGSFORD: They're similar in the sense that they're using similar methodology, analytically. Mark-recapture has essentially been developed with animals in traps, but in the aerial survey world it's used where you have another observer behind one, and they're essentially counting the number together and essentially seeing which ones are mis-sighted. You can then develop some estimate of the number that might be missed during aerial survey. I think it's useful. It gives you slightly more idea of what the accuracy is. But I still think that most of the wildlife questions, including this one, that society is confronted with, can be investigated in terms of indices. In other words, you use the same methods and they're repeatable in terms of timing and techniques that allow you to see what the trends are.

The Hon. BOB NANVA: Just coming back to the earlier answer regarding the variances, I'm not quite across the detail of all of this, so I just want to be sure that I've accurately interpreted your answer. Would you agree that it is statistically probably more accurate to say that the estimate of population is closer to the centre of the confidence interval than to the extremes?

RICHARD KINGSFORD: Correct.

The Hon. BOB NANVA: Right. So if the variance is between 12,000 and 25,000, then, more realistically, we're probably talking about a population of about 18,000?

RICHARD KINGSFORD: That's correct.

The Hon. BOB NANVA: In terms of alternative methodologies again, Mrs Galea has a criticism that distance sampling is not an appropriate methodology for these sorts of complex situations. In terms of statistical models and world's best practice—best practice in Australia—is there a model that you would recommend for the habitat that we're dealing with in Kosciuszko?

RICHARD KINGSFORD: I haven't read or seen any other techniques that are used anywhere in the world, let alone Kosciuszko, that would improve on distance sampling. It's an accepted technique for doing aerial surveys of a whole range of different animals. The confidence around estimates are always going to be subject to the types of habitats you've got, the sorts of species that you're actually sampling for and the sampling regime that you've got. That's where a lot of that variance comes from. I'm not aware of any other techniques that would be easily implemented in lieu of what is currently being used by the National Parks and Wildlife Service.

The Hon. BOB NANVA: Have you had any concerns around the execution of distance sampling methodology in Australia, or previous survey reports? You said you've seen the 2023 sample. Are there any red flags that arise, based on your professional judgement when you've gone through those survey reports?

RICHARD KINGSFORD: No. I've not seen anything that isn't world's best practice in terms of the methodology that is used and the analysis that is undertaken after that. It seems very rigorous to me.

The Hon. BOB NANVA: There's obviously a lot of controversy and conjecture around the count method that has vexed this issue for quite some time now. If I can just get to the detail of the 2023 sample—and you may wish to take this on notice. As I understand it, the 2023 survey involved 1,900-odd kilometres of transects across four survey blocks. That covered about 239,000 hectares of the national park. Given the width of the transects, you then effectively have 21 per cent of the total survey blocks. Some 411 clusters of horses were sighted, including 269 clusters in the northern block and 117 in the southern, which goes beyond the allegation that there

are only 60 to 80 clusters, as mentioned by a witness this morning. Is there anything with respect to those findings and that approach that would stand out to you as requiring review?

RICHARD KINGSFORD: Standard practice in any wildlife survey—and, in fact, any survey of any population, including human populations—is to do stratified sampling. In other words, you identify where the greatest concentration is and the greatest effort. My reading of the 2023 report indicates that all those assumptions have been carried out correctly. I don't have any concerns about the approach in terms of the actual collection of data or the analysis of that data. But if there are some specific issues relating to anything else, I'm happy to take those on notice.

Ms SUE HIGGINSON: Can I ask one final thing on this submission? Professor Eldridge, the submission that was provided has some images in there about impacts. I just wanted to quickly hear from you about those actual impacts. What is your view in terms of the capacity for us to recover the Kosciuszko National Park?

DAVID ELDRIDGE: Okay, there are a couple of issues here. The first thing is that there are substantial current degradation issues associated with horse activity in Kosciuszko National Park. The images in the report that Professor Kingsford submitted show a substantial number of images that I have taken myself, along with national parks staff and in my role as a Department of Planning and Environment research scientist a few years ago. Some of those areas will recover naturally, but not in the presence of the current horse populations. Those horse populations will need to be reduced substantially.

My big fear is that if we don't control horses and we don't control a large number of horses very soon, they will continue to move further and further up into the alpine areas and into the very sensitive sphagnum moss areas. Those areas have developed over thousands of years. They're very, very sensitive and they're very difficult to restore. Really, they're the areas that are the critical areas for water. This is where the Murray River starts, at the top of those alps. Those sphagnum moss beds are critically important. In answer to your question, I think that if we can reduce feral horse numbers substantially—I mean substantially, not just a couple of thousand; if there are 17,000, in my view we need to get rid of as many as possible—then some of these grassland areas will recover but the sphagnum areas will take a lot longer to recover.

The CHAIR: Thank you both for coming in to give evidence today and sharing your expertise. I believe that there were a couple of questions taken on notice, but the Committee might also have further questions. The Committee secretariat will be in contact with you about those.

(The witnesses withdrew.)

Mr BRIAN BOYLE, Environmental Consultant, Australian Hunters International Inc., before the Committee via videoconference, affirmed and examined

Mr ANDREW MALLEN, Ballistics and Firearms Expert, Australian Hunters International Inc., sworn and examined

The CHAIR: I welcome our next witnesses. Is there an opening statement from your organisation?

ANDREW MALLEN: Yes, there is. Thank you for the opportunity to appear before this inquiry. My colleague Brian Boyle and I each have over 50 years' experience in hunting and many decades of involvement in hunting management, law enforcement, firearms safety training, ethical hunter education, feral animal control—both ground and aerial shooting—numerous pest control programs in Australia and New Zealand, as well as recreational hunting in Australia, New Zealand and Africa. I have over 50 years' experience in firearms use, safety training, and ballistics and load development using all bullet types and weights. I recently retired after an eight-year stint as the manager of the busiest outdoor rifle range in Sydney.

We understand that shooting is an important tool for managing terrestrial wildlife populations worldwide. Pests are as capable of suffering as their domesticated counterparts and pest control operations have an impact on their welfare, as shown by increasing research. Our concern is that this impact is often neglected or ignored in Australia in the quest for departmental fiscal efficiencies and politics. We are concerned with the paucity of actual research in Australia to enable the real assessment of the animal welfare outcomes for animals of various sizes that are shot from a helicopter with calibres and bullets of various sizes and construction. Detailed research is required investigating body mass, allometric and isometric scaling, comparative physiology, wound ballistics and linear kinematics. This is needed to quantify and evaluate the quality of shooting processes and time to insensibility and death, by species and by body size within species. Other variables need to be investigated, such as if the animal has a full paunch or if it's pregnant.

The assessment on the animal welfare outcomes of the 270 horses shot recently in Kosciuszko National Park is appallingly inadequate and lacking in detail. We have concerns that animals shot an average of seven times and up to a maximum of 15 times were somehow considered humane in the report. I can't understand why all aerial shooting and associated activities is not captured on tamper-proof video. Technology is available, as used in fisheries all around Australia, that allows for tamper-proof capture of images. Cameras can be mounted on the aircraft skids and on the firearms in use. Video footage could then be analysed, providing chase times; shot numbers and placement; the animal's sex, weight, age and body mass; and the time from insensibility to death. We are concerned that the assessment has inherent bias as only horses shot in open terrain could be checked, where it was possible to land the observer aircraft. Any horses shot in broken terrain or scrub would have been harder to follow and acquire a sight picture and, therefore, deliver an acceptable shot.

The subsequent letter from the RSPCA to the Department of Planning and Environment on 1 December 2023 clearly conflicts with the answers and opinions given by the NSW DPI chief executive officer and the NSW Chief Animal Welfare Officer on Wednesday 13 December at the supplementary budget estimates hearing. The opinion was that unless a person was granted an exemption from POCTAA, it's unlikely that 15 shots to the chest of an animal would be considered humane. Our concern is that the new SOP mentioned in the assessment has not been made public and allows for an unacceptably high number of shots to be fired into the animal. The findings in the RSPCA letter of 1 December '23 in response to a letter received from the Department of Planning and Environment one day prior smacks of incompetence at best and collusion and corruption worthy of investigation at worst. Given that the RSPCA receives significant funding from the New South Wales Government, it has a clear conflict of interest and cannot be considered an independent authority in this matter. Thank you.

The Hon. ROBERT BORSAK: Maybe this is to you, Mr Mallen, and if Mr Boyle wants to chime in, he's welcome to. Can you explain why AHI, and that's yourselves, consider the .308 Winchester inadequate for controlling and shooting feral horses from the air?

ANDREW MALLEN: For starters, I think if you just look at the numbers from the recent—

The Hon. ROBERT BORSAK: Do you want to just pull the microphone a little bit closer?

ANDREW MALLEN: Certainly. For starters, if you look at the numbers that were provided following the recent shoot, averaging seven shots per horse across a total of 270 animals is deplorable. It just makes a farce of any perceived animal welfare concerns that National Parks and Wildlife Service may have. There's no doubt the .308 Winchester is well suited for pigs and smaller animals, but certainly not for horses and camels. As I say, horses for courses. The average pig weighs between 60 kilos for a female and 100 kilos for a male. Your horses

average between 500 and 600 kilos. We've increased the target weight by up to 1,000 per cent, or 10 times, with no increase in the killing energy, the wound channel size or the penetration required to kill them.

A pig's chest is between 40 centimetres and 60 centimetres deep from top to bottom. A horse can be as much as 120 centimetres across the same span. It's easily twice the job for the rifle cartridge that you're wanting to use. As a herbivore, a horse consumes massive amounts of green vegetation and they're not a very efficient processor of food. Therefore, their paunch is enormous by comparison to smaller omnivorous pests like pigs. Any bullet that passes through that paunch—and it's hard not to when you're in a pursuing function in a helicopter from an elevated position—is similar to a bullet going through a green wheelie bin at home full of grass clippings, and it's going to rob that bullet of energy. An alternative, which is readily available and a proven performer, is a 9.3x62 cartridge. It's the same diameter in the cartridge case as the .308 so you're not losing magazine capacity by going to that larger round. It is the smallest calibre legally permitted to use on dangerous game in Africa, and we're talking elephants and cape buffalo—they're big critters. It'll knock them over.

If you see a tabled photograph of some expanded projectiles showing a .308 and 9.3 comparison, the energy of the .308 is only 2,600 foot-pound and 3,400 for the 9.3. That's an immediate 33 per cent increase. The wound channel diameter from a .308 averages about 18.5 millimetres and 28.5 for the 9.3. That's a 60 per cent increase. But that's not all. It's an exponential increase because the impact and the wound channel diameter multiplies the killing effect, so you're ending up with tissue damage that is quite blunt and brutal; but it's tissue damage through the heart-lung area with a large calibre gun that you could physically drop a loaf of bread into, so you're going to kill the animal far more quickly with far less shots. That's basically why I think the .308—

The Hon. ROBERT BORSAK: So what you're saying is the size of the calibre and the energy release clearly properly substitutes for shooting an animal up to 15 times?

ANDREW MALLEN: Most certainly. If the firearm in use on that occasion, considering the shooters are up to the job—they should have all been in the chest area. You can have the odd shot—

The Hon. ROBERT BORSAK: You haven't had the benefit of seeing the new standard operating procedure. It was handed up this morning by the Minister.

ANDREW MALLEN: No, I haven't.

The Hon. ROBERT BORSAK: It does talk to shooting into the chest, heart-lung area, but that area of course is very large on a horse and the impact of the .308 cartridge expanding to about 18½ millimetres is very small. Listening to other evidence today—especially the RSPCA basically are saying putting up to 15 shots in substitutes for the need for a bigger calibre. Do you agree with that? Mr Boyle, do you want to make a comment?

BRIAN BOYLE: Yes, if I can jump in here. What's missing is there's actually no science to back the choice of the calibre here in Australia. There have been studies done and modelling done in Europe that actually look at this and they can build on equations. What we're using in Australia is a very good calibre, like you said, for smaller animals but it's not been scaled up for a large animal. Also, once you put the first bullet into an animal, your cortisol levels and your adrenaline goes up, so then it's under stress and it actually gets harder to kill it, and the blood vessels start constricting. When you're just filling them full of shots, your time to bleed out and to death is longer. This argument without any real scientific data, like they're saying, is very, very slim at best. We need to take on what they say and be more professional and do some real science on killing animals, especially when we start killing millions across the State, and deciding which is the right calibre for each animal, and then choosing the right calibre-firearm combination.

The Hon. ROBERT BORSAK: Can you explain—and maybe this one's to you also, Mr Boyle—how a video monitoring system would operate on helicopters and firearms used in aerial shooting operations, and what other primary industries they are used in, in Australia?

BRIAN BOYLE: Yes. I'm answering for Andy, if that's okay. My background is that I worked for seven years in fisheries in the Northern Territory, managing a number of fisheries, including a trawl fishery, and worked with other people in such other fisheries as the line fishery. It's already proven that the use of closed systems for monitoring these sort of industries actually supports what the industry is doing. It backs up that they're doing it humanely. I just can't understand the resistance by the National Parks and Wildlife Service to mounting cameras on their skids or having a 360 degree, as Mr Fang says, plus having a bluetooth camera from the top of the firearm coming back to what is a secure box that can be downloaded. The black box can be taken out and downloaded if you're on a fishing vessel when you get back to port, or a helicopter, once it comes back into range. It can download automatically through wi-fi systems. So I just don't understand why they wouldn't do that so that you can get all those measurements that Andy talked about in the opening speech.

The Hon. WES FANG: In relation to RSPCA, keeping an observation around the trial, it would seem to be that they only used a 7.62 during that trial. They didn't trial different calibres and different projectile sizes during that trial cull. Do you think that there would have been benefit in trialling other sizes to see the effectiveness of the take-downs of the horses?

ANDREW MALLEN: Most certainly, and there are firearms readily available on the market that will fit the bill.

The Hon. WES FANG: Are there any accuracy issues in relation to firing a larger, more powerful projectile? Would a trained shooter struggle more to be accurate with a more powerful, larger projectile weapon than they would a smaller one such as the 7.62?

ANDREW MALLEN: Some years ago that would have been a problem, but today suppressors are readily available. Muzzle brakes are very commonly fitted to firearms. A muzzle brake, for those who don't know—on the front of a Panzer IV tank, when the Germans scurried across Europe, it just diffuses all the recoil. You can shoot a 9.3 or a .375 or any of the elephant guns quite comfortably with today's modern add-ons.

The Hon. WES FANG: From a welfare perspective, going to a larger calibre, more powerful round is, in your evidence, unlikely to affect the accuracy but is more likely to provide a single kill shot than the 7.62, had they only managed to hit the animal with one or two shots instead of the 15 or, say, the 7.5 on average that they said they used.

ANDREW MALLEN: I certainly believe that if they were better equipped with a more powerful firearm, it would have been a very different result. The 9.3, as a matter of fact, was found to be, in the Steyr factory in Austria, the most accurate rifle that they made. So it's not an accuracy issue. It's shootable because the recoil can be controlled. The firearm that I've researched that would be suitable for the job is a Benelli, and it has an integral recoil reduction system built into the butt. It would be as pleasant, if not more pleasant, to shoot than the .308.

The Hon. WES FANG: Are there any issues in operating one of those in an aerial platform?

ANDREW MALLEN: No, they're fine. They're a side eject. They could have a deflector plate fitted or a case catcher, which I think would be a great thing.

The Hon. WES FANG: I've tried to think of every possible negative in employing a larger, more powerful projectile. You seem to have dispelled all of them. Have I missed anything?

ANDREW MALLEN: When I say the .308 is not as effective, it doesn't lack penetration. It just lacks shock. The results found from that assessment show that many bullets were blistered on the off-side of the animal, under the skin, and there was total penetration where the projectile had passed through the back, right through the body and out through the brisket. So we can't complain about the .308's performance in penetration. It just doesn't kill big things. And big things need big guns—Henry Ford.

The Hon. WES FANG: I think you've summed it up nicely in that respect. Would it be fair to say that it would be more humane to use a larger projectile, larger penetrating, more powerful round?

ANDREW MALLEN: Absolutely. No question.

The Hon. WES FANG: The RSPCA may not have honoured its charter by recommending or supporting the use of a 7.62 as opposed to a 906. Was it 906?

The Hon. ROBERT BORSAK: It was a 9.3.

The Hon. WES FANG: Sorry, 9.3.

ANDREW MALLEN: They may not have, but it may have been through ignorance.

The Hon. WES FANG: It may be that they haven't done the research on it. I know the Hon. Robert Borsak asked them if they had done any ballistics, or had any ballistics experience or done any ballistics testing, before providing the New South Wales Government with their opinion.

ANDREW MALLEN: That's quite possible.

The Hon. WES FANG: I've got one last question. I might direct it to our witness online. In relation to the ability to record and evidence the kill shots, for example, from a rifle, does mounting a camera on a rifle and having a recording of the shooting evidence affect the accuracy of the rifle at all? Does it affect the weight, the way that it's balanced or the way that it's used?

BRIAN BOYLE: Modern GoPros are so light that you can mount them on top of a red dot or a scope. I've never used one myself. Andy might be more expert in that. But they are used very frequently. There are a lot

of videos that are done in other countries with people who are shooting out of helicopters. People actually pay to go and do it in the United States. They shoot pigs. The GoPro is mounted. You can have the GoPro then on bluetooth back to your black box. The things weigh less than about 50 grams, so it's going to have no impact.

The Hon. WES FANG: I've never seen such resistance to the taking of evidence as I've seen from national parks and wildlife and the New South Wales Government in relation to the recording of these aerial culls. Can either of the witnesses provide any idea as to why it would impact the effectiveness of a cull to have the recordings captured by way of camera, either a 360 camera on the helicopter or a camera on the skids, as the witness online indicated? Would it have any effect on the accuracy or animal welfare outcomes?

ANDREW MALLEN: Under the current system, using a .308, it could be quite damning to have footage. It would show that these animals are getting shot repeatedly in the vital area and they continue running because the gun is not matched to the target animal.

The Hon. WES FANG: The only reason that you can possibly identify would be a damning animal welfare situation being recorded by the filming. You can't see any other circumstances?

ANDREW MALLEN: I personally believe that a culture has developed within the ranks of the FFAST qualified shooters—FAAST being feral animal aerial shooting teams. They see themselves as elite shooters, and it has spread right across the professional shooting ranks and independent contractors. I used to see them, as the manager of the rifle range. They turn up. They all wear a brand new uniform and a baseball cap on back to front. They've got the aviator glasses. But the most important part of their uniform is that paramilitary rifle. They love to present that and walk around with their M4 assault rifle. It's a negative culture because these guys are quite influential in their submissions and the formation of SOPs. If you take away the black, spooky gun and give them a conventional-looking rifle like a Benelli—a 9.3—they've lost that elite status. I think there's resistance to go away from that. That's just my personal view.

The CHAIR: I might jump in here. I'm happy for either of you to answer this. I want to understand, stepping away and looking at aerial shooting itself, the complexities in regard to animal welfare of shooting an animal from above. It was discussed a little bit this morning, but I want to get a bit more of an understanding of what that means for the animals and why that's a complex issue?

BRIAN BOYLE: Can I jump in first, Andy, and then I'll pass to you?

The CHAIR: Yes, absolutely.

BRIAN BOYLE: I have experience in New Zealand. I worked for New Zealand Forest Service and then the Department of Conservation when it was first established. That was in the mid-eighties down in south Westland. Once you go to helicopter operations, it's not just about the shooter. Actually, the helicopter pilot has to be a hunter as well. He has to know what the animals are going to do and what position the shooter needs to be in. Then, on top of that, the shooters have a remarkable skill in what they do. They need to be at it and at it and at it. All shooters are not necessarily going to cut the grade. That's what happened in the commercial industry in New Zealand. They need to be shooting a lot of animals, and occasionally mistakes are going to happen. But they also need to work as a team.

One of the things that we've been talking about here is the shooters, but the pilots themselves have to be able to work that machine. They need to be able to work in different conditions, if it's early in the morning, and know what the conditions are, including how it takes off and how it performs. On hot days, it's not going to perform the same way—or if it's windy or slightly windy. Then, they're chasing the animals on different terrain. They need to be 10 to 30 metres above that terrain or going through undulating terrain, pushing those animals and coming up from behind in such a way that presents the shot of the animal. It is quite a complex situation. It needs a lot of skill. One of the things that needs to be considered for these FFAST teams who are doing this is it's not that it's a job for a whole bunch of people. You really want to get the best of the best and you want them to be doing it as often as they can so that they have the skill to do it as humanely as possible. I hope that sort of points you in the direction of what you're asking, Chair.

The CHAIR: I guess I also just wanted to understand the animal welfare complexities. I understand that there's complexities, definitely, in regards to who is flying the helicopter and obviously who is shooting as well. But from what we were speaking about this morning, a vet was talking about the fact that it's more likely to hit the animals in the spinal cord, for example, and potentially disable an animal because of the uniqueness of coming in from above. I was wondering if you could talk a little bit more about that.

BRIAN BOYLE: You've got the anatomy of the animal, and it's not just hitting the spinal cord. If you hit one of the spinal processes or a rib, it can actually knock the animal out. So it's really important that the pilot and the shooter go back and finish the job on that animal before chasing the next one if we're going for the most

humane outcomes. But not only that, what surprises me is that we do have this concern about animal welfare in Australia, so why aren't we recording and doing some research on chase times, cortisol levels, what are the glycogen levels so we can record the amount of stress so that we can decide what is the cut-off of how much stress we're going to place on these animals if we're killing them? We need to come to a decision about what is humane and what isn't. At the moment, what it seems to be is it doesn't matter about the chase time and it doesn't matter how many shots you put into them—it's humane as long as you kill them. Also, possibly, you're leaving foals that are unmothered. It really is hard to argue that what we're currently seeing—and I haven't read the latest SOP right through, but it's very hard to argue that it's actually a humane outcome.

The CHAIR: As part of the preliminary operation, they assessed 16 per cent of the horses that were shot and their injuries. I mean 16 per cent is a very small percentage, overall, of horses that were checked. Do you think that's sufficient to have confidence that there won't be any animal welfare in future aerial shoots?

BRIAN BOYLE: In some of the research, you might only do 20 per cent. But what you've got to look at is—I think I heard Professor Kingsford talking before. It's about systematic random sampling, and you're not actually doing that with this sort of shoot. The helicopters were landing and I think it's within 3 minutes they were getting to the animals. That is not systematic. There is such a limited amount of information in that assessment. We don't know whether it was just all in the open country where it was easy to shoot or whether it was in the undulating country or the bush country. There's no real confidence in that report or in the data that they've provided.

The CHAIR: The other thing is horses were checked—of the 16 per cent, they were checked some minutes later to see if they were still alive. We don't actually know the average amount of time that that took because that data wasn't provided. They only provided a median, which was three minutes, but we don't know what the average was. Will that be able to be done in rough terrain? If they're not checked in rough terrain, because it's in an inaccessible area, what will happen with those horses? Will they just be potentially left to have a long death, the same way as they did at Guy Fawkes?

BRIAN BOYLE: That's what you'll have to decide with the way you structure any research around this. The secondary helicopter may have to hover over it. You don't actually want a drone operating near a helicopter; it's not a good situation to have. You could put a drone in close to see what was going on, but no helicopter pilot wants a drone working close by with them. So the secondary helicopter could. If you had cameras onboard, or someone with a camera, as the biostatistician said, you could actually be zooming in on the animal to see if it's still breathing and struggling and whether it really is dead or not. It may be some time later that the animal has actually died. It is a challenge in that sort of country.

ANDREW MALLEEN: There is a far better chance, though, if an animal's spine or spinal section has been shot by a larger gun. The bullet will have travelled through the spine and still have sufficient energy to kill the animal in the heart-lung area—plus the secondary projectiles which come from broken spinal sections and pieces of bone. They fly through the lungs and the major blood vessels and they'll achieve the same thing as a bullet. If you still go ahead with the .308, you're always going to have these problems on big animals.

The CHAIR: Just finally, I know there's quite a few hunting organisations generally who have concerns about aerial shooting compared to ground shooting. I am just wondering if you could explain some of the concerns or the complexities specific to do with aerial shooting.

BRIAN BOYLE: Do you want me to answer, Andy?

ANDREW MALLEEN: Yes, Brian.

BRIAN BOYLE: The concerns from our organisation is that there have been studies done in Scotland, for instance. They have directly compared ground shooting red deer to helicopter shooting and done cortisol and glycogen levels. It has clearly demonstrated that the animals are under far more stress when they're pursued and shot by helicopter than on foot. The AHI accepts that the animals need to be controlled because they're not going to control themselves and that there are environmental and ecological issues. But it should be done as humanely as possible. What we're not seeing is any research around improving. So every sort of operation, whether it's a biosecurity operation or a management operation, should be looking at self-improvement all the time and reviewing what it does. What we're seeing is, "This is the way we do it; we're going to go and do it." It's just crashing on through. It's not actually about reviewing and trying to find the best outcome for the animals, for the environment and for people who have genuine animal welfare concerns or love of these animals.

The Hon. ROBERT BORSAK: I have a question relating to cross tenure. What are the issues with only shooting horses in the national park, not having cross tenure, no boundaries approach to feral horse management in Kosciuszko National Park and adjoining lands? This one is to you, Mr Boyle.

BRIAN BOYLE: This is surprising that the plan doesn't talk about cross tenure because there are several other programs that are going on in Kosciuszko National Park that talk about cross tenure. In my past life, when I was working for the Game Council, or as a ranger, I was actually on the alpine scientific liaison committee when I was a ranger in Victoria. The horses are across tenure. They're on private land. They're on private reserves. They're on State forest. There are a lot of horses that go right out towards Tumbarumba and Tumut. They're even heading out towards the Hume Highway.

What will happen—and this frequently happens when you undertake a control program—is you take the pressure off that environment, but the animals just don't stay where there were. If there's more food back in Kosciuszko, there will be animals that move back into it. This plan really needs to think about cross tenure. It needs to think about what the Government can do. If there's any Crown lands around a State forest area, it needs to think about that as well as doing advocacy work with some of the private landholders and private forestry operations to control the animals on those lands. Otherwise there's just going to be a sink and animals are going to pour back into the park.

ANDREW MALLEN: Just quickly to add to that, Brian, if you don't mind, in State forests, where the horses exist in large numbers, if they were to be classified as a game animal under the Game and Feral Animal Control Act they could then be controlled by up to 20,000 volunteer licensed hunters that would do this task free of charge, and they are bound by a code of conduct.

BRIAN BOYLE: If I could add on to that, I actually managed a program called the Back Country Hunting program in the Northern Territory. It was in the Litchfield National Park. It was modelled on the R-licence. We had a major impact on the number of horses in that park. Later I worked for Northern Land Council running Aboriginal ranger groups. I had one of the traditional owners who's the ranger in the park thank me for what we did because we did limit the impacts on it. It worked very well, very humanely. It was all on foot. It wasn't driving around in vehicles. It wasn't flying around in helicopters. This can be done. It just needs the will to do it.

The CHAIR: Thank you both for coming to give evidence today. I don't think there were any questions taken on notice, but there may be further questions from the Committee, in which case the secretariat will contact you about any of those questions on notice. Thank you again for giving your time to give evidence today.

(The witnesses withdrew.)

The Committee adjourned at 16:55.