

# **TRANSCRIPT**

## **SELECT COMMITTEE ON VICTORIA'S RECREATIONAL NATIVE BIRD HUNTING ARRANGEMENTS**

### **Inquiry into Victoria's Recreational Native Bird Hunting Arrangements**

Melbourne – Friday 26 May 2023

#### **MEMBERS**

Ryan Batchelor – Chair

Michael Galea – Deputy Chair

Melina Bath

Jeff Bourman

Katherine Copsey

Bev McArthur

Evan Mulholland

Georgie Purcell

Sheena Watt

**WITNESSES** (*via videoconference*)

Ms Jencie McRobert, RMCG; and

Ms Heather Bailey, Senior Manager Economist, BDO EconSearch.

**The CHAIR:** Thank you for joining us today for those online at this committee hearing.

All evidence taken today is protected by parliamentary privilege as provided by the *Constitution Act 1975* and the provisions of the Legislative Council standing orders. Therefore the information you provide during the hearing is protected by law. You are protected against any action for what you say during this hearing, but if you go elsewhere and repeat the same things, those comments may not be protected by privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of the Parliament.

All evidence is being recorded. You will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted on the committee's website.

For the Hansard record, could you please state your name and any organisation you are appearing on behalf of.

**Jencie McROBERT:** Jencie McRobert, appearing for RMCG or RM Consulting Group.

**Heather BAILEY:** And I am Heather Bailey, appearing on behalf of BDO EconSearch.

**The CHAIR:** We have got until 11:30 for this component of the evidence. What I will do is invite you collectively or individually to make an opening statement of about 5 or so minutes, then we as committee members will take it in turns to ask you questions. We have got a presentation? That is even better. I might hand it over to you two to make this presentation.

**Visual presentation.**

**Jencie McROBERT:** It is Jencie. I will be speaking to the presentation. We are on the last slide. There are only three, you will be happy to hear, so let us go to the first slide. Thank you for inviting us to the hearing to answer questions you may have on the study. Next slide, please.

I will give a high-level overview of the purpose and results of the *Economic Contribution of Recreational Hunting in Victoria* study that was conducted in 2019–20. Its purpose was to undertake research into the economic contribution of hunting by game licence holders, of which at the time there were in the order of 55,000 in Victoria. To do this an expenditure profile for hunting activities associated with the different hunted species was established. This involved surveying hunters about both their on-trip and off-trip spending – that is, how much they spent, what on and where they spent it, geographically. The data was then cleaned and used to model the direct and flow-on economic contribution. The results were reported as gross and net economic contribution – we will talk a bit more about that later – also by animal group and local government area, and regional townships were highlighted where there was large expenditure. There was also a comparison with an earlier 2013 study. There was also a small social component seeking some insights into indicators of personal wellbeing, social capital and general health of hunters. The work was commissioned by the then Department of Jobs, Precincts and Regions. Next slide, please.

The results were reported as gross and net economic contribution, and that is measured as gross state product and employment. These indicators were modelled to be \$160 million in direct and \$196 million in flow-on contribution, totalling \$356 million for 2019. There were also 1626 direct jobs and a similar number of indirect jobs, totalling around 3100. The regional share of the economic contribution of all hunting was \$244 million, and the metro share was \$107 million, out of the total of \$356 million. The breakdown in contribution between hunted species, you can see there, is also shown, with native bird hunting comprising \$22 million for quail and \$65 million for ducks. The net change in economic contribution if hunting was to cease was modelled using two scenarios. For both scenarios the net contribution was substantially smaller than gross. We chose a low- and a high-substitutability scenario, so for the high scenario a large majority of expenditure moved to other activities that continued to contribute to the Victorian economy. The remaining economic contribution – or the spending that was stuck, if you like, to hunting – was smaller, so the share of economic activity that could be lost without hunting, for example, is smaller in that high-substitutability scenario. Last slide, please.

Finally, there was the social component to the survey, and its purpose was to provide some additional insight into hunters' motivations, other activities they enjoy and their health and wellbeing. Hunters reported higher scores for personal wellbeing, social capital and general health than the overall population. The responses were compared with the Victorian results of an annual national study that is conducted by the University of Canberra called the regional wellbeing survey, which you are probably familiar with. Dr Jacki Schirmer, from the team that runs that survey, was also involved in this study, so she was able to provide that data to enable the comparison.

The reasons to explain the differences found between hunters and the general Victorian population were not explored as part of this study – noting, however, from the data we did collect, that hunters have relatively higher levels of education and income compared with the Victorian population, so that could have had some bearing on the survey findings.

In conclusion, our work was not an economic and social impact study or a cost-benefit analysis, so it did not measure impact. A social and economic impact study of recreational hunting would include a regional economic contribution analysis, which is what we did, but that would be just one part of a wider impact study. Thank you.

**The CHAIR:** Thank you very much. What I might do is ask the committee members to introduce themselves, and then we will start asking questions. I am Ryan Batchelor. I am the Chair of the committee and a Member for Southern Metropolitan. I might start down this end of the table this time.

**Katherine COPSEY:** Thank you. I am Katherine Copsey, also a Member for Southern Metropolitan.

**Georgie PURCELL:** I am Georgie Purcell, Member for Northern Victoria.

**Sheena WATT:** I am Sheena Watt, Member for Northern Metropolitan Region.

**Michael GALEA:** I am Michael Galea, Deputy Chair and Member for South-Eastern Metropolitan Region.

**Melina BATH:** I am Melina Bath, Member for Eastern Victoria Region.

**Bev McARTHUR:** I am Bev McArthur, Member for Western Victoria Region.

**Jeff BOURMAN:** Finishing up with me, I am Jeff Bourman, Member for Eastern Victoria Region.

**The CHAIR:** As the Chair, I am going to start the questions. As I have read it, the analysis relies on surveys from hunters as to what they do. Is that basically right? Yes. Were there external data sources used to assess the expenditure undertaken? So was there any sort of point-of-sale data or ABS data used to essentially provide additional verification of the information that was gleaned from the survey results?

**Heather BAILEY:** Shall I take this, Jencie?

**Jencie McROBERT:** Yes.

**Heather BAILEY:** Yes. Thank you. There was data from, for example, the Game Management Authority. They run a random telephone survey of game licence hunters to assess information about their hunting activity. That was very important information that we were able to use to adjust our survey sample for the level of activity. I think this is reported in the report. With our survey, people were invited – all game licence hunters were invited – to participate in the survey, and what we were expecting and what we found was that more active hunters participated than inactive hunters. So yes, you will have hunters with game licences who maintain their game licences but for whatever reason in the 2019 year did not go hunting, so we need to adjust, and obviously their expenditures will be significantly lower than the people who had been actively hunting. So that was one data source. We used data on the population of game licence hunters. We had anonymised data provided on the numbers by licence type as well as age and gender, so we could adjust, which we did, for that in the survey, as we found that there are slight differences in the sorts of expenditure profiles of different age categories. Of course there is a significant amount of data that goes into creating the input-output models of the different economies. That I would have to take on notice to provide, but that does use ABS data.

**The CHAIR:** Sure. That is fine. The survey data based on behaviour is from surveys of hunters. Is that right?

**Heather BAILEY:** Yes.

**The CHAIR:** Okay. One of the things I am interested in is this question of substitutability because it is material to economic impacts, particularly at a regional level. Obviously, part of the methodology is looking at substitutability of hunters' activities to other forms of recreation, which is clear. Did you do any analysis of the substitutability between hunters and other groups of people who would undertake alternative forms of activities or who may be prevented from undertaking certain types of activities in these areas during hunting – so substitution of activity type and whether that is of a higher or lower economic yield?

**Heather BAILEY:** No, that was not within the scope of the study. I just want to make very clear: this study was an economic contribution study. We were asked to understand the economic contribution specifically of recreational game hunters. It is not a cost-benefit analysis, and it is not an economic impact analysis either.

**The CHAIR:** So therefore what would be the limitations of the study in terms of what it is telling us about these regional economies?

**Heather BAILEY:** What it is telling us is this is what the economic contribution of recreational hunting was to those economies from the 2019 season in 2019. For an impact analysis you would need to have a change – a change in a policy. You would be answering a question: what is the impact of X policy or X event on the regional economy? So that is not what we were studying, but it gives you that baseline information. For example, I would imagine you can readily go to the ABS or different published resources and find out what the economic contribution of the manufacturing sector is or the mining sector or so forth. You cannot do that with, for example, many of these sorts of recreational sectors because they are not actually sectors in the economy. I am anticipating that was the motivation – that that provides basic background understanding of a group of people that have an economic contribution that is not obvious in the economy, I suppose.

**The CHAIR:** That is all my time. Melina.

**Melina BATH:** Thank you very much. Just to frame my knowledge, you are a largely agricultural and, I am going to say, rural analysis consultative body.

**Heather BAILEY:** I will hand that over to you, Jencie.

**Jencie McROBERT:** RMCG is an agricultural and natural resource management consulting business.

**Melina BATH:** Do either of your organisations have a stated position, either supporting or objecting to hunting?

**Jencie McROBERT:** No.

**Melina BATH:** So you are an independent organisation.

**Jencie McROBERT:** Yes.

**Melina BATH:** Thank you very much.

**Heather BAILEY:** Yes, and I would agree; I am also no.

**Melina BATH:** Thank you. I am interested in looking at ecotourism – so the opportunities for ecotourism or stated opportunities. In your research have you looked at any quantifiable values that show there is an economic benefit to ecotourism where recreational hunting has been banned? Now, I know this is quite specific, and it might be something you need to take on notice and get back to us. So has your organisation, your research body, compared states, such as New South Wales, where we now do not have hunting and it has been banned, with Victoria in terms of that ecotourism?

**Jencie McROBERT:** Our organisation has not done that kind of work. Have you, Heather?

**Heather BAILEY:** No. Not making a comparison, no. We might have done some tourism studies and some which might – it depends how you define ecotourism, but yes, we might have done some type of ecotourism studies but not comparing them.

**Melina BATH:** Thank you. I am interested in the role of hunter conservation efforts. Has either of your organisations studied the role of hunter conservationists in terms of free volunteer hours given by hunters to conservation or habitat restoration or land management in any of your economic assessments? Have you looked at that at all?

**Heather BAILEY:** Maybe I will answer first, Jencie. No, not specifically hunters. We are currently doing other work on conservation volunteerism but no, not on hunters.

**Melina BATH:** Thank you. That is fine. I note in your report you speak about, since 2013 to 2019, there has been a reduction in the net spend. Have I read that correctly? But indeed in regional Victoria there has been an increase in spend of that proportion. Have I read that correctly? I am interested that regional Victoria has thin markets. I am from regional Victoria, and we often are quite dependent, heavily dependent, on influx of tourism, in this case hunters. Could you speak more to – and I am going to use my region, for example, Eastern Victoria Region, Gippsland – what the impact is on LGAs, Wellington shire, Latrobe Valley, of that spend? Could you delve a little bit more into that?

**Jencie McROBERT:** I might answer and then hand over to you, Heather, just by saying that directly our study shed some light on the changes, and one was that the number of deer licence holders had increased dramatically, I think about 65 per cent, between the surveys. And there are a lot of deer in the north-east of Victoria of course, so that would have influenced the shifts in spending. So there was an increase in spending toward deer hunting, for example, but there was a reduction in contribution from native bird hunting. Our understanding, and it is in the report, was that that year the season was reduced in terms of hours and time period, so that was sort of borne out by reduced hunting days and hunter effort, if you like.

I can hand over to Heather, but I think I know what she is going to say in that ours is not an impact study. It is an economic contribution study, so it really is only looking at the economic activity from hunting. Heather, would you like to say any more or is that –

**Heather BAILEY:** I think that that covers it. In the report we do specifically consider and report different regions, but I would probably need to take it on notice to give you any specifics.

**Melina BATH:** Thank you.

**Heather BAILEY:** we considered every LGA and region in Victoria.

**Melina BATH:** But your statement from your report is the economic activity – you are seeing an alignment of native bird hunting with the reduction of season and the loss of spend in regional Victoria and particularly in those areas where, and you may need to take this on notice, duck hunting occurs?

**Heather BAILEY:** Yes. I would need to look in more detail, I think.

**Melina BATH:** I would love it if you could take that on notice. That would be fantastic.

**Jencie McROBERT:** I guess there is the cause and effect thing there, though. I guess it is an association, which we reported: the reduced season in that year, and we picked up a reduced expenditure, if that makes sense.

**Melina BATH:** Absolutely.

**Jencie McROBERT:** What causes what – we did not study that –

**Heather BAILEY:** We did not study that; that is correct.

**Jencie McROBERT:** because it was not an impact study.

**The CHAIR:** I will move on to our next member. Ms Purcell.

**Georgie PURCELL:** Thank you, Chair. And thank you for appearing today. You have touched on this in the beginning with a question from the Chair, but I just wanted to go into it a little bit more. Something that we have observed in my office is that hunting advocacy organisations promote surveys as an advocacy tool for many of their members – and there is a clear incentive for them to exaggerate their spending – and also that they could possibly do the survey a number of times. Can you just go into any steps at all that you did to verify spending? For example, were receipts checked, or was there crosschecking with local businesses that they mentioned?

**Jencie McROBERT:** Heather, I will let you –

**Heather BAILEY:** We have a process there to ensure that people could not submit more than one survey response. I think that is explained in the report, but I cannot be sure that it was. I would need to take that on notice. It was an online survey, and you can confirm through their URL – they were given unique tokens for that specific person and so they could only respond one time. In terms of exaggeration of expenditure, I suppose that is possible. What we were doing when we were checking through the data was checking for implausible responses, and those were removed – you know, people who spend an unusually large amount of money on guns, which is unlikely, et cetera – but we would tend to find their whole response might be a bit strange and implausible. It was typically more around, actually, numbers of trips and things. And then we did crosscheck it against other studies done, just to see that expenditure was not particularly different. One of the things that we did do – what we would expect is that there would be a significant recall bias if you expect people to provide their expenditure from 12 months. So we were covering off for trips, and some people might take up to 20 trips, but that is just very difficult for people to respond about accurately, therefore we did look at the most recent trip as we felt there was more likely to be good recall on that. And a lot of expenditures, as we describe in the report, were adjusted for the amount of time that you would use that item for hunting. There might be items purchased that might have uses beyond just hunting, so we did not attribute the whole expenditure, just that component that was related to hunting.

**Georgie PURCELL:** Thank you. So just to confirm, there was no request from participants to produce any evidence of the amount that they claimed to have spent on the most recent trip?

**Heather BAILEY:** No.

**Georgie PURCELL:** Thank you. Forgive me; I am going to be reading out a number of numbers, so I am going to have to look at my screen. In 2020 you produced a report for the Game Management Authority on the economic impact of hunting in 2019, and the results of that 2020 study included estimates for hunter spending, economic impact and full-time jobs supported. So there was \$351 million in spending, \$356 million for economic impacts, direct and indirect, and 3138 jobs. Then in 2019 you wrote a similar report for the federal Department of Health on the economic impact of hunting in Australia in 2018, and this report included estimates for Victoria; those estimates for Victoria were \$512 million for spending, \$638 million for the economic impact, direct and indirect, and 5679 jobs. So according to your two studies, hunting spending dropped by a third and around 2500 jobs were lost between 2018 and 2019. Can you please explain the reasons for this?

**Heather BAILEY:** Okay, both just confirming again and reiterating, they are not economic impact studies, they are economic contribution studies. The 2019 study was of game licence hunters – people who had Victorian game licences. The 2018 study was across all hunters – so hunters who have game licences as well as hunters who do not have game licences – so those are people who would not be hunting game species and therefore do not need a game hunting licence, and it also covered sports shooters – target shooters – which is another group of people. So it is a much larger group – much larger.

**Georgie PURCELL:** So those numbers cannot just be used for duck shooters?

**Heather BAILEY:** Definitely not, because duck is a game species – look at the 2019 study.

**Georgie PURCELL:** Thank you.

**Michael GALEA:** Thank you, Chair, and thank you both for joining us. So the report shows quite a dramatic increase in the economic contribution on the part of native birds – ducks and stubble quail – over the two-year period, I think 46 per cent for ducks and 58 per cent for stubble quail, and this is despite the overall

economic contribution of hunting increasing from things such as deer, as others have already mentioned. I would like to know in the course of your research if you were able to identify or observe any particular trends or factors that caused that decrease, particularly compared to the overall increase in other parts of hunting.

**Heather BAILEY:** Do you want me to take this, Jencie?

**Jencie McROBERT:** I did touch on this before, but yes, Heather, if you would like to add something in terms of that change in number of hunting trips and hunter effort or activity during that season. Is there anything else that we could attribute?

**Heather BAILEY:** That was the thing, because we did not anticipate that as part of the survey, there were not any additional questions – well, that would only be asked of recreational hunters anyway. And you might want to ask a number of different people, so no, the only thing we see is that, as Jencie mentioned, there were reduced seasons. Was there reduced number, Jencie? I cannot remember if we had reduced number of actual licence-holders or not?

**Jencie McROBERT:** Not a lot of change from my memory in the last season other than deer.

**Heather BAILEY:** Yes, so, deer. We had an increase of licence-holders, but yes, the comparison between the 2013 and the 2019 season was that the 2019 season was reduced –

**Jencie McROBERT:** Yes.

**Heather BAILEY:** in number of days as well as number of the bag take –

**Jencie McROBERT:** Yes.

**Heather BAILEY:** so whilst that is not directly going to – we cannot indicate the causal relationship, but we can observe that there was a reduced season with a reduced bag take, which means there are reduced opportunities perhaps, which means there might be. We could posit, but we do not know that that caused reduced trips and expenditure.

**Michael GALEA:** Sure. And I guess related to that as well – and we have seen this even this season – there have been some modifications part way through the season with some what we call section 86 notices coming in to alter the arrangements. Looking back it looks like there have been quite a few of them for almost if not every year over the past decade as well, so I guess that creates a bit of uncertainty as well. I am curious as to how that would actually impact on the modelling of those contributions that you can actually make when there is such a disparity year to year and things do change quite a bit in this space.

**Heather BAILEY:** Well, our modelling is based on what happens, so, yes. And it is looking back; we are not in the predictions space looking forward, for example. So it literally just describes what happened in that year based on the numbers of licence-holders and the average numbers of trips they took for that species. So it is simply reflective of what happened that year. I mean, broadly, if there is greater uncertainty – typically the less certainty there is, you know, that means risk and that is just as a general principle. When you have risk in a situation, that can have economic effects. You know, it is likely to change people's behaviour.

**Michael GALEA:** Yes. And I was going to ask if there are any interpretations you could draw for future trends. I think you have already answered that that is a no –

**Heather BAILEY:** Yes. Correct.

**Michael GALEA:** which is fair enough. You have mentioned a bit that an impact analysis would obviously answer some of the questions that have been raised. What sort of key differences would you be able to gain from doing an impact study as opposed to an economic contribution study?

**Heather BAILEY:** Okay. If you are going to do an economic impact study, you are really assessing a change. So you are analysing the impact of a change from the current situation – which you might have the 2019 season, for example, or something as a baseline, whatever is your baseline – and then assessing the expected change. For example, if there was to be a removal of a season for a particular species, then you would say, 'Okay, well, we know the change will be that there will be no trip expenditure associated with that

species', for example. I mean, you know, it all depends on what the situation is you are trying to analyse. And so that is what you would be considering and analysing what you expect. You might also, for example, try and understand how hunters' behaviour might change, and that is where those questions about, you know, would you, given that as an example, hunt a different species or would you hunt in a different state or would you go fishing, or just cease the activity and not find an alternative activity? So at least that would be the question. And also I would imagine that then that impact analysis – unless it is saying specifically we only want to know what the impact is in relation to specifically recreational hunters' activities would then consider as well the alternatives: what activities might occur or not occur as a result of recreational hunting ceasing.

**Michael GALEA:** Okay.

**Heather BAILEY:** So, for example, you might have more access to other recreational activities, and what are the economic effects of that?

**The CHAIR:** Mrs McArthur.

**Bev McARTHUR:** Thank you, Chair. I want to go to your wellbeing measure contribution, and we have noted that hunters are on average well educated and reasonably affluent. Is that a correct summation?

**Heather BAILEY:** Yes. I would say that it is on average, yes.

**Bev McARTHUR:** And you have also concluded that hunters, by and large, have a more advanced wellbeing measure. Is this important to individuals?

**Jencie McROBERT:** Well, that is not for us to say. That was just part of the study. We added some additional questions to the survey to explore those wellbeing measures.

**Bev McARTHUR:** So you would conclude that wellbeing is an important aspect to measure?

**Jencie McROBERT:** We were asked to measure it. We did not make any conclusions, I guess. I am not trying to be difficult, but I am pretty sure we did not make any conclusions about that or judgements on how important that is.

**Bev McARTHUR:** Well, we are grateful for your rigorous research that shows that on every category of a wellbeing measure hunters have higher satisfaction with their lives than the general population of Victoria. That would be clearly a good thing, wouldn't it?

**Jencie McROBERT:** Certainly good for the hunters, yes.

**Bev McARTHUR:** And even good for the community, isn't it – better that people have a higher wellbeing measure than a low wellbeing measure?

**Heather BAILEY:** I might just add in there, Jencie, and this is not something we have been able to explore further, but what we did not do was to understand the reasons why. Whilst there will be hunters across the spectrum of society, they are not equally representative of the spectrum of the broader population. As we pointed out, they are on average more educated and on average they have higher income, and so I am sure there is at play that they represent a smaller group of society than your general Victorian population. We did not investigate and then say, 'Well, what part of the general population are they similar to?', because that might be quite challenging. But that could be a study, I suppose, in future – and whether or not they have higher wellbeing compared to that section of the general population. We do not know.

**Bev McARTHUR:** Maybe some further research could be done. Would you say – I do not know whether you have measured this at all – the anecdotal conclusion might be they were also law-abiding citizens?

**Heather BAILEY:** I could not comment on that.

**Bev McARTHUR:** So they probably also have a higher propensity to spend. That is what you have concluded in the collection of data as to what is spent by hunters.



**Heather BAILEY:** No, I do not think we can say that they spend more, because what you would then need to say is: what is the alternative to spending?

**Bev McARTHUR:** Not spending.

**Heather BAILEY:** It is saving. So you would need to find out information about how much they saved, and we did not study that.

**Bev McARTHUR:** Now, if we look at areas like Tasmania and the Northern Territory, which have significant ecotourism markets and recreational game bird season, is there any evidence that you have found as to why the two cannot coexist in Victoria?

**Heather BAILEY:** No, we have not studied anything like that, and I cannot comment on those states based on any published work.

**Bev McARTHUR:** Would you also say that where spending occurs by hunters it makes a significant contribution to communities that in other ways do not have that ability to attract that sort of expenditure, even if it is only for a short amount of time? I mean, I can point to areas in my electorate which welcome with alacrity the hunting season because it means that the small businesses that exist in those areas are going to have a windfall, so to speak, in their take-home economic contribution, which would not otherwise occur without the hunting season. Have you looked at how small communities in rural areas benefit?

**Heather BAILEY:** Not specifically how they benefit. What we have looked at – and that is in the report – are towns where hunting expenditure is substantial, so that is highlighted in that report, yes. We did not in this report discuss that, but obviously, yes, recreational hunters have some of the features of tourists in that they spend on goods and services in the place in which they are visiting. We did pick that up, and that is represented in the report through that sort of LGA and town analysis. I would be speculating – and no, we could not, because we did not investigate this specifically – but I know that hunting seasons might be different from tourist seasons. And if that is the case, then that would help, in that often in these regional towns, tourist activities or other activities are very seasonal, as is hunting. And it might be – but we did not investigate that – that if that hunting occurs in a season when other activities do not occur, that is, you know, helpful to them. But as I say, I would be speculating, because we did not actually investigate that.

**Bev McARTHUR:** Great. Thank you.

**The CHAIR:** Mr Bourman.

**Jeff BOURMAN:** Thank you, Chair. Thank you for presenting there today. I have got a copy of both of your reports here. They are quite comprehensive. I will ask a pretty strange question to begin with. Would you guys consider yourselves a think tank, leaning either way?

**Jencie McROBERT:** No.

**Heather BAILEY:** No.

**Jeff BOURMAN:** Good. The final report says here it was commissioned by the Department of Jobs, Precincts and Regions. From your understanding, do you know exactly whether it was the department that did that, the Game Management Authority or a brief from the minister at the time herself?

**Jencie McROBERT:** I can answer that. We were commissioned by the department directly. They were our client, and there were fairly senior people in there that we did the study for.

**Jeff BOURMAN:** Thank you. I note in your reports, and I did read them – it helped me with my sleepless nights – that you made a point of detailing what I would characterise as data-cleansing search exercises. Am I right in saying that you do this to take into account the inevitable limitations of the data that you have to work with? Can you give us a bit of an outline of why these sorts of data-cleansing things are important and the consequences of using data that has not had proper cleansing?

**Heather BAILEY:** Thanks. Yes, I can. We definitely set up the survey to make it straightforward for people to respond. Our particular survey was just a click button, so that would allow them to not make a typo, for

example, because particularly if you are doing expenditures and if, for example, you plan to put in '3000' but you accidentally add an extra zero or drop an extra zero, that will, you know, have a consequence. But with data cleansing, it was just to make sure we had coherent responses. I mean, by and large they were. But one of the other activities perhaps was more around adjusting the data. It is easier for people to respond rather than to specifically accurate numbers – if you hunted three months ago, how much can you remember exactly what you spent on fuel? You are probably more likely to know that you bought a tank of fuel and you would say, 'Oh, that would be about so much.' And then we get roughly accurate rather than accurately completely wrong data, if you understand what I mean.

**Jeff BOURMAN:** Yes.

**Heather BAILEY:** As I say, that point about accidentally putting or dropping a zero – that is very important because we are getting a sample and we are using that sample to infer what the whole population does. So we want to be reasonably on the mark, as it were, not necessarily specifically accurate, because this is not a census. But we want to make sure that we are not going to be aggregating inflated or deflated estimates, for example, as again, in this study we were asking people for their expenditure on their last trip, because this was quite a hard survey, quite a cognitive load on people, so that is why we specifically kept to the last trip. They are more likely to give a reasonably accurate response of their last trip that they might have a reasonable memory of, and they can also reasonably remember how many trips they took. And then we were using that for the different species or animal groups to aggregate up all their trips and then to use their data adjusted. So they were weighted – I know I am probably going a bit off the topic here –

**Jeff BOURMAN:** No.

**Heather BAILEY:** but they were weighted according to what their population characteristics were, to represent the hunter population. So they might have been a female hunter, so they would be put into that group to represent female hunters or so forth, or a female deer hunter and so forth, and their trips would be accordingly –

**Jeff BOURMAN:** Okay. Thank you. The consequences of not doing exercises like that to a report, what possible negative outcomes to the accuracy of the report – and I understand that no-one's submitting receipts and things like that – if someone did not go through all those exercises and just put in the data as collected and did not bother weighting it or doing anything like that? What would be the impacts of that to the outcome?

**Heather BAILEY:** In this specific case if we had not weighted and if we had assumed that they were representative, we would have overestimated the economic contribution, because we had relatively more active hunters than inactive hunters. By inactive I mean people who did not go hunting in 2019 – they would have had a licence and so they would have had some expenditures, but they would not have, for example, trip expenditures, but they might have some –

**Jeff BOURMAN:** Yes, purchase of equipment or something like that.

**Heather BAILEY:** to support their hunting, like they might have maintained training and so forth, things like that. Their expenditures are much lower, so we did weight them.

**Jeff BOURMAN:** Thank you very much.

**The CHAIR:** Ms Watt.

**Sheena WATT:** Thank you both. There is a lot in your report, which I have spent a lot of time reading. I do just have some questions that go to one of the earliest pages in it, which is when you acknowledge some organisations that have been part of making this report possible. I acknowledge that you have had grateful assistance by the Australian Deer Association, Field and Game Australia, Sporting Shooters Association, Victorian Hound Hunters Incorporated, Victorian Game and Deer Stalking, Victorian Deer Association, Blond Bay Hog Deer Advisory Committee. These are new organisations, some of them, to me. Can you talk to me a little bit about what assistance these organisations provided that means that you are so grateful to them, just in terms of me understanding, then, how they were involved in this report.

**Heather BAILEY:** Jencie, do you want to answer that one?

**Jencie McROBERT:** Yes, well, I can start. They would have provided us data, if they had it, on activity levels of their hunters or members.

**Sheena WATT:** What level, sorry? Could you repeat that?

**Jencie McROBERT:** They would have provided us with data, if they had any, just in terms of their memberships, because all this goes into the mix to try and categorise each of the elements of the hunting population. It is important for the modelling. Heather, is there anything else?

**Heather BAILEY:** Yes. On my understanding – and I was not quite involved with them – they might have provided other information, but they would have put forward a member to test the pilot survey.

**Sheena WATT:** Okay.

**Heather BAILEY:** And we would have covered, I would imagine, given that list – I was not directly involved in that – across all the different animal groups. That was to make sure that – I suppose that was certainly one of the things that they did. It was to get access to a hunter, like a duck hunter and a deer hunter and so forth, to test the survey to just make sure that they understood the questions – that they were asked in a way that was easily understood. Our intention – why we were asking for that information was for what they were actually delivering, and they could also provide general comments on the usability of the survey.

**Jencie McROBERT:** And the language.

**Heather BAILEY:** And the language and so forth, particularly – you know, was it written in the language that they would use?

**Sheena WATT:** That they would be familiar with and then feel confident enough to answer the survey.

**Heather BAILEY:** Yes.

**Sheena WATT:** Okay. That makes sense to me. Thank you. Was there any involvement of those groups around promotion of the survey within their membership? Or was it simply about checking if the words were right and therefore the crafting of the survey?

**Heather BAILEY:** I might pass that back to Jencie.

**Jencie McROBERT:** It is likely that they would have promoted the survey through the communication channels, yes.

**Heather BAILEY:** It would have said, 'There is this for game licence hunters.'

**Jencie McROBERT:** It would have been on Facebook pages and the like.

**Sheena WATT:** And such. Okay. That gives me a clearer sense, then, of their involvement in the development of the survey and the promotion and completion of the survey, so thank you. My next question is: a lot of the data inputs are quite subjective and are based on feedback from the hunters themselves – I am thinking particularly of the wellness pieces – without verification, so how confident can you be in these numbers? The differences between the general population and the results of the survey for the hunters are markedly different, so I am interested in any feedback from you on the subjective data inputs that make part of this survey.

**Heather BAILEY:** Sorry, what are you comparing?

**Sheena WATT:** You know, 'Do you feel good about yourself?' and –

**Heather BAILEY:** The social questions.

**Sheena WATT:** The social questions more than, 'How much money are you spending?' It is more about the wellbeing questions. How do you kind of verify them to give rigour to the results?

**Heather BAILEY:** I think, Jencie, you could probably also add to this. We used the same method that is used in the wellbeing survey and the same questions. So you are comparing how hunters respond, which is subjective, to how other groups of people in the general population respond, which is subjective.

**Jencie McROBERT:** But yes, it is subjective. It is a self-assessment of how you are feeling.

**Heather BAILEY:** Self-assessment.

**Jencie McROBERT:** But that is a kind of well-used survey method. But it is a reasonable question.

**Sheena WATT:** Thank you very much for that. I appreciate your responses today.

**The CHAIR:** Ms Copsey.

**Katherine COPSEY:** Thank you, Chair, and thank you for your evidence today. We are coming to the end of our time, so I do not want to repeat questions that have been done earlier in the session. However, I just wanted to confirm – we had some earlier discussion that the net figures that are quoted in the report are preferable in terms of determining impact compared to the gross figures. Is that correct? Yes, I am seeing nods. Thank you. I am just looking at tables. The committee is interested in impacts on regional economies, and I just wanted to confirm that the figures in tables such as 6.3 and 6.4 around economic impact are based on gross figures.

**Jencie McROBERT:** Again, as we have reiterated, it is economic contribution, it is not impact.

**Katherine COPSEY:** Yes. Apologies. That is my language. I do not want to verbal you. But it is based on gross contribution.

**Jencie McROBERT:** Yes, but it is an important distinction, that is all, so I am sorry to be harping on about it.

**Heather BAILEY:** Yes. I have just looked at the report, and they are for gross economic contribution.

**Katherine COPSEY:** So although that is broken down in 6.4 by animal type, that contribution is still based on a gross contribution not a net contribution.

**Jencie McROBERT:** Yes.

**Heather BAILEY:** Yes. Table 6.4.

**Katherine COPSEY:** Thank you for confirming that. Also your net figures, where those are available, are presented as a range, and you had scenarios based around high or low substitution. I am interested in the low-substitution scenario. What value is there in that, given you have had some self-reporting from hunters that 96 per cent of them do engage in other outdoor activities. Do you think it is likely that the low-substitution scenario would eventuate in reality? I suppose that is my question.

**Jencie McROBERT:** I might start. It is unknowable, but yes, it is unlikely. In reality it could even be negative – the contribution – if there was a change in hunting. We just posed two scenarios, I guess, to demonstrate and just to get us all as readers of the report thinking about these issues rather than just reporting the gross contribution.

**Katherine COPSEY:** Thank you. I have two other questions, but I hope that they are quite quick. Some submissions to this inquiry – not yours, I will highlight – have suggested that your results suggest that hunters spend \$269 per duck killed. Do you have a comment on that figure – whether you think that that is what is suggested by your results and whether you think that is realistic?

**Jencie McROBERT:** I might just start. It is an unusual way of looking at it, but offhand it is not that surprising to me. It is probably \$5000 per deer that is actually hunted successfully. So I am unsure about that. It is not surprising, though. Heather?

**Heather BAILEY:** Look, that is not a number we calculated. We would more likely take it as a trip, because it is not attached to a duck. People do not spend more if they are more successful hunters, necessarily.

Well, we have not analysed that. So yes, it is more driven by how many trips they go on and also how much they want to spend on supporting that activity. Some people like to go for the bells and whistles, and some people might go for basic hunting style. I could not really comment on that number. Is it expenditure or is it contribution? I am not sure, sorry. I did not pick that up.

**Katherine COPSEY:** Thank you. I have just one final quick one on the topic of wellbeing. You compared the self-reported wellbeing scores of shooters with the general Victorian population, but you did not compare them, for example, with other groups of people that undertake outdoor recreation activities, such as birdwatching or hiking. Is that correct?

**Jencie McROBERT:** That is correct.

**Katherine COPSEY:** Thank you. They are my questions.

**The CHAIR:** We are bang on the end of our allocated time. We have just gone a few minutes over overall, so we might wrap it up there. Ms Bailey and Ms McRobert, thank you very much for your work on both the report and the time you have taken today to come and give evidence before the committee. You will receive a copy of the transcript of all the glorious things that have been said today in about a week, before it is published on our website, for you to have a look at. We thank you again for your time today.

**Witnesses withdrew.**