

TRANSCRIPT OF PROCEEDINGS

O/N 77610

ADMINISTRATIVE

APPEALS TRIBUNAL

DEPUTY PRESIDENT P.E. HACK SC
DR T.J. HAWCROFT, Member

No. 2007/535

WILDLIFE PROTECTION ASSOCIATION OF AUSTRALAI INC

and

MINISTER FOR THE ENVIRONMENT, HERITAGE
AND THE ARTS

SYDNEY

10.30 AM, THURSDAY, 3 APRIL 2008

Continued from 2.4.08

MR M. BAIRD appears with MR P. SINGLETON for the applicant
DR M. PERRY QC appears with DR M. IZZO for the respondent
MS R. PEPPER appears for the Director-General

THE D.PRESIDENT: Ms Pepper, have we got some witnesses on your side?

MS PEPPER: I think we're going to continue with the joint parties' witnesses today, and I have Nicole Payne available.

5

THE D.PRESIDENT: And she has to be away by 12; is that right?

MS PEPPER: Preferably, yes, that's correct. I understand that that's eminently possible.

10

THE D.PRESIDENT: All right. Can you get Ms Payne somewhere?

<NICOLE MARIE PAYNE, SWORN

[10.31 am]

15

<EXAMINATION-IN-CHIEF BY MS PEPPER

20 THE D.PRESIDENT: Take a seat, Ms Payne. Yes, Ms Pepper. I'm told that your side might have the original of the affidavit. We've only got a copy.

MS PEPPER: I do apologise. I thought the originals had all been - - -

25 THE D.PRESIDENT: It doesn't matter. We will show her a copy.

MS PEPPER: We do have the original, yes. Did you want the original now or after I've gone through the - - -

30 THE D.PRESIDENT: Sorry?

MS PEPPER: Would you prefer, Deputy President, the original now or after I've gone through the formalities?

35 THE D.PRESIDENT: No, no. If she has got it, get her to swear to the correctness of it, and just tender it at that stage.

MS PEPPER: Could you please state your name for the tribunal?---Nicole Marie Payne.

40

And your occupation?---I'm the manager of the Kangaroo Management Program for the New South Wales Department of Environment and Climate Change.

And your address?---48 to 52 Wingewarra Street in Dubbo.

45

Now, Ms Payne, have you sworn an affidavit in these proceedings?---I have.

And does that affidavit contain 13 annexures?---It does.

And are the contents of your affidavit true and correct?---They are.

5 Now, Ms Payne, is there anything within the affidavit or any of the annexures that
you wish to correct?---Yes, there is. In annexure number 12, which is the 2008 quota
report, there are a couple of small errors that I would like to correct. Firstly, on page
6, in table B, which relates to the 2007 population estimates for the northern
tablelands, the heading Density in the wallaroo section should have two asterisks
10 next to it which relates to a footnote at the bottom of the table with two asterisks.

So if I understand you correctly, going across from left to right, the sixth column
entitled Density should have a double asterisk after the word "density"; is that
right?---That's correct, yes.

15 Is there anything else?---Yes, there is one more. Table H on page 12, which relates
to the 2007 western grey kangaroo population estimates, there is an error in the 2007
data. The population estimate in millions says "plus or minus 0.87." That should, in
fact, be "0.087" or .09, when rounded to two decimal places, as the rest of the data is.

20 Can I just confirm with you, Ms Payne, you have a copy of your report and all the
annexures - or your affidavit and all the annexures with you?---I have the originals,
yes.

25 And you have a copy of the kangaroo management plan as well?---I do, yes.

THE D.PRESIDENT: In the original of the document that you have, have you made
those corrections that you've just spoken about?---I have, yes.

30 Good. You tender that?

MS PEPPER: I tender that, yes.

35 THE D.PRESIDENT: The affidavit of - - -

MR BAIRD: Excuse me, Deputy President, there is only just one objection. It's
just in relation to paragraph 62.

40 THE D.PRESIDENT: Yes.

MR BAIRD: And it's just a mixture of perhaps fact and opinion in relation to the
description of the management plan - that refers to the plan "provides for quotas to
be reduced or suspended if considered necessary, in response to new information."
The real objection the applicant has is to "or suspended if considered necessary."
45 Assuming that the provision of quotas to be reduced in response to new information
is in reference to the total number as opposed to the percentage. The percentage isn't
reduced. And the question is if - "or suspended if considered necessary" - that's

actually a - specifically should be referred to by reference to the plan directly, rather than - - -

5 THE D.PRESIDENT: Well, can your objection be overcome by ms Pepper taking the witness to that part of the plan to which reference is made?

MR BAIRD: If that is possible, yes, the objection could be overcome.

10 THE D.PRESIDENT: Ms Pepper?

MS PEPPER: I'm still - sorry, perhaps if the objection could be repeated? I'm a little bit confused as to what it goes to.

15 THE D.PRESIDENT: Well, I think the objection, as I understand it, perhaps would be conveniently described as giving secondary evidence of the contents of a document, and the matter can be overcome by having the witness go to that part of the document - that is, the management plan - where provision is made for quotas to be reduced or suspended if considered necessary.

20 MS PEPPER: I thought that was a matter that could be dealt with by way of cross-examination.

25 THE D.PRESIDENT: Look, I just want to get through this and let Ms Payne get on her airplane to go on her holiday, so if it can be overcome quickly that way, let's do it.

30 MS PEPPER: Ms Payne, you've just heard the exchange that has occurred by the tribunal. Could you please perhaps go to the plan, which, I understand, you have before you, and indicate to the tribunal where it is in the plan that the plan provides for quotas to be reduced or suspended if considered necessary, in response to new information about kangaroo populations?---Yes, I can. It falls under AM4 which is in relation to monitoring of kangaroo populations, and performance indicator 13.1, which is on page 40 - - -

35 THE D.PRESIDENT: Can you remind me of where the plan is?---The plan is - - -

MS PEPPER: I think we're all working off the colour copy of the plan.

40 THE D.PRESIDENT: Sorry. Yes. So page 84?---Sorry, at page 40. Yes. Action 13 states that:

Kangaroo populations will be continually monitored indirectly through the life of this plan.

45 And the performance indicator 13.1 relates to the monitoring of average weights in harvested kangaroos, and the explanatory text associated with that performance indicator says, in the last sentence, that:

Actions may include reducing or suspending the commercial harvest for that species in that zone, or increasing survey intensity at next survey.

Does that overcome the objection, Mr Baird?

5

MR BAIRD: Is that the only reference?

THE D.PRESIDENT: Mr Baird, I overrule the objection. The affidavit of Nicole Payne, sworn 18 February 2008, will be exhibit 22.

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EXHIBIT #22 AFFIDAVIT OF NICOLE MARIE PAYNE DATED 18/02/2008

15 MS PEPPER: Nothing further.

THE D.PRESIDENT: Dr Perry.

20 <CROSS-EXAMINATION BY DR PERRY

[10.38 am]

DR PERRY: Ms Payne, are you aware that there's a seasonal harvest of eastern grey kangaroos in the ACT?---I've recently become aware of that, yes.

25

Do you have any view as to whether implementing a similar - or implementing a seasonal harvest here of that kind would be feasible in New South Wales?

30 MR BAIRD: Sorry, I object only on the basis - well, I object that - I'm not sure what the plan - there needs to be some description of the plan or the proposals before we can be certain that is witness can compare the ACT to New South Wales.

THE D.PRESIDENT: How is it relevant, Ms Perry?

35 DR PERRY: Because one of the matters raised in the applicant's statement of facts and contentions is that a condition might be imposed by this tribunal which would require a seasonal harvest of kangaroos in New South Wales.

40 THE D.PRESIDENT: All right. Well, perhaps you ought to ascertain what the witness is speaking about when you talk about a "seasonal harvest" - - -

DR PERRY: Yes.

45 THE D.PRESIDENT: - - - because, I mean, I assume that it's what has been mentioned in the press of recent times, but beyond that, it's probably best to make clear what our - the shared understanding of it is.

DR PERRY: I think so. It is actually referred to also in Dr Croft's evidence, so that was the reason why I was - - -

5 MR BAIRD: Sorry, the other objection is just to - is the qualifications of this witness. I understand this witness is not portrayed as an expert in kangaroo populations, but as the manager of the program rather than as an ecologist.

10 THE D.PRESIDENT: Can't she give evidence of what a management response would be, or whether that would be an appropriate management response?

MR BAIRD: As management? As a government action - - -

15 THE D.PRESIDENT: Or as the person who is given the task of giving effect to the plan if the tribunal takes the view that the plan, in some form or other, should be given effect to. Yes.

DR PERRY: Ms Payne, you're responsible for the day to day administration of the New South Wales Kangaroo Management Plan; is that correct?---Yes, it is.

20 Yes. And you've said that you are aware that there has been a seasonal harvest in the ACT of Eastern Grey kangaroos. What do you understand that season harvest to involve?---Well, first of all, my understanding is that it is a cull rather than a harvest. I'm not aware of a commercial application for those carcasses, and that the purpose of that cull is for population control. The situation under the New South Wales
25 management plan is such that the plan allows for a sustainable harvest irrespective of any measures for damage control or population control. This plan is not designed to achieve population control. So there are some fundamental differences between the objectives of the commercial harvest management plan in New South Wales and the population control cull in the ACT.

30 Do those have any relevance to the question of whether a seasonal harvest of one or more species of kangaroos in New South Wales would be capable of being implemented from your perspective as a person managing the program here in New South Wales?---The commercial harvest in the area adjacent to the ACT is relatively
35 new. It's only been occurring since 2004. The reason - prior to that non-commercial licences were available only in that area. The proposal that was put to the then National Parks and Wildlife Service for a commercial harvest was based on quite a long history of high numbers of animals being shot non-commercially for perceived damage control by landholders. So the - there was a high level of culling going on
40 that was not limited to a particular time of year. My belief is that if a - if the commercial harvest were restricted to a particular period of time in that area that it would not have its current impact of reducing non-commercial culling. So non-commercial culling would be undertaken either side of the commercial harvest season if a commercial harvest season was implemented. With the commercial
45 harvest that is happening now we have seen a large drop in the number of animals culled non-commercially. So there's been a substitution, if you like. Where there used to be non-commercial culling going on that has been replaced, to a large extent,

by the commercial harvest. I'm not sure that that would be the case if there was a restriction on the period of time under which the commercial harvest took place.

5 THE D.PRESIDENT: Might I ask on that topic, is non-commercial harvesting licensed by some state government entity?---Yes, it is. Non-commercial - I call it culling because it's - there's no - by definition, there's no commercial application for the harvest - it is licensed under the New South Wales National Parks and Wildlife Act.

10 And is it restricted in any way?---No. No.. Each application is assessed by an authorised officer, so the issuing of a licence is always discretionary. The authorised officer has the capacity to say, "No, this licence is not appropriate," but there is no

15 But no, it's not appropriate because there aren't enough kangaroos to shoot, or no, it's not appropriate because you're not a fit and proper person to shoot kangaroos?---The National Parks and Wildlife Act doesn't have fit and proper person terminology in it, so it would be refused on the basis that the application wasn't supported by the evidence, so there weren't as many kangaroos there as the
20 landowner was claiming or the damage that they were claiming was - there was no evidence of that level of damage.

So the control is, as it were, ecological rather than focussed on the subject person?---Yes.
25 Yes, Dr Perry?

DR PERRY: Yes. We have no further questions.

30 THE D.PRESIDENT: Mr Baird?

<CROSS-EXAMINATION BY MR BAIRD

[10.45 am]

35 MR BAIRD: Thank you, Deputy President.

Ms Payne - it's Ms Payne?---Yes.

40 Thank you. You say in your affidavit that you manage the five full-time staff and one part-time position and then you're indirectly responsible for a number of other positions?---That's right.

45 Within those five full-time positions, does that include the three compliance officers such as Mr Snook and the other two?---Yes.

They're part of your program?---Yes, they are.

In terms of your duties, you talk about managing policy development and implementation of the program. In terms of the policy development side of things, just focussing on that, does that mean correlating, as you have annexed to your affidavit NP3 and NP4, the literature survey, that you get others - I gather that's
5 contracted out to do?---Yes.

I think that - at NP3 there's a report by Penny Olsen and Mike Bracher which was - and then there was, at NP4, a situation analysis report by Penny Olsen and Tim
10 Lowe, and I think that's March 2006?---Yes.

And you were responsible for commissioning those people or - - -?---That's right.

And they prepared that report which then you - what did you do with that? Did you put it to the Kangaroo management advisory panel?---Yes. Those - both of those
15 reports were commissioned during reviews of the management plan. So the Olsen and Bracher report, annexure 3, was commissioned prior to the finalisation and approval of the previous management plan which was for the period 2002 to 2006 and annexure 4 which is the March 2006 report was commissioned during the review that led to this current management plan.

20 And do you have any involvement in recommending options as a consequence of - just in relation to the 2006 - I'm sorry, the 2007/2011 plan which is the plan we're dealing with in this tribunal - do you have a role in preparing recommendations or advice based on that literature survey?---I did. The Kangaroo management program
25 had a project officer who was employed specifically to undertake the day to day preparation of this plan but, as manager of the program, obviously I had an oversight role.

30 And, as part of that oversight role, were you involved in setting the aims and objectives of the kangaroo management plan - the Kangaroo - Commercial Kangaroo Harvest Management Plan 2002/2001?---Yes, I was.

So you're aware of the aims and objectives of that plan?---Yes.

35 And did you have an involvement in developing the performance indicators within those particular action plans?---Yes, I was.

40 And in relation to the plan the over-reaching plan is - the over-reaching aim - over-arching, I'm corrected - do you have a copy of that plan in front of you?---I do, yes.
Page 27.

Page 27, thank you - is "to maintain viable populations of kangaroos throughout their ranges in accordance with the principles of ecologically sustainable development" and, in your opinion, this plan meets, assuming compliance, meets that goal?---Yes,
45 in my opinion, it does.

And in relation to some of the literature it would appear that this plan doesn't see the reduction of kangaroos for pest control as being one of the goals or objectives or rationale for the current plan; is that correct?---That's correct.

- 5 And it would - I should also say, in terms of the literature review, you have a knowledge of that literature - have you read the review, the Olsen and Lowe - sorry, the 2006 literature review?---Yes, I have.

- 10 And do you accept their conclusion, or their observation, that the discontinuation of damage mitigation grounds for harvesting is, in many ways, a more honest approach to kangaroo management given that damage is difficult to monitor, predict, and even to prove, empirically, to be an issue. It also removes the implications of the kangaroo as a pest. Would you agree with that proposition?---Yes.

- 15 And as part of the plan, that's why the goal focuses on the ecological use and sustainable development aspect of the harvesting of kangaroos?---Yes.

- 20 In relation to the plan, you took us to aim 4 and action 13.1, page 40. This deals with if there's reduction in the average weights of any species, male and female, falling outside of a particular - I think it's one standard deviation - triggers management action and that action - well, I'm sorry, if I can go back. According to the performance indicator, if that happens, that particular event is reached, then the weights will then be monitored monthly and possible contributing factors examined?---That's right.

- 25 At what time in the planning does it specify that, following the monitoring, further action will be taken? I'll put it another way - is there something in the plan that would say, "If the weights continue to decrease for another two months then we will reduce the numbers of kangaroo culled; we'll stop coming into the kangaroo management zone; we'll suspend the operation of licenses in this area"?---I'm still not sure I follow you. The final sentence in the explanatory text there does refer to reducing or suspending the commercial harvest or increasing the survey intensity as possible management actions.

- 35 I appreciate that. So some of the management actions, according to this particular performance indicator, are reducing or suspending the commercial harvest for that species or increasing survey intensity at the next survey?---Yes.

- 40 Is there anything in this plan that would enable myself to say, "Well, looking at that standard or that performance indicator, at a particular point there will be action taken to suspend the operation of the plan in the particular management zone"?---No, as a framework document the plan is not that specific.

- 45 And in relation to any guidance for someone looking at this plan, is there any guidance provided in this plan as to what criteria might be met, just with respect to this performance indicator, that would prompt the reducing or suspension of the commercial harvest for that species in that zone?---Well, yes, the average weights

falling outside of that one standard deviation tolerance is the trigger for those responses.

5 That's the first stage trigger. Is there anything else in the plan that says, "If it continues for six months, for example, then we will suspend the operation"?---No.

Is there anything detailed like that?---No.

10 So in terms, then, of suspending and revoking of licenses or reducing the quota, is there anything in this document that would direct me to say who it is that has that power to do that?---No.

15 And I gather that, in terms of your role in setting the quota – and you've produced those Kangaroo Management Reports 2007 which is attached to Dr Croft's report of 2008 which is attached to your report – are they prepared by you?---Yes, they are.

20 And the preparation of that requires you to get all the material in from the various information sources and tabulate then, obviously, some – is that correct?---Yes, that's correct.

And then some calculations are performed that indicates density, estimated population, and then a calculation is performed as to the – what the – applying the 15 per cent, what the actual quota is going to be for the next year?---That's correct.

25 And then, presumably, you issue directions and other people will issue the tags to the various kangaroo management zones?---That's correct, yes.

30 In terms of, for example, in your 2007 Kangaroo Management Report, with respect, I think it's to the – sorry, if I can – can the witness be taken to - - -?---I don't actually have a copy of the 2007 - - -

You do have a copy?--- - - - report. No, I don't, not the 2007 one.

35 It's annexure 11 to Dr Croft's report. Thank you, Ms Baird. If I could take you to page 6?---Yes.

40 And this was an examination of the south-east New South Wales trialled commercial zone and, as I understand it, this was a – was this a new zone that was being proposed?---That's correct, yes, the trial commenced in 2004 for that zone.

2004. So this was a continuation of – or an assessment, if you like - - -?---That's right.

45 - - - of that new zone. In your report you referred to modelling outlined and feasibility study by Pople et al, 2003, and if I can quote:

Indicates that the risk of quasi extinction defined, in this case, as kangaroo populations falling below two animals per square kilometre is low for a harvest rate of 15 per cent of the population survey frequencies of one to four years.

5 In the management plan, is there any reference in the management plan itself to using – is there any reference to the term “quasi extinction”?---No, there’s not.

But you have used it in this particular instance in terms of assessing risk to – sorry, I’ll withdraw that. You’ve referred to quasi extinction in this consideration of the
10 south-east New South Wales trialled commercial zone for what purpose?---For determining appropriate survey intervals.

And so the focus here is just on the survey intervals because of the need to survey populations for three years or one year if there’s a difference in potential impacts of the cull at 15 per cent over that period of time- - -?---Yes.

- - - for a specific population?---Yes.

Do you accept, in respect of this document, at least, that you have adopted a quasi
20 extinction risk using the figure of two kangaroos, per animal, per square kilometre?---Yes.

But that, as a management – and were you in court where you heard Dr Pople give evidence about – if I suggest to you that Dr Pople – I put to you that Dr Pople has
25 suggested that one of the many safety mechanisms that can be used, including quotas based on estimates of population, frequent surveys, and the like, includes using a figure for quasi extinction, I put to you that, as a safety net, would you feel that that is a mechanism that could be used in a management plan to provide further safety mechanisms to ensure the sustainability of a kangaroo harvest?---Yes.

30 And do you accept that, from your knowledge, that kangaroo harvests are unlikely to occur for commercial reasons below densities of about three to five kangaroos per square kilometre?---No, I don’t.

35 Why not?---Because some of the kangaroo species are at densities lower than that in some zones but they are still subject to a commercial harvest.

And in terms of that commercial harvest, do you accept that there may be a risk that the population may be removed at that particular area, even if it’s an extreme of their
40 population range?---Well, no, I don’t.

So you don’t accept that that quasi-extinction level relates to risk of population reduction at the extremes?---Quasi-extinction – I understood your question to be, removing kangaroos from an area - - -

45 That’s right?--- - - - which is – no, I don’t accept that that will happen, because the quota is set out a maximum of 15 per cent of the population estimate. So the worst

the harvest would do would be to remove 15 per cent of the population estimate, which clearly means that 85 per cent of that population is still in the landscape.

5 So in terms of the focus of population minus the 15 per cent - means that there would still be kangaroos. You accept, don't you, that there can be instances of drought and other significant matters that can reduce population densities by between 40 and 60 per cent?---Yes.

10 And that that drought could occur after the quota is set, but before the harvesting commences?---Yes, it can.

15 And, by reference to the plan, are there any triggers, numbers, measurements - by reference to the plan itself, that would enable the quota to be suspended - or the culling to be suspended or cancelled between the imposition of a quota, the occurrence of a particular event, and the commencing of the kill?---Yes, specifically the performance indicated that we've already looked at, examining the average weights, is one mechanism. But the quota sets a maximum potential commercial harvest. The department could make a decision to set a quota at a lower rate, but not at a rate higher than the 15 per cent - 17 per cent that is specified in the plan.

20 But after the quota is set - I'm saying, after the quota is set?---Yes.

25 If I go could back. In terms of setting the maximum quota, that is of course the maximum - that is the number that is sustainable, in the opinion of the department, or in the operation of the plan?---Yes.

So whether or not there is a lesser kill is not necessarily relevant to whether or not the 15 per cent quota is sustainable; is that right?---That's correct.

30 The fact that historically quotas are often unfilled does not impact on whether the assessment of the sustainability of the plan should be at the 15 per cent mark?---That's correct.

35 And, indeed, do you accept that there is also that special quota that enables an extra 5 per cent to be taken in particular circumstances or under particular conditions?---Yes.

And that is obviously a short-term measure that can be utilised in specific circumstances?---That's correct. Yes.

40 Is there anything in this plan that says that if a population falls below - I withdraw that. Is there anything in this plan that states that if a population falls below a certain percentage following a particular survey, that the plan will be suspended?---No.

45 And in relation to the tables that are provided in your annual report, they list percentage declines on a year and year basis?---Yes, they do.

In this plan, when you say that there is an opportunity to suspend or cancel – reduce the quota, where do I find the person or group responsible for that action – that decision?---That’s not in the plan.

5 If the Deputy President would just excuse me for one moment?

THE D.PRESIDENT: If it’s more convenient for us to adjourn for a short time - - -

10 MR BAIRD: No. Thank you, Deputy President, I have no further questions for the witness.

THE D.PRESIDENT: Miss Payne, you agreed with a question that Mr Baird to you about drought reducing numbers between 40 and 60 per cent?---Yes.

15 Over what period of time were you talking? Is that in a year, or in a season, or over two seasons?---We do our monitoring annually in the western part of the state, and certainly we saw declines up to that magnitude between one wintertime survey and the next year’s wintertime survey, but it really depends on the severity of the drought. Not every drought is the same. So it depends how quickly the seasonal
20 conditions have changed. And that – we also saw differences in population reductions within – sorry, across zones. So the drought impacted first in the western part of the state, and the declines weren’t seen to the same magnitude until the following year in the more eastern zones. So there was sort of a progression from the west.

25 But the worst case is up to 60 per cent in succeeding winter surveys – across succeeding winter surveys?---I’m not sure of the exact numbers, but that - - -

30 Something in that order?--- - - - kind of magnitude, yes.

All right.

35 MR BAIRD: Deputy President, to be fair to the witness, there is documentary material that highlights mortality rates up in the 70 and 80 per cent in particular circumstances.

THE D.PRESIDENT: And no doubt you can take us to that?

40 MR BAIRD: Sorry?

THE D.PRESIDENT: You can take us to that. I just wanted to get the period in my mind. Re-examination, Ms Pepper?

45 MS PEPPER: Yes.

<RE-EXAMINATION BY MS PEPPER

[11.09 am]

MS PEPPER: Miss Payne, do you recall that you were asked questions – or a question about triggers in the plan that would lead to the quota being suspended, and I believe in your answer you referred the tribunal to – I think it was action 13.1? Do you recall that evidence?---Yes, I do.

5

Okay. Are there any other triggers in the plan that would also lead to the quotas being suspended?---Yes, there are. The monitoring that is done of harvest returns that come in, allow us to look at sex ratios and average carcass weights from the data that comes from the kangaroo shooters and also from the chiller premises. But there are also the compliance officers who spend a great deal of their time travelling around the state inspecting chillers. So we have a quite immediate source of information and observations regarding what is happening in those facilities. And we have a great deal of contact with our licensees. Collectively, the staff in my office would talk to a couple of dozen or more licensees every day, and when something interesting or unusual is happening out in the field, we hear about it quite quickly. So that sort of - - -

10

15

THE D.PRESIDENT: Eg, a sudden decline in the numbers of those species in a particular area?---Yes, or sudden influxes of species. Red kangaroos, in particular, seem to move more readily than the other species. So shooters will often ring us up and comment that a particular property in the west managed to be under a cloudburst and get decent rainfall, and that there's red kangaroos coming through that hadn't been there previously. So we have quite an immediate source of information coming in from our own staff doing shooter inspections, and information from licensees.

20

Thank you for your assistance, Ms Payne. You're excused. We trust you have a relaxing holiday?---Thank you very much.

You should be able to get your plane, I trust?---I hope so.

25

<THE WITNESS WITHDREW

[11.12 am]

THE D.PRESIDENT: I think, so that there is a separate document for simplicity, we might make this colour version of the plan a separate exhibit, which I think will be 23.

30

40 **EXHIBIT #23 COLOURED VERSION OF PLAN**

MS PEPPER: Deputy President, I request a small indulgence. I just require a few moments to confer with Dr Cairns. Dr Cairns, sensibly, left the building immediately yesterday, after the tribunal adjourned, and I didn't have a chance to catch up with him.

45

THE D.PRESIDENT: All right.

MS PEPPER: I only require five minutes.

5 THE D.PRESIDENT: Okay. Well, we will stay down on this floor then.

ADJOURNED [11.13 am]

10

RESUMED [11.28 am]

THE D.PRESIDENT: All right. Ms Pepper.

15

MS PEPPER: I call Dr Stuart Cairns.

THE D.PRESIDENT: I thought, given we had a late start, we might skip morning tea this morning, if that suits everybody. If anyone starts twitching from lack of caffeine, we will reconsider the position. Yes.

20

<STUART CHARLES CAIRNS, AFFIRMED [11.28 am]

25

<EXAMINATION-IN-CHIEF BY MS PEPPER

MS PEPPER: Dr Cairns, could you please state to the tribunal your full name?---Stuart Charles Cairns.

30

And your occupation?---I am a lecturer at zoology and ecology at the University of New England.

35 And your address?---Department of Zoology, University of New England, Armidale, New South Wales.

And in these proceedings have you sworn an affidavit dated 18 February 2008?---I have.

40

And is attached to that affidavit an expert report of yours?---Yes.

Now, do you still adhere to the opinions expressed in that expert report?---Yes, I still hold those opinions.

45

And do you swear that the contents of your affidavit are true and correct?---I do.

Now, is there anything within the body of the affidavit or the expert report that you wish to correct?---A small error which is on paragraph 19 - where am I?

5 THE D.PRESIDENT: Is that of the report itself?---Pardon?

Is that of the report itself?---In the - in the report itself. It's just the - where are we, one, two - - -

10 MS PEPPER: That's SC4, Deputy President.

THE WITNESS: It's the sentence which is - I think the fourth of fifth sentence reads, "Common wallaroos obtained." It should read, "Common wallaroo estimates obtained."

15 THE D.PRESIDENT: Do you have the original?

MS PEPPER: We don't. I do apologise. We can undertake to get the original.

20 THE D.PRESIDENT: It's not important, but can you make - - - ?---Can that be corrected in - in the text and forwarded on?

No, no. We will give you a copy, which will become an exhibit copy. If you wouldn't mind correcting it in the exhibit copy and then, if these proceedings go elsewhere - - - ?---Not at all.

25 - - - there's an accurate record?---Do you want that down now?

That's, I think, the top of page 7, isn't it?

30 MS PEPPER: On my version, that's right. I think it probably depends on the printing, Deputy President. If I could tender that affidavit?

35 THE D.PRESIDENT: The affidavit of Stuart Charles Cairns sworn 19 February 2008 will be exhibit 24.

**EXHIBIT #24 AFFIDAVIT OF STUART CHARLES CAIRNS SWORN
19/02/2008**

40 MS PEPPER: I have nothing further. Thank you.

THE D.PRESIDENT: Dr Perry.

45 DR PERRY: No, I have no questions at this point. Thank you.

MR BAIRD: Thank you, Deputy President.

5 MR BAIRD: Dr Cairns, can I just ask: I am trying to - I have a document here that was on the CD-ROM provided for Dr Pople's evidence called Monitoring Eastern Grey Kangaroos in South-Eastern New South Wales for Harvest Management, which refers to Dr Pople, yourself, and Menke and Payne?---That's a publication from Wildlife Research.

10 Wildlife Research. Is that document 17 - do you have a copy of your affidavit?---No, I don't.

Perhaps the witness could be shown a copy of exhibit 24?---It's Pople, Cairns, Menke and Payne. Is that the one?

15 Well, perhaps if I can show a document to the witness? Deputy President, I don't have a copy of this document. It is on the CD and I can undertake to provide it to the tribunal.

20 THE D.PRESIDENT: We can get a copy of that.

MR BAIRD: Thank you.

THE D.PRESIDENT: All right.

25 MS PEPPER: I think it's exhibit 14, from recollection, Deputy President. That's the July 2003 - - -

THE WITNESS: No. There's - no, there's different ones.

30 MR BAIRD: Yes. That's why I - - -

MS PEPPER: It is exhibit 14.

35 MR BAIRD: That's why I got confused. I don't think it is exhibit 14. Perhaps if the witness could be shown exhibit 14, and also if I could hand up - and can I ask the witness to ignore my highlighting and Post-it notes?---I'll try.

40 I am just trying to work out if the document before you is document 17. They're two separate documents?---Two separate documents. That's the publication, the referee publication, which has been produced out of the work provided in two reports, which is your document 14 and there may be a reference here to another one as well, which is authored by me. Yes. So this document here that you have provided me with is, I guess, a synthesis of the contents of two reports.

45 So it's not on the list? I mean, factually - there is no criticism here. It is not on your list of publications?---It's cited in my list of references.

Sorry?---It's cited in my list of references.

Right. And, sorry, is it cited - which number is it cited at in your list of references?---Well, unfortunately they're not numbered, but if you go to - there's a
5 list of references. Just above a reference with the author of T.G. Quinn, second, sits A.R. - Pople A.R., Cairns S.C., Menke and Payne. That's that document.

Right. So this is on page 11 of your affidavit?---Yes, page 11 of - - -

10 Yes. So that's - that's the document?---That's the document that you've just picked up here.

THE D.PRESIDENT: Is that something that you want to be tendering?

15 MR BAIRD: Yes, I would like to tender that document.

THE D.PRESIDENT: All right. Well, is it convenient to get some copies of it? I take it the other parties don't have it?

20 MS PEPPER: It's on a disk, but we don't have a hard copy.

MR BAIRD: It's on a disk, but I don't have - and I have also marked - - -

THE D.PRESIDENT: How big is it?

25

MR BAIRD: I'm not sure.

How many pages, is it?---About 25 pages.

30 It may be I can deal with it just in one - if I make it relevant and then I can tender it. If not, then - - -

THE D.PRESIDENT: All right.

35 MR BAIRD: If I could have that document back.

Dr Cairns, in your affidavit at paragraph 2, halfway down, you refer to the:

40 *Euro population of the barrier ranges that extend north from Broken Hill has not been surveyed since 2002 when it was found that the population had declined from an estimated 56,000 to 12,000 over the period between successive surveys conducted in 1998 and 2002.*

45 Now, that's a statement in your affidavit at paragraph 2. Now, I understand that there's only - the reason for the 1998 to 2002 surveys is that's one of the populations that's not surveyed annually. Is that the triennial population?---Yes, it's one of the triennial surveys which uses helicopters instead of fixed wing aircraft.

That uses helicopters. And can I just also make it clear that the applicant in this case is not questioning the veracity or the reliability, if I can put it that way, of the methodology that's been employed by ourselves and others in respect of estimating numbers of populations by using the figures that we accept are estimates, and so all
5 my questions are based on the assumption that those numbers are accurate estimates, if I can put it that way. In terms of that decline in population, would you agree with me that from 1998 to 2002, that particular Euro population saw a decline of about 78 per cent?---I would agree with you on that, yes.

10 And the consequence of that decline was the quota was not – sorry. Declined 78 per cent, a quota was not set for 2003?---That's right.

Is it fair to say or to assume that one of the reasons why the quota wasn't set is because there had been that significant decline, that decline?---Yes, that's fair.

15 And that decline of 78 per cent would also, in terms of estimate, would reflect whatever recruitment had occurred to that population in that period of time?---That's true.

20 So it's not a question that, an issue that in terms of estimating population it's only estimating the total available population for the killing or harvesting, it's an estimate of the total available population?---Yes.

Do you know, or can you explain why that quota wasn't set with that decline in
25 population?---Well, my understanding of it was that it was considered that the numbers had fallen to a level that didn't warrant a quota being set; that prior to that, if you go back to the previous survey in 1998 and there had been surveys conducted before that, the numbers had held up at about the same levels around the 60, 70 thousand mark, and quotas were set for harvesting that species in that part of western
30 New South Wales, and I guess this is a case of a threshold being applied in terms of making a management decision.

And in that particular instance it was a decline from over those four years in the region of 78 per cent?---Mm.

35 In terms of the code – sorry, I withdraw that. In terms of the plan, are you aware of any other similar threshold test being included as a trigger in the plan to stop a quota or to suspend a quota?---Not in the New South Wales plan, nor any of the other plans I'm familiar with.

40 At paragraph 5 of your affidavit there is a reference to densities in Tibooburra and Broken Hill zones that are:

45 *Densities are equated by Pople 2003 as being near the levels of quasi extinction, a defined low density.*

You say that?---Yes.

You then go on to say that – well, can I ask you what your opinion, you say that the definitions – I withdraw that. Can you say that when Pople defines those definitions, those densities as being low density or levels of quasi extinction, do you accept Dr Pople’s conclusion or assessment?---My understanding of what Dr Pople had been
5 trying to do when he used the term “quasi extinction” and set the two kangaroos per square kilometre limit to that was that he was using this as a device for his modelling exercises, and I don’t see it as anything more than that. I think what is probably more important is extinctions rather than quasi extinctions.

10 And by that you mean extinctions of a species what, in total or in part or in a particular area?---Disappearance at a local level.

And do you accept that the disappearance at a local level of a particular species has an impact on biodiversity at that level?---It depends on the definition of biodiversity.
15 It obviously represents a removal of a species. It could be a removal of a species that historically wasn’t there in the first place.

THE D.PRESIDENT: Does it depend as well as what was regarded as the local level?---Local level, I would assume, is something that’s definable. I’d be almost
20 tending to think in terms of scale of say tens of thousands of square kilometres.

Something as wide as the – what do they call these areas, or zones?---Those zones would be bigger than that. If you look at a one degree latitude by one degree longitude square block, you’re talking about approximately 10,000 square kilometres
25 encompassed in that. I would think that that, in that sort of landscape I would be thinking of that as being a local level, particularly given that pastoral properties run to well over a thousand square kilometres.

MR BAIRD: So in terms of your statement here - - -?---Are we still on paragraph
30 5?

Paragraph 5, you say:

35 *We’re not really faced with the prospect of quasi extinction but rather the prospect of short-term local extinction associated with the influence of change in seasonal conditions and resource availability.*

?---Yes.

40 Now, that seems to indicate that at least on your understanding of the level of – or the definition of quasi extinction, being a defined low density, that at the ranges there may be short term local - - -?---At the edge of the ranges, yes.

45 At the edge of the ranges?---Yes. And I think short term is the important adjective there.

So if one would assume that the test was both short term and long term, and assume that the issue of biodiversity covered the ranges as we currently have the kangaroo – present tense – then would you agree that the prospect of short term local extinction based on those assumptions would have an impact on the species at those levels?---It
5 would have an impact on a species at the edge of their range, but I doubt that it would have a significant impact on species towards the core of their range.

And in terms of – so there could be local extinction, however broadly defined?---Yes, almost certainly, and there probably has been in the past and there
10 will be in the future.

And in terms of one of the proposals proposed by yourself and Dr Pople as a management tool, the idea of using quasi extinction and suspending culling or killing of kangaroos for commercial purposes between three to five kangaroos per square
15 kilometre has been proposed by Dr Pople and you in other studies, in other reports?---In relation to the establishment of the south-east New South Wales management zone, I think, and this was again in relation to considering the frequency at which surveys have been conducted.

20 But the frequencies of needing to conduct surveys is because in certain circumstances if you take between 10 and 15 per cent, the possibility of significant or serious impact on the species can increase?---Not from taking the 10 or 15 per cent, I would think, but if taking the 10 or 15 per cent – I'll backtrack a little. It's probably being driven more by environmental conditions, and I think, you know, there's a
25 little redundancy in what I'm going to say, given what Tony Pople said yesterday, but the whole system really is driven by rainfall which drives resource bases and that the - - -

30 So it would be more - sorry, I don't mean to interrupt and I accept that. So it would be more correct to say that the potential extinction, given that three-year interval survey, and given potential climatic or environmental factors such as drought, means that coupled with a particular harvesting rate, they're due to – at least it is important then to ensure that you have regular and accurate monitoring and surveys done?---I think that depends in which context we want to look at it. If we look at it in terms of
35 the management zones that are in more mesic areas like the northern tablelands management zones or south-east New South Wales, I think the frequency of surveys and the type of droughts that occur in these areas dovetail together quite well. And I think this is one of the reasons the plan has annual surveys conducted in the inland, because the drought and the impact of drought in the inland can be just so much
40 more dramatic and of greater impact.

So the importance of the annual surveys is so that you can monitor the population in regards to those climatic conditions and - - - ?---Well, within the framework of the plan - and I'll getting a little out of my vogue here but it's to get an absolute
45 population estimate so that a harvest for sustainable yield can be set.

And in terms of where there are specific population eruptions, such as the 78 per cent that you referred to in paragraph 2 of your affidavit, which are in the Barrier Ranges, if there is a specific and sudden species decline – although that was over four years - - - ?---Three, I think. I think the interval – survey interval would have been three
5 years.

In your report it is 1998 to 2002, so it's a three year - - - ?---They're the dates the publication of the reports.

10 So it's a three year interval?---If you read the report, it would be a three year interval.

But that decline prompted a review of harvesting techniques, and that was where there was only one survey every three years?---That's true.

15 In terms of the Northern Tableland Wallaroo population, are you familiar with the figures of the cull there?---Yes.

Can the witness be shown entry 12?

20 THE D.PRESIDENT: While that is being done, was there any reason known for the decline in – the 78 per cent?---In the Barrier Ranges?

Yes?---I think it was just drought impact.

25 There was no sudden diseases. It's just a climate - - - ?---No, no. No diseases. I mean, there have been on occasions incidents of disease picked up, but it's not terribly common in that report. Most of those types of diseases tend to be associated with periods of wet weather where you get a sandfly or a mosquito vector passing a pavo virus around. Sorry, where am I - - -

30 MR BAIRD: At table – sorry, Dr Cairns. At MP12, table 17: that's the summary of the commercial take for wallaroos?---Okay. Yes.

35 And there was a survey in 2002 that had a population of 448,000 approximately, and then in 2007, it was 114,000/115,000?---Yes.

Now, do you accept that that's an approximate reduction of about 74 per cent or 70 per cent?---I do and I don't, because those figures have got very large confidence intervals associated with them.

40 THE D.PRESIDENT: Sorry, very large, which?---Confidence intervals. I mean, invariably what is displayed in the table is what you would call a point estimate, but all estimates tend to have a confidence interval associated with them, which is an accompanying interval estimate. So if you look at the bottom there, it says 115,000
45 animals. The interval estimate could be fifty to 200,000, and there's a probability more associated with that which is saying that we are 95 per cent confident that the number resides – the true resides within that interval. It's a somewhat – you know –

unsatisfying way to look at it, but it's the way statisticians, you know, suggest it's framed.

5 MR BAIRD: So are you saying we can't have confidence in the number, or we can't have confidence in the decline, or you don't - - - ?---Well, you can have confidence in the interval estimate, but you can't have a great deal of confidence in the point estimate.

10 So in terms - - - ?---The point estimate resides in the interval and the point estimate there given is the best of those estimates within the interval.

15 So on a best estimate basis, would you agree that there was a reduction of about 75 per cent from 2002 to 2007?---I don't think you could prove that statistically because of the error associated with the estimate.

Do you accept that - - - ?---In fact, I know you can't prove it as being statistically different between the 2004 and the 2007 estimates.

20 Dr Cairns, do you accept that it's important for the plan to be shown to be sustainable in an ecological way?---I'd agree with that, yes.

25 And would accept that where the proposition – that it is therefore important to rely, for the purposes of determining whether or not you're going to kill a certain percentage of the population, to rely on models as well as truth data?---What do you mean by truth data?

Well, by going out and observing some of these impacts – predicted impacts?---I think that's the core procedure is to monitor the population.

30 And that monitoring is based on the aerial surveys and the helicopter use surveys, and those have a predicted degree of accuracy?---They have associated with them a measure of precision.

35 So in terms of - - - ?---The measure of precision is always determined post-hoc.

Post-hoc, ergo proctor-hoc, perhaps? We have culling. There's – kangaroos still exist?---No, no, no. No, they're - - -

40 We've had culling for a while. The culling important to the continuation of the kangaroos or it's sustainable - - - ?---No. The precision of the estimate is determined after you get the estimate. You can't determine it before you get the estimate.

So by reference - - -

45 THE D.PRESIDENT: Post-facto. Ex post-facto?---Post-hoc in statistical texts, you know - - -

MR BAIRD: After the event?---After the event.

5 So the issue then is, if you want to show that something is sustainable, is it not important to rely on some figures – some estimates of population numbers?---I'd agree with that.

10 And obviously using different mechanisms. For example, the estimates from your surveys, but also some other indicators such as this arbitrary quasi extinction level coupled with – to a lesser extent – observation in the field, given we're dealing with wildlife rather than sheep and cattle. You would use all those tools to reach all those – tools to provide assumptions to reach a conclusion that the particular activity was sustainable?---Yes. But I relied mainly on the survey results.

15 And so if the survey results tell us that a population has declined by 74 per cent from 2002 to 2007, can we not accept that result as being an indicator that that species has suffered that loss?---You could accept that it suffered that loss. Now, why it suffered that loss is another matter.

20 But going from those figures, you then would, first, presumably ask the question: is that particular loss – does that have an impact on the population at a local level or is it at a – management's own level or at a State level?---I don't think it's having an impact on the population. It's a registered impact of some extraneous factors on the population. So the loss is not having an impact on the population itself. It's – something is registered within the population.

25 Well, if that loss is attributable to both man-made and natural causes, surely one would have to examine to the best one can, both those causes and the impact it has on that population?---You could, but I think we go back to what was said yesterday about compensatory mortality in the face of environmental downturns. It's difficult to, if you've got a harvest quota of 15 per cent and you've got a mortality in your population of 60 per cent, it's unlikely that the other 45 per cent of loss is due to any man-induced activities.

35 Sorry, if you have a - - -?---If that population declined by 60 per cent and it declines in the face of a harvest quota of 15 per cent, what was said yesterday, and I'd agree with this, is that this is not going to be an additive impact, that that harvest quota in part is going to be removal of animals that would have been lost from the population because of the environmental downturn.

40 Which potentially would mean that the impact of the drought is far more severe; is that what you are saying, absent of man-made causes. You might have - - -?---Yes. The impact of the drought is severe and it's severe to the point that the impact of the harvest is somewhat secondary.

45 Secondary, but not irrelevant?---Well, it can't be demonstrated as being irrelevant.

But can it be demonstrated – can it be demonstrated to be irrelevant?---It could be demonstrated to be secondary.

5 And in relation to the actual kill numbers, you accept in your report, at paragraph 9, that on average, over the period of 1997 to 2004, only 63 per cent of the harvest quota was taken in New South Wales?---Mm.

10 And again, not delving right down into the micro-managing, because – and I want you to assume it is the macro that I am focusing on at the moment, if, when you say that the persistence of kangaroo populations in the zones managed under the plan is indicating of a sustainable harvest, assuming that to be correct, assuming that sustainability to be correct, and yet the actual kill is 63 per cent of the quota, is the final conclusion of those two statements really that one could only be sure that the 9 per cent or 10 per cent kill is sustainable, because you’ve never really had that 15 per cent kill going on over the life of a plan?---There are some management zones where in excess of 90 per cent of the quota is taken, and those populations appear to me to be still persistent. The 63 per cent I quoted there from, I think, from Thompson and Davies report to WERDEC was for all species over that period 1997 to 2004, in New South Wales. In actual fact, if you go to South Australia, it’s 47 per cent.

20

In terms of the number of - - -?---In terms of the proportion of the quota taken.

25 That’s taken. In terms of table 17, when I look at these figures, I see that the percentage of population of the wallaroo in the northern tablelands that has been culled over the last five years, from 2002 to 2007, is from 1.5 per cent, 3 per cent, 6.9 per cent, 10.2 per cent, 11.8 per cent. That’s the effective kill percentage if I can put it that way, and during that time, I note that the population has declined by approximately 75 per cent from 448,00 down to 115,000. Is the only assumption that you can take, that despite the – the only conclusion you could draw is that despite the fact that the quota has not been complied – or reached, maximum quota has not been reached, there is still the 78 per cent, 75 per cent decline in total population numbers?---Just to comment about those original quotas that you cited then, they were done or they were set very, very conservatively off the base of rather poor population estimates that have been done by the Dean, Australian National Parks and Wildlife Service from ground surveys, and the quotas that have been set recently have been done in relation to helicopter surveys conducted within those defined management zones. The A and PWS surveys were never conducted within the defined management zones. They were conducted in relation to the tablelands extending from the Hunter Valley through into Queensland.

40

So that despite those very conservative quotas, the population has still declined 75 per cent?---You keep looking at the very end of the table. Yes, the population has declined quite substantially and probably as a result of the recent drought.

45 Coupled with, as you accept a secondary intervention, by the killing under the commercial cull?---Secondarily, yes.

Or is it your evidence that the commercial cull, if it didn't exist, would have no impact on kangaroo populations?---No. No, that isn't my evidence because I know that commercial cull does reduce numbers to a certain extent, but not to the significant extent that drought does, and because commercial culls are so selective,
5 what they tend to do is increase – is push populations into an area where their rates of increase become higher.

Are you aware of the Murray Darling basin - - -?---What, the Steve McLeod Report?

10 That's correct?---No, I haven't seen it. I heard it discussed yesterday, of course.

At paragraph 19 of your affidavit, again, you refer to the conclusion by Dr Popov that in those specific areas, surveys would appear to be adequate from the point of view of monitoring kangaroo populations as a hedge against the occurrence of
15 quasi extinction as a rate of harvesting in areas with mesic environment, one with a moderate moisture regime and, again, it's your evidence that the quasi extinction rates relate to frequency of surveys?---That's correct.

So you wouldn't accept the suggestion that the use of a particular quasi extinction rate in particular areas, particular management zones, might assist to ensure that the kangaroo cull was ecologically sustainable?---Well, I would if you could define the quasi extinction rate you wanted to use. I mean, I wouldn't accept a blanket statement like quasi extinction rate of two kangaroos per square kilometre. If you wanted to go to the north-west of New South Wales where there are low numbers of
20 grey kangaroos, if you wanted to, you could set a quasi extinction rate much lower than that, for a species that's not common or there are high numbers in those zones.
25

And in para 26 of your statement, you refer to two kangaroos per square kilometre as being arbitrary?---Yes.
30

And then you say that the risk hasn't been established?---Oh, okay, yes.

And you say that without reference or knowledge of the McLeod Report which is exhibit 13 in the Kangaroo Management Options in the Murray Darling
35 Basin?---Yes, I do.

If the witness could be shown exhibit 13. Thank you?---Page? Have we got a page
- - -

40 At page 37, the – sorry, if I can take you to the paragraph that reads:

The relationship between long-term, but in particular - - -

?---This is the top right-hand paragraph?
45

The top right-hand paragraph where it said:

5 *Density of unharvest populations in these simulations rarely fell below a minimum of 5 individuals per square kilometre. Although the critical minimum of density is not clearly defined, populations below 2 square kilometres would generally be considered at risk of extinction. On this basis, figure 19 suggests that any option resulting in average long-term density or less than 10 square kilometres should be rejected since in all such cases, the minimum density is likely to fall below the critical level.*

10 Do you accept that according to the Murray Darling – that this report from McLeod and others, exhibit 13, that they have established that in their - - -?---I think the critical word there in that paragraph was the word “simulation”.

So - - -?---What they’re doing is offering up an opinion based on simulations.

15 But isn’t that what the - - -?---This is not an assessment of empirical data. It’s a simulation study.

This is where they did a number of modelling?---Simulation studies.

20 And their simulation studies showed that, at a particular rate, particular density of animals, populations would be generally considered at risk of extinction?---Well, they say there that figure 19 suggests that any option resulting in an average long-term density of less than 10 per square kilometre should be rejected since in all such cases the minimum density is likely to fall below a critical level. Now, I’m not sure
25 what the critical level is, because I haven’t read the whole document, and I’m not sure what their definition of “critical” is, either. I mean, I’m familiar with populations that run well below the 10 per square kilometre level that have been harvested on a long-term basis, and harvested sustainably within the face of the changing environment.

30 Harvested within the face of the changing environment, what, in terms of the species losing some of their edges and then moving elsewhere?---No, I’m really thinking about red kangaroo populations in the north-west of South Australia where densities aren’t terribly high, but there has been an industry sustained in that area for a long
35 time.

When you say industry sustainability, you’re focusing on the sustainability of the population of kangaroos or the species of kangaroos. You also then go on to say in paragraph 27 - - -?---This is - - -

40 At paragraph 27 of your affidavit - that where densities - and you refer to harvest quotas being set of some species in some management zones where densities are below two kangaroos per square kilometre. A consequence of that - paragraph 27 - a consequence of that is that these species - quote:

45 *...could become locally extinct as the result of severe downturn in seasonal conditions resulting in drought.*

?---But not as a consequence of harvesting them at low densities.

So the harvesting at low densities, as you say, has no impact?---If the densities are so low, it's unlikely that the harvester will actually find them to harvest them.

5

But, Dr Cairns, that's a commercial aspect, isn't it? If kangaroo meat became as expensive as gold - even given the percentage decline in gold over the last couple of weeks - but if kangaroo meat became as expensive as gold, then there's a commercial imperative to maximise your take?---Only as long as the benefits outweigh the costs. I mean, if diesel is becoming equivalently as expensive as gold, you're going to be rather hamstrung in your activities.

10

But in terms of the issues raised as to why the harvest may not occur at low densities of three to five kilometres - - -?---Three to five animals per square kilometre?

15

That's correct - it has been said that that is because it is uneconomic for harvesters to go out and harvest those - kill those animals?---That's possible.

20

Assuming there was an economic imperative, that means the harvesters would then go out and harvest those animals up to their quota - kill those animals up to their quota?---But only up to their quota.

25

Assuming the quota, and assuming compliance. Doesn't that then cause a threat or a possibility of the threat that those kangaroos or that species could become extinct - locally extinct - or must there be some other activity or action - - -?---No, there would have to be some other heavy-impact activity which, I would contend, would be the impact of something like a drought.

30

So if - - -?---I think, you know, if we're pursuing the idea of eastern grey kangaroos and western grey kangaroos in those zones that are in the north-west of New South Wales, I think it's worth making the point that one of those species probably wasn't there prior to the early 1970s. It has moved - it was recorded as being west of the Darling River in about mid-1970s, so we're talking about an animal that is expanding its range and, of course, at the edge of any range density is always low.

35

So in your view, it is all right to go back to the 1970s boundaries?---I'm ambivalent as far as that's concerned. I know that - I would point out that South Australia at one point tried to use kangaroo management or kangaroo harvesting as a mechanism to reshape those boundaries, and it failed.

40

And as best as you know, the kangaroo management plan does not have a goal to either reduce kangaroo population numbers to a specific level - that's correct, isn't it?---Yes, I'm aware of that. Yes.

45

And you're aware that it doesn't have an aim or objective to reduce the boundaries of species of kangaroos back to where they were in 1788 or 1970. Indeed, as you point out - that the aim of the management plan is to maintain viable populations of

kangaroos throughout their ranges?---“Widespread and throughout their range,” I think, is - is it “ranges,” plural?

5 I was quoting you?---Is it “ranges,” plural, is it? “Ranges for species.”

For species?---Yes.

10 Throughout their ranges - viable population of kangaroos throughout their ranges. So if there was a circumstance where even at the extreme edge of the range the kangaroo population was not viable on some particular criteria, in your opinion, should that killing of kangaroos cease under the commercial plan?---I would suggest no. I’m not really concerned about trying to maintain the boundaries of a distribution range at any point in time.

15 No further questions?---You know, global warming might well reshape that for us anyway.

Fortunately, global warming is not a matter that the tribunal is directed to?

20 THE D.PRESIDENT: Not so far?---Yes.

MR BAIRD: It’s not a matter that we’ve raised in our facts and contentions.

25 THE D.PRESIDENT: But, look, it’s only quarter past 12. Re-examination, Ms Pepper?

MS PEPPER: No.

30 THE D.PRESIDENT: All right. Thank you for your assistance, Dr Cairns. You can sit in the back or go back to Armidale; it’s entirely up to you?---I can’t. I’m not booked on a flight until 7 tonight.

35 <THE WITNESS WITHDREW [12.17 pm]

THE D.PRESIDENT: In terms of mechanics, I think I noticed something, Ms Pepper, that your side didn’t have a separate statement of facts and contentions, but you adopted that of the respondent. Is that still your position?

40 MS PEPPER: That’s correct.

THE D.PRESIDENT: All right. Well, that’s on the record.

45 MR BAIRD: Deputy President, if I may proffer a way forward for the next part? I have spoken with my learned friends and we have - if it’s acceptable to the tribunal, we would seek the tribunal’s indulgence to adjourn until tomorrow morning to

enable the preparation of some written submissions which, in this particular instance, are in the volume of documents before you, that might also assist to confine the argument both orally as well as written.

5 THE D.PRESIDENT: You anticipated me.

MR BAIRD: And if it was convenient to the tribunal, we can provide those written submissions to the tribunal and address orally tomorrow.

10 THE D.PRESIDENT: Is there any possibility of getting them to us earlier, giving us the opportunity to read them in some detail in advance of your speaking to them? I mean, if that's feasible, we could leave email addresses with - get an email from my associate.

15 MR BAIRD: Can I say, from our position, that we would endeavour to do so, but at the risk of - - -

20 THE D.PRESIDENT: If you can, we will endeavour to read them and - sorry, I mean, if you give them to us at five to 10, it's going to be impossible. If they can be got to us, we can read them in advance. It will focus our questioning; we can, you know, get through it more efficiently, as you will appreciate.

MR BAIRD: Yes.

25 THE D.PRESIDENT: We will otherwise finish tomorrow. We just divide the day up, shall we?

MR BAIRD: Yes. We've had discussions.

30 THE D.PRESIDENT: All right. 10 o'clock tomorrow. I should say we compliment the legal representatives, including the solicitors, for the obvious degree of cooperation and the efficiency that the parties have shown in getting through a fairly complicated hearing in a fairly efficient way. We thank the counsel and solicitors for that. All right. We will adjourn until 10 o'clock tomorrow.

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MATTER ADJOURNED at 12.20 pm UNTIL FRIDAY, 4 APRIL 2008

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