

**REPORT ON PROCEEDINGS BEFORE**

**PORTFOLIO COMMITTEE NO. 7 - PLANNING AND ENVIRONMENT**

**KOALA POPULATIONS AND HABITAT IN NEW SOUTH WALES**

**CORRECTED<sup>1</sup>**

**At Jubilee Room, Parliament House, Sydney, on Tuesday 18 February 2020**

**The Committee met at 9:05 a.m.**

**PRESENT**

Ms Cate Faehrmann (Chair)  
The Hon. Mark Buttigieg  
The Hon. Catherine Cusack  
The Hon. Ben Franklin  
The Hon. Shayne Mallard  
The Hon. Mark Pearson (Deputy Chair)  
The Hon. Penny Sharpe

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<sup>1</sup> 11.15 am, Thursday 2 April 2020



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**The CHAIR:** Welcome to the eighth hearing of the Portfolio Committee No. 7 Inquiry into Koala Populations and Habitat in New South Wales. Before I commence, I acknowledge the Gadigal people, who are the traditional custodians of this land. I also pay my respect to Elders past and present of the Eora nation and extend that respect to other Aboriginal and Torres Strait Islander people who are either present or viewing the proceedings on the internet. I thank the witnesses who will appear before the Committee here today. Today is the eighth of nine hearings we plan to hold for this inquiry.

Today we will hear from expert witnesses from the Environmental Defenders Office, World Wildlife Fund [WWF] Australia, The Enviro Factor, Hotspots Fire Project and Dr Kara Youngentob and representatives from the Australian Workers' Union will also appear. We will also hear from individual representatives closely involved with protecting koala populations throughout the bushfires. These witnesses include Dr Kellie Leigh from Science for Wildlife and Mr James Fitzgerald from Two Thumbs Wildlife Trust. Finally the committee will hear from representatives of the Biodiversity Conservation Trust.

Today's hearing is open to the public and is being broadcast live via the Parliament's website. A transcript of today's hearing will be placed on the Committee's website when it becomes available. In accordance with the broadcasting guidelines, while members of the media may film or record Committee members and witnesses, people in the public gallery should not be the primary focus of any filming or photography. I would also remind media representatives that you must take responsibility for what you publish about the Committee's proceedings. It is important to remember that parliamentary privilege does not apply to what witnesses may say outside their evidence at the hearing. So I urge witnesses to be careful about any comments you may make to the media or to others after you complete your evidence as such comments would not be protected by parliamentary privilege if another person decided to take an action for defamation.

The guidelines for the broadcast of proceedings are available from the secretariat. All witnesses have a right to procedural fairness according to the procedural fairness resolution adopted by the House in 2018. There may be some questions that a witness could only answer if they had more time or with certain documents to hand. In these circumstances, witnesses are advised that they can take a question on notice and provide an answer within 21 days. Committee hearings are not intended to provide a forum for people to make adverse reflections about others under the protection of parliamentary privilege. Witnesses should focus on the issues raised by the inquiry terms of reference and avoid naming individuals unnecessarily. Witnesses are advised that any messages should be delivered to Committee members through the Committee staff.

To aid the audibility of this hearing Committee members and witnesses should speak into the microphones. The room is fitted with induction loops compatible with hearing aid systems that have telecoil receivers. In addition several seats have been reserved near the loudspeakers for persons in the public gallery who have hearing difficulties. Audience members should be mindful that noises and interruptions make it difficult for witnesses to communicate with the Committee and I request that audience members refrain from talking for the duration of the hearing. Photos and videos may not be taken while the hearing is underway, except by authorised representatives of the media. If you would like a photograph of today's proceedings please approach the secretariat. Finally can everyone turn their mobile phones to silent for the duration of the hearing.

**CORRECTED**

**WENDY HAWES**, Director and Ecologist, The Enviro Factor, before the Committee via teleconference, affirmed and examined

**DR JOHN HUNTER**, Director and Ecologist, The Enviro Factor, before the Committee via teleconference, affirmed and examined

**The CHAIR:** I welcome our first witnesses who are joining us via teleconference. Would either or both of you like to make a short opening statement?

**Ms HAWES:** I will for both of us. It will be very short because we understand time is of the essence and we would rather answer questions.

**The CHAIR:** Thank you.

**Ms HAWES:** Dr Hunter and myself are terrestrial ecologists with a combined experience in the flora and fauna of New South Wales of over 50 years. Dr Hunter is also an Adjunct Associate Professor at the School of Environmental and Rural Science at the University of New England [UNE]. As The Enviro Factor, we undertake flora, fauna and threatened species surveys and assessments and native vegetation mapping for various things including research, conservation management, legislative compliance—both Federal and State—and development projects. We also prepared the Northern Tablelands Koala Recovery Strategy 2015-2025 for the Northern Tablelands Local Land Services [LLS]. A copy of this is available to the Committee.

**The CHAIR:** Thank you. We had a hearing in Gunnedah late last year and heard about the various challenges facing koalas in the north west of the region and the decline in the population. Would you both like to comment in terms of what you believe are some of the main reasons why those koala populations have declined so significantly in that area?

**Ms HAWES:** Yes. The threats to the koala populations here primarily have been the land clearing legislation which has allowed the clearing of extensive areas of koala habitat. It is the lack of protection of koala habitat areas, the issuing of five-year permits for grazing and to use travelling stock routes, which are some of our best bits of habitat remaining in this area. It is the drought. We have had extensive tree death across the area as a result of the drought and now we have had bushfires. These animals are seriously in trouble in this area.

**The CHAIR:** Thank you.

**Ms HAWES:** Dr Hunter, would you like to add to that?

**Dr HUNTER:** I guess from a landscape perspective part of the issue is that, like many animals, koalas like to eat food that is really nice and it tends to grow on better quality soils with the trees that grow on those soils. Most of those landscapes are the ones that are traditionally used for agriculture. So koala populations tend to be pushed into low-quality areas, more marginal areas up against hillsides and so forth where the food is not quite as good a quality and therefore they are not getting the nutrition overall that they require. They are also being pushed—larger populations—up against each other. So there is a lot of stress going on.

**The CHAIR:** Yes, thank you. I wanted to turn to the situation with offsets, particularly in relation to mining projects in the North West. We heard some evidence from Anna Christie from the Wando Conservation and Cultural Centre in relation to the Maules Creek Mine, in particular, owned by Whitehaven. As ecologists, have you had anything to do with those offsets by Whitehaven in terms of assessing the ecological value of those offsets?

**Ms HAWES:** Both of us have visited some of the offset areas and undertaken further preliminary assessments of that area just to identify whether or not it was the vegetation that they said it was in their biodiversity offset management plan, so we have had a little bit to do with it. We have been to the northern offset. I think Dr Hunter has been to one of the other areas of offset as well.

**Dr HUNTER:** Yes. I surveyed and mapped several other offsets in that area.

**The CHAIR:** Just to be clear, because we have got the Biodiversity Conservation Trust [BCT] appearing later today, the northern offset was the offset that has been approved by the Biodiversity Conservation Trust?

**Ms HAWES:** We are not aware. Well, I am not. I don't know whether Dr Hunter is, but I am not aware what they have approved and what they have not approved.

**Dr HUNTER:** Neither am I. I am not sure which ones they have approved. I think I have been involved with probably about four of the various offsets.

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**The CHAIR:** What are your views in terms of how they are working in that area to offset the endangered ecological communities that are being cleared for mines? What is your view in terms of the adequacy? What are you finding on the ground?

**Ms HAWES:** They fudged very badly in their identifications of what the vegetation communities were. The vegetation that I looked at—because Dr Hunter and I were actually out on separate days, the vegetation that I looked at was not endangered ecological community, which is habitat for koalas. Basically, it was not correct. It was wrong, severely wrong, over extensive areas. I don't know whether they have corrected that mapping. The latest biodiversity plan that I have seen for Whitehaven really has not corrected it. The only thing I am aware of with the BCT is they also agreed that the vegetation mapping was very poor by Whitehaven and they were looking to correct that. They are not protecting koala habitat. They have not been protecting koala habitat. They did an approval on a false basis.

**The CHAIR:** So the endangered ecological community [EEC] that they were supposed to be protecting was koala habitat. Which EEC was that?

**Ms HAWES:** That is the White Box Yellow Box Blakely's Red Gum Woodlands.

**The CHAIR:** That has been already cleared at the site of Maules Creek coalmine?

**Ms HAWES:** Yes. That is the White Box Grassy Woodland, according to the report.

**The CHAIR:** And what you found on site was not an endangered ecological community?

**Ms HAWES:** No.

**The CHAIR:** Did Whitehaven suggest that it was?

**Ms HAWES:** Yes. Yes, they did, in their reports. I have not spoken to anybody from Whitehaven but I have read their reports. In their reports, yes, they have suggested that it was the CEEC—that is, the critically endangered ecological community.

**The CHAIR:** Is there a way that that vegetation on that site now can turn into that endangered ecological community somehow?

**Ms HAWES:** No. It's not it naturally. It's not it naturally so it is not going to change to something else. A lot of it is stringybark shrubby woodland and it occurs on steep hill slopes, so it is not—the Blakely White Box Woodlands that is part of the CEEC tends to occur on the lower slopes and in valley floors. It usually does not go all the way up the hill. Once it starts climbing up the hill it gets a bit shrubby. Even so, those overstorey tree species were not present in any great number. Certainly they did not conform to the listing.

**The CHAIR:** Dr Hunter, do you have anything to add to this?

**Dr HUNTER:** No. Look, I do completely concur with Ms Hawes on those aspects. That is certainly my impression from what I saw. The other aspects too are even where there were minor components of those communities in the northern offsets, they were not of the same quality or condition or extent, certainly, of the areas that were cleared. The problem is that even those very minor areas, if they could eventually mature and become really nice patches, then you have got a lag time for that to happen and that can be decades. In that intervening period you have already cleared habitats. You have taken away the areas where koalas can be. What is going to happen for those decades? There has got to be an intermediary—an area where they can survive in between. Offsets just cannot be magically perfect.

**The Hon. MARK PEARSON:** When an offset is proposed by a mining company or a logging company or whatever, is there an assessment done to ensure that that offset is going to truthfully correct the damage?

**Dr HUNTER:** An offset can have no trees on it at all. It just has the potential in time to have those trees.

**The Hon. MARK PEARSON:** And is the potential in time a locked period? It must be two years, five years, 10 years?

**Dr HUNTER:** No, not at all. In fact, you can do a lot of plantings as part of an offset plan to encourage tree growth, but there is no real structure to whether the plantings fail or whether they work. You can do a lot of plantings and they do not work.

**The Hon. MARK PEARSON:** If the mining company propose to move the koalas—let us say there are identified 50 or 100 koalas in the habitat that they plan to remove. Is there ever an offset plan, or was there an offset plan, where the koalas could actually be translocated to the offset area? Would that work?

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**Ms HAWES:** As far as I know for Whitehaven there was not a relocation suggestion for the koalas on their area. There was, however, for the Shenhua mine down on the Liverpool Plains, which you may be aware of. The problem with the relocation is that koalas really have not been successfully relocated for development. In south-east Queensland a number of years ago they relocated—and I am not sure these numbers are correct—something like 35 koalas for a development in south-east Queensland. They collared these koalas and they followed them. All 35 died. That is the only study we have, as far as I know, on the relocation of koalas. So relocation has a few issues with it.

The Shenhua proposal that I have an issue with was that they were going to relocate the koalas on their area to another area. They had not done any surveys in the area they proposed to move the koalas to. You do not know whether there is an extant koala population in that area. Moving your koalas from this area to that—it is not empty habitat. There are animals there. It is akin to moving the population of Inverell to Armidale and just putting them there and going, "You'll be alright. You can share your resources and things with these people without any problems." For species that are already under stress, you are not only potentially killing the koalas you are relocating, you are killing the extant population that you are moving them to. Relocation has a lot of hairs on it when it comes to a proposal to allow a development.

**Dr HUNTER:** I will just add to that. Some of the recent research with moving koalas has also shown that sometimes even their gut bacteria is specific to the area and the trees that they are eating. And so, if you move them, even if they have got the right potential kind of trees, they still might not be able to digest them properly.

**The Hon. MARK BUTTIGIEG:** Can I just clarify that interesting piece of evidence, which I do not actually think was heard before. In a regulatory sense, there is no requirement for an offset provision to be synchronised with the destruction of habitat and the displacement of koalas? In other words, to paraphrase what you said before, Dr Hunter, as long as you are making an effort and it has potential to become a koala habitat, irrespective of what happens to that pre-existing koala population, the offset is acceptable in a regulatory sense?

**Ms HAWES:** That is my understanding but I am not involved in offset so I cannot comment on that. It is beyond my scope of knowledge.

**Dr HUNTER:** Yes, I have had more involvement with offsets and that is essentially correct. Each offset package is negotiated on its own terms but certainly many offsets are about potential, or having habitat that is likely to have species. There are different types of offsets. There are national species offsets and habitat offsets. Sometimes offsets are a mixture of both. So you have to find the species and say that they exist there and sometimes it is just if the habitat is there and they may exist there—that is all you need.

**The Hon. MARK BUTTIGIEG:** So, in theory, habitat could be destroyed, koalas could be displaced or die as a result, but as long as I have provided an offset that potentially becomes a habitat—possibly 20 years down the track—and/or a species offset, which may not necessarily be koalas, I have ticked the boxes. Is that kind of a crude characterisation of it?

**Dr HUNTER:** Yes, pretty much.

**The Hon. MARK BUTTIGIEG:** Thanks.

**The Hon. MARK PEARSON:** I am Mark Pearson from the Animal Justice Party. For clarification, does all of the hydration for koalas come only from the leaves that they eat from the tree or do they go and seek water from water sources, such as creeks, et cetera?

**Ms HAWES:** Well, koalas will seek water. They get a lot of their moisture from the leaves of the trees; however, as we have seen in the existing drought, the lack of moisture in the tree leaves, because we have actually had large areas of trees die and just pack up, the koalas have been seeking sources of water to drink. They need a certain amount of water and if they cannot get it from leaves then they look for other sources.

**The Hon. MARK PEARSON:** Some of the evidence that we have received is that some koalas have just come down from the tree and just died. It appears that it is because of a lack of hydration from the leaves that they are relying on and they might be quite a distance from any other water source. In your studies have you been able to ascertain at what point in a drought it is likely that the hydration for koalas will become critical?

**Ms HAWES:** No, I do not think anybody has that data.

**The Hon. MARK PEARSON:** Okay, thank you.

**The CHAIR:** One of the things that we heard at the Gunnedah hearing is how koalas seem to be migrating east as a result of climate change, which makes connectivity with those corridors so much more important. I wanted to see whether you have any kind of a sense of how much the fires in your region—mid North

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Coast, the north-west as well—have had an impact on koalas in the area, particularly if they were moving east through those corridors, some of which I assume have been burnt quite severely?

**Ms HAWES:** The koalas moving east is, I suppose, an educated theory on behalf of ecologists because we have seen greater koala populations in the more eastern areas of the tablelands. I cannot speak for the coast; I do not know koalas on the coast. Koalas cannot deal with heat very well: they do not sweat, they do not pant—all they can try to do is get into cooler areas to maintain their body temperatures. Like most animals, they have a critical temperature range—cold and hot—and are not very good at dealing with heat. So they want to get into very shady trees or they come down onto the ground and get into hollow logs. They will sit in the shade to cool off.

Corridors are important for them because obviously they need to eat while they are moving. The problem for us in this area is that with the land clearing legislation we are losing—the area is already highly fragmented but it is becoming even more so with the change in legislation. So we are losing paddock trees, which at least can sustain koalas as they are moving across the landscape. The fires have exacerbated that. The fires have gone into areas where there may or may not be koala populations. Our knowledge of koalas and their populations, particularly in the area, say, from the escarpment west, is really poor. The Northern Tablelands have had a couple of projects to try to address that but the truth is we do not actually know.

**The CHAIR:** Okay.

**Ms HAWES:** But we are very suspicious that it will not be good for koala populations at all because this has come out of a fire.

**The CHAIR:** Thank you very much. I am afraid I have to leave it there because time has not been a friend. Thank you very much, Ms Hawes and Dr Hunter, for your time.

**(The witnesses withdrew.)**

**CORRECTED**

**STUART BLANCH**, Australian Forest and Woodland Conservation Policy Manager, World Wildlife Fund (WWF) Australia, on former oath

**RACHEL WALMSLEY**, Director of Policy and Law Reform, Environmental Defenders Office NSW, on former affirmation

**CERIN LOANE**, Senior Policy and Law Reform Solicitor, Environmental Defenders Office NSW, on former affirmation

**The CHAIR:** I now welcome our next witnesses. I note that all three witnesses have appeared at an earlier hearing of this Committee last year and thus do not need to be sworn for this hearing. As you have appeared before we have asked that no opening statements be made today, so we will proceed straight to questioning. I will kick things off. Since you last appeared we have had extreme fires that have caused devastating loss to koala populations across New South Wales. Would you like to comment on what you believe the fires mean for our laws in relation to protecting koalas and what recommendations you would like to make to the Government as a result of those fires?

**Dr BLANCH:** Thank you for the invitation to appear again before the Committee. I can say that WWF Australia has commissioned Dr Steve Phillips and fellow ecologists at Bio-Link, which is a consultancy based at Uki on the far North Coast, to survey three sites in northern New South Wales after the fires, for which it also has pre-fire data from other surveys. That work will finish at the end of February. In two of the three areas in New South Wales it has found a preliminary 80 per cent to 85 per cent reduction in abundance of koalas compared to pre-fire data. This is a rapid assessment; it was only a \$50,000 contract. It is not going to answer all the questions about koalas. However, Bio-Link was quite shocked by the disappearance of koalas. It is unclear how many died or how many moved into gullies or cooler forests on the side that did not get burnt. However, in two of three sites so far surveyed there was an 80 per cent to 85 per cent reduction in abundance of koalas. I think it has confirmed in their minds, as well as for environment groups that are looking at this, that it warrants koalas being up-listed, at least in New South Wales, to "endangered" status—hopefully under State and Federal law.

I think what that means, in terms of the habitat that is left, is that irrespective of land tenure it becomes even more important to hold onto. WWF Australia has called for a 24-month moratorium on logging of koala habitat in State forest areas. I think there would be a lot of support among members of the public for stronger protections across land tenures, particularly under the Local Land Services Act 2013 and Biodiversity Conservation Act 2016, to the integrated forestry approvals and on Crown land for protection of the koala habitat—which has been recently mapped at great expense by the State Government and is quite a good asset but does not confer stronger protections.

**Ms LOANE:** When we put in our submission and appeared before the Committee back in August we were highlighting the fact that the laws in New South Wales did not provide adequate protections for koalas. As you have recognised, the events of the last summer have changed the situation quite drastically. Evidence that has been put out by the Government itself is saying that more than 24 per cent of koala habitat in eastern New South Wales has been in fire-affected areas. Dr Blanch just provided some statistics that his scientists have been pulling together. What that means is that the environmental baseline has changed and the policy settings that underpinned our laws previously have shifted dramatically. Back then we were saying that the laws were not sufficient; now we are saying that the situation for koalas has changed quite drastically.

Again, I would say that the laws in New South Wales are not providing enough protections for koalas. We probably need to go further than the recommendations we made then, because the situation has changed quite dramatically. We have had a lot of people in the community contacting us asking what the law can do to protect koalas, particularly after the bushfire events of the summer. We are looking at different questions that have been put to us. For example, we have had people coming to us asking whether there can be a moratorium put on logging; can there be a moratorium put on land clearing; what about development that is on foot that is going to be clearing tracts of koala habitat. If we have really lost so much of that koala habitat then what we have got left really does need to be protected, and we have said in the past that the laws do not provide the adequate protections for koala habitat that they need to. As Dr Blanch mentioned, we have had questions about up-listing the koala from "vulnerable" to "endangered" or "critically endangered". We have also got questions about what this means for offsetting schemes and whether we can put a pause on offsetting decisions until we reassess the environmental baseline that we are now dealing with here in New South Wales.

**The CHAIR:** Dr Blanch, I understand WWF had earlier commissioned the report that I think came up with the measure of koalas potentially becoming extinct by 2050 if more was not done. Within New South Wales specifically and as a result of this fire, what is WWF's thinking now?



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**Dr BLANCH:** I think it hastens the trajectory of decline of koalas. The koala habitat conservation plan by experts that we commissioned, along with other environment groups, last year found there are 38 koala metapopulations in the State. They thought two of those were stable or increasing in population. One is the Macarthur population in western Sydney, which is still at great risk from development, particularly in the Greater Macarthur Growth Area with Lendlease's development. They thought two of the 38 populations were expanding; the rest are either declining or unknown—there is just not enough data. I think that for those that are declining or unknown, they are even more likely to be declining if they are in the fire area.

I think we all do koala conservation a disservice by just talking about bushfires—WWF does that, I will be honest. Bushfires are just the latest manifestation of the changing climate. It really should be the drought and increased temperatures in bushfires together. We talk to a lot of on-ground koala carers who found that they are losing a lot of koalas in areas that had not burnt in the last year because of the drought—including in the North Coast of New South Wales, which is relatively wet country. It has brought forward a 2050 extinction projected time line for most of the populations across the State by years. I do not know whether it is more than a decade. We really need a State koala census to work that out, and that is not easy to do. I think, though, we should take a cautious approach and increase protections for the koalas that are left. If we do not do that, all the numbers are showing they are increasingly heading towards extinction.

**Ms WALMSLEY:** If I can add to that: The biodiversity reforms in New South Wales in 2017 removed the ability to list a population, even though there were five koala populations listed. You cannot do that anymore under the laws. That kind of mechanism could be really important and worth restoring so that those populations that have been really affected by these fires can get that additional attention, in addition to the tools that Ms Loane was identifying.

**The Hon. MARK BUTTIGIEG:** When you say "list", can you just detail—

**Ms WALMSLEY:** The Biodiversity Conservation Act replaced the Threatened Species Conservation Act 1995. You could previously list populations—as when you list a species as being endangered, you were also able to list a population. That was repealed.

**The Hon. MARK BUTTIGIEG:** Like specific populations—

**The CHAIR:** Locally, yes.

**Ms WALMSLEY:** Yes, a local population. Sometimes, as Dr Blanch said, you can have healthy populations in places but other populations are really under pressure. I think the results of these bushfires will show that certain populations are extremely stressed now. The ability to list populations could be a useful tool.

**The CHAIR:** Just to follow up on that: What does it mean in practice if a population is listed as threatened locally? What more could be done, do you think, by the Government if the Committee was to recommend that change? What difference could that make to a local population?

**Ms WALMSLEY:** I think the fact that you could list a population draws attention to it, so then it would obviously be factored into the Government's Saving Our Species program about which areas get priority. That is a way of saying in the koala population that these are the really endangered populations at the moment. It is a way of drawing that attention. Hopefully that would also ensure resources flowed to those populations.

**Dr BLANCH:** There is an easy opportunity to amend the Local Land Services Act that would allow endangered populations of koalas to be added to category 2—Sensitive regulated land under that Act. There is a mechanism there. Previously endangered populations, communities and species have been criteria which decision-makers can use to require stronger environmental assessment or prohibit clearing, particularly on private land. That was removed with the repeal of the Native Vegetation Act 2003. The Local Land Services Act and the Biodiversity Conservation Act do not currently provide that mechanism, but there is a mechanism there. We have had discussions with Minister's offices and various politicians. It would not take a lot of effort to add koalas—particularly if they are listed as endangered statewide, or their populations—as a reason not to allow clearing of habitat on private or public land.

**The Hon. MARK PEARSON:** Ms Walmsley and Ms Loane, this question is to you: In your submission you state that climate change considerations should be incorporated into regional forest agreements and integrated forestry operations approvals [IFOAs]. How do you think that practically that these new agreements and approvals could be included in those terms? As you know, this is something we are grappling with in another inquiry because of a court ruling.

**Ms WALMSLEY:** First of all, we strongly recommend that all relevant laws in New South Wales become climate ready, that climate change is not just a thing for the Environment portfolio or a specific piece of legislation. As we have said in our submission, for example, the koala SEPP has to recognise climate change. It

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has to recognise climate refuges and corridors for a species like koala. In forestry legislation it has to be factored in. I think the bushfires that we have experienced and the impacts they have had are showing there is a need for law reform to make laws climate ready.

Unfortunately, the responses we have seen so far have been things like the consideration of salvage logging in burned areas to meet timber contracts. That is the opposite of what we need to be doing for climate-ready laws. Those kind of knee-jerk reactions would actually put more stress on species like koalas and in the burned areas. In terms of forestry what we do not need is the salvage logging or the knee-jerk reactions like that. We need to actually sit down and make laws climate-ready and plan for resilience because we are not going to have healthy and productive landscapes if we do not start planning for resilience now.

As Stuart said, the bushfires are just the latest symptom of an ongoing problem. We have drought and we have all these mismanagement issues, so we need all the laws across tenure. If you look at koalas, you have got local government decisions, you have got complying developments, you have got State Government road and Pacific Highway upgrades, you have got mines, you have got urban development, you have got forestry. You have got all these different pieces of legislation all impacting on koalas and there is a lack of that cohesive climate planning across all of those. It is not simply about putting the word "climate" in forestry law and in the forestry agreements. What we need is holistic planning, particularly in regard to species like koalas, across tenure to make sure that we are making climate-resilient plans, that species can adapt and that they can use corridors.

In some circumstances the laws need to say no. If it is the last remaining population it is not able to be offset. Sometimes the law needs to identify critical habitat and just put in place mechanisms whereby it says no. As Stuart said, in land clearing law you could simply put koala habitat into the codes and exclude code-based clearing from koala habitat. There are easy steps that you can do but it is going to take across tenure and it is going to take political will to actually make our laws climate-ready.

**The CHAIR:** Just to follow up from that in relation to amending the Local Land Services Act to do just what you have suggested, one of the things that we heard in our regional trips is the lack of incentive to landholders to conserve habitat as opposed to log for private native forestry purposes or to clear for cropping. Do you have any comments in relation to what the Government should be doing to incentivise landholders more to protect habitat on their land? Dr Blanch?

**Dr BLANCH:** I certainly think there has been a paradigms shift in a lot of the environment movement to recognise that farmers, or someone from a farming background, on private land need more support in addition to strong laws because we realise that laws on their own are not stable across a change of government. I think that, generally, a State and Federal based environmental stewardship program that funds landowners, farmers, graziers, Indigenous communities, small holders who take active measures to improve habitat quality, carbon storage, threatened species conservation on their land, should be supported. In the same way that the Federal Government under John Howard said, "We're going to buy water from irrigators to restore the Murray-Darling Basin", we need a shift in the understanding that farmers, particularly with threatened species like koalas, are the primary conservation managers of koalas. They get very little support for it. I think there needs to be strong laws and more money. That is the political deal. We cannot have one or the other anymore. So we want strong laws and we want more money.

There are some interesting precedents. The Queensland Land Restoration Fund identifies money for farmers who are protecting regrowing vegetation, which they could otherwise clear. It is a half a billion-dollar program. If that money is spent, that addresses land that has previously been cleared, which is a lot of New South Wales. Federally, the former Agriculture Minister, now the Agriculture Minister, David Littleproud, put, I think, \$33 million on the table to reward farmers to protect regrowing vegetation. There are two examples that New South Wales could borrow from. I really think we need like a \$1 billion land management and biodiversity fund that builds on some of the great work that the Biodiversity Conservation Trust does, but it has a broader remit is to protect mature and high conservation value forests and other ecosystems where farmers do not have the legal right to clear and so they are excluded from, for example, the Emissions Reduction Fund projects federally. That is a missing piece of the puzzle. I think the environment movement would welcome hundreds of millions of dollars for that out of public funds as long as it is not in lieu of stronger laws. I think that is the piece still to be had, frankly, yes.

**Ms WALMSLEY:** I think there are mechanisms at the moment that could be used to do that. We strongly support incentives for private land stewardship. So where there used to be incentive property vegetation plans that had money attached, they worked well until the money ran out and the Catchment Management Authorities [CMAs] were not resourced to go and implement those plans. But, under current laws, we have got a mechanism of areas of outstanding biodiversity value. Once those are nominated and listed, they are supposed to attract funding from the Biodiversity Conservation Trust to go to that landowner. That mechanism has not been

**CORRECTED**

used yet under the new law. If you identify critical koala habitat, if you mapped it as an area of outstanding biodiversity value, then that landowner, the Government policy is that they can get priority access to biodiversity conservation funding for stewardship of that site. We would strongly support incentives like that.

**The CHAIR:** Remind me why those areas of outstanding biodiversity value have not been used yet.

**Ms WALMSLEY:** Good question. So that is the new version of critical habitat. There were four listed critical habitats that were taken over from the old Act, but they have not yet been added to. Some guidelines have been developed by the department about how you would nominate a proposed area of outstanding biodiversity value. There are criteria and I understand that some work has been progressed about nominating some. But, you know, we are over two years into the new Act now and there have not been any new listings. But I think that could be a really important tool in ensuring funds get to where they are needed.

**Dr BLANCH:** I think the areas of outstanding biodiversity value mechanism is a positive legislative reform and critical habitat—very difficult for governments to implement politically. Areas of outstanding biodiversity value [AOBVs] provide a mechanism to do that. They are based on the International Union for Conservation of Nature [IUCN] key biodiversity area criteria, which largely, with some tweaks and some weakening—but generally it is a much bigger step forward. The key problem is that, similarly for SEPP 44 koala habitat protection, it is councils for SEPP 44 and private landowners for AOBVs.

They have to volunteer or put money or agree to have that legal protection on their land. They cannot be compelled. That is where a mix of funding mechanisms across the landscape is required. AOBVs and SEPP 44 work with some areas but the vast majority of the State is left unprotected for koala habitat. That is where the Local Land Services Act and the Biodiversity Conservation Act, with funding, have to fill that gap. Without looking at a map, I would have thought that well over 90 per cent of koala habitat is not protected under SEPP 44 or areas of outstanding biodiversity value. I do not think we have any funding for rolling out areas of outstanding biodiversity value or SEPP 44 to councils who currently do not have a koala plan of management.

**The CHAIR:** Just quickly to follow up, you said that without looking at a map, 90 per cent of koala habitat is not protected by SEPP 44 or AOBVs.

**Dr BLANCH:** Yes.

**The CHAIR:** Are you saying that if you could look at a map, if you took the question on notice you could inform the Committee whether that is the case?

**Dr BLANCH:** I could. I will say I know that of the 83 councils in the State, six, I think, had declared comprehensive koala plans of management at the end of last year with another five due by maybe next month or the month after, to finish those drafts. That will be 11 out of 83. But often I think they are smaller councils geographically where on the coast with concentrated populations large areas of koala habitat on the Great Dividing Range and west of the Great Dividing Range do not have these plans of management. I could go and look at those, if that is what the Committee would like, assuming it is available. The areas of outstanding biodiversity value—I would doubt that any new koala habitat areas have been declared since those reforms. There has not been enough passage of time. I maintain that without regulatory oversight by governments to require compulsory protection over koala habitat, irrespective of land tenure, SEPP 44 and AOBVs on their own will not save koalas, particularly with climate impacts destroying so much habitat.

**The Hon. BEN FRANKLIN:** Dr Blanch, I just wanted to revisit something you raised in your opening statement about a State koala census. To me that sounds quite difficult to actually implement and achieve. So I would be interested if you could speak a little more to why you think it is important and, more importantly, what practically would need to happen in order for that to be achieved?

**Dr BLANCH:** It is a bit of a truism. It is hard to manage what you cannot measure. One of the great elements of the Koala Strategy which we largely criticised, was that it puts a lot of money into information knowledge and citizen science. That will go some way but I think for a good census across land tenures, particularly in rough, deep country which is hard to get to, you need a range of mechanisms which often cost money. So koala conservationists and ecologists who know what to look for—their scats—like the rapid scat assessment or sighting of koalas, that is difficult work. It is expensive—you have to pay people—and it is not always safe particularly post-fire.

So it takes a long time to do. We have been deploying koala detection dogs in Queensland, west of Brisbane, which has a real potential to help. They do not work where there has been broad scale—landscape scale—baiting with 1080 because you cannot let the dog of a lease in case the dog eats a bait and dies. So technically dogs can really help, they are a lot more efficient than people and they have got great noses, but not

**CORRECTED**

where National Parks, State Forests, Crown Lands or private land are baited, for good reason but it makes it hard to use detection dogs. We have also been trialling thermal drones and normal colour drones, normal image drones.

They can work for koalas. It is difficult though in a fireground because the background is very hot and you do not pick up the colour differentiation. We have got a new drone we are trialling with a contracted American drone photographer next week on the North Coast, rain permitting. That will help and it is the complementary roles of people, dogs, drones and other technologies. None of them are cheap or quick so I think it will take a couple of years to do a good koala census and areas that have been burnt by fires, hit by drought or major deforestation, they are the ones we should focus on because some of the koala populations might in fact be stable.

Why we need another census is that one of the reasons we criticised the Koala Strategy is that it relied on very old data. It was published in peer reviewed literature of about 36,000 koalas in the State. But that was a 2016 figure, based on a 2012 workshop that often involved data that was more than five years old. So we are relying on data that is probably at least a decade old and nobody really knows how many koalas there are in this State. I would not be surprised, from what I have heard from people doing the surveys, that we might have lost 10,000 koalas from the fires in the drought.

**The Hon. CATHERINE CUSACK:** When you say that we are trialling new technologies like the drones, who is the we?

**Dr BLANCH:** The World Wildlife Fund [WWF]. We commissioned an American drone cinematographer Douglas Thron. He had used his drones in the Bahamas after the cyclone last year, recovering cats and dogs under buildings. He flew out here and said, can you help me? So we covered his costs, \$15,000 I think, to travel around. He has been here for three weeks, gone back to the United States to get a better drone camera and is back next week. We want to deploy him. We have only got a little bit of money and our comment to governments and landowners is, you need to put a lot of money on the table to use these and improve these technologies because none on their own are adequate.

**The Hon. CATHERINE CUSACK:** Has there been any evaluation of his trial or did he need a better camera?

**Dr BLANCH:** We are not there yet.

**The Hon. CATHERINE CUSACK:** When you expect that to be?

**Dr BLANCH:** I think it is going to take months. We have found koalas in a tree, with local koala people like at Appin and the Macarthur population who are trying to protect their land from the Gilead development and the koala—

**The CHAIR:** With the drone?

**Dr BLANCH:** With the drone. We have been out twice with local koala conservationists, including once with a Public Broadcasting Service [PBS] film crew from the United States. Douglas knew where the koala was. It proved the concept that you can find a koala in a tree, 20 metres up, if you know it is there. What we have not done is prove that if you have 1000 hectares of forest, where you know some is burnt or there are some koalas there, put up the drone and it does a systematic grid pattern search. We have not done that yet. I really think there are some very good drone operators already in Australia. We do not have to just rely on the guy we are using.

We need to come up with a methodology of using that at scale and to use artificial intelligence and greater technological capacity in the decade ahead to improve that. So in future there is a swarm of drones going up in advance or after a fire front. That is one of the real bright spots really and it will save having people in the fire zone so it is a Work Health and Safety [WHS] benefit as well. So I think it is months and months and it needs Government funding to support that, to publish the information, have it peer reviewed and tested and refined. We need drone producers to know there is a market there, to bring down the cost of drones. They are \$60,000 a pop with a thermal camera and not many people can afford that.

**The CHAIR:** Thank you very much. Were any questions taken on notice?

**Dr BLANCH:** Did you want the mapping?

**The CHAIR:** Yes. We might put a question in in relation to that, Dr Blanch.

**Dr BLANCH:** Okay.

**The CHAIR:** The secretariat will contact you in relation to that.

**(The witnesses withdrew.)**

**CORRECTED**

**KARA YOUNGENTOB**, Research Fellow, Research School of Biology, Australian National University, before the Committee via teleconference, affirmed and examined

**The CHAIR:** I now welcome our next witness. Would you like to make a short opening statement?

**Dr YOUNGENTOB:** My expertise includes nutritional and landscape ecology and I have served on expert advisory panels for koala conservation and management for New South Wales and the Federal Government. I was also an independent reviewer for the World Wildlife Fund [WWF] Koala Conservation Plan. I am currently involved in the Natural Resources Commission's project to better understand how koalas respond to regeneration harvesting on the North Coast. In my opinion, the biggest threats facing the koala are habitat loss and climate change. The koala has a huge distribution. However increasing temperatures and drought have made vast areas of western New South Wales and Queensland unsuitable. Koalas on the east coast are rapidly losing habitat from development and land clearing. The situation is death by 1000 cuts for the koala.

Populations are shrinking and becoming more isolated. This impacts gene pool, population fitness and resilience. When animals are stressed they are more susceptible to disease and it is not surprising that many populations are further dwindling due to chlamydia. Wild dogs and traffic are additional serious threats to the koala that need to be managed. There is a lot we still need to learn about koalas so that we can have the best outcome for this iconic species as well as their other stakeholders and environmental resources. There are big gaps in our understanding of how koala populations respond to fire. We currently have 25 koalas in care at the Australian National University [ANU] and even basic knowledge about when these animals can safely be released is lacking.

For example, we do not know if they can survive an epicormic growth and for how long; we do not know whether koalas that were not directly injured in the recent fires needed to be removed from the wild to increase their chance of survival while the forest recovers, that is assuming the forest recovers, which is not clear in some places; in most forests we do not know how disturbances such as fires and logging impact the nutritional quality and carrying capacity of the landscape for koalas; we also do not know how these disturbances impact global climate in most forests. This is critical because we do know that extreme heat or prolonged heat reduces the amount that koalas can eat, leaving them malnourished and dehydrated. Many of the animals that have come into care at ANU were severely malnourished and some of these were rescued ahead of the fire front. This suggests that ongoing drought and extreme heat had already taken a big toll, well before this fire season arrived.

Lastly, we need a better understanding of koala habitat in general. There are many people with many different ideas about what makes good koala habitat. This is a widely distributed species, so what might be important in one area is not necessarily true across the board. Also, many of our assumptions about what makes good habitat is based on correlation, rather than causation. As an example, there is the assumption that the best koala habitat only occurs on fertile soil. While this correlation may hold true in some areas, koalas exist in their highest densities on relatively poor, sandy soils. The same thing can be said for many other assumptions about habitat quality, such as the size of trees, the species of tree present and the diversity of trees. It is important that we all recognise the real extent and limitations of what we know about the koala. What we now know can help us manage them, but we need more information to do it well. One thing that is clear is that populations are declining alarmingly across much of New South Wales and Queensland.

**The CHAIR:** Thank you very much for your opening statement. I will kick off with a first question for you. You talked a lot about the need for more research. What is happening with that from ANU's perspective? Are you submitting various—would you like to do more research in those areas? Do you know whether that research is beginning to happen as a result of the fires?

**Dr YOUNGENTOB:** We would absolutely like to do more research in that area. We have been in discussions with the Department of Planning, Industry and Environment [DPIE]—formerly the Office of Environment and Heritage [OEH]—and submitted proposals to do post-fire research and to also put GPS collars on the animals we have in care to hopefully track their fate and compare that to animals that were left in situ, as well as animals that were not directly impacted by the fire. We would like to be able to try to do some feeding studies to see if these koalas are able to survive on the new growth that spreads after fire, which will help us be able to tell managers and carers when it is safe to release animals back into the forest. We need to start working fast but sometimes these processes can take a while to get through, so, yes, the sooner the better.

**The CHAIR:** The koalas in your care—you said you have 25 and I am assuming there was a big rush after and during the recent fires but you said some had come into care beforehand. Are they koalas around the Cooma region?

**CORRECTED**

**Dr YOUNGENTOB:** Yes, they are. They're around the Cooma region, but the Southern Tablelands, more broadly. Some of the animals were rescued just immediately before the fire fronts—there were apparently fire volunteers who would see the fire coming and there would be a koala in a tree and then they would cut the tree down and rescue that koala because it would perish otherwise.

**The CHAIR:** Yes. In relation to the Southern Highlands population, do you have some information around that population specifically, in terms of numbers and how healthy it was—just a bit of detail around the population itself before the fire?

**Dr YOUNGENTOB:** Before the fire Chris Allen had done some work with OEH to look at population densities and they were in relatively low density. I think his report suggested 0.005 koalas per hectare. That is in part probably due to low nutritional quality of that landscape compared to other areas where koalas live. There is also a lack of sodium in leaves, which is a critical nutrient for koalas as you go up in elevation. As that is one of the highest elevation populations there, the lack of that critical nutrient might have played a role in limiting those populations. That said, the animals that live there, we do not expect them to be emaciated and malnourished, as we have seen them coming into care, so, obviously, they have been dealing with drought and heat for some time before these fires happened.

**The CHAIR:** Is that population some of the koalas that have been found to eat bark? Have I got the right population?

**Dr YOUNGENTOB:** Yes, that is right, you have the right populations.

**The CHAIR:** Yes, is that different to some of the other koala populations in New South Wales?

**Dr YOUNGENTOB:** Yes, absolutely. There are a lot of populations that have not been closely studied and it is possible that at other high-elevation areas, potentially such as Armadale, they may be also seeking salt in unusual places. But we certainly noted that on the tablelands they eat bark. We are not familiar with that behaviour elsewhere. They eat that bark because they need to get salt, which are not getting the leaves.

**The CHAIR:** Thank you. Just some questions in relation to the koalas being kept in your care, were you prepared for those 25 koalas to come in at that point? I assume that the ANU—your centre—is not always set-up to receive 25 koalas at once.

**Dr YOUNGENTOB:** That is right. We are not really set-up to receive that many animals. We do have animal housing that we use for the research that we do. It is not really made for that size—for that many koalas. We have six aviaries that are of a size that they could keep koalas for longer term and then we have many smaller aviaries, all of which are now in use and are really not ideal to keep a koala for long term but, as a short-term solution, we can do that. Fortunately, we have Karen Ford, my office mate and colleague, and she is an expert in koala nutrition as well and has a lot of experience with koala husbandry from her own PhD work and the work she has done over the past few decades. We did have the capability to care for them, but we certainly did not have a dedicated group of people or—we are not a koala hospital so we have just scrambled to make the most with the resources that we have.

**The CHAIR:** Yes, because there are other wildlife carers in the region that could care for some of those koalas in bigger enclosures that are more suitable for koalas than a research centre at a university, perhaps?

**Dr YOUNGENTOB:** Absolutely, and we are more than happy to give those koalas out to other carers. The only thing we are waiting on is policy from OEH or DPIE to put in place to give us the permission to let these animals go. We are not holding them and making the decisions ourselves, in that respect. We are working with New South Wales to identify carers. One of the issues is that most of the carers in the region do not have a lot of experience with koalas, because there are not a lot of koalas in this region, so they are also in the process of getting certified and ticking all the boxes to make sure that they are ready to care for these koalas too.

**The CHAIR:** Just to continue on that—with the policy from the department—what specifically are you waiting for from DPIE or the Environment division within it?

**Dr YOUNGENTOB:** Well, it is in the process of preparing a document that has a list of things that make it okay for us to let these animals go, such as that their blood works are okay and that if they have outward signs of chlamydia they are either being treated or they have a vet where they are going to help treat them. There are regulations that carers have to have to keep koalas, such as minimum size enclosures. The additional details about that, I do not know—you would probably need to speak to Rod Pietsch to have more information about exactly what requirements they need to have before we can let these koalas go. We are having a meeting with them this Wednesday. Had our discussion happened after that I would be able to tell you exactly what those requirements are but we are waiting to hear from them and it is not our job to make that policy.

**CORRECTED**

**The CHAIR:** Yes. I am just asking because I have heard from some wildlife carers in the area that there is some tension with the ANU from some of the people who rescued those koalas—

**Dr YOUNGENTOB:** Yes.

**The CHAIR:** —and housed them temporarily with the ANU, that they are not getting the koalas back.

**Dr YOUNGENTOB:** Yes, I am aware of that too and it is really unfortunate because at the ANU we are stuck in the middle, we have been asked not to release those koalas by New South Wales. We wanted to release those koalas, but it is not us making the decisions. There are two carers that I know about that have been very agitated about the fact that they are still with us. All we can tell them is that the koalas are given the best treatment and we have vets at ANU and their welfare is our top priority. We want them to have these koalas back and as soon as New South Wales gives us the go ahead we will more than happily release these koalas to them.

**The CHAIR:** Okay, thank you, that is good to know.

**The Hon. PENNY SHARPE:** I am having a look at your submission and I am interested in the points that you make in relation to offsetting and the fact that the nutritional value of the offset does not seem to in any way touch on our policy. I am wondering if you could talk us through that please?

**Dr YOUNGENTOB:** Okay. As far as I know the nutritional quality of the landscape is not considered in determining whether an offset has like value for a landscape that is being lost. We know from research that we have done that the quality of food, the nutritional quality of that landscape did influence the carrying capacity and the density of the population. This varies both within and between tree species. You need to get a handle on the local area where development is planned or land clearing is going to happen and know of the nutritional quality. You can use species sometimes as a surrogate but because there is even variation within species it is great if you can actually look at trees within that landscape. Then whatever landscape you are planning to use as an offset should be similar in terms of the quality of the browse for koalas, not just the species but the quality of those species there to have a similar carrying capacity of the landscape you have lost.

**The Hon. PENNY SHARPE:** It is your understanding that there is criticism whether we do like for like and in many cases we do not?

**Dr YOUNGENTOB:** Yes.

**The Hon. PENNY SHARPE:** You suggest other than particular trees and those type of trees nearby that is the only assessment, that the state of those trees is not picked up in offsetting?

**Dr YOUNGENTOB:** Yes. You know, you may say that same kind of tree is in the landscape that is being lost but if you are not able to do a nutritional quality analysis of the leaves it is just getting an idea of the proportion of those trees. A lot of the differences are species based. So, if you have a lot of one of their favourite food species at one site you will need to at least at a minimum try to have a similar proportion. That being said, within those species there are chemotypes that are more or less palatable. If it is a really good quality habitat you need to make sure you are replacing that with a really good quality habitat and nutrition is key in that determination.

**The Hon. PENNY SHARPE:** You also say in your submission that, as we know, koalas essentially get their hydration from leaves rather than drinking water.

**Dr YOUNGENTOB:** That is right.

**The Hon. PENNY SHARPE:** This summer has been awash with people giving koalas water and that continues to be the case where there has been such damage to the forests. Do you know what information is being provided to carers? It seems to me that there are a lot of people trying to do the right thing and the watering stations are essential but there is little awareness that this is really not a great way for us to be looking after koalas. Can you talk us through that issue?

**Dr YOUNGENTOB:** Koalas do get the bulk of their water through the leaves that they eat. When it is really hot koalas cannot eat. It is similar to us, when we are really hot we do not feel like having a big meal. When you eat there is something called diet induced thermogenesis, so you get hotter because of your metabolism and that is why animals do not eat as much when they are hot. When koalas do not eat they also dehydrate because that water is coming from the leaves. You can supplement water by putting out Blinky Drinkers. I do not think it is a good idea to have taps where koalas are sharing the water with other koalas and the water might become stagnant, because then you can pass on diseases. Some of these Blinky Drinkers sound like they may be able to help offer that water to koalas that did not get it from leaves but I do not think it is a long-term solution because the koalas are not feeding so they are still losing energy and becoming malnourished. I do not think that those Blinky Drinkers are going to save them in the long run from extreme heat.

**CORRECTED**

**The Hon. PENNY SHARPE:** It is very much an emergency response given how severe it is.

**Dr YOUNGENTOB:** Yes.

**The Hon. PENNY SHARPE:** I am not being critical of those that are doing it. I am just interested that it is not a fantastic long-term solution.

**Dr YOUNGENTOB:** I would agree with that. Short-term it might get them over the hump in some extreme heat situations that are a very quick heat wave, but with prolonged heat they are not getting enough food and they are going to perish anyway.

**The CHAIR:** I will just jump in with a question in relation to the different leaves and what koalas prefer. We heard earlier about translocation. There were some questions in relation to koalas translocating as a result of a lot of reasons but as a result of coalmines in the State's north-west and being translocated. One of the witnesses mentioned that there was one Queensland study that has found that none of the koalas that were translocated survived. What is your view on translocating koalas, particularly in light of their sensitivity around their particular leaves, even of the same species?

**Dr YOUNGENTOB:** I think the study that you are referring to is John Callaghan's where they were removed from east Coomera to lower Beechmont. What happened there, they went from a high quality habitat nutritionally speaking, to a moderate habitat. It probably did not have the same carrying capacity to start because of nutrition but on top of that there were feral dogs in the area they were moved to and most of the koalas, from my understanding, were killed because they were hunted by these dogs when they were brought into that landscape. I have often heard when you move the animals it takes them a while to figure out where they are and get comfortable there and as a result they spend a lot more time on the ground and doing things that put them more at risk for predation. That may be why it failed in some cases.

In other cases you have the situation where if they are moved to a landscape where there is not koalas there is a reason why there is not koalas there. It is either going to be the food is not good enough, or there is going to be feral dogs that knock the population down, or it could be disease. If that is the case, if there are no koalas remaining there that may not be an issue, but if there are then you have disease transmission through populations. That is another negative of moving animals from place to place. I would be concerned. I do not think that translocation is necessarily the solution to saving populations. It has a lot of unintended potentially negative consequences as well.

**The CHAIR:** Based on your research, and some of the research that others have done, what is the rate of koalas surviving and thriving in forests post fire? Particularly in terms of a regenerating forest post fire, what is the quality of those young leaves for koalas? Is there any research has been done in that regard? You are talking about the fact that you are unsure of when to release the koalas in your care at the moment into forests. Has that research been done and is there any successful case study?

**Dr YOUNGENTOB:** No. Amazingly we know just about absolutely nothing about what fire does to the nutritional quality of a landscape, what the nutrition of that and chemotype growth looks like. When I talk about nutritional quality I mean both the good stuff that the koalas want and the bad stuff, the toxins that trees make to protect themselves. We have reason to think that epicormic growth might be well defended by trees like young leaves are, which means that there could be higher nutrients that could make koalas sick. We do not know how post-fire landscapes impacts home range and competition among koalas, we know nothing. In a situation like this where now this has happened, we would have liked to have done this research before, but at least a silver lining is we now have an opportunity to try to learn from what has happened so that we can do it better.

**The CHAIR:** Another question in relation to the fires, particularly around the Snowy Monaro region: One of the recommendations that came out of the Federal Government's recent assessment of fire's impact on threatened species across Australia was the fact that the unburnt areas next to some of the areas that had been burnt need to be looked at being protected. Do you have any idea about the quality of koala feed trees in some of the areas that remain unburnt in the Snowy Monaro region.

**Dr YOUNGENTOB:** I would need to see maps to determine if they were areas where we have sampled. We have done a lot of sampling there for a large study where we looked at the quality of forage across the range of the koala in relation to population density. I do not know exactly what areas have not been burnt compared to what areas have and without having that detail I cannot answer that question yet, sorry.

**The CHAIR:** That is okay. I think we are actually done for questions, Dr Youngentob. Thank you very much for appearing before the Committee. That is the end of a session for this morning.

**Dr YOUNGENTOB:** Thank you so much for having me.



**CORRECTED**

**(The witness withdrew.)**

**(Short adjournment)**

**CORRECTED**

**JEFF LUCAS**, Director Planning and Environment, Rural Fire Service (Hotspots Fire Project), before the Committee via teleconference, sworn and examined

**The CHAIR:** I welcome our next witness, Mr Jeff Lucas, who is joining us by teleconference.

**Mr LUCAS:** Good morning.

**The CHAIR:** Do you have a short opening statement?

**Mr LUCAS:** Certainly, yes. I have a short written statement that I will read. Amongst other functions, our area manages the Hotspots Fire Project. The project is a community engagement program that supports individuals and communities to better understand the role of fire within the environment. The project provides landholders and land managers with the skills and knowledge needed to actively and collectively participate in fire management planning for the protection and enhancement of biodiversity conservation, while also looking at protection of life and property. Typical Hotspots workshops aim to facilitate discussion, collaboration and the coordination of fire activities between neighbouring private landholders and public land managers. The intent is to maintain a strategic and integrated approach to prescribed fire management.

The Hotspots Fire Project is delivered through a coordinated partnership between the New South Wales Rural Fire Service and the Nature Conservation Council of NSW and has a number of program delivery advisory partners, including the NSW National Parks and Wildlife Service, the NSW Department of Planning, Industry and Environment, Forestry Corporation, NSW Farmers, New South Wales Local Land Services and Local Government NSW. The project has been running since 2005. To date, there have been 130 workshops completed. Some 2,462 landholders have been involved in the project. Some 1,280 fire management plans have been completed on private landholdings and roughly 260,000 hectares have been covered.

**The CHAIR:** Thank you very much. Could you tell the Committee some of the benefits that you have seen as a result of your work with the Hotspots project—in terms of, I suppose, community benefits and also if you are able to talk about the ecological benefits?

**Mr LUCAS:** The initial aim was really about trying to raise the issue of fire and the environment. Typically from a Rural Fire Service perspective we would look at fire from a risk and life and property perspective. The Hotspots Fire Project—and this is all part of the relationship with the Nature Conservation Council—was trying to look in a number of private landholdings that had high ecological value as well as high bushfire risk and trying to balance those values. Over time the project has evolved and we have included things, like down on the South Coast the Mumbulla-Biamanga local Aboriginal communities have been involved. We have introduced an element with those communities about cultural values there as well. In more recent time it has been used as a tool to assist with recovery, environmental and human recovery from fires—Tathra is an example of that. In general, as I say, it is that balance of environmental qualities as well as life and property.

**The CHAIR:** With the Hotspots Fire Project, would you then be aware of whether some of the ecologically sensitive land, for example, on private land that you were preparing a fire management plan for, if that was potential koala habitat or koala habitat what the differences would be from the project's perspective as opposed to if the landholder was simply going about doing that themselves?

**Mr LUCAS:** While there has not been people being forced to do things, there has been that collaboration with particularly neighbouring private and, for example, if a national park was next to the property, where they might collaborate there to have the same intent for a koala population, whether it be on the private landholding or the public landholding.

**The CHAIR:** In terms of the way in which the fire is applied, if you like, from a burning perspective, is that also done collaboratively and is it done any differently as a result of the Hotspots Fire Project burning for ecology? Can you speak to that?

**Mr LUCAS:** Typically a program in a location will cover two workshops. The second workshop is we actually carry out a demonstration burn there. One of the things that has been learned from experience is that some people may be reluctant to use fire on their properties—it is often seen as a dangerous thing. The demonstration burn is aimed at doing a site inspection, understanding what the various factors are on a demonstration property, understanding the various approvals that we need to go through and then having our local volunteer brigade coming out and actually carrying out a demonstration burn, which is typically less than a hectare, to show people how they can conduct burning on their property that maybe historically they have been reluctant to do. Then there is the opportunity there for them to use fire in that area.

**The CHAIR:** You mentioned before that Hotspots has been engaged in recovery as well and you have made specific reference to Tathra. Can you expand on what Hotspots has done in that area?

**CORRECTED**

**Mr LUCAS:** Tathra is one example; Taralga near Queanbeyan was another one. What we found was when we have been going in and using our typical tools to identify a location for a Hotspots program, sometimes these other elements like a major fire have been through these areas. So we thought it would be silly to conduct a community engagement activity and almost ignore the elephant in the room, which had been a recent fire. We used the core values of the Hotspots project but also added the element of recovery there from a welfare perspective, whether it is about mental health, but also from an environmental perspective—people being able to see and understand how the bush would recover from that fire. Our view was that that would aid in human recovery as well by seeing that environmental recovery around them as well.

**The CHAIR:** Is there a way in which the Hotspots project could be applied more widely throughout the community. I understand from speaking with a few people, particularly since the Christmas break, that there has been quite a demand for some of the Hotspots workshops across New South Wales? Is that correct?

**Mr LUCAS:** Yes. It has actually been quite a "popular" project over time. A lot of our identification of areas has been being approached by various communities which have heard about the project through word of mouth. We have been using that as one of our guides for carrying out projects. Again it is that classic thing of being able to balance our resources against the need for the project. For example, we had been identifying a place like Cobargo on the South Coast, which does have koala populations nearby. We had been looking at that for a couple of years in the priorities for a Hotspots project and we will certainly consider that and probably put recovery in as an element at Cobargo as well as the other values we have spoken about previously.

**The Hon. PENNY SHARPE:** What is the funding for the Hotspots project?

**Mr LUCAS:** I would need to take that on notice if I could?

**The Hon. PENNY SHARPE:** Yes.

**Mr LUCAS:** We run a partnership with the Nature Conservation Council of NSW, so I would need to get some information to take that on notice if I could?

**The Hon. PENNY SHARPE:** That will be fine. I appreciate that. The project has been in place since 2005 so I do not want you to give me a year by year analysis of what your budget is. I am wondering whether your budget has remained steady, whether it is increasing, whether it is decreasing? Would you be able to let the Committee know?

**Mr LUCAS:** Historically from 2005, while the project existed, there were a lot of resources that worked within the Hotspots project that were not specifically identified for that project. Since the 2009 fires in Victoria and the subsequent royal commission, there was a decision to accelerate the program across New South Wales. We currently have three dedicated staff located at Batemans Bay, in Sydney and in Coffs Harbour, that are typically completely dedicated to that. We have a coordinator in Sydney as well who is completely dedicated to the coordination of the project and the day-to-day communication with the Nature Conservation Council of NSW. So there was an increase in 2009 but I can certainly get more specifics on that.

**The Hon. PENNY SHARPE:** Obviously the impact of fire this season means that the community are very alive to all of these issues. I noticed in your last newsletter that you said you were planning in June last year for how many you were doing. I wonder whether there is an approach to increase the resources that you have got post-fire given the level of interest in the community?

**Mr LUCAS:** Typically our aim is to do, in terms of programs, six a year—six locations each year. So that is 12 workshops. As you can imagine, there is quite a bit of preparation for that, including a lot of communication with local communities, our volunteer brigades and the like and our districts to make sure we are well prepared for it. That is typically the goal that we have. As you say, there could be quite an increased interest in projects like Hotspots from now on in the immediate future. We just need to consider that with our resources.

**The Hon. PENNY SHARPE:** I wanted to ask a question around your engagement with Aboriginal communities across the State. I assume you are familiar with the Firesticks people and the Indigenous cultural burning. Are you able to talk us through what, if any, involvement you have? You mentioned Biamanga, which I am familiar with. Could you just talk about that cultural burning and working with First Nations people on the ground?

**Mr LUCAS:** It sort of happens through a lot of incidental conversations and informal conversations between our staff and local Aboriginal communities. There is a thought there that with the engagement we have had to date that there are a lot of environmental and fire-related benefits to engaging with local Aboriginal communities. But also a lot of social impacts that could be very beneficial by working on country and alike. While that is an ongoing body of work for us—and that Guluga, Biamanga area has been very successful—there has been contact from a number of communities that we are trying to fit in with our broader Hotspots work.

**CORRECTED**

**The Hon. PENNY SHARPE:** What input will you have if any into the recovery and inquiry process to the fires, given that you are well connected across the State with landholders? Will you be making formal submissions to that?

**Mr LUCAS:** At this stage we are still considering all the various elements of recovery and where that sits. That would certainly fit in, in my view, with all those elements of recovery that the Rural Fire Service has been involved in. Absolutely.

**The Hon. PENNY SHARPE:** Great. Thanks.

**The CHAIR:** As Ms Sharpe said, we did hear from the Firesticks Alliance previously and there has been a lot of focus on cultural burning or Indigenous burning practices. When you are looking at developing fire management plans through the Hotspots Fire Project and then undertaking a burn on the second part of the workshop, what is the difference between what you would do through the Hotspots Fire Project—which I understand is an ecological burn for biodiversity values—is there a difference between that and what Firesticks are calling Indigenous burning? Is there any difference at all?

**Mr LUCAS:** Typically with these specific Hotspots workshops the burn is purely as a demonstration. It may be a smaller part of what might be a larger hazard reduction down the track. But certainly for the purposes of Hotspots it is a small burn. Typically it is less than one hectare just to give participants a sense of all the elements of lighting up a fire, how fire would behave and making them more familiar with fire in general. So there is not a focus on, for example, lighting techniques, whether they be cultural lighting techniques or European lighting techniques. Does that answer your question?

**The CHAIR:** I think what I am trying to get to is in relation to the fire management plan, as I understand it, the Hotspots Fire Project will look at the various biodiversity values, ecological values in the area that is going to burn—so a walk-through, as I understand it. I have actually been on one. I used to head up the Nature Conservation Council of NSW, so I have been on one of those walks in a Hotspots workshop and ecologists will map the value of the forest or the value of the land. Is that correct? Does that still happen?

**Mr LUCAS:** Yeah.

**The CHAIR:** So that is then incorporated into the fire management plan, is that correct?

**Mr LUCAS:** Yes, that is right. The burn that is actually carried out does form part of that fire management plan on that particular property, that is correct.

**The CHAIR:** So if, for example, there was koala habitat on the property, would that be discussed at the workshop? Would it be factored into the way in which that area was burned or was not burned?

**Mr LUCAS:** Yeah, very much so. Often there is a lot of ecological guidance that in the preparation of the whole program is provided through things like the Biodiversity Conservation Act, the Environmental Protection and Biodiversity Conservation Act of 1989. Those sorts of elements form the basis of how the program in general is carried out, so we have that ecological rigour. If one of the elements within that is a koala population, those elements would be taken into consideration and certainly discussed as a key value in that area.

**The Hon. MARK PEARSON:** In the evidence that was given about Firesticks Alliance's lighting of fires, there was great attention given to flora—the time that new seedlings are going to come up with various species of flora—and also the potential to prevent potential harm on all sorts of animals—reptiles right through to insects. That sort of holistic approach is certainly central to Firesticks Alliance's program. Does the Hotspots program have any of those analyses as part of it?

**Mr LUCAS:** Yes, absolutely. Typically we try to hold our workshops in spring and autumn, just being on the shoulder of the fire season is our best window to do that. There have been times where we have had to call off a demonstration burn because the conditions just were not appropriate to do that, again from a risk perspective but also from an environmental perspective.

**The CHAIR:** In relation to that, have you noticed that people are obviously talking about the narrowing window for hazard reduction burns? Has that impacted on the workshops you have been able to do?

**Mr LUCAS:** Yes, it is certainly a consideration there and our opportunities have been limited at times. It can also be limited not just because of excessive heat or dry vegetation but also other conditions. If we are getting towards winter—and it has not been a problem lately, I must say—but it could be that it has been too wet to burn as well.

**CORRECTED**

**The Hon. SHAYNE MALLARD:** I am taking that the Hotspots program is essentially a cold fire approach to fuel and land management on private property largely. Have you observed koala behaviour exposed to the fires?

**Mr LUCAS:** Within our specific project we do not have a specific monitoring program on there. But we do provide information and details for landholders to monitor outcomes, whether it is through fuel loads or through vegetation communities or other values, and that opportunity is there.

**The Hon. SHAYNE MALLARD:** I did not quite catch that last part. Could you say that again?

**Mr LUCAS:** We do provide the tools for local landholders to do monitoring after burns and the like, whether it is about fuel loads, whether it is about changes in vegetation communities or about other values.

**The Hon. SHAYNE MALLARD:** I was interested in your experience in terms of koala responses to fire, particularly the cooler fires, the lower level fires. Do they move away when they smell smoke? Do they move into gullies and so on? Do you have any experience of that?

**Mr LUCAS:** Not personally. I can certainly get that information coming to you if you like. I would not be able to give you specific examples of their behaviour around that.

**The CHAIR:** That would be useful if there is somewhere for you to be able to get that information. Is that what you are suggesting in terms of the way koalas respond to fire?

**Mr LUCAS:** Yes.

**The CHAIR:** Wonderful. Thank you.

**The Hon. CATHERINE CUSACK:** We have had evidence that they climb but it would be interesting to see if that is their experience. I wanted to ask about working with koala volunteers. We have had evidence from Port Macquarie that the volunteers work with the local Rural Fire Service to get accreditation so they can go in and rescue koalas after a bushfire. I am just wondering if you are aware of that project and if there is any work to do that as a statewide program so that there can be an after-fire response by the koala volunteers?

**Mr LUCAS:** I can confirm some of that. It is not specifically a thing that is done with Hotspots so that is slightly out of my area. My understanding of it is that most of the accreditation is around their ability to get on a fireground after a fire has passed and it is declared safe. They have training in bushfire awareness; it is not necessarily a firefighting qualification as such. It is an awareness that allows them to get onto a fireground when it is safe to carry out those activities. Again, I can get more detail around that if that is helpful.

**The Hon. CATHERINE CUSACK:** Sure. Can I just clarify, are you not responsible for advising the Rural Fire Service on what to do after a fire has gone through in relation to wildlife? Is there someone else in your organisation who is managing that?

**Mr LUCAS:** My detail is a bit hazy on this but my understanding is a lot of that is being done from the local district up there. As I say, I could probably get some more detail to properly answer the question.

**The Hon. CATHERINE CUSACK:** I guess the point is that there is no statewide policy capacity at the moment in the RFS for managing wildlife rescue after a fire event; there are not any policies. I am not criticising the RFS, I am just trying to identify if there is a potential learning there from these fires and if you think that would be a good idea that there could be a statewide policy because everybody seems to be doing their own thing and it is very patchy.

**Mr LUCAS:** I am not aware of any statewide policy for the Rural Fire Service on wildlife rescue and the like but again I would not mind being able to confirm that to make sure I have properly answered the question.

**The Hon. BEN FRANKLIN:** Thank you very much for appearing, Mr Lucas. In terms of your outreach with landholders, do you actively look to landholders where you think your program will be of greatest benefit and approach them? Or is your program a passive one where you wait until they approach you and then you provide them with the benefit of your knowledge and experience?

**Mr LUCAS:** Typically we are approaching communities. When we identify high ecological values as well as high bushfire risk, they are the key priorities. Typically we make those connections with those communities but there is also a lot coming the other way as well, usually through word of mouth where people have heard about the project, have thought it would be a good thing within their community. Then we just consider that in our priorities as well.

**The Hon. BEN FRANKLIN:** Do you ever get pushback from landholders who are not interested and do not want to engage with you?

**CORRECTED**

**Mr LUCAS:** That has not been our experience. I cannot speak about every individual but typically our experience has been very positive through the project.

**The Hon. BEN FRANKLIN:** Great. What recommendations could this Committee make to encourage a greater take-up of working with RFS to implement the Hotspots project?

**Mr LUCAS:** I suppose one of the limitations of our project is resourcing—human resourcing, in particular. I mentioned earlier that we have an officer in Batemans Bay, one in Sydney and one in Coffs Harbour. Typically, this project is done on the eastern half of New South Wales, so far. One of our limitations is about the ability to resource requests to carry this out. The Nature Conservation Council also provides an ecologist and without necessarily speaking on its behalf, it is typically challenged by resourcing needs as well. We tend to find that the market for this is quite strong and we just need to prioritise that based on our resourcing.

**The Hon. BEN FRANKLIN:** Great, thank you.

**The Hon. MARK PEARSON:** I know it is probably a bit early for you to be able to answer this question, but have there been any areas where the fires have been extremely serious, where you could identify where if this Hotspots activity had occurred over time that that fire would probably not have been as severe or happened at all? Or is that too early to assess?

**Mr LUCAS:** I must admit that that is a difficult one to answer at this stage. We are still in those early stages—in some cases in the south still cleaning up some of the fire. We are still in those early stages of recovery in a lot of cases now. When I say recovery, things such as building those sort of areas and the like. I must admit I think it would be a difficult one to answer at this stage.

**The Hon. MARK PEARSON:** But would you agree that it is probably a very important term of reference if there is going to be a royal commission into these fires?

**Mr LUCAS:** It is something that should certainly be investigated, absolutely.

**The Hon. MARK PEARSON:** Thank you.

**The CHAIR:** Can I just get you to expand on potentially one of the benefits of the Hotspots Fire Project. If you are assessing, if you are looking at areas that have high ecological value as well as bushfire risk, I am assuming that some of the private landholders have, for example, wildlife conservation areas and some of them are potentially not that comfortable with fire going through their property. What are the benefits of something like the Hotspots Fire Project coming in, which looks at ecological burning, and enabling those private landholders to be more comfortable with that? Is that something you witness?

**Mr LUCAS:** I would say yes to that. One is the fact that people are actually getting together. There can be a range of opinions and views across the community about this whole matter but at least that is getting people together to go through the issues. So that is one element there. Our experience has also been that the demonstration burns element of the workshops has been really—the fact that people are actually seeing a burn and seeing that it can be safely conducted tends to improve that confidence to do that sort of work. It also build relationships between our volunteer brigade and those local communities, where they may assist in that sort of work as well and, again, provide that level of confidence for people to carry out that sort of activity if it is something that is appropriate for their land. It is that high end of community engagement that seems to be quite effective in getting people together.

**The CHAIR:** Thank you. I was just hoping to go back to something you mentioned earlier in relation to Cobargo. I think you said Hotspots had identified Cobargo as an area that you wanted to go into two years before those fires hit. A Hotspots Fire Project workshop was never conducted in Cobargo, is that correct?

**Mr LUCAS:** No, that is correct. There had been initial discussions with some members of the community and the local brigade and the like but it had not progressed beyond that into actual activity.

**The CHAIR:** Is that because of resources from your end?

**Mr LUCAS:** Yes, partly, but also because of changing priorities. There might have been those initial discussions but another activity, for whatever reason, had come closer to the top. It could be that the other community was ready to go. We have a number of potential locations in the pipeline all the time, probably going out two or three years, and it is quite typical that we might have a number on the books there at varying stages of readiness.

**The CHAIR:** You also mentioned a local koala population around that area. How is that identified and where in relation to Cobargo was the koala population that you're referring to?

**Mr LUCAS:** That is to the east between Cobargo and Bermagui, so to the east of Cobargo.

**CORRECTED**

**The Hon. MARK PEARSON:** What are the elements or things that you look for to say, "We are going to have to go in there and do Hotspots very soon", or "It can wait a year", or "It can wait six months"? What are the factors that you measure to categorise the level of urgency or otherwise for an area? The Cobargo one might be a good example to use.

**Mr LUCAS:** Sometimes circumstances change. For example, when we did Tathra, the big driver for that was the actual fire in March 2018 and it was just thought that would be a really good project to carry out in relation to that community but also testing some of the work we had done in Carwoola, near Queanbeyan, after another major fire and introducing that element of human recovery with environmental recovery. That was the driver behind Tathra. Others are ready to go from an ecological perspective, but maybe we are still working with the community to get dates and to get it off the ground. There is a whole range of elements there beyond pure scientific grounds, if that makes sense?

**The Hon. PENNY SHARPE:** Coming back to the resourcing issue. You have just given the example that after Tathra had a fire there was a huge amount of interest and you are limited by the very small—you do quite a lot with the few staff that you actually have. If you went from three to six people, do you think that would assist to get this program into more communities while the interest is high?

**Mr LUCAS:** Yes, there are two components to that. One is the availability of the Nature Conservation Council ecologist as well as—

**The Hon. PENNY SHARPE:** If there are resourcing issues on its end too.

**Mr LUCAS:** Sorry?

**The Hon. PENNY SHARPE:** There are resourcing issues on its end as well. I understand that.

**Mr LUCAS:** Yes. If we doubled our Rural Fire Service resources, for example, that would put a huge pressure on those ecologists from its end to be able to carry out the role they carry out with the workshops.

**The Hon. PENNY SHARPE:** Yes. It is just one of those issues where there is such a level of interest in the community, particularly also on the other end, which is about wildlife, flora and fauna, and how burning into the future can be done in the best way. In terms of what this Committee would recommend, we need to think about that when we talk to the Government about those issues. There is an opportunity—obviously not immediately, as communities are still in serious crisis and recovery mode—that in the next 12 to 18 months there would be a big appetite for more investment into the work that you do. I am concerned that you do not have enough people to do what you want to do and what communities are going to ask you to do.

**Mr LUCAS:** Yes. Look, I think that is the typical thing. As I said, that market is there, in my view, for more workshops. It is a matter of properly resourcing that to be able to continue to carry out what is being asked.

**The Hon. PENNY SHARPE:** Terrific. Thank you.

**The CHAIR:** Can we get a sense of what the market is or what the demand is compared to what you are actually able to meet each year?

**Mr LUCAS:** Yes. Look, a lot of it is informal, I must say. Like I do not, for example, have a document there that says we have got 50 communities on the books or anything like that because a lot of it has been at various stages of maturity. Some have been just an incidental conversation, maybe arising out of a previous workshop or the like. Some are more formal approaches. But certainly the anecdotal evidence is very strong that we are getting lots of people approaching our hotspots officers to see about the opportunity of doing something in their area.

**The CHAIR:** Thank you. Are there any other questions from members? No. Thank you very much, Mr Lucas. I understand you took some questions on notice about which the Committee secretariat will be in touch with you and those will have to be provided to the Committee within 21 days. Thank you very much for appearing.

**Mr LUCAS:** Thank you very much.

(The witness withdrew.)

**CORRECTED**

**PAUL MICHAEL NOACK**, Assistant Secretary, Australian Workers' Union NSW, affirmed and examined

**NICHOLAS KAMPER**, National Economist, Australian Workers' Union National, affirmed and examined

**The CHAIR:** Would either of you like to begin by making a short opening statement?

**Mr KAMPER:** I think Mr Noack will, but I might begin by just stating my role here. As a national economist I assist in submissions and have oversight of the public policy formation and advocacy of the Australian Workers' Union [AWU]. We have very broad coverage across different sectors of manufacturing and across the public service and so forth. By and large, my expertise in this area is far less substantive than what Mr Noack's would be. As the assistant secretary New South Wales, Mr Noack has oversight over public service organising and public policy formation around these areas. I am here largely as a formality in the instance that there are questions on the basis of the submission.

**The CHAIR:** Thank you.

**Mr NOACK:** Just to briefly introduce my background, my responsibilities for the last 10 years have been in both the Forestry Corporation and the National Parks and Wildlife Service, so I have a real interest in this question of koala populations—a very important question that I think is on the minds of many people in the community and indeed around the world at the moment in terms of the fires that have just occurred. Our membership in both Forestry and National Parks is about 1,000. They are all firefighters. We actually form one of the largest, if not the largest cohort of firefighters at the moment. Certainly, it has been an absolute tragedy for our wildlife, an absolute tragedy for koalas. I thought about saying some quite horrific stories but I decided not to because I think we can all imagine what our people have experienced in devastating stories about koalas.

There have also been some great stories—how field officers out there have saved koalas in many areas and the great moments when this can occur. But having said that I would just like to draw this Committee's attention to what has happened particularly in Forestry at the moment. Forestry looks after about two million hectares of assets, trees. One million of those are untouched. They are never for harvesting. The other million, so half of them, are there for harvesting. Out of that one million, 800,000 have been destroyed. It is an absolute tragedy. Eight hundred thousand have been destroyed.

**The Hon. BEN FRANKLIN:** I am sorry, you mean destroyed in these current bushfires?

**Mr NOACK:** Yes, the current bushfires.

**The Hon. BEN FRANKLIN:** Just checking.

**Mr NOACK:** Down south, totally wiped out.

**The CHAIR:** Yes.

**Mr NOACK:** We have a national park down south—totally wiped out. These are horrific stories and I will come to what we think we need to do, not just to save koalas but what we need for the State and the future because fires are one of the big killers of koalas, one of the big killers. Having a fire plan, having firefighters and having a strategy, a sustainable strategy, is so important in terms of not just koalas but all our native flora and fauna. As we move on we need a proper strategy. In terms of what we say are the major killers of koalas, and we need to identify that in terms of protecting koalas, there are issues like—obviously we humans are one of the main ones; and urban development, which has eroded a lot of areas. Roadkill is massive. Disease is massive and, of course, pests. They get killed by dogs. Up north, for instance, they have tunnels to try to get the koalas under the roads to try to protect the koalas. These tunnels are a trap. I mean, dogs are pretty smart. That koala goes into a tunnel and a lot of them do not see the light of day. That is not the way to protect koalas so we have some plans on that as I go through our submission.

I have got to say that since we put forward the submission to this Committee lots has changed because of the fires, so I will make some changes to that in my submission. But there are a lot of misnomers about Forestry Corporation. What do our members do? None of our members actually chops down trees or harvests trees. That is all done by contractors. Our members in forestry mark trees. They do a fantastic job, both field staff and ecologists which are our members, in monitoring koalas, sometimes over five years. Koalas are actually difficult to locate. They are not easily seen. You just do not walk through a forest and say, "There's a koala." They are hard to find. It can take quite a long period of time to identify them.

Once they are identified the area is sectioned, cut off, so they are not harvested. We do see a lot of stuff on Facebook about koalas coming down with trees and everything else. Can I say, we need to deal with the facts and we need to deal with things in a scientific way. In 30 years since Forestry New South Wales has been in



**CORRECTED**

existence, one koala has come down with a tree—one too many, by the way. One has come down with a tree. I am hopeful that will never happen again, but in 30 years one koala. This is not Brazil, this is not Indonesia—

**The Hon. BEN FRANKLIN:** It is not Victoria.

**Mr NOACK:** —or maybe another State. But New South Wales, as far as Forestry Corp, can be a bit proud of itself in terms of how we feel and what we do about the protection of koalas. With ecologists, they do a lot of work on monitoring. I just caught a bit of the last submissions. We need a lot more work on data. We do not have a lot of data. National parks do not have any ecologists. They rely on Forestry ecologists to get their data. So we need a lot more work done on that, and that means a lot more investment into knowing exactly what the koala populations are. Can I say also that Forestry Corp are not the only ones that log trees. Private interests do that and it is well over 40 per cent. Do they have the same controls and cares about koalas? No, they don't. I think we need to draw attention to those areas of private forests that are not controlled by State forests—another great reason why we should not privatise forests. Our forests do a great job. We ought to be proud of our forests but, at the moment, they are decimated and we need to rebuild.

What we say from the AWU, we say we need to do a number of things and we need to do it fairly urgently. Obviously, I have mentioned fires. Pest control, this is a huge issue for koala protection. In State forests we put in an extra 30 pest control field staff. Remember they are also firefighters, so that increases your firefighting capacity. We need to go out quite aggressively because they are a big killer of koalas. We also need to do the same in national parks. We need a plan in national parks for proper pest control. National parks has actually decimated a lot of their pest control strategy. We are hearing good sounds at the moment, both nationally and State-wise, that there could be some money or there will be some money into pest control. What we say as a union, let us use it smartly—let us make sure it is long-term, sustainable, full-time jobs, so you actually get bang for your buck.

The big danger is you cherrypick it. You do a contract for 12 months here. You give this person a job for 12 months over here and it all looks good—taxpayers' money. At the end of the day it is not good use of the taxpayers' dollars. It has to be long term. It has to be sustainable because pests are a big issue in New South Wales, I would suggest probably right around Australia, a huge issue. As I said, one of the number one killers of koalas are dogs. We need to get really active on that and that means funding full-time, we say, of field staff in both national parks and in State forests to do that. Also ecologists, we need to put on more ecologists. We need to get more data. I am a science-based person. If we move forward we need facts, we need figures, we need proper strategies in which we are going to enhance the whole thing. And plantations—we need to plant trees. There are a lot of countries around the world—and you read Ethiopia is one—where they are planting millions and millions of trees every year.

I have just said we have had our State forests decimated, we have had national parks decimated by the worst fires we have seen probably ever. And I have got to say—predicted. The governments cannot say, "Jeez, we didn't expect this." We predicted it 18 months ago. All our firefighters knew this would happen 18 months ago. We have got to now start rebuilding our national parks, rebuilding our State forests, and we put a figure of \$50 million. Well, throw that out the window. Forestry Corp probably need \$200 million to start rebuilding forests. Now, two ways we rebuild: We need to rebuild the plantations as an asset for forestry to keep going as a business and we need to rebuild native forests in the long term. That will not, short term, solve problems of the koalas but we have got to think long term. Short term we have got to get into pest control. Short term we have got to look at what we can do about roadkill, for instance. Let's not dig little tunnels under the roads that will see koalas in a very vulnerable situation.

In Europe, they have wonderful wildlife bridges for their bears and for their deer in Scandinavia and others, and they are magnificent. They have got trees on them and they become a natural place for animals to go from one side of the road to the other. We need to invest some money in that. Invest some money in fences to protect koalas going across the road. It is all money, but do we think koala populations are important? Do we think we have got to do something? I think these last fires, they estimate a billion animals have died. That is a big figure. In light of that, we have to spend the money. I think the community would expect that. I do not think you are going to get any back-push from the community in terms of spending money to save wildlife. Urban development—I don't know what you do about that. Do you tell people not to buy houses up the east coast and everything else? It is not going to happen, but that is a problem. With them they bring dogs. With them they bring cars. With them they bring problems. We have got to identify what we can do. The other thing is disease. We have got a great hospital in Port Macquarie and that is about it. We really do need to spend a bit more money on scientists—with medical research and everything else on the diseases koalas face.

Very briefly, I think that these sort of policies would be embraced by the community. I think it would be embraced across the political spectrum—Labor, Liberal, Greens, all the rest of it. I just think that we need a really

**CORRECTED**

strong, vibrant policy in terms of koalas. We need to put the spotlight on what really does cause the demise of our population, not go down the wrong roads. Look at what is the demise of the koala populations and turn it around. We can turn it around, but it means investing in the proper areas: pest control, defending koalas that go across the roads, put in wildlife bridges and put in more ecologists. Let us find out more about exactly what sort of koala communities are out there and what we can do to make sure we preserve these wonderful creatures. I think I might end at that. If you have got any questions out of our submissions or anything else, I am more than happy to answer.

**The Hon. MARK BUTTIGIEG:** I thank you both for appearing. I think it is important that we hear from all stakeholders in these debates and these issues. Thank you for your opening statement. I just wanted to touch on something you alluded to, Mr Noack. I think there is a perception amongst a lot of people in this debate that there is some sort of implied trade-off between, in the case of the AWU, your membership and the protection of koalas. You sort of indicated in your opening statement that there was not really a trade-off because a lot of your members are actually firefighters not involved in logging. Did you just want to elaborate on that for us, so we are clear?

**Mr NOACK:** Yes. I will make it clear. We don't do trade-offs for our natural habitat out there. We jealously preserve it. We have got wonderful, unique habitat in Australia. Koalas are a great one. I have got to say, I was recently overseas for holidays and the koala population was on the media everywhere. Fires were on the media everywhere, about Australia. I do not think you negotiate on things like that. There is no going over that line. We must at all costs preserve our animals, like koalas, and that is why I take great pride in our members in Forestry Corp, because they do that. We have got ecologists and we have got field officers that are quite proud about what they do. If there is any evidence that the case is other than that, I would be the first to stand up and condemn it. Our members are proud that we make sure that when trees are harvested that koala populations are protected—and the reality is that that is what happens. That is what happens.

**The Hon. MARK BUTTIGIEG:** In terms of the actual harvesting or logging, for want of a better word, do you have members directly involved in that?

**Mr NOACK:** Only in what they do—we have harvester coordinators. Now, harvester coordinators work with the harvesters, so they obviously organise it and oversee it. Then we have tree markers. Tree markers are people who go through the forest and they identify what trees should be harvested. Part of their job, over the years, before they actually mark the trees is to identify areas where there is a koala population to make sure they are not affected.

**The Hon. MARK BUTTIGIEG:** It is the AWU's contention in its submission that as a by-product of that sort of work that there are not a lot of koalas, if any—I think you said one—that actually get hurt or killed because of that process.

**Mr NOACK:** One came down with the tree in 30 years. It does not happen. Our aim, along with Forestry Corporation's aim—we have got a unity ticket on this—is zero. Zero.

**The CHAIR:** Can I just check where that information has come from and how you know. What research has been done and monitoring post logging to find out that it is one koala. How do you know that?

**Mr NOACK:** I ask my members who are active there—ecologists, our members. I must say this too: We have got a terrific ecologist out there who has got all this information. He only just came back to work yesterday. I wanted him here at the hearing. If there is any more information that anyone requires I can make him available. But, yes, I got the information directly from ecologists that work in this who have been there for decades in Forestry and that is what they have told me.

**Mr KAMPER:** I should mention this is the public logging by our members who work for the Forestry Corporation and the New South Wales public service. I do not think any private logging, if that reflects on the private logging—

**The CHAIR:** No, it is logging in public native State forests—that is fine.

**Mr NOACK:** Yes.

**The CHAIR:** But over 30 years. That is a very big claim to make.

**Mr NOACK:** Yes.

**The CHAIR:** It would be good if you could provide—if you do not know it yourself—on notice the evidence of the monitoring post logging that has gone through all the coops to check that there have been no koalas found, and what that monitoring is.

**Mr NOACK:** Yes, I will do that.

**CORRECTED**

**The Hon. MARK BUTTIGIEG:** I think it is a very important point that we explore that because I think there is somewhat a gap in perception given the evidence we have heard in Committee hearings to date about the sort of damage that that sort of practice does. Even if it is not one koala, what you are suggesting is that the people who do this do it very judiciously and carefully to minimise that sort of thing. Mr Noack, what about in terms of habitat destruction? Obviously the other evidence we have heard to date is that the practice of logging destroys koala habitat and then you have got all the ancillary issues about offsets and alternative habitats and how that takes decades for koalas to be transitioned into. It is a big issue for this Committee, habitat loss. Can you just give us your perspective on that as a union that looks after members in that frontline area?

**Mr NOACK:** It is part of the role, particularly of the ecologists, to ensure that habitat is preserved. As I said, they preserve so many hectares at any rate, in terms of when they go into an area for harvesting. When they identify that actually there is a koala in a tree or a koala population then they put additional buffers around that area to ensure that that population of koalas is protected. There is initial work done, as I said, over a five-year period and then there is work done afterwards to make sure those populations are protected. If you want additional information on exactly what that means, I can also provide that through our ecologists.

**The CHAIR:** What are those buffers? You said that they provide buffers around a koala population; I think earlier evidence from Forestry Corporation was that it might avoid the tree if a koala is spotted in there. Can I just ask what the evidence is of what those buffers are that you are talking about and what a "koala population" means?

**Mr NOACK:** Yes. I do not want to guess on anything. We do have some figures on how many trees, which I got from one of my field officers the other day. That is why I was quite desperate to try to get our ecologist along. I am happy to take that on notice and get back and provide you with the full facts.

**The CHAIR:** Thank you very much.

**The Hon. MARK PEARSON:** Can I just follow up?

**The CHAIR:** I do have Mr Franklin and Ms Sharpe, unless it is specifically—

**The Hon. MARK PEARSON:** It is in relation to the evidence here. We have just had evidence today that to spot a koala is extremely difficult.

**Mr NOACK:** That is correct.

**The Hon. MARK PEARSON:** They are very hard to find. How can you say that only one koala has been harmed by logging because it was seen? How can you say that there were not a lot of koalas that were harmed? We were facing a koala habitat crisis before the bushfires recently.

**Mr NOACK:** Yes.

**The Hon. MARK PEARSON:** How can you say that only one koala was harmed when they are so difficult to see and find? How could that be a measure that there were not a thousand?

**Mr NOACK:** It is a good question. As I said before, our field staff and ecologists go around painstakingly to identify where koalas are. They are hard to see. We often find them because of the droppings around the actual tree. Once they are identified, as I said, there is a buffer put around. Once a tree is harvested or felled it is pretty easy to see if you have got a koala or not because the tree comes down. As I said, in 30 years there has only been one instance that they have seen that occur. As I said, I cannot speak for private forests, because I am sure there are a lot that come down in private forests, because I do not think they really care. The wonderful thing about a publicly owned Forestry Corporation is they care.

**The CHAIR:** I think there are a lot of questions on this, so we will go to Mr Franklin, then Ms Sharpe, and I have got one after that.

**The Hon. BEN FRANKLIN:** I guess firstly I will take issue with the fact that they do not care. I do not think that is a reasonable thing to say. You do not know what their motivation is. I appreciate what you have said about public forestry. We have heard similar discussion and evidence that, for example, the Koala Hospital in Port Macquarie has said similar things about Forestry Corporation in New South Wales, which I think is terrific. But I do not think it is fair to slight private forestry and its motivations in that way. I just want to put that on the record.

**Mr NOACK:** Okay.

**The Hon. BEN FRANKLIN:** I would like to talk about your discussion about roadkill and potentially koalas being impacted by roads. You talked about the importance of fencing and land bridges, both of which I could not agree with you more about. We actually had a look up at Coffs Harbour and at Port Macquarie and we saw a number of land bridges and a lot of fencing. In fact, there are hundreds of kilometres of fencing that

**CORRECTED**

Roads and Maritime Services has put in. I am really grateful that you support that project. What I did want to talk about, though, is the tunnels under the roads, which you have contended are not actually effective because koalas are trapped in them by dogs, which was your evidence in your opening statement.

**Mr NOACK:** Potentially.

**The Hon. BEN FRANKLIN:** No, you said definitively that is what happened. My question is, do you have any evidence for that?

**Mr NOACK:** Only that that is what field officers have told me.

**The Hon. BEN FRANKLIN:** Okay.

**Mr NOACK:** If you want me to provide some evidence I can take that on notice.

**The Hon. BEN FRANKLIN:** I would. That would be great, because it is the first that we have heard of it in any evidence over this quite long-running inquiry. It would be great if you could provide any evidence to substantiate that, because obviously we are keen for as many ways that we can deal with that as possible.

**Mr NOACK:** Yes.

**The Hon. PENNY SHARPE:** I have been very fortunate previously to work with some of your field officers and talk to them a lot about the firefighting issues. I agree with you that they have been raising these matters for quite a long time. I am just wondering if you could tell the Committee what the impact of cuts, both in the National Parks and Wildlife Service and in Forestry Corporation, has been in relation to the firefighting effort?

**Mr NOACK:** Yes, good question. First of all, there have been no cuts in Forestry. Their agency actually is a pretty good. It was actually one of the original firefighting agencies in New South Wales, so in terms of management they run a very good firefighting agency. In National Parks, our field officers have done a fantastic job in fighting fires but the same cannot be said about senior management. Over the last 18 months senior management have seen 25 per cent of our most skilled firefighters removed through a restructure from National Parks. By "skilled" I mean divisional commanders, for instance. A divisional commander is someone who runs the fire. They have got over 10 years' experience and they know how to run a fire—gone. A lot of them are gone. Incident controllers, air attack supervisors—a lot of them are just gone, have been wiped out through the restructure. It is a disgrace. In their place they have brought in—but they argue that the numbers are the same. We are still working through that one, but let's say they are, just for argument's sake.

**The Hon. PENNY SHARPE:** To unpack that a little bit, part of the issue is that the number of—and I too have fought with the Government over the issue of the numbers—but the point that you are making, really, is that various experienced people have gone and been replaced with very junior new people—

**Mr NOACK:** Correct.

**The Hon. PENNY SHARPE:** —who are now in much more insecure work as well.

**Mr NOACK:** Yeah, correct. Let us say 25 per cent is replaced by 25 per cent of unskilled, all right? Just for the argument, and it is pretty well right. It takes about five years for a field officer or a firefighter to become a firefighter. It takes a lot of experience. It is a war and it is a huge war out there when you fight a fire. We have had people who lost their homes and there are people who lost their lives. It is a big event. It takes about five years. When you have got the whole landscape of the firefighting workforce change from 25 per cent down on really great skills and replaced by 25 per cent of just learning how to fight fire, that is a big difference. As one of my senior delegates said, if you are a general in an army just about to engage in war and you got rid of 25 per cent of your most experienced fighters, you would be sacked. That general would be sacked. Well, we might say the same thing about people who occupy senior positions in National Parks because that is what they did, knowing that we are coming into a very serious fire here.

These new people, a lot of them now have not got career paths. We are in the commission about that, by the way. The senior bureaucrats have said, "Okay, there might be a bit of labour turnover there." What does that mean? It is a cost to the Government, it is a cost to the taxpayer, but think about it from the firefighting point of view. Someone has been there two years. They have not got a career path—"I'm off." They are not up to the experience of the five years that they need to be a firefighter. You bring in someone new. You will continually have a group of people in the firefighting group who are inexperienced. Because the structure is so bad at the moment, they are pushing people through—crew, crew member, crew leader up to divisional commander—so they are getting those positions a bit earlier than what they should be because they have got the experience. That is not a good thing, either.

**CORRECTED**

**The Hon. MARK BUTTIGIEG:** Just to follow up on that, what was the rationale, the logic, behind replacing skilled with unskilled or junior labour?

**Mr NOACK:** It is a question that we ask all the time. It is a good question.

**The Hon. PENNY SHARPE:** Finding savings for the efficiency dividend is the reason.

**Mr NOACK:** Yes. It is an efficiency dividend. There is no doubt they are saving millions. They said on transcript the other day, so when I get the transcript—

**The Hon. MARK BUTTIGIEG:** In order to save, there must be a net full-time equivalent [FTE] reduction, right?

**Mr NOACK:** Yes.

**The Hon. MARK BUTTIGIEG:** Otherwise, there would be no budgetary saving.

**Mr NOACK:** That is right.

**The Hon. MARK BUTTIGIEG:** In effect, you have had a reduction in the FTE.

**Mr NOACK:** Yes. Correct. Just to go on about that, I mean what we have seen is clearly a failure by National Parks for the sake of saving money to maintain our firefighting capacity in this State. I think there are a lot of people out in the community who would be horrified by that—absolutely horrified. I think it is just a terrible thing they have done. We are going to fight this very hard because what we saw in the fires—and I was with my senior delegates this morning—there are some horrific stories that will come out, whether it is a royal commission or a New South Wales inquiry it will come out, of some very, very unsound practices our members were put into it. I have to say, despite all this, despite the cutbacks, our members did a fantastic job—did an absolutely fantastic job in defending our communities out there in fighting fires despite the cutbacks. Not only that, we have over 50 vacancies of field officers out there—that is 50 vacancies for firefighters—and we desperately need them now to rebuild. They have not replaced them. They have not replaced them and they should have and some of it is since the restructure 18 months ago. It is a disgrace. What we have got to do now is rebuild. There are roads, there are bridges, there is a whole range of things out there that have to be rebuilt.

**The CHAIR:** We have that backpackers now to do that.

**Mr NOACK:** Sorry?

**The CHAIR:** There are backpackers to help rebuild.

**Mr NOACK:** Oh, yes. Bring in the backpackers, the volunteers! It is really a terrible situation. We really need to have broad—and I do appeal to all political parties around the table. We need a unity ticket on this because, I tell you what, you will have the people of New South Wales behind you. We need to rebuild our State forests, rebuild our National Parks, rebuild our firefighting capacity. It costs money. It is money well spent. We need to save our native species. It is so important. Once you lose them, you lose them forever.

**The Hon. SHAYNE MALLARD:** I just want to put on the record that I spent quite a bit of time with the National Parks and Wildlife Service in the Blue Mountains during the fires.

**The CHAIR:** It is a question for Mr Noack, I am assuming, is it?

**The Hon. SHAYNE MALLARD:** Well, I am disputing—

**The Hon. PENNY SHARPE:** That is not your job. You can ask him a question.

**The Hon. SHAYNE MALLARD:** I did not cut across you, Ms Sharpe.

**The Hon. PENNY SHARPE:** Because I asked a question.

**The CHAIR:** Maybe if you are wanting to correct the record, direct a question to the witness.

**The Hon. SHAYNE MALLARD:** Maybe, Ms Faehrmann, you will allow me to do my preamble, which others seem to be allowed to do.

**The CHAIR:** Sure.

**The Hon. MARK PEARSON:** Shayne, bring the microphone over.

**The Hon. SHAYNE MALLARD:** I have nothing but admiration for the National Parks and Wildlife Service firefighters and their senior management in the Blue Mountains. I was very involved with them throughout the whole fire process. The success of defeating particularly the Grose Valley fire, where we were concerned around impacts on koalas and we will hear some of that in evidence later today, I just want to put on the record

**CORRECTED**

that I do not agree that the National Parks and Wildlife Service were not up to the task I fighting these fires that we just had. I live in the Blue Mountains. That is why I am a little bit emotional, as you can tell by my voice. I spent quite a lot of time with them there, along with the Premier and Minister Kean.

**Mr NOACK:** Yes.

**The Hon. SHAYNE MALLARD:** I am aware of people who took redundancy and who have emerged in other areas of government, like waterways in the catchment and doing fires there, so the skills have not been totally lost to the community and they are being built up there in that situation. Would you not agree?

**Mr NOACK:** I will say this—I appreciate what you say; you are obviously supporting our great AWU members out there who did a great job in the Blue Mountains. There was a lot of local management out there who did a great job, too.

**The Hon. SHAYNE MALLARD:** Very good management.

**Mr NOACK:** I know them out there. I am talking above them, believe me. I am talk about the people on 350 grand a year that made the decisions to cut back on our great firefighters who are in the system and that made the decision not to fill the 50 vacancies. They are the people I am going for, not the local management. You have got some great management out in the Blue Mountains and we have got some great firefighters, I agree. I am really proud of our firefighters. I am with you on that—really proud. They did a great job despite mismanagement at the very senior level.

**The CHAIR:** Thank you.

**The Hon. PENNY SHARPE:** I agree with all of that. My question is about equipment, given the cuts that have been, again, in the National Parks in particular, and whether there has been an impact in relation to firefighting equipment for the staff who, we all accept, are doing a good job under very difficult circumstances.

**Mr NOACK:** Yes. Good question. I think there needs to be an audit of all firefighting equipment. It has been allowed to be run down. I have had examples of bulldozers, for instance, that are that old that when someone gets into the—what do they call it?—the cockpit or the driving area that it gets full of dust, full of smoke. We really need to go through an audit because the equipment in National Parks needs to be rejuvenated, you know. It needs to be upgraded. There is much better equipment in State forests. State forests were in a much better position. That is why I keep banging on about why we need to keep it as a public entity because it does a pretty good job. But National Parks needs to upgrade its firefighting equipment. It is lagging.

**The Hon. SHAYNE MALLARD:** I have a quick question. Mr Noack, are you aware that at the last election we provided 30—I think it was 30 but it might be 29—additional mounts on the back of Land Cruiser four-wheel-drives for National Parks and Wildlife Service firefighting units which drop on, which are built in Oberon, and one additional helicopter for firefighting and other purposes, so equipment investment has occurred. Are you aware of that?

**Mr NOACK:** Yes, and I support that: But, as I said, it has got a lot more to do than just that. It is good to you talk about the fire trucks because we have asked for one more thing to be put in fire trucks, just one more thing—defibrillators. We are told by management, "Too much money. Who's going to pay for it?" So the health and safety of our members out there fighting fires, we cannot put a defibrillator in there because it is costing too much money. A disgrace.

**The Hon. PENNY SHARPE:** I wanted to ask you about plantation. Obviously there has been a disaster down south at the softwood plantation with 40 per cent of it gone and the loss elsewhere. In your original submission you talked about 15,000 hectares on the North Coast. That was a few months ago now.

**Mr NOACK:** That is right.

**The Hon. PENNY SHARPE:** Do you want to talk to the Committee about where your thinking is now in relation to plantation into the future?

**Mr NOACK:** Yes. What we initially said, investing about \$50 million into new plantations, that has been revised to \$200 million as a minimum. With the devastation that we have seen throughout our State—and it is not just the southern region that has been really badly hit; it is also the northern region—the Forestry Corporation has been dealt a bad blow there as well, as have National Parks up there. I think we have got to get serious about planting trees. It is a real action when it comes to climate change as well in the long term and it cannot be just a token gesture. As far as Forestry is concerned, they need to build up their assets. As far as our environment goes, we need to be talking millions and millions of trees a year. We need to get fair dinkum. We are suggesting employing 50 field staff that have that responsibility. We've got people in nurseries now but we need to upgrade

**CORRECTED**

that. We need to get fair dinkum. There are lot of Third World countries that are doing it, seriously doing it. We are a First World country. We need to be committed to rebuilding our environment.

**The Hon. MARK BUTTIGIEG:** Just a follow-up on Mr Mallard's earlier question about capital investment. Leaving aside the debate on whether there has been a net increase in that sort of investment—let's say for argument's sake there has been—isn't the point that—and let's leave aside the causation, be it climate change or whatever—the fact is we know from experience that every season we get what seems to be lengthier and more catastrophic bushfire events. As a result, you would imagine that lived experience would tell people that we need more investment in human and capital resource. The point is that we are nowhere near keeping up with that demand. That is your point, isn't it?

**Mr NOACK:** You couldn't have said it better. I probably don't really have to respond, except to say yes, I totally agree. I think with climate change, for instance, we have to take some real action on that. There is no doubt the climate is changing; no doubt. You'd have to be an idiot not to see it. Our firefighters see it when they are out there fighting fires. The temperatures are getting hotter and we need to take action on it. We have to take action and taking action means commitment, it means investing money and it means having a proper strategy. We have to do all those things if we are going to combat it.

**The Hon. MARK BUTTIGIEG:** I just want to take you to a couple more points. One touches on something you raised about monitoring the accuracy of data. Does the AWU have any information on what the latest and greatest might be in terms of mapping and the tools used? We heard evidence earlier today of infrared drones being used from the United States, which seem to have some sort of future, depending on the amount of investment we put into accentuating that technology. Do you have a view on how that should happen or what sort of technology should be employed?

**Mr NOACK:** Essentially we are getting our people trained in drones now—it is not a bad technology. In terms of mapping where the koalas are, as I said, it is a difficult task. I think at the moment there are around 20 to 30 ecologists with the State forest now. They are the only ones in Australia who actually in a serious way monitor koala populations. NSW National Parks and Wildlife Services rely on them. I mean, NSW National Parks and Wildlife Services really needs to lift its game in terms of monitoring koalas. It should be doing more. We should have ecologists in NSW National Parks and Wildlife Services. Our view is: Put on more ecologists. If you want more information about what they actually do at the moment besides looking at drones, I can get more information from our ecologists and provide you with whatever you want in terms of what they actually do.

**The Hon. MARK BUTTIGIEG:** Okay, thanks, that might be helpful. Just one more thing that we have not touched on. The Committee went up to Coffs Harbour not long ago and we saw some really good initiatives with regards to the advocacy for a Greater Koala National Park up there, in order to create a habitat that was sustainable for koalas in the long run. There seems to be quite a lot of community support and it is gathering momentum. I know that the AWU has previously taken a position on this. Did you want to outline to the Committee, in light of what has happened with the bushfires, your latest thinking on that proposal?

**Mr NOACK:** Yes, we have not supported the Greater Koala National Park for the simple reason—two reasons. One is that it would wipe out NSW Forestry Corporation as a—it would just not be able to exist. That is a huge part of its business and to put a greater koala park there would mean NSW Forestry Corporation goes out of business. I said before, "Are we playing jobs versus the environment?" What we say about koala park is, "Will it save a single koala?" What I am saying is that NSW Forestry Corporation does not kill habitat and does not kill koalas—one example in 30 years. What I said kills koalas are fires, pests, roadkill, urban development, disease—these sorts of things are the ones that kill koalas, so go after them. Put the spotlight on them and make sure that is fixed if you want to fix koala populations. They are the real target if you are fair dinkum about saving koalas.

What happens—and it has happened in the past—is that we have seen parts of State forest being handed over to NSW National Parks and Wildlife Services without any additional field officers going with them; they are not protected. We had one example where, during the first fire that occurred, 1,000 koalas died because they had no protection in terms of additional firefighters or anything else. Koala national park sounds good, but what we want is something that not just sounds good, but is good. Again, I am a science-based person. If you want to have a plan to protect our koalas—and I want that; the AWU wants that—then you need a plan that puts into action to ensure that the koala population survives. Do things around fires, do things around pests, do things around disease—do things around those things that kill koalas. The koala national park does nothing, in our opinion, to really protect the koala populations.

**The Hon. CATHERINE CUSACK:** Can I just clarify which fire killed 1,000 koalas?

**Mr NOACK:** It starts with "W".

**The Hon. CATHERINE CUSACK:** You can take it on notice.

**CORRECTED**

**Mr NOACK:** No, I will take it back. It starts with "W". I keep forgetting it.

**The Hon. PENNY SHARPE:** Not Wambelong?

**Mr NOACK:** I think it was. I think that was it. I will get back to you on that. We have had a few examples, actually, but that was one where land had been transferred over to NSW National Parks and Wildlife Services—sometimes it has been done successfully. In the redwoods, for instance, down in the western region, it was done quite successfully. I will tell you why: Every field officer at State forest was transferred over to NSW National Parks and Wildlife Services so the place got looked after. What has been happening from now on is that they transfer the land but no extra workers; no extra people to look after that land. So, what is the point?

**The Hon. CATHERINE CUSACK:** So the red gum national parks are being more managed, in your view?

**Mr NOACK:** Down in the western region?

**The Hon. CATHERINE CUSACK:** Yes.

**Mr NOACK:** I will take that on notice.

**The CHAIR:** Order! Is that in relation to koalas? Are we digressing?

**The Hon. CATHERINE CUSACK:** No, because there are koalas in the red gum forest and he is giving evidence about NSW National Parks and Wildlife Services management.

**Mr NOACK:** I do not have the information on that. I will get back to you on that.

**The Hon. MARK BUTTIGIEG:** Just one quick follow-up because I am conscious that there is only five minutes left for other questions. Mr Noack, is there a way through this from the AWU's perspective? In other words, you sort of touched on that it is one thing to create a national park, but if you do not provide the resources to go along with it in terms of stewardship of that national park—the resources that go into firefighting, pest control, all the rest of it—and presumably there may be some opportunity for job substitution—I know we talk about just transition a lot, the trouble is we do not put much effort into thinking about how it works in real time. Is there a way through this from the AWU's perspective, where you could foresee that greater national park going ahead with those things in place or is that just a bridge too far?

**Mr NOACK:** It is a good question. I think there is a compromise. It has been suggested we call it a koala protection area—we have the same area, we allow NSW Forestry Corporation to survive, we put in even more stringent controls in terms of pests and all the things I have talked about, to ensure monitoring, to ensure that our koala populations are protected, the spotlight is put on it even more. So we call it a koala protection area. That way you save jobs, you save the industry, you save koalas—win, win, win.

**The CHAIR:** What is the difference between a koala protection area and a national park?

**Mr NOACK:** NSW Forestry Corporation survives—that is the big difference.

**The CHAIR:** So it still logs it?

**Mr NOACK:** Yes.

**The CHAIR:** Mr Noack, earlier you suggested—I think you said that NSW Forestry Corporation does not kill habitat and it does not kill koalas. Can you explain how it does not kill habitat when, in fact—you are aware of what the intensive logging zone is, for example, up in the North Coast region within the coastal integrated forestry operations approvals [IFOAs]?

**Mr NOACK:** I can get back to you on that. All I can do is restate what I said before about the 30-year history of logging—State forest has seen one koala come down with a tree. That is all I can say at this stage. We have ecologists in place who actively go out. Obviously, if you chop down a tree, it does make a change.

**The CHAIR:** You have come to this Committee making these very sweeping statements that the logging industry does not in anyway harm koalas, saying that only one koala has died in 30 years according to your evidence. I am now asking you about intensive harvesting which is up to 45 hectares of koala habitat being cleared. In fact, if a koala is spotted in a tree they may leave that tree and there is up to 10 to 20 feed trees within one hectare which can be up to 20 centimetres in diameter. In other words, within a hectare 80 to 90 percent of koala habitat can be cleared. So I will ask you again in terms of your evidence, do you still stand by your evidence that says Forestry Corporation of New South Wales does not kill habitat, knowing now what intensive logging is?

**Mr NOACK:** No, I will get back to you on intensive logging. But I stand by my statement that Forestry Corporation of New South Wales and our members do everything possible to ensure that habitat is saved.



**CORRECTED**

**The CHAIR:** But when they log it, it is not saved.

**Mr NOACK:** I am sorry. What?

**The CHAIR:** Once it is logged, it is not saved. Because they do log habitat.

**Mr NOACK:** In terms of the intensive harvesting, I will get back to you on that. Alright?

**The CHAIR:** Just one other thing in relation to your evidence. I am sorry it is 12.30 p.m. we are out of questions. Thank you for appearing. I believe you have taken some questions on notice which you will be required to get back to the Committee within 21 days. The Committee secretariat will be in touch with you regarding those questions.

**(The witnesses withdrew.)**

**CORRECTED**

**DR KELLIE LEIGH**, Executive Director, Science for Wildlife, already sworn and examined

**JAMES FITZGERALD**, Founder, Two Thumbs Wildlife Trust, sworn and examined

**The CHAIR:** I now welcome our next witnesses. Mr Fitzgerald, would you like to make an opening statement for the Committee?

**Mr FITZGERALD:** Yes, thank you. I would like to thank three people who I never met but I will never forget. They are Captain Ian McBeth, First Officer Paul Clyde Hudson and flight engineer Rick DeMorgan jnr. On 23 January this year, they were in a firefighting airplane, a C-130. The Good Good fire had unexpectedly restarted and they dropped some retardant on my wildlife sanctuary to try and slow or halt the fire. Unfortunately the plane crashed and they were all killed. The small community of Peak View and I wish we could turn the clock back and send them all home to their families. That is my first point. In November I moved to Majors Creek for five weeks to help with rescuing animals from the firegrounds out there. On 29 December a lightning strike started the Good Good bushfire and as a Rural Fire Service person I was out fighting that fire. My place was burnt down on the—

**The CHAIR:** Mr Fitzgerald, are you okay to continue? We could ask some questions if it is easier?

**Mr FITZGERALD:** I will try to talk about it.

**The CHAIR:** Do you have a written statement there or is it just notes?

**Mr FITZGERALD:** I have just got notes to try and remember. I have been rehabilitating koalas for about 10 years. I help with a lot of fieldwork with the Australian National University and Western Sydney University. I make contributions in terms of collecting samples for the Australian Museum. We have been raising the risk of bushfire for some time at the Koala Strategy community consultations in Cooma and in Bega, I raised that risk of bushfire with koalas. I am lucky enough that I have contact with people at the University of Wollongong who do fire research. There has been some talk about hazard reduction burns. They are not the silver bullet because, as the University of Wollongong found, while they provide initial minor benefit they trigger the understorey to grow you can have 20 years of worse fire risk. So it can make the forest six times more flammable.

One of the problems we have is because a lot of our original forests were cut down from the late 1800s and early 1900s, the trees are not as big as they used to be. So I call him kindling forests because when you have a really big tree, it takes a lot of energy and thermal inertia to get them to combustion temperature. But with these smaller trees it does not take a lot of heat to get them going. We have also lost a lot of the forest engineers like potoroos and bandicoots which turn over the leaf litter and the bark. Without them—because they are absent—there is a lot more fuel on the ground.

One of the things I have done at my place to try and help protect my sanctuary—I bought my first property in 2004, 780 acres. It had koalas on it and I have been buying koala habitat to protect it. Then in 2013, I bought the next door property which was 890 acres. Then in 2016, I bought another one over the back. All the properties are in New South Wales. As a Rural Fire Service volunteer, we get told that the fire seasons are getting worse. They are getting longer. One of the things I did was I paid for some ridge line tracks on my property because lightning does not hit in the bottom of valleys, it hits on the ridges.

So I paid to get some tracks put in along the ridges because I had had a couple of lightning strikes on some of the ridges which started a fire. Luckily we were able to get in there, hike in there, and get them out with the assistance of a chopper. By having the tracks there, we can now get a fire truck there and get them out before they grow. The University of Wollongong certainly thinks that is a good idea, to have some of these ridge line tracks that enable rapid fire suppression. They have told me that burning the bush constantly dries it out and, as they said, it triggers understorey. The ANU in April last year submitted a research proposal around koalas and bushfires but unfortunately we did not get any funding for that. I would like that looked at.

I would like to close by saying a little bit about climate change. I think one of the problems with climate change is that two degrees does not sound like much but how I try to explain it to people is to maybe think of your school days. You have a one kilo block of metal. If you want to heat it by two degrees you might need just one Bunsen burner. If you had a 10 kilo block of metal and you want to heat it up by two degrees, you might need five Bunsen burners to heat it up. I googled the weight of the earth's atmosphere and it is 5,750 trillion tonnes. To heat that up by two degrees would take trillions and trillions of kilojoules of energy. That is the number people need to think of because that is what is trapped into our climate.

It is turbocharging our weather and two degrees is just one of the symptoms. Everyone knows when you hang your clothes out on the line, it could be the same temperature day but if it is more windy your clothes dry

**CORRECTED**

quicker. Well, that is what is happening to our forests. They are drying out. As a koala rehabilitator, the last couple of years have been very difficult to find leaf that is palatable to koalas because the leaf is drying out and they need more than 50 per cent moisture content in a leaf. I have probably said enough. Thanks.

**The CHAIR:** Thank you very much, Mr Fitzgerald. I will throw to Dr Leigh to begin with. Last time you appeared you spoke to us about your research projects in the Blue Mountains. I was wondering if you could update the Committee as much as you know or can tell us about the impacts of the fires on the koala populations in the Blue Mountains.

**Dr LEIGH:** I can talk about the fire extent and how much it has hit. We had five study sites, two of which we would map koalas in and others where we knew there was colonies of koalas. Four out of those five koala populations were impacted by fire, between 75 to 100 per cent of the habitat of each of those four was impacted by fire. What we do not know, there is some fire intensity mapping coming out now that is showing there are some patches of low-intensity burn. We have just been into the northern section of Kanangra and found some koalas on the edges of that, as in patches nearby. We do not know how many survivors are out there, basically. We are hoping that there are some refuges. We had one tagged animal that we had to leave out there. We removed some and took them to Taronga Zoo. We had one study animal that we left. It was in a very steep gully in a low-intensity burn and we could see that fire had trickled through there but the koala was okay. We only found that koala two days ago because of access issues from falling trees and that sort of thing. When we saw him he was just grabbing branches and eating. It was probably because we have just had these recent rain events.

We have done some satellite mapping using the signal to imagery, pulling out canopy condition. You can look at chlorophyll levels, basically, and trying to look at the rate of recovery of canopy to work out what the quality is for koalas. That is starting to bounce back now since we have had those rain events. It was interesting to see when we first looked at it particularly in the Kanangra area, there is one northern patch—about 90 per cent of the habitat probably went in Kanangra for koalas or was impacted by fire—there was a tiny patch to the north that was unburnt. But looking at the imagery from the satellite that we were looking at, the unburnt patch, the quality of that canopy was the same as the burnt area. The heat, the smoke—everything went through it. From that point of view, there has been a lot of different impacts, there is smoke inhalation, all that sort of thing. We did try to get in and do search and rescue but access was fairly limited. Since then we have been putting out water stations, doing food drops for other species as well. We are starting to put out cameras to try to find out what is surviving. As soon as it is safe we are going to go in and survey to find out what is left in those areas. Yes, huge impacts across those populations, definitely.

**The CHAIR:** The last time you appeared before this Committee you were quite hopeful and encouraging of research in terms of what you were finding in the Blue Mountains koala-wise. Not such great news now.

**Dr LEIGH:** No. It does depend what is left. We did have a picture of hope because they are in the protected area and obviously if koalas are inside a national park they are not under pressure from habitat loss which is the big drive of decline everywhere else. The picture of hope was that in the protected area they do not face threats that they do in developed areas. They had the highest genetic diversity that we found out of a nationwide study as well, and this particular population in Kanangra was also chlamydia-free, which is fairly unusual. There was a lot of factors that was implying that those populations are nationally significant and potentially easier to hold onto.

Our original research was about climate change refugia and the role that will play in koalas being able to persist in that landscape because it is such a big protected area. It is one million hectares. Now we are going to have to rejig our research and look at post-fire impacts. We do want to see if there is fire refugia in there and try to assess how many koalas have survived in those areas. They have persisted for a long time there, since the fur trade based on the genetics, which is still high. It suggests that there is remnant populations still in there, that they have not been moved in from anywhere. But we have to work out what is left in terms of numbers and diversity. That is a big question that we are going to have to work on.

**The CHAIR:** Mr Fitzgerald, I am very sorry for what you have gone through in recent months with the loss of your property and sanctuary. I was wondering if you could inform the Committee, tell us a bit about the local koala population that you knew so much about in terms of its uniqueness and what you were working with?

**Mr FITZGERALD:** We do not have a lot of genetic samples from that area but I know they found some unique genetic markers, so they are a genetically strong population. I bought my first place in 2004 and back then koalas were not very often sighted in my area. I used to have to sit way out the back of my property during the breeding season to hear the male's call, but in recent years I could hear males calling during the breeding season from putting the clothes out or being around the house, so the population has expanded. If they have chlamydia in the population, which ours does, they can double in 10 years. They can double and because they are quite cryptic the numbers can build up, but once you get to some point a doubling is significant. I have had local

**CORRECTED**

people talk to me about seeing nine koalas in one spring/summer and ask, "Why is it happening?" because they did not used to be seen. Our population was recovering and it was one of the few ones that was recovering. It has something like 400,000 hectares in that mountain range from east of the Monaro from Canberra to Cooma, all in that mountain range. It was quite promising but obviously the fires have hit significantly. Because I have been out in the bush rescuing animals since November I have not been able to keep up with everything but I am pretty sure the Good Good fire is over 60,000 hectares—that was all koala habitat. The Badja fire took out a lot of habitat and there is a Hangman fire that is all in koala habitat.

One of the problems is, compared to other years, you may have a bushfire that does not do much for a couple of days and then you get a catastrophic day. It basically has one day of horror. Even if you look at some of those historical fires that were in Victoria, et cetera, there is normally one horror day. What has happened—and I am not an expert but from what I have seen—these fires have been going on so long that they have had many horror days. These horrible days have happened with winds in different directions and so a lot of those little valleys and things that did not have fire on them on one day, the wind came and took out the patches that were not burnt. One of the things that is a bit shocking is we found koalas in trees where the whole tree is charcoal; every branch is charcoal and they are quite big trees. I think what is happening with the koalas is because they are very loyal to their home ranges, they know. When a koala comes down out of a tree, it does not just wander through bush. It knows what tree it wants to go to. It knows the trees that will produce good quality leaf in the hottest days of summer, where you would go for the coldest days of winter. These koalas are going and trying to find—if it did not get food here it will wander to the next really good tree and it is also destroyed. I think now we have something like 25 or 26 koalas at ANU. They have all had body scores, most of them are at one out of five—

**The CHAIR:** What does that mean?

**Mr FITZGERALD:** Extremely thin, very dangerously thin. One of them we had to have euthanised. We did try. You can blend gum leaf and add Wombaroo milk to syringe feed them. I have done nights of that sort of feeding to try and support them. You can see they like the taste of that and it is fortified, so it is good for them, but we have had one in particular that was just too far. So even from high up in the tree—like yesterday I had University of Sunshine Coast people helping me and they flew a drone with a thermal camera in the early hours before—it was still dark. Flying at that time was good because the rocks and everything have cooled down, so you do not get so many false readings. They gave me the GPS coordinates of three koalas they found. We were not able to rescue them—they were all too high and cross-canopy—but you could see they were very, very thin.

We have started finding bodies as well, which do not tend to last long on the ground—the foxes seem to get them pretty well the next day, sort of thing. There are lucky survivors out there, which is quite surprising considering how burnt it is, but their luck is running out because there is just no food across vast areas, whereas I think in some of the fires of previous times—I remember the Yarrabin fire out my way burned I think it was 12,000 hectares, but you had all those valleys that were not burnt. The fire might have raced—because on one day it burned 9,000 hectares. It was one horrible day; in all the rest of the days it only made another 3,000 hectares. Because we have just got so much fire going for months and months there is not really much in the way of unburnt patches for animals to find food. We have also rescued blue-tongue lizards, wallabies, kangaroos and wombats.

**The Hon. MARK PEARSON:** Thank you, Mr Fitzgerald. I am interested in the need of koalas for trees and various trees. We have had evidence to say that if a koala is spotted in one tree then that tree will not be logged but all the others around it will be, or up to a certain space. Can you give us an idea about how many trees a koala relies on for feed at various times and various seasons, even though it might not be dwelling in that tree?

**Mr FITZGERALD:** I probably could not answer that question, but—

**The Hon. MARK PEARSON:** You have probably seen more koala activity than most of us here, so you can help us.

**Mr FITZGERALD:** Yes, I do spend a lot of time in the bush. One of the things that Chris Allen, who is from the National Parks and Wildlife Service, has said to me is that the reason the koalas are recovering in my area is because many of the trees are getting to sort of 80 years old. A tree with a bigger root system has more access to nutrients and water to create that palatable leaf. I have helped with some of this research. One of the leaf species that koalas like is *Eucalyptus viminalis*, which is called either ribbon gum or manna gum. What they do not do is—because the leaf has toxins, they do not just eat *Eucalyptus viminalis* until they give themselves a lethal dose of the toxins. They mix and match: They might eat it today and then they have to switch to other species that have different toxins while they are processing the toxins related to that.

It is quite a complex thing. A koala knows—in the genome there are a lot of genes related to smell. They can smell what leaf is good. If you want to be a koala carer you have to put up with a lot of rejection, because you make your humble offerings of leaf and they bring it up to their nose and they go, No, don't want it. Certainly

**CORRECTED**

in my experience—and I have had people who try and tell me that koalas like small, young trees. What I have found is—the koalas down my way are quite big. In Queensland an adult male can be six to nine kilograms; down our way they are sort of like 15 kilograms, big males. They eat nearly a kilogram of leaf. I do not know how many tonnes of leaf I have put through koalas over the last 10 years but it is quite a lot. I am losing my train of thought now, sorry.

**The Hon. MARK PEARSON:** You say you cannot say definitively, but just the number of trees—

**The CHAIR:** We are talking about the young—we will try and get this on the record because it is important—the mature tree's leaf nutrients versus the young trees.

**Mr FITZGERALD:** Yes, that's right. So what I have found is that during a small window in spring and summer some of the young trees do produce leaf that they will eat, but all year round I do need the big trees because they have got the great big root systems and all of that. I think you have to be careful about cutting down trees.

**The Hon. MARK PEARSON:** Yes. In your submission it is quite interesting: You raise the fact that if the koala population was not so low they would have eaten a lot more of the leaves from eucalyptus trees and the leaves that tend to be highly flammable. In a sense, because the population—this is what you are saying in your submission, I believe; maybe you can clarify it for me—the population of koalas is so low that it has actually contributed to the intensity of the fires. Can you clarify that?

**Mr FITZGERALD:** There is potential for that. I think the pre British settlement estimate for koala populations exceeds 10 million. What happened was there was a fur trade. To give you an example of the fur trade, the last open season was August 1927. It was only in Queensland, because at that time they thought they had made them extinct through hunting for skin in New South Wales, Victoria and South Australia. In August 1927 they sold 584,000 koala skins for one month of hunting. So the koala population got knocked down to low numbers across the place. In South Australia they did make them extinct. My understanding is that all South Australian koalas are reintroductions from French Island. In Victoria, most populations are reintroductions from French Island, so they are quite genetically—they have gone through significant bottlenecks. I have not had much sleep, so you might have to remind me of the question, sorry.

**The Hon. MARK PEARSON:** That is okay.

**The Hon. PENNY SHARPE:** Thank you. I am really sorry—

**Mr FITZGERALD:** I remember the answer, sorry. I did a calculation in 2012 that if we had 10 million koalas eating 500 grams of leaf a night, that would be over two million tonnes of hazard-reduction eating of gumleaf.

**The Hon. MARK PEARSON:** That answers the question.

**Mr FITZGERALD:** Koalas could have played a role in—

**The Hon. CATHERINE CUSACK:** Free hazard reduction.

**Mr FITZGERALD:** —because people talk about—

**The CHAIR:** We do not need more hazard reduction; we just need more koalas.

**Mr FITZGERALD:** Well, people talk about other animals eating grass and things and maybe reducing it, but everyone knows that the explosively flammable part of the Australian bush is the eucalypt leaf.

**The Hon. MARK PEARSON:** That was very helpful. Thank you.

**The Hon. PENNY SHARPE:** I am very sorry about what happened over Christmas. We were all watching very closely. It is a very sad state of affairs. One of the things in your original submission that I was very interested in—and we have previously talked about this—is what are the incentives that are needed for private landholders to actually do the kind of work that you do. Your submission talks a little bit about the challenges around borrowing to do—I was just wondering if you could talk to the Committee about what else you think governments could do to assist people like yourself who are trying to look after habitat and look after it into the future?

**Mr FITZGERALD:** In borrowing money for land, I have had feedback from multiple banks that they particularly do not like the fact that I am borrowing it for wildlife. If I was borrowing the money to put a house on it or do something that made money out of the land they would be much happier. It has been challenge. Once you are over about 50 hectares the banks will not give you home loan rates; they will only give you business loan rates, which are up around 8.45 per cent, so you buy land for wildlife and you pay very high interest. One of the

**CORRECTED**

ideas that I did put in my submission was around environmental loans. Interest rates I think now—the Reserve Bank, it is about 1 per cent or something. Could the Government borrow some of that money and maybe put a percentage and half, something to cover its administrative costs, and then give us environmental loans? The example around that is—because at 8.45 per cent, \$30,000 worth of interest per year gives me a \$350,000 loan, but if I could get money at 2½ per cent, \$30,000 interest a year gives me a \$1.2 million loan. I would go and buy more land straight away. That would be a help.

Another one that I think is around environmental subdivisions. I live in a farming area, so I get lots of different views. One of the things I have been told is some of the farmers have habitat on their place and they always wanted to subdivide it—so, you know, there are some of the mountains up the back; they have got their paddocks that they have their sheep and cattle on and things like that. They were hoping to maybe sell some of that as a bit of their retirement, things like this, but they are not allowed to subdivide. So what I wondered—

**The Hon. PENNY SHARPE:** Not allowed to subdivide for housing?

**Mr FITZGERALD:** It is just a restriction. Anything.

**The Hon. PENNY SHARPE:** Anything at all?

**Mr FITZGERALD:** They cannot chop it off. So what I wondered was could we have environmental subdivisions? So that farmers could slice off, whether it is koala habitat or other types of habitat, and make it available to people who want to protect habitat. So we are not imposing the cost on farmers totally. We are saying here is a mechanism that farmers could sell off some of that land that has got good habitat. You would put one of those covenants on it. So as part of the subdivision you have to put an environmental covenant on it so that it is for wildlife. Then they could make it available for someone like me or some of the other organisations that buy habitat and protect it. What I would like to see would be when an environmentalist moves into a rural area, the farmers go "oh great." At the moment there is too much "them and us" and things like that. If we are going to get smart about policy, how do we make it that we work together and we do not just impose a one size fits all lockdown. Can we enable it? Then they see that conservationists are not some threat.

**The Hon. PENNY SHARPE:** Because the Biodiversity Conservation Trust is supposed to pick up some of that. What has been your experience with that? We have got them in this afternoon so I will be asking them about it. So I am interested in your view.

**The Hon. CATHERINE CUSACK:** That was going to be my question too. Thank you.

**Mr FITZGERALD:** I have not had much to do with them. I have heard people say to me that I could get koala credits for my land and that would help me financially but I do not like that concept because if I sold koala credits to someone that means they are destroying koala habitat somewhere else. So I am not interested.

**The Hon. PENNY SHARPE:** You mean offsets? When you talk about credits, you are really talking about offsetting—

**Mr FITZGERALD:** The offset thing. I would not do that.

**The Hon. PENNY SHARPE:** Because it is not a net add.

**Mr FITZGERALD:** That is right. Koalas need the habitat. From my understanding of what the researchers have said, when you fragment habitat koalas get stressed. Chlamydia can sit dormant in their cells so I get koalas in that test positive for chlamydia but they have got no active disease and part of that is because we have got a lot of habitat that is not fragmented. But in areas where the habitat has been fragmented, some of them have very high chlamydia death rates and chlamydia death rates exceeding the birthrate. So then it is just a matter of time.

**The Hon. PENNY SHARPE:** That is the problem there, is it not?

**The Hon. SHAYNE MALLARD:** My question is to Dr Leigh. It is good to see you back but it probably would have been better if it was under better circumstances. The last time you were here, as you may recall, I was reasonably uplifted by the news of koala populations emerging back in the Blue Mountains and in the Hawkesbury. Since then we have had the devastation of the fires. I amongst others, and I know you communicated with us, tried to assist you to gain access to the firegrounds as soon as possible. Do you want to outline your experience at gaining access to the fireground to see what had happened to the koalas? And I ask you that in the context that we have taken evidence from Port Macquarie Koala Hospital that they have done RFS training and in the north, they can get access quite early so we want to take some learnings from that so I would like to hear about your experience gaining access to those koalas in the Blue Mountains and in the Hawkesbury.

**CORRECTED**

**Dr LEIGH:** Thank you. We have come across two big hurdles both in terms of resources and preparedness. To start with when the fires were kicking off. Last time I was here we had a couple of populations under threat including from the big Gaspers Mountain fire. Then the Green Wattle fire, a couple started in Kanangra and they joined up. One of the things that has been an issue is that any fire that started inside the National Park system had to be left because all of the resources that were available were going to human life and property as they should of course. So that is how we got these big fires at the start.

Because of that—in terms of the mapping that people have done—it is about 80 percent of the world heritage area that has been impacted by fire. Then getting into that, it has been really variable. Because it was on such a big scale, all the National Parks people were busy, the RFS were busy. So trying to make a phone call to see if you can get in somewhere to do search and rescue, to start with, you just cannot get to the right people. It was the time of year as well because it was around December and January when people are on leave. So we would think we had access to get in somewhere, then someone would come back from leave and say they had not got across the paperwork and they could not let us in for safety reasons.

One of the real hurdles is that there is no standardised process in terms of being able to get in quickly and in a meaningful way. So we still have not got in. We have just started getting in now to low intensity burn zones and one of the key limiting factors is the lack of make safe teams essentially. Those are the teams that go in and assess whether an area is safe to go into. They remove any hazardous trees. They flag trees that need to be dealt with and they say whether or not you can go into these areas. Again, all of those teams have been busy doing other things so we have had proposals in to try and get to threatened species colonies including koalas but also greater gliders which often overlap.

We have targeted areas where we can just get resources in, search and rescue and then food and water swiftly after. We have just not been able to get there because all of those make safe teams are so busy. So I have got two arborists working with me now that I have had to get up from Victoria, going in to do those make safe assessments for us so that we can get in and do search and rescue work and provide resources for wildlife. It is too little too late for search and rescue now. I think anything that is injured or burnt is dead by now so we have been focusing on getting water in, particularly for koalas which are arboreal drinkers, because the canopy is so dry. So you have got the fire but you have also got the drought which is a key driver behind the fires. In some areas like the Megalong Valley, it looks like the fire has been through but it has not. The trees are just brown and have died back from the drought.

Koalas do not normally need water but because the canopy has been so dry, they will drink in heat stress events which we have had quite a few of. So they will come to ground to drink. Because the understorey is all burnt, there is no shelter for them so any arboreal animal that has to come to ground for water is more susceptible to predators as well at the moment. So we have been trying to get water stations up trees as well but the access has been very limited and a key obstacle has been that there is no standardised process. It depends on who you talk to on the day. The terrain is very different in the mountains too. It is very steep so if you are going through a really steep area after rain with burnt trees, there is more risk of a tree fall there. It is a safety concern. But the lack of make safe teams to go in for targeted wildlife operations is a massive obstacle. There have not been any available basically.

**The Hon. SHAYNE MALLARD:** Building upon that evidence there. Your koala populations are in National Parks and Wildlife areas but RFS has the jurisdiction over fire access and the local incident controller, is that right?

**Dr LEIGH:** Yes absolutely.

**The Hon. SHAYNE MALLARD:** So the National Parks might be talking to you but you have really got to talk to the RFS to—

**Dr LEIGH:** Yes. So the RFS have the incident controller for both of those big fires. They are both Section 44 so they make the safety call and they have said nobody on the black basically.

**The Hon. SHAYNE MALLARD:** And we have had evidence about inconsistent approach, or different approaches and different controllers. We are not blaming them for that. Safety first.

**Dr LEIGH:** Yes. We have had different experiences as well depending on one area to another area, the incident controller will say something different so there are a lot of inconsistencies.

**The Hon. SHAYNE MALLARD:** I was interested that you said you were using subcontractors. I heard that before. So you have bought arborists up from where they are not needed in Victoria?

**Dr LEIGH:** Yes.

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**The Hon. SHAYNE MALLARD:** And RFS or National Parks, they are okay with an arborists going in to do that assessment of the dangerous trees as you go into the fireground?

**Dr LEIGH:** Yes. Just recently because we have had so much weather through—we have had massive rain and winds—so the tree fall risk is also reduced. Basically what they do is they hire contractors who have experience looking at hazardous trees in firegrounds. One of my koala capture team has done that for the Victorian Government so we put a proposal forward saying if you do not have the resources, can we bring in our own make safe teams and have someone going ahead of us checking that it is safe just in the low intensity burn zones? So we are just going in areas where there is no canopy of very minimal canopy impacted. It is just low intensity on the ground and getting our own make safe teams in there to make sure that we are okay to go in soon.

**The Hon. SHAYNE MALLARD:** Thank you. That might inform our thinking on that.

**The CHAIR:** I just wanted to get Mr Fitzgerald's view of that as well in terms of what you have asked Dr Leigh?

**Mr FITZGERALD:** I remember with the Yarrabin fire which was in 2013, it took a very long time to get on the ground to do any searching and that was really too late. This time I met with the Rural Fire Service and we got approval very quickly. So we were in there within a week of the fire. Because I am in the Rural Fire Service, I guess that helps as well. With the volunteers, we have got people with fireground training and we are doing our own make safe. I explain that you are looking for the trees that are burnt towards the base and where they have partially fallen and they are sort of caught and are ready to fall properly. I explain that each day as part of our safety brief. The Rural Fire Service said that we have to have a helmet and hi-vis.

We are using channel 28 on the two-way so that they can call us and we are monitoring the local brigade's radio so we know if any fire or anything starts to kick off. We also assess the wind. So the day that my place got burnt down it was very windy. Somewhere around 10.30 a.m. we were doing a full day search and had actually rescued a koala but we called it off due to wind because wind obviously can make the trees fall if they have been weakened. They trusted that we knew what we were doing. If we find trees that are hung up, we pull them down and get them to fall so that someone else does not have that tree fall on them on some other day—or an animal.

Not yesterday, the day before, two koalas were found dead at my sanctuary. They had climbed a tree that gave way and crushed them—two separate trees. You do have to watch out for it. That is where you need people that—you are not only looking for koalas and animals on the ground but you have got to look for those trees that are looking like they have been weakened. Sometimes they have broken the first part and they are just hung up on a tree next to them and they are ready to go. What we do then, we grab the base and just pull it until the thing falls down. Like Dr Leigh was saying about make safe teams, we are actually doing that as we move.

One thing about koalas, like people have said, they are difficult to see. What I have found, and also when I have been working with Western Sydney uni when we are actually out looking for them—the slower you walk, the more you see. In terms of making safe, we walk in slow and you can see those trees which are looking like they are going to come and try and not only hurt a human but they could kill an animal. Like we said, we found two koalas. It was at the University of the Sunshine Coast with Bear, the koala detection dog. He is amazing, a phenomenal dog.

**The Hon. CATHERINE CUSACK:** Mr Fitzgerald, I just want to ask some questions about the aftermath. How long have you been in the Rural Fire Service for?

**Mr FITZGERALD:** Approximately 15 years, since I moved out there. Everyone joins, if you live rural.

**The Hon. CATHERINE CUSACK:** But you are very qualified and trained.

**Mr FITZGERALD:** Yes. We get training. I guess you get more experience actually fighting fires and working with others. In my area we have quite a few families that have lived there since white people first moved in. So they have got a lot of knowledge and they know the history of fires and how they went up this valley and then turned left, you know? The fires with the prevailing winds and the way the valleys channel wind—they sort of can work out from previous experience what the fire might do, which obviously helps in terms of their preparedness and putting in firebreaks and potential lines.

**The Hon. CATHERINE CUSACK:** Just thinking about the aftermath, you indicated that you got approval fairly easily to go in. Who did you get approval from?

**Mr FITZGERALD:** The Rural Fire Service. I went into the Cooma incident control centre and spoke to both the Rural Fire Service and the deputy incident controller, who is the National Parks person.

**The Hon. CATHERINE CUSACK:** We are just trying to understand the governance around this. So it was the local incident control who gave—



**CORRECTED**

**Mr FITZGERALD:** Jim Durant is the head of the fire service down my way and he is on the council's koala committee and I am on the council's koala committee. I think the fact that they know us helps.

**The Hon. SHAYNE MALLARD:** You have got relationships.

**Mr FITZGERALD:** And they know that we are not silly.

**The Hon. CATHERINE CUSACK:** Did you lead a party of people? Is that how that worked? Can you explain that to us?

**Mr FITZGERALD:** Yes. We organised different people. We had even some Landcare people and some wildlife rescue groups. I organised with some National Parks and Wildlife Service people. We were doing some ground searches but then we also got some of these detection dogs which came. Taylor was down from Port Macquarie—a very good dog and she helps find koalas—but we were also looking for other species. So we were sort of rotating different people through so that they got experience as well. So, yes, I was engaging different groups to make up the numbers in a search team so that people could learn and particularly see some of these detection dogs and how they operate.

**The Hon. CATHERINE CUSACK:** Were you in charge of the search team?

**Mr FITZGERALD:** I organised it in terms of getting the approval from National Parks and also agreeing on what they needed in terms of that we had to wear. Everyone had to have hard hats, so I bought heaps of hard hats. Everyone had to have high vis.

**The Hon. CATHERINE CUSACK:** I wanted to ask about that. Is there some sort of form that says that these are the things you have to do, or is it just common sense that is exercised when you are in a briefing? I presume you have some sort of briefing before people go out.

**Mr FITZGERALD:** Yes. We do that every day. I just had to talk through what we were doing and they agreed that they were happy, that we would all have radios. I bought heaps of two-way radios to make sure we all were in good comms.

**The Hon. CATHERINE CUSACK:** Just taking that as an example, is that just something that you think is common sense? I am trying to work out if there is a kind of standard procedure.

**Mr FITZGERALD:** There probably should be something written because it would be the same way everywhere. It is probably a good thing to do, is to have something written about how you operate.

**The Hon. CATHERINE CUSACK:** But it is not written at the moment?

**Mr FITZGERALD:** Well, I do not know. I am not an expert. I had a discussion with them about how we would do it.

**Dr LEIGH:** I can make a comment on that. It probably depends on the land tenure, but one of the things we have been working closely with National Parks and Wildlife on, to get onto park, is coming up with safe work method statements and protocols. We have written something up and it is probably going to be used as a template in this area at least, with Blue Mountains national parks going through post-fire at the moment. We have got all our normal remote area safety stuff. We have got emergency communication plans. We have a specific post-fire response safe work method statement as well. We do an induction at the start of the day with all of our team and take them through all of that, make sure we have got everything in place, have all the PPE with helmets and high vis and that sort of thing. Within the government that is a standard process to have those safety documents before you go into remote areas anyway. But I do not think there is a standardised document or procedure that says, "These are the qualifications you need to have. This is who has to be on your team. This is when you can go into an area."

**The Hon. CATHERINE CUSACK:** How did you develop your standards?

**Dr LEIGH:** I had some that I have developed for remote area over the years, including to go into water catchment and other areas. I have adapted it from government agencies and universities. We all do them when we do field work. If you are doing research and field work you generally have these as a standard procedure anyhow. The fire one has just come from the local national parks office. We have just worked through it together and they have actually come up with a template on what they want us to do for the post-fire access.

**The Hon. PENNY SHARPE:** I think that is all fantastic, but it sounds to me that you are doing that because that is who you work with and that is the Blue Mountains. But up the North Coast, maybe people are doing something differently. Across the whole national parks system, it seems like a lot of people doing a lot of work.

**CORRECTED**

**Dr LEIGH:** Yes. Look, I think there is a need for statewide standards and consistency. That has been another delay for us because that paperwork is not in place and nobody knows those procedures. That is why we have not been able to get in so soon, because we have had to invent the wheel, so to speak. Yes. That is a real need.

**The Hon. CATHERINE CUSACK:** The access to the national park is being done through National Parks? It sounds like in the mountains it was done through the fire incident control office.

**Dr LEIGH:** Yes. Whether we can go in or not is the ultimate decision. While the fire is still section 44 it is under the Rural Fire Service incident controller [IC]. Once it is released from section 44 it goes back to National Parks and Wildlife. When we have been in meetings, we have been talking with parks and the IC. They will check with the IC, generally. I have been in a couple of meetings with the IC as well. But generally we go through national parks because we are working on park. We have got an established relationship there through our research. They then come back to us with whether the IC is happy or not for us to go in. More recently, we have been working with them to get the paperwork together so we can go into low-intensity burn areas.

**The Hon. CATHERINE CUSACK:** If you have got any thoughts about how those processes could improve, could you let us know on notice? Thank you.

**Dr LEIGH:** Absolutely.

**The Hon. PENNY SHARPE:** I am very interested in the discussion around hazard reduction burns and some of the issues that you raised with your researchers in Wollongong. Would you be able to provide the Committee with anything that they have got around that issue of getting hotter after hazard reduction burns and the undergrowth issue?

**Mr FITZGERALD:** Yes. Apparently they gave advice to the RFS, so I could probably ask them to give you a copy.

**The Hon. PENNY SHARPE:** If you could, that would be wonderful. Thank you.

**The CHAIR:** Unfortunately, we are out of time. Thank you for appearing today. I think you have both taken questions on notice, which will have to be provided within 21 days. The Committee secretariat will be in touch with you regarding those questions. Thank you so much for the work you continue to do.

**(The witnesses withdrew.)**

**(Luncheon adjournment)**

**CORRECTED**

**PAUL ELTON**, Chief Executive Officer, Biodiversity Conservation Trust, affirmed and examined

**The CHAIR:** Welcome, Mr Elton, to the final session of today's hearing. Do you have a short opening statement you would like to make?

**Mr ELTON:** I do not feel the need to do that, but I would like to put on the record that the Biodiversity Conservation Trust [BCT] did provide input to this inquiry through the New South Wales Government response, notwithstanding, the agenda indicates not applicable, so I thought I would state that for the record. I am happy to take questions.

**The CHAIR:** Thank you very much. How long have you been in your position for?

**Mr ELTON:** About 2½ years, which is since the BCT was created in August 2017.

**The Hon. CATHERINE CUSACK:** Thanks very much, Mr Elton, for coming today.

**Mr ELTON:** Pleasure.

**The Hon. CATHERINE CUSACK:** In terms of environmental offsets, there has been a lot of evidence questioning some of the integrity of some of the offsets in the local areas that we visited. First of all, is it correct to say the offsets are proposed by developers in the main? And secondly, is there any auditing of those offsets initially and long term?

**Mr ELTON:** It is probably worth me clarifying the roles of the Department of Planning, Industry and Environment versus the BCT in relation to offsets. We have four specific roles under the Biodiversity Offset Scheme, which is otherwise administered and managed by the department. On the supply side of the Biodiversity Offset Scheme, we have the responsibility to assist any landholder who wishes to set up a biodiversity stewardship agreement and through that generate credits that they can then sell. If they then sell those credits to a developer or any other party they are required to make a certain deposit into what is called the biodiversity stewardship payments fund—it used to be called the BioBanking fund. We take that money, we hold that in trust, we manage it, we invest it through Treasury Corporation and we use those investment proceeds to make the annual payments back to the landholder. That is the supply side of the market.

On the demand side, which comes from developers who have a clear obligation in their development consent, they can either buy biodiversity credit directly in the market which is regulated by the department, they can set up their own offset site or they can, under the new Act, transfer their credit obligation to us by making a payment to us and we then inherit that exact same credit obligation. We are then bound under the Act to secure that offset on behalf of the developer. In terms of your question about the integrity of the determination of offsets, the Act requires that both on offset sites and on development sites, that the landholder or the developer respectively have to commission an accredited ecological consultant to prepare a report consistent with a biodiversity assessment method.

That biodiversity assessment method is made by the department and the accreditation of those ecological consultancies is managed by the department. The integrity of the scheme, in that sense, is something that is managed by the department. The BCT does not have a role in that part of the scheme.

**The Hon. CATHERINE CUSACK:** We are just going through a problem with building certifications where it is the developer's responsibility to get the building certified. It does sound a little bit like it has gone down a similar track whereby it is the developer commissioning a consultant. Is there any independent scrutiny of that by you or do you just accept the departments methodology? It sounds like you are just doing a transaction, not really investigating.

**Mr ELTON:** That is right. We are a delivery agency so we do not have responsibility for that regulation of the accredited assessors, that is a departmental responsibility. However, I would say that we do not just necessarily take those reports on face value. We do scrutinise them on the landholder side, I should clarify, not on the developer side. On the landholder side we do scrutinise the rigour in those reports. If we have concerns about the work of an accredited consultant, we might raise that with the department. We have not had cause to do that yet. On the developer side of the market, we are not involved in that. It is part of the development assessment and consent process that is managed by either the department or local councils.

**The Hon. CATHERINE CUSACK:** Is the landholder required to commit the offset in perpetuity or is it for a fixed term?

**Mr ELTON:** No, they are all in perpetuity. The biodiversity stewardship agreements are all in perpetuity, so we pay the landholders in perpetuity for the stewardship of those sites. Effectively, our job is to

**CORRECTED**

ensure compliance on that side of the ledger. We do have a rigorous compliance approach for monitoring biodiversity stewardship agreements which includes, for example, receipt of an annual report on the completion of their management actions. For all biodiversity stewardship sites we also do an annual inspection to satisfy ourselves that they have carried out their management obligations. Our role is really ensuring the integrity of the offset sites.

**The Hon. CATHERINE CUSACK:** Great. What is your feeling from those audits that you have done annually? Are people complying or are their issues?

**Mr ELTON:** It is very early days. We only took over the administration of biodiversity stewardship agreements from the former Office of Environment and Heritage in 2018. At that point there were 190 existing BioBanking agreements, which are now deemed to be biodiversity stewardship agreements. We have taken over the ongoing administration of those. Since we commenced operations we have received—I do not have the exact number but it is in the order of 30 to 40 applications for biodiversity stewardship agreements. We have so far issued three. It is early days in terms of the arrangements under the new Act, but we do have the ongoing compliance role in relation to all of those agreements that have been entered. Of those 193 agreements, some remain in passive management because they have not sold their credits yet. When they do sell their credits they move into active management, which is where they are required to achieve gains in the biodiversity value on the site. But we ensure compliance whether they are in that passive phase or in that active phase.

**The Hon. CATHERINE CUSACK:** How many hectares are we talking about?

**Mr ELTON:** I do not have that figure to hand. I should say in relation to this inquiry about koalas, the figures at this stage are relatively modest in terms of our involvement on the demand side. We have only received payments from developers for 14 koala species credits into the Biodiversity Stewardship Payments Fund through two—

**The Hon. PENNY SHARPE:** How much is that worth?

**Mr ELTON:** I do not have that figure to hand, I am sorry. I would have to take that on notice.

**The Hon. CATHERINE CUSACK:** Is a credit like a quantity of habitat?

**Mr ELTON:** Yes, usually a credit requirement or obligation in a development consent is specified as a number and type of credits. There are two main classes of credits: there are ecosystem credits and species credits. These are koala species credits. When a developer chooses to pay us instead of buying credits themselves in the market, it is very technical but there is an instrument called the biodiversity offsets payments calculator, which was made by the Minister on the advice of the department. That sets the price that the developer is required to pay us to transfer that credit obligation to us. It is meant to represent a market premium price, if you like, because effectively the advantage of that for developers is it enables them to get on with their development because at that point they are considered to have satisfied their obligation and we take up the obligation to then find those credits that have been transferred to us.

**The Hon. CATHERINE CUSACK:** Is this an expensive option for developers? Is this sort of a last resort for them?

**Mr ELTON:** It is not meant to be an expensive option; it is meant to be a premium option. They make savings by doing this, because if they have to go and buy credits in the market themselves—which may or may not be readily available, so there may be credits for sale or there may not be—they will incur transaction costs if they choose to either buy credits in the market or the other option of trying to establish an offset site themselves. Therefore, they pay a premium to do that with us, as set by the calculator, because we then take on the transaction costs of having to find those offsets on their behalf.

**The Hon. CATHERINE CUSACK:** A really big issue has been "like for like".

**Mr ELTON:** Yes.

**The Hon. CATHERINE CUSACK:** Can you explain for us what is the obligation of the developer? Are you guaranteeing like for like or are there occasions where you just cannot deliver that but you have that responsibility anyway?

**Mr ELTON:** The legislation is very clear on this, and then within the Biodiversity Conservation Regulation 2017 it sets out quite precise rules for procuring offsets. The legislation has a bias and a default position that you should first and foremost seek like for like offsets. If you are able to demonstrate that you have taken all reasonable steps to find a like for like offset and you are not able to find one, you are then able to use what are called variation offsets. There is a further option to pursue conservation actions if you cannot find a variation offset. So there are effectively three tiers of alternative offsets that you can pursue, but to move through those tiers

**CORRECTED**

you have to have taken all reasonable steps and effectively demonstrate diligence in trying to procure those offsets. Just to explain that a fraction further: I am governed by an independent BCT board. It sets some policies about this, including a credit acquisition framework, and we also produce for our board a six monthly credit acquisition plan. We have a policy of seeking to discharge offset obligations within two years. Where there is good supply in the market already, such as for Cumberland wood plain credits in western Sydney, for example—

**The Hon. CATHERINE CUSACK:** There is good supply, is there?

**Mr ELTON:** Well, there is good supply at the moment, but whether that will continue to be the case—

**The Hon. PENNY SHARPE:** Post airport it might be a bit hard.

**Mr ELTON:** So we can usually take on a credit obligation in those circumstances and match it relatively quickly, but there will be other instances where we might get relatively small credit obligations for particular species or very small credit obligations for ecosystem credits and we might have to bundle those up over time until there is a viable package that we can then—it is then viable for one or two landholders to set up an offset site.

**The Hon. CATHERINE CUSACK:** Does the developer have to wait for you to do that, or does he just get on—

**Mr ELTON:** No.

**The Hon. CATHERINE CUSACK:** Okay. In relation to species credits, what is the supply in relation to koala habitat?

**Mr ELTON:** As I said, at the moment we have only so far received payment for 14 koala credits through two separate payments. We have already rolled out four delivery mechanisms to procure offsets. We run both biodiversity credit tenders and biodiversity credit direct offers—the details of all of that are up on our website. My board is meeting next week, as it happens, and I am expecting it to approve our next delivery plan, which would include another five delivery offers—a combination of tenders and fixed-price offers. That will pick up these koala obligations that have come to us already.

**The Hon. CATHERINE CUSACK:** Just to clarify, is it one for one or is there a formula? Are we just rearranging the deckchairs or are we actually improving outcomes?

**Mr ELTON:** Look, that is more a question for the department, because that is determined through the biodiversity assessment method [BAM]. That calculates, on the development side it would calculate the number and type of credits required as a result of the impacts, the unavoidable impacts on a development site. The BAM also has a module that calculates the potential generation of credits on a landholder site. So you have got landholders with equivalent credits for sale to the credits that developers need and they can be matched. The ratios and all the science that informs the calculation of those credit obligations or credit supply is all dictated by the biodiversity assessment method, which is made by the department. That is their area of responsibility, not that of the BCT.

**The Hon. CATHERINE CUSACK:** But it does sound like koala habitat is in short supply. I think you said that you have issued three?

**Mr ELTON:** Three biodiversity stewardship agreements?

**The Hon. CATHERINE CUSACK:** Yes. Did they have anything to do with koalas, or are you still looking for koala habitat to offset the—

**Mr ELTON:** I do not have that fact immediately to hand.

**The Hon. CATHERINE CUSACK:** Maybe on notice would be fine.

**Mr ELTON:** I might take that on notice as to whether we will need to induce supply or not.

**The CHAIR:** What does that mean—"inducing supply", sorry?

**Mr ELTON:** Sorry?

**The CHAIR:** What does "induce supply" mean when it comes to koala habitat? Sorry, it is a very marketing term.

**Mr ELTON:** Just to explain the reason we have two different delivery mechanisms: Where our assessment is that there may be many landholders who can potentially supply to biodiversity credits that we are looking for, that is where we will run a tender. That tender will call for bids from people who may already have biodiversity stewardship agreement [BSA] or people who are looking to enter into one. Where we assess there to

**CORRECTED**

be a competitive market we will run a tender. Where our assessment is that there is no existing market or no existing supply and there might be a very limited range of landholders, or maybe even only one landholder who can supply the relevant credit we might go out with a direct price offer to see if we will attract interest for people to enter into a BSA and supply the credits that we need.

It is very early days, I should stress, too. We have really only been going since March 2018 in terms of once the Minister approved our business plan. There was a transitional period before the new scheme commenced under the Act, which has been started in different parts of the State at different times as well. So it is very early days in this biodiversity offsets market. In total, we have received payments worth approximately \$11 million so far, and so far we have only discharged a small proportion of those obligations. The koala species credits are a very tiny proportion of the total volume of credits we now have to acquire.

**The Hon. CATHERINE CUSACK:** In terms of the offset scheme overall, what percentage is your role?

**Mr ELTON:** I would have to take that question on notice.

**The Hon. CATHERINE CUSACK:** But it sounds small.

**Mr ELTON:** No, I would not say it is small. I would say that it is not a majority of the market. I think the bulk of the market is still direct transactions between developers and landholders.

**The Hon. CATHERINE CUSACK:** Yes.

**Mr ELTON:** But we are not immaterial now in the market.

**The Hon. CATHERINE CUSACK:** Who would know the answer to that question? I know you say it is early days, but to have only credited three in nearly two years—

**Mr ELTON:** There is a difference between—there are already 193 supply agreements, biodiversity stewardship agreements—

**The Hon. CATHERINE CUSACK:** Which you inherited, yes?

**Mr ELTON:** Of those, 190 we inherited; three we have issued. Some of those 190—there is only about 60 per cent of those that have become active. That means that the other 40 per cent still have credits for sale.

**The Hon. PENNY SHARPE:** Why is that?

**Mr ELTON:** Sorry?

**The Hon. PENNY SHARPE:** Why are they still for sale?

**Mr ELTON:** Because they have only recently entered into the agreement. Some of them have—

**The Hon. PENNY SHARPE:** But these were existing agreements.

**Mr ELTON:** Yes. People set up an agreement first. Many of the landholders who do that have some sort of precommitment with a developer who wants to buy their credits. Often we will see them sign an agreement with us and fairly soon thereafter they will sell their credits. In other cases landholders are being, if you like, more speculative—they are entering into BSAs and hoping that there will be interest in their credits down the track. It is still a nascent market. It is a very active market in western Sydney and a very nascent market in many other parts of the State, but it is growing.

**The Hon. CATHERINE CUSACK:** Can any landholder enter—

**Mr ELTON:** Enter a BSA? Yes, in theory, but usually they will do a business case assessment, a preliminary desktop assessment. They might use an ecological consultant to do that for them, to do a preliminary assessment as to whether they are going to have a viable stock of credits—

**The Hon. PENNY SHARPE:** How much does that cost?

**Mr ELTON:** The typical cost to establish a BSA we think ranges from about \$30,000 to \$70,000 or \$80,000 if you go the full process. Some people will spend maybe ten grand on an initial assessment; if that stacks up they might then commission a consultant to apply the BAM and produce the relevant report. That will cost quite a bit of money, but it is an investment because they may well be—I mean, the smallest BSA so far is worth about \$300,000 and the largest is worth \$15 million.

**The Hon. CATHERINE CUSACK:** How much land is entailed in the \$300,000 one?

**CORRECTED**

**Mr ELTON:** I do not have those numbers to hand, I am sorry. I would have to take that on notice. But they range in scale from dozens of hectares through to thousands of hectares, depending on the context.

**The Hon. CATHERINE CUSACK:** Is there any environmental strategy that is governing the accreditation process? For example, requiring that the credits be obtained in the same locality; looking at the landscape and looking at where it is going to be more valuable—those sorts of considerations. Who do you get that advice from?

**Mr ELTON:** It is all pretty much codified in the Biodiversity Conservation Regulation. The like for like concept is actually spelled out in quite a lot of detail in the regulations. Some of these species or ecosystems have quite narrow distributions or ranges and others have quite wide distributions or ranges. As a generalisation, the like for like rules will generally have you looking for offsets in a locality that is not distant from the development, because naturally if you are impacting that particular ecosystem or that particular species then it is more than likely that the offset is going to be nearby. But that is not strictly true for all species types.

**The Hon. CATHERINE CUSACK:** So in relation to koalas, we do have a distribution around the State but local colonies have their own gene pool and their own challenges. Would they be considered—when you go like for like in relation to koalas, does like for like mean that you must obtain the offsets in the locality? Secondly, is there any point at which a developer is told, "No, can't do it"?

**Mr ELTON:** The latter question is not a question for me, because I do not have any role in the development assessment system. I might leave that to others to answer from the department.

**The Hon. CATHERINE CUSACK:** Which others, sorry?

**Mr ELTON:** As I said earlier, the Biodiversity Offsets Scheme itself is administered by the department and then the development approval system is also administered by the department. We do not have any role in the process by which a developer is told, "This is how many credits you need to acquire as part of your condition of consent". That is all done by others. On the demand side of the market we only come in if a developer chooses to pay us to transfer their credit obligation to us. That is where we do become involved. The first part of your—

**The Hon. MARK BUTTIGIEG:** You just do all the qualitative legwork on their behalf instead of them hunting around for the appropriate offset.

**Mr ELTON:** Sorry, could you say that again?

**The Hon. MARK BUTTIGIEG:** You do the qualitative analysis of what the appropriate offset is because they have offloaded their responsibility for doing that legwork to you.

**Mr ELTON:** No. By the time—if they are making a payment to us that has already been determined through the development consent process. The development consent will say, "You must procure X", you know, "100 credits of X species and 300 credits of X ecosystem". The developer then—so that is all done, the developer has paid for the assessment process, the assessment process is conducted by an accredited consultant. We then, if they pay us to take on that obligation, that is when our role starts in terms of then finding that biodiversity credit offset. To go back to the first part of your question I missed, sorry, in terms of the local subspecies of koala or local koala populations, I would have to take that on notice because I am not an ecologist. There are, as I understand it, subspecies and I do not have enough technical knowledge to know whether the like for like rules would operate at that level of detail, so I will have to take that question on notice.

**The Hon. CATHERINE CUSACK:** Thank you.

**The CHAIR:** We will now move to questions from the Opposition.

**The Hon. PENNY SHARPE:** Are you in danger of getting too many credits that you are not going to be able to deliver? How is that monitored? I can understand why, in the end, it would be very attractive to developers to make it your problem.

**Mr ELTON:** Are you specifically referring to koala obligations or more generally?

**The Hon. PENNY SHARPE:** Both, really, but it is a general question about how the system is operating because it is new. I am interested to see the take-up. It looks like you are getting quite a lot of money coming in the door; I am not so much sure how land is being protected out the door.

**Mr ELTON:** At this stage I am optimistic that we can procure the bulk of the offsets in accordance with our two-year policy or stretch target or goal, if you like. However, there might be a tail of those very small credit obligations that might take a bit longer because they are not viable to incentivise a landholder to set up an offset site. I think it is generally going to be straightforward with ecosystem credits. With species credits, we may have to get more creative within the rules set by using—first of all, we could look where we think we are going to be able

**CORRECTED**

to bundle them up to get a viable offset site, but we might also have to consider variation offsets or conservation actions to discharge some of those species credit obligations. But it is very early days; we are still working through—that might apply to some percentage of the species credit obligations that are coming in. We are still working very hard to progress that. Of course, the credit obligations are trickling in all the time and then we reset every six months and work out what is the best—

**The Hon. PENNY SHARPE:** But it is not necessarily—are you getting some that are coming in that you are going to say, "These are very difficult to deal with, they are pretty niche"? How is that on the way in—or are you just basically saying yes to everything and hoping that within two years you are going to work it out?

**Mr ELTON:** We do not get to say no. The legislation—

**The Hon. PENNY SHARPE:** Right, okay. So the developers basically hand it over and it is your problem?

**Mr ELTON:** Yes, that is right. But there will be a feedback mechanism in terms of—the way the pricing calculator works is that the department reviews that and updates that every six months based on market experience. It is a rolling process by which our experience informs the pricing that we need to set to be able to offset.

**The Hon. PENNY SHARPE:** So how are you managing things like competition with private native forestry on the North Coast? You have essentially got two different markets operating, really. You have got private native forestry, which we have heard evidence is far more lucrative to landholders than anything that you are able to offer—not casting any blame there, but just whether that is an issue. Is that something that you think is going to become an issue or is an issue that you are finding in terms of everyone wants the same, as we have found, koalas like the same trees as loggers?

**Mr ELTON:** Look, it has not—as I said, the koala obligations we have received to date are relatively modest. There is no evidence in front of me that that particular sector is a significant competitor. We have talked a lot today about my role in offsets. The far bigger part of my business is direct government investment in private land conservation.

**The Hon. PENNY SHARPE:** Yes, I am getting to that.

**Mr ELTON:** We have not had a problem there in getting expressions of interest and bids in from landholders to offer conservation agreements for us for koalas. I can come to that if you wish.

**The Hon. PENNY SHARPE:** Yes.

**Mr ELTON:** There is no evidence in front of me that private native forestry is a significant competitor. I would add that there are many competitors for many of the ecosystems and threatened species habitat that we are looking for, not just private native forestry.

**The Hon. PENNY SHARPE:** What else?

**Mr ELTON:** Urban development, agriculture, infrastructure development—everything that is happening in the landscape is potentially competing with what we are trying to achieve. Of course, we have got a strategic investment strategy that guides where we are trying to procure conservation, and we have been very successful in that to date. It is probably too early to assess this, Ms Sharpe, in terms of if competition from particular sectors of land use is becoming a problem for our work.

**The Hon. PENNY SHARPE:** How are you going in relation to working with private landholders? Are you able to tell the Committee how many hectares you have and the basic numbers of where you are up to, given that you are only two years in?

**Mr ELTON:** Yes, I can in general terms and I can then speak more specifically about koalas if you wish. I might start by saying that when we started, we inherited about 1,800 or so private land conservation agreements that had been entered by landholders over many decades under past schemes. A significant part of our business is continuing to provide technical support and, where needed, financial support to those existing landholders. Interestingly—I looked this up this morning—we think that, relevantly to your inquiry, at least 100 of those nearly 2,000 agreements that we are up to now are likely to be protecting habitat for koalas, based on confirmed sightings of more than 300 koalas within those conservation areas. That is a statistic I thought you might be interested in.

**The Hon. PENNY SHARPE:** Very interested. Thank you for providing that.

**Mr ELTON:** In terms of our progress since we started, so far 159 landholders have signed or planned to sign a conservation agreement with us, creating conservation areas across 36,000 hectares. That is based purely



**CORRECTED**

on the government investment in our private land conservation programs. It is separate from the Biodiversity Stewardship Agreements.

**The Hon. PENNY SHARPE:** Yes.

**Mr ELTON:** We so far have invested about \$102 million in TCorp to support those agreements. The investment split has been about 82 per cent into in-perpetuity agreements and 18 per cent for term agreements with a minimum of 15 years.

**The Hon. PENNY SHARPE:** What is the decision-making around perpetuity versus the long lease?

**Mr ELTON:** The investment strategy, which is made by the Minister and is our principal guiding framework, asks us to preference in perpetuity but also allows us to enter into term agreements. So far our policy is to only contemplate term agreements through our conservation tenders, and that is where we are going after really high-priority conservation assets. I actually think that is useful—

**The Hon. PENNY SHARPE:** That is a bit counterintuitive, is it not, if for the highest level of conservation you are looking at long-term lease rather than perpetuity?

**Mr ELTON:** No, we do still get more than—it is 80-20 in terms of in perpetuity to term. The strategic advantage I see in allowing term agreements is that it gets people into conservation, and for at least 15 years. We give those term agreement holders the option to upgrade to in perpetuity at any time. I think for some it is a case of developing comfort.

**The Hon. PENNY SHARPE:** Getting them in the door.

**Mr ELTON:** Yes, developing comfort. We may not be achieving as much conservation if we were purely demanding in perpetuity. I should add that for our koala tenders—we have run two and we have a third underway—we have made those all in perpetuity because we think that is important for that particular conservation asset. Through our fixed price offer, we only offer in perpetuity. We are biased towards in perpetuity. Our assessment methods give a greater weighting to in perpetuity so, everything else being equal, they will win in a tender over a term proposition if everything else is equal. So there are a number of things we are doing.

There is lots of information up on our website about the investment and the prices we are paying. If I set aside koalas—we do pay much higher for koalas to date—we are typically paying between \$21 and \$423 per hectare per annum for the bulk of those agreements across, particularly, the sheep-wheat belt, the Monaro grasslands and a few other places. In the Biodiversity Conservation Investment Strategy, we were set four targets. Two of them are to do with sampling New South Wales landscapes, which goes directly to increasing the representativeness of our landscapes in the protected area system. We had a target 1 to sample 30 landscapes by 2023. We met that target in February 2019, four years early, so I am proud of that.

I should give you the statistics. So far, we are protecting examples of five landscapes that were not previously represented at all and another 64 that have been underrepresented in the system. Achieving that target 1 is important progress, but it does not mean that those landscapes are now adequately protected from a comprehensive, adequate and representativeness perspective.

**The Hon. PENNY SHARPE:** Is there a focus, also, on connectivity across the landscape?

**Mr ELTON:** Yes. The BCIS sets priority investment areas, investment principles and targets. All of those things guide how we prioritise where we are going to roll out offers. Connectivity is one of the principles that is embedded, alongside other things like priority conservation assets that we should go after.

**The Hon. PENNY SHARPE:** In relation to the funding of the BCT, the Government has put in \$350 million over five years, I believe.

**Mr ELTON:** Yes.

**The Hon. PENNY SHARPE:** Given that, obviously, it is still ramping up and it is pretty slow in terms of what is there, what happens with your money year to year? Do you get to roll it over?

**Mr ELTON:** Yes. I might explain how we use that investment.

**The Hon. PENNY SHARPE:** How is the Government accounting for it? I am quite interested in this.

**Mr ELTON:** Yes. Initially, when the reforms commenced, it was \$240 million over the first five years and \$70 million ongoing.

**The Hon. CATHERINE CUSACK:** That was the environment trust, was it?

**The Hon. PENNY SHARPE:** No, this is with the land clearing changes.

**CORRECTED**

**Mr ELTON:** Yes. It is now more than \$350 million from this financial year over the next five years. We are getting to that intended long-term rate of \$70 million per annum from next year, and then that is escalated.

**The Hon. PENNY SHARPE:** But you are way under that in terms of—

**Mr ELTON:** Investment?

**The Hon. PENNY SHARPE:** Yes.

**Mr ELTON:** Yes. Some of that money goes into funding the operations of the BCT. My board has capped corporate overheads at less than 10 per cent of those government grants.

**The Hon. PENNY SHARPE:** Good.

**Mr ELTON:** We then have a regional presence across New South Wales to support delivery. We have seven regions with ecologists and landholder support officers and so on, because we have to do this hand in glove with the landholders. We are investing around \$45 million to \$50 million in new funded conservation agreements once we get to that \$70 million per annum rate. We are also expending some of our revenues on small grants for those voluntary conservation partnership agreements that do not get an annual payment. We have allocated a budget of \$2.5 million per annum for small grants.

**The Hon. PENNY SHARPE:** Do you get to keep the money you do not spend? That is my question.

**Mr ELTON:** Yes. We also have a modest budget for education. Any money that we do not deploy in a given financial year gets repurposed into our asset base to invest in further conservation agreements. From our point of view, they are grants from the Department or the Treasury and that is a fixed income for us.

**The Hon. PENNY SHARPE:** We heard some evidence—and I am sure you are familiar with this, as we have a letter from the Minister in front of us regarding some of these matters—about the issue of the offsetting monitoring of Whitehaven coal. I am interested in the role of the BCT within that and whether you can provide to the Committee an update. There is a lot of concern on the ground in that community that there is offsets that have been promised that are not delivered and at this stage clearing is continuing. I am wondering if you could let us know what is happening?

**Mr ELTON:** Yes, what is happening, that is a transitional responsibility that we took over from the Office of Environment and Heritage when we were created. Under previous schemes, before the Biodiversity Conservation Act, developers were sometimes required through their development consent to sustain a conservation agreement as an offset. Obviously now we have a more codified regime as I have already described. We still have a number of these in the pipeline where mining companies and others are coming to us saying, "We need to establish some conservation agreements with you to fulfil our offset obligation."

We have been working with Whitehaven Coal to provide that to them. There are a very large number of conservation agreements that they have sought to enter into. We have now entered into some of those. There has been concern and we have been striving to be very rigorous in relation to our requirements for those conservation agreements, including accurate mapping of vegetation and communities within those proposed conservation areas. We are not entering into those agreements until we are satisfied that we have got accurate mapping that we have verified on the ground.

**The Hon. PENNY SHARPE:** But it is the case that they are able to in some instances clear an area. The concern from the community is that, yes, there are conditions in place, yes, they need to be put in place, but in the meantime there is clearing occurring without the offsets properly put in place. What levers does the BCT have to deal with that issue?

**Mr ELTON:** That would not be our responsibility. If there are any issues about compliance with their development consent conditions that would be a matter for the department.

**The Hon. PENNY SHARPE:** The Whitehaven issue is an issue that you have inherited. That is not the case in future arrangements where people are required to have a conservation agreement?

**Mr ELTON:** Now that we have the biodiversity offset scheme under the new Act there is no scope for conservation agreements to be used in the future as offsets. It is a transitional issue. There are still a few coming through. I understand there is going to be a few coming through from another mining development up in that part of the State.

**The Hon. PENNY SHARPE:** When you say "coming through", they are coming through because historically it is in their consent?

**CORRECTED**

**Mr ELTON:** Yes, it is in their consent and they have yet to fulfil that obligation. They are coming to us and then we go through a process. Eventually there will be no more of those, but we are still in transition.

**The Hon. PENNY SHARPE:** Obviously, there have been concerns about performance. If the performance is found to be unsatisfactory what is the remedy that the State has for that?

**Mr ELTON:** On my side of the ledger if we then have conservation agreements in place with whomever the landholder might be—it might be the mining company itself or they may on-sell the land to another landholder to administer the agreement—our job then is to ensure compliance with the conservation agreement. We do have a compliance policy.

**The Hon. PENNY SHARPE:** What happens if someone does the wrong thing? Hypothetically, what happens if somebody does the wrong thing, not specifically in this case?

**Mr ELTON:** Yes. If someone fails to comply with any condition of a biodiversity stewardship agreement or a conservation agreement we can take action all the way up to civil enforcement proceedings and we have done one of those already; not in relation to a mining case.

**The Hon. PENNY SHARPE:** Did you win?

**Mr ELTON:** We did. We settled out of court, I should say, to our satisfaction. We can go that far. If a landholder who holds a conservation agreement or a stewardship agreement commits an offence against the Act, even if it is within the conservation area we then refer that to the department for compliance. We are not a regulator in that sense in terms of taking higher order compliance enforcement acts and potentially prosecution. Anything that tips beyond compliance with agreement conditions would be something we would refer back to the department to take appropriate compliance action in accordance with their policies and procedures.

**The Hon. PENNY SHARPE:** One more question on offsets. Offsets where there has been an agreement put in place, there is some concern that those offsets do not necessarily prohibit future operations, for example, mining on offset sites. What is the policy of the BCT in relation to that?

**Mr ELTON:** There is no BCT policy in relation to that. There is, as I understand it, a provision in the legislation whereby a mining interest can—there are certain procedures, I would have to take the detail on notice.

**The Hon. PENNY SHARPE:** Sure, I know it is a complicated area.

**Mr ELTON:** There are certain provisions in the Act in relation to the possibility of a mining exploration or actual mining occurring in or under a conservation area, in which case the Minister can elect to revoke the BSA or the conservation agreement. There are no equivalent provisions in relation to any other type of land use, as I understand it. In such situations my understanding is, this is departmental policy, that any such impact is then required to be re-offset, if you like.

**The Hon. PENNY SHARPE:** Double offset?

**Mr ELTON:** So there is an equivalent offset sustained. I am straying beyond the BCT remit.

**The Hon. PENNY SHARPE:** I appreciate you trying to answer that for me. It has helped.

**The Hon. MARK PEARSON:** How "unlike" can an offset be?

**Mr ELTON:** As I was describing earlier the Act requires developers or the BCT, if an offset obligation transfers to us, to seek to procure a like for like offset in the first instance. We are only able to consider—

**The Hon. MARK PEARSON:** Can you elucidate on that? What would one be looking for if you wanted to have a strictly like to like: same amount of flora, same amount of fauna and other environmental factors of the area that is happy to be offset?

**Mr ELTON:** As I described earlier, all of that very technical assessment is dealt with through the biodiversity assessment method. Typically if, for example, a developer is required to offset 14 koala species credits the BAM would have calculated that is the impact on koala habitat as expressed by that number and type of credits. A landholder on the other side of the market can look to generate koala credits by committing to a series of environmental management actions through their biodiversity stewardship agreement that would generate additional koala habitat value on their site. Not just protecting what is already there but actually increasing the biodiversity value of that site. Therefore, they might be able to generate 14 koala habitat credits on their land. The science is in the biodiversity assessment method to calculate equivalent credits on the demand and supply side of the market.

**CORRECTED**

**The Hon. MARK PEARSON:** to get my head around this, really, if there is going to be an offset, say five kilometres away, no koala, possum, lizard or tree on the site that is going to be developed gets anything out of that offset agreement, do they?

**Mr ELTON:** That would depend very much on—

**The Hon. MARK PEARSON:** —I wonder if a koala would ever think it was a credit?

**Mr ELTON:** Again, that is really a matter for the relevant consent authority. They may impose additional conditions in relation to the management of actual animals on a site.

**The Hon. MARK PEARSON:** Who would assess that?

**Mr ELTON:** The relevant consent authority would assess that based on the biodiversity assessment report that was presented as part of the development consent.

**The Hon. MARK PEARSON:** There is just one other question in relation to evidence you gave earlier. If there is mining exploration occurring in a certain area you said that the Minister has power at a certain point to halt that. Can you explain at what point would a Minister turn their mind to that?

**Mr ELTON:** That is a very technical question as to how that part of the Act operates. It is not really the BCT's business, in that sense.

**The Hon. MARK PEARSON:** How would the Minister find out that he or she has to make a decision? Who would advise and where would the information come from—from the mine itself or from an environmental assessment?

**Mr ELTON:** It is not BCT business. It is really part of—the development and assessment and approval process might identify such a situation, but that is not really within the BCT's bailiwick.

**The CHAIR:** Just going back to offsets and focusing on the Maules Creek mine, I understand that there are also conservation agreements or offsets—some of them do not have conservation agreements yet—for Maules Creek and Boggabri and, I think, another mine up there as well. I just wanted to know, when you have an ecologist go to have a look at the offset areas to ground truth, if you like, next to the mapping that has also been provided by the proponent—is that by Whitehaven?

**Mr ELTON:** In that case, as I understand it, they have provided mapping of the proposed—because they were both the developer, in this instance, as well as the proponents for the proposed conservation agreement areas. They did provide draft mapping and in some instances we were not satisfied with the accuracy of that mapping and we asked for that mapping to be revised. That was based on our ecologists going on site and ground truthing the proposed conservation areas. To the extent that we have now signed some of the conservation agreements relevant to that development, we have satisfied ourselves that those agreements are now based on accurate mapping, including of endangered ecological communities up there.

**The CHAIR:** Was it the mapping that was wrong or was it the vegetation on the ground that was wrong in terms of the offsets?

**Mr ELTON:** It was the mapping of the vegetation on the ground that was inaccurate in some cases, but it has now been corrected. That will be our standing policy. We will not enter a conservation agreement unless we are satisfied that the mapping of the key ecological assets on that site is accurate.

**The CHAIR:** In other words, the offsets have to be accurate. It is not the maps so much. The maps obviously have to reflect what is happening on the ground, but it is what is on the ground that is most important, not the maps.

**Mr ELTON:** In terms of satisfying the offset obligation, yes.

**The CHAIR:** I think you are aware of the GIPAA that was submitted that was fed back to a small community group in the north-west of the State that found some communication between the Biodiversity Conservation Trust and the Department of Planning. I think one of your ecologists, Brynley Walters, visited some of the sites—this was just back in May 2018—in relation to the Maules Creek coalmine. I think they found that veg mapping has poor accuracy on some sites. Areas mapped as box EEC are of particular concern. Does that mean that the ecologist goes to the site and says that the areas that the coalmine mapped as box EEC was not reflected on site?

**Mr ELTON:** At that point, yes. That is correct. But that has since been remedied by updated mapping for the purposes of the agreements we have now—so that was back then. Since then we have worked with the

**CORRECTED**

mining company to procure accurate maps from them. It is only where we have satisfied ourselves that we now have accurate maps that we have then proceeded with the conservation agreements.

**The CHAIR:** Your ecologist says, though, that the areas mapped as box endangered ecological communities are of particular concern. The maps showed that it was box EEC, yes?

**Mr ELTON:** I think the maps were not necessarily accurately locating where that EEC was located. We needed those maps to be corrected to accurately map where the EECs occurred on those sites. That has now occurred and we have only proceeded with the conservation agreements once we have been satisfied.

**The CHAIR:** So you are telling the Committee that the box EEC was mapped as—basically, the map said box EEC was there. Your ecologist went to Maules Creek, the offset site, to try and find box EEC and said the areas mapped as box EEC are of particular concern. You are saying that that has now been mapped correctly. They found the box EEC on the site?

**Mr ELTON:** Yes, there were definitely EECs.

**The CHAIR:** Was it just in the wrong spot?

**Mr ELTON:** I would have to take that on notice. I do not have the precise technical detail, but we do now have maps for the relevant conservation agreements that accurately map where the EECs occur. There are EECs on the sites, if that is what your question is going to. We just wanted to make sure that the maps of those EECs were spatially accurate. If you want me to go into more precise detail I would have to take that on notice.

**The CHAIR:** Thank you. The ecologist said there were general concerns for all sites visited. So for all of the sites that they visited, in terms of offsets, there were concerns raised—some of which was little use of direct seeding as an alternative to planting and little successful restoration achieved. Do you want to comment broadly, in relation to that specifically, on why that is such a problem?

**Mr ELTON:** Again, it is very technical in terms of whether that was a description of what was happening previously or whether it was around the commitments to be made in the conservation agreement. I am not across that level of technical detail so I would have to take that on notice.

**The CHAIR:** Within this area, I think Mount Lindesay is one of the areas that is listed as an offset for Maules Creek coalmine. In terms of box gum it says, "Box gum growing in this area appears as mallee form due to poor soils. As above, not EEC as mapped. Noting area contains stringybark and apple box." So lots of the technical notes that you look at in these GIPAA documents suggest that the EEC was not there at all.

**Mr ELTON:** No. I know for a fact that there are EECs mapped in some, if not all—and I would have to again check the detail—but some, if not all, of the conservation agreements that we have now entered. But we have satisfied ourselves that that mapping is accurate. It was not accurate when we first received it but to the extent that we have finished—I should add that we have not finished all of the conservation agreements yet because part of our due diligence is making sure that those agreements are based on accurate mapping.

**The CHAIR:** How often do your people get on the ground? Each time you have got the maps, you have got to go and assess whether that is accurate to put in place a conservation agreement. Is that correct?

**Mr ELTON:** Yes.

**The CHAIR:** So you receive draft mapping. Do your people go and inspect those offset sites every time?

**Mr ELTON:** Again, we are talking about these historical requirements.

**The CHAIR:** That's right. That is exactly what I am asking questions about.

**Mr ELTON:** In those cases, yes, because they have not had the benefit of an accredited ecological consultant assessment.

**The CHAIR:** Thank you. I understand that Whitehaven has been granted several extensions to get their mapping right. Is that correct?

**Mr ELTON:** Not by us. That has been by the Commonwealth and State Government. They have sought those extensions with the relevant consent authorities.

**The CHAIR:** Yes. So your staff have visited the sites a number of times?

**Mr ELTON:** Yes.

**The CHAIR:** They visited the sites a number of times over just two years. Is that correct?

**CORRECTED**

**Mr ELTON:** I do not know the precise time frame but it is possibly that long. It may be 18 months. It has certainly been at least 18 months, I think.

**The CHAIR:** Surely when your staff go to these areas to assess the offsets, your staff are probably quite keen to put in place conservation agreements. You are looking to verify the maps.

**Mr ELTON:** Yes.

**The CHAIR:** If the maps have not been able to be verified twice because they have not reflected what is on the ground, it is difficult to understand how your staff failed to see the endangered ecological communities [EECs] box gum woodland, for example, the first two times. You said they have found them now.

**Mr ELTON:** Yes. These are very large sites and so to the extent that our staff may have done a preliminary site assessment and looked at an area that was supposedly EEC and then determined, well, actually it is not, they have been gone back to the mining company and said, "The mapping doesn't appear to be accurate so we need it to be redone", and then they have been able to subsequently verify that where there are EECs mapped, that that is accurate. We apply very rigorous standards when it comes to mapping of the types of ecosystems that are on a site. We will not proceed with an agreement unless we are satisfied because we have to face the community in terms of being rigorous in the way that we are putting these agreements in place.

**The Hon. MARK BUTTIGIEG:** But does that mean—this is just a really quick follow-up.

**The CHAIR:** Sure.

**The Hon. MARK BUTTIGIEG:** Just to go down that borough a bit further.

**The CHAIR:** Just quickly.

**The Hon. MARK BUTTIGIEG:** Does that mean that that theoretically you could do a 60 per cent randomised sample of the land and say, "It looks like they have got it right. Good to go."? That then goes to the question earlier: How thorough is it? Has every single identified EEC been gone over by your people, or is it just a randomised sample?

**Mr ELTON:** It is equivalent to a randomised sample approach. We tend to do linear transects through a site. We have very rigorous standards as to how we assess the biodiversity values of a site. These are particular conservation agreements that have been dictated by the terms of the development consent. They are not what I would consider to be regular offset sites that we are now establishing through the offset scheme.

**The CHAIR:** Do you have information in relation to which of the biodiversity offsets have so far been approved for Whitehaven Coal from the Biodiversity Conservation Trust [BCT]?

**Mr ELTON:** I do not have those figures to hand so I could take that question on notice.

**The CHAIR:** If you could take that on notice, that would be great, thank you. Have you had any contact with the Department of Planning, Industry and Environment in the last few weeks in relation to Whitehaven Coal's Maules Creek mine offsets?

**Mr ELTON:** I have not personally, no. I could not vouch whether any of my staff have had such discussions, but I doubt it.

**The CHAIR:** Okay. Regarding the Maules Creek offsets—you might have to take this on notice as well, actually—we need the dates on which the offsets were approved, if there has been approval, and which conservation agreements for biodiversity offsets for Whitehaven Coal's Maules Creek coalmine have been executed. You are not aware of which ones?

**Mr ELTON:** No.

**The CHAIR:** Which conservation agreements have been registered with the NSW Land Registry Services—that as well.

**Mr ELTON:** Yes.

**The CHAIR:** In relation to one of the Whitehaven Coal's offsets, we understand that there is an active coal exploration licence over three of the Maules Creek mine offsets. Are you aware of that?

**Mr ELTON:** No, I am not.

**The CHAIR:** I think it is Wollondilly and a couple of others. If you could look at that as well—and I assume the same thing applies with these exploration licences and that those offsets could be offset again.

**Mr ELTON:** Possibly. That would be a matter for Ministers, not a matter for the BCT.

**CORRECTED**

**The Hon. CATHERINE CUSACK:** Can I just ask this: Has your organisation been following this inquiry at all? Were you prepared for this appearance today?

**Mr ELTON:** Yes. We were invited to contribute to the New South Wales Government's submission to this inquiry, which we did, so there are certainly some references to the BCT in the New South Wales Government's submission. I have also been keeping abreast of questions that were taken on notice by some of my departmental colleagues that were directly relevant to the BCT so I have had input into those answers. So, yes, I have been—

**The Hon. CATHERINE CUSACK:** Did you know that we went to Gunnedah and that all these questions were being asked about the Biodiversity Conservation Trust?

**Mr ELTON:** I was not aware of that, no.

**The Hon. CATHERINE CUSACK:** So none of the issues that have been canvassed in any of our hearings—you would not be aware of any of those. Is that right?

**Mr ELTON:** Only in relation to the questions on notice about the BCT, yes.

**The Hon. CATHERINE CUSACK:** I apologise for asking these questions. I am just quite disappointed because we have been really eager to hear responses to this evidence. I suppose I guess I thought you were across the koala inquiry, but maybe not. In Gunnedah the community indicated that they had to spend thousands of dollars on Government Information (Public Access) Act [GIPAA] applications to obtain access to information that really involved and transparency on public land on a public interest issue. Do you have a view about the blocking of information by making it so expensive for a voluntary organisation just to find out what an agreement is, what those details are, let alone what the compliance record has been?

**Mr ELTON:** Look, I think that most GIPAAAs that I am involved in are managed through the department so I am not privy to current arrangements as to costing.

**The Hon. CATHERINE CUSACK:** Is there any policy of transparency around what these agreements are?

**Mr ELTON:** Which agreements, sorry?

**The Hon. CATHERINE CUSACK:** The conservation agreement that you are reaching.

**Mr ELTON:** Oh. Yes.

**The Hon. CATHERINE CUSACK:** Why can they not just be publicly registered and available for everybody to see?

**Mr ELTON:** They are. There is a requirement under the Act for there to be a public register of all the agreements that we have entered into. That was delegated from the environment agency head, which is a term under that Act, to me late last year and we have now made that public register available on our website.

**The Hon. CATHERINE CUSACK:** These investigation activities in the follow-up actions, are they attached to that public register?

**Mr ELTON:** Which investigation activities?

**The Hon. CATHERINE CUSACK:** Just in relation to Maules Creek, the questions that my colleague has been asking you.

**Mr ELTON:** Yes.

**The Hon. CATHERINE CUSACK:** It all seems like there is a veil of secrecy and the community has had to spend a lot of volunteers' money and fundraising time.

**Mr ELTON:** Right.

**The Hon. CATHERINE CUSACK:** You have got all of their money now because they have just wanted to access information.

**Mr ELTON:** Look, I have not been involved in setting those fees. I imagine that those GIPAAAs have been managed by the department so I would have to take that question on notice to understand exactly what fees were charged and why, I am sorry. But I do support very much the principle of transparency. The BCT is trying to be a very transparent organisation.

**CORRECTED**

**The Hon. MARK BUTTIGIEG:** But just to clarify—sorry, Catherine, it is a follow-up—the register exists, which is a register of agreements, but it does not necessarily go into the detail that sits underneath them. That is what I think you are saying, is it not?

**Mr ELTON:** I am not sure what detail you are alluding to.

**The Hon. MARK BUTTIGIEG:** The detail in terms of what offsets were granted.

**The Hon. CATHERINE CUSACK:** Is that the deed of agreement itself there, how the land will be managed, and reports on whether it is being complied with?

**Mr ELTON:** Yes. We are attempting to make all of that kind of information publicly available, subject to privacy legislation of course. There are some basic facts about agreements that we upload for all sites and then there is certain additional information that we will upload if we are given privacy clearance by the relevant landholder.

**The Hon. CATHERINE CUSACK:** Do corporations have privacy?

**Mr ELTON:** Corporations?

**The Hon. CATHERINE CUSACK:** Yes—like a mining company: like in relation to Maules Creek. Is it an issue that we are respecting the privacy of the mining company that is not complying with the terms of the development application agreement? Your officers are trying to get them to comply but because of privacy the public is not allowed to do about that—because of the mining company's privacy. Is that how this works?

**Mr ELTON:** I would have to take that question on notice.

**The Hon. CATHERINE CUSACK:** Okay, thank you. Should a project not be complying, does that delay their business activity or can they just get on with their mining anyway and keep corresponding with you forever as to whether or not what species of tree that is or is not on the site?

**Mr ELTON:** Their compliance with their development consent is a matter for the relevant consent authority, not the BCT. Our role is purely in relation to the compliance of conservation agreements or biodiversity stewardship agreements that we have entered into.

**The Hon. CATHERINE CUSACK:** If those agreements are not complied with, what happens then?

**Mr ELTON:** As I described before, if a landholder is failing to comply with their agreement conditions we will first of all try to work with them to support them to comply. If that does not work we will then consider other options including potentially launching civil proceedings under the legislation. As I said before, if there is an issue of a breach of the Act in relation to, say, land clearing or harm to a threatened species or equivalent, we would refer that to the department to take appropriate compliance action.

**The Hon. CATHERINE CUSACK:** So the civil proceedings would be initiated by you or by the department?

**Mr ELTON:** It can be initiated by us and we have done that in one case.

**The Hon. CATHERINE CUSACK:** What remedies do you seek? What types of remedies are you looking for?

**Mr ELTON:** It might be court orders to force the landholder to comply; it might be a renegotiation of the terms of their agreement. There is any number of possibilities that can emerge. It might also be the imposition of a financial guarantee. So there is a range of options that we have to pursue in a civil enforcement action.

**The Hon. CATHERINE CUSACK:** Can anything punitive be pursued? For example, things that cannot be reversed, like destroying the vegetation around the only waterhole in a forest, profoundly impacting on wildlife, if that is found to have been breached can there be any punitive action that you take?

**Mr ELTON:** Yes. If someone has allegedly committed an offence against the Act, such as clearing vegetation that they are not authorised to clear, or harming species they are not authorised to harm, then that is a matter that we would refer to the department to take, as you say, punitive compliance and enforcement action against that individual or corporation. We are not a regulator per se. Our role only extends to seeking to enforce compliance with the conditions of conservation agreements. If it is a breach of the legislation then that is a matter that we refer to the department.

**The Hon. CATHERINE CUSACK:** Is a breach of the conservation agreement a breach of the legislation?

**Mr ELTON:** Not necessarily, no.



**CORRECTED**

**The Hon. CATHERINE CUSACK:** Is that EPA that you refer it to?

**Mr ELTON:** No, it is the Department of Planning, Industry and Environment.

**The Hon. MARK BUTTIGIEG:** Just one very quick question that follows up from an earlier question from my colleague. The two years, is that a mandated, must drop-dead synchronising or delay or is it kind of two years but if it takes three years so be it?

**Mr ELTON:** There is no rule in the legislation for us; that is a policy decision that my board has adopted as a target to try to discharge—

**The Hon. MARK BUTTIGIEG:** So if you are inundated with supply and you are stretched, at the very best you could conceivably have a two-year delay between a habitat destruction and any possible offset.

**Mr ELTON:** It could take up to two years. In some cases we will do it very quickly because—

**The Hon. MARK BUTTIGIEG:** There is no requirement on you to do it within two years, is what you are saying.

**Mr ELTON:** That is correct, yes.

**The Hon. PENNY SHARPE:** A couple of quick questions. I have been looking with interest at the public register. I just want to clarify a couple of things about the public register. It provides, essentially, how many hectares in what local government area but no further details. Is that right?

**Mr ELTON:** There is a range of data that we provide. The Act requires us to potentially release a much wider array of data, but we can only do some of that with the consent of the land holder so as not to breach the Privacy Act. So we are working through that. We were only given this function a few—

**The Hon. PENNY SHARPE:** I am interested. It is just that it is very hard to track. It is pretty light on.

**Mr ELTON:** Of those 159 that we have already entered into agreements with we are going back and asking them if they are happy for us to release those additional details and if they do we will progressively release those additional details on the register.

**The Hon. PENNY SHARPE:** Beyond the privacy, the thing that is also lacking here is really just information about species and what actually is being protected, which I think would be useful. A broader question: Obviously there are a lot of tools through the trust. Does the legislation give you what you need? If the Government decides koalas are a high priority, we want to throw some more tools at the BCT in terms of leveraging that, are the laws themselves flexible enough for you there or is there anything that you would recommend to us if you are talking to both government but also to landholders if they are interested in this? What do you want to tell them?

**Mr ELTON:** I think the legislation actually creates really quite a strong framework for us. We have got the legislative protection for the investment strategy, for the three different types of conservation agreements that we can enter; we have got clear and broad powers, functions for the BCT itself. So I think the architecture is quite sound and the framework for the government investment, which is the investment strategy, is actually very robust, from my point of view, and works for us. The framework of rules for the offset scheme is also equivalently clear for us. And within all of that the framework leaves my board with some discretion to be quite innovative and entrepreneurial, if you like, with respect to programs and delivery mechanisms. We have actually developed three programs about 11 different delivery mechanisms—we have touched on some of them today—and that gives us a lot of flexibility to pursue our objectives in ways that respond to different landholder needs and interests. So I think the framework is quite sound. There are some very minor, technical issues that we would like to improve when we get the chance—if there is a future amending bill.

**The Hon. PENNY SHARPE:** When you call on those—I know environment groups are more concerned and broadly concerned with the legislation in relation to those technical aspects about mapping—at the end of the day is it going to save the critters that we are trying to save? Is there anything that you think is missing, specifically in relation to koalas, but I am interested in other things as well?

**Mr ELTON:** Not from the point of view of our role, no. I think there are other issues perhaps that stakeholders are identifying that are beyond the BCT's remit.

**The CHAIR:** In relation to conservation agreements and management plans, is it that once the offset property owner has entered into a conservation agreement they then move to a management plan, or is it the other way round?

**Mr ELTON:** Whether it is a conservation agreement or a biodiversity stewardship agreement they always have a conservation management plan embedded within the agreement; so it is one and the same. Our

**CORRECTED**

template agreements are available on our website, and then we have fairly standardised templates that we use to create a management plan for a site, whether it is in relation to pest and weed control, fencing, various other management obligations—that all gets spelt out in the conservation management plan, which is an addendum to the agreement, it is part of the agreement itself.

**The CHAIR:** Would there be situations where, for example, some of the conservation objectives are met via the management plan when they have not been able to be met to begin with in the conservation agreement, and the conservation agreement is signed and then those biodiversity values you then hope to reach them via the management plan?

**Mr ELTON:** Correct. That is right.

**The CHAIR:** Give me an example of what you mean in terms of feral and weed control.

**Mr ELTON:** A management plan might prescribe quite particular requirements for the management of pests or other threats to the site. It may or may not require certain weed control arrangements, both in terms of identified issues already on the site as well as prospective risks. It might be a case where in particular sites you need to exclude stock, or native herbivores for that matter, to enable ecological systems to regenerate or be maintained in a good condition. Generally, just going through it in a little bit more detail, where we have unfunded conservation agreements our standard there is generally to expect the landholder to maintain the ecological values of the site. Where it is a funded conservation agreement under our program or an offset agreement—so funded—as you go further up that hierarchy the expectation is to proactively improve the values of the site to effectively achieve the predicted gains from the biodiversity assessment.

**The CHAIR:** With some of the conservation agreements in relation to Maules Creek—the Whitehaven—have some of them recently moved into a management plan? Do you know whether that has been quite recent in terms of conservation agreements?

**Mr ELTON:** Yes, relatively recent. I will have to get the details, as you asked for before, but I think I signed some of those conservation agreements late last year or early this year. But I will have to get those facts for you. Up and until that point, there are no obligations. It is only once we actually sign a conservation agreement that the management requirements in the conservation agreement are required to be carried out from that point forward, and we then check that annually.

**The CHAIR:** I understand that there has been considerable discussion within the ecological community regarding certain obligations as to whether they should be incorporated in the conservation agreements and have to be met upfront before conservation agreements be signed, or whether they should be incorporated into management plans. Are you aware of that contention or controversy?

**Mr ELTON:** I am not particularly aware of that. But there is no other mechanism by which we can oblige people to carry out the management obligations, unless something is otherwise imposed through the development consent. From our point of view, we can only impose conservation management obligations via a conservation agreement. Until such an agreement is signed, there are no obligations.

**The CHAIR:** Would any of that include actually establishing an ecosystem from scratch? Say if there was not much of an EEC on an offset, would a management obligation include "We are going to try and create this ecosystem here through restoring it"?

**Mr ELTON:** Yes. There are a couple of differences between the conservation agreements you are referring to under the old scheme versus Biodiversity Stewardship Agreements under the new scheme. Clearly, under the new scheme, an assessment is carried out to predict what gains would be made by a particular set of management actions. That all then gets codified in that agreement. In the case of these transitional—as I think of them—conservation agreements being used for offsets, we are trying to make sure that we are getting the best ecological improvements out of those sites within the terms of whatever has been codified in the development consent. That has been all set for us by the development consent.

**The Hon. MARK PEARSON:** How is that measured? Over what period of time?

**Mr ELTON:** How is the gain—

**The Hon. MARK PEARSON:** How is the offset measured to be meeting the requirements to replace accurately what it is offsetting?

**Mr ELTON:** Two things: One is effectively an input measure—and I am talking generally here about Biodiversity Stewardship Agreements. We check that the agreement holder is complying with the terms of their agreement, so that is one way. We are also, though, as the BCT rolling out an ecological monitoring module,

**CORRECTED**

which will monitor gain in ecological condition across conservation agreements and Biodiversity Stewardship Agreements over time.

**The Hon. MARK PEARSON:** How long? When you say "over time", can you give us a better idea of what that is?

**Mr ELTON:** It is ongoing. We will be starting this year, as it happens. My board approved this late last year. We are putting a bit of investment into ecological monitoring. It is a sampling approach across the 2,000-odd agreements and we will be looking to build an understanding of ecological gain at sites over time. That will be particularly relevant to offset sites and we will be putting a fair bit of effort into monitoring a good sample of those, but also relevant to us across the conservation agreements as well.

**The Hon. MARK PEARSON:** Do you think it could be possible that the conclusion might be that this really is not working?

**Mr ELTON:** That would be speculation.

**The Hon. MARK PEARSON:** When would we know?

**Mr ELTON:** My ecologists are suggesting that we would start to get a handle on that within three to five years. Changes and improvements in ecological condition obviously take time. We are trying to roll out an ongoing, rigorous ecological monitoring module that has been peer-reviewed and so on, so that we can get a genuine handle on whether there is gain where gain is required, or where we are maintaining values where maintenance is required.

**The CHAIR:** I have heard that outstanding obligations that Whitehaven had to meet with these offsets to get the conservation agreements in place have now been incorporated into these management plans with a 12-month extension for Whitehaven to get them right. Is that correct?

**Mr ELTON:** I am not aware of that idea, as far as I know, but I will take that on notice to verify.

**The CHAIR:** You said you signed the conservation agreements recently.

**Mr ELTON:** I did, yes.

**The CHAIR:** You would have seen the management plans as well, then?

**Mr ELTON:** That is right. I am not aware that there is such a delay written into the agreements. If there was, I will go back and interrogate that because my understanding is that as soon as they are signed, the obligations take immediate effect. But I will take that on notice and verify that for you.

**The Hon. CATHERINE CUSACK:** Does some of your funding come from the old environment conservation trust?

**Mr ELTON:** No. When we get to the \$70 million per annum, which will be next financial year, \$50 million a year comes from the Climate Change Fund and the other \$20 million a year comes from consolidated revenue. As I understand it—I may be wrong about this—that is hypothecated from the Waste and Environment Levy.

**The Hon. CATHERINE CUSACK:** So the waste levy is going into consolidated revenue but part of it is being hypothecated back to you.

**Mr ELTON:** Yes, correct.

**The Hon. CATHERINE CUSACK:** The Climate Change Fund is electricity fees, is it not?

**Mr ELTON:** It is a levy on electricity distributors, I think.

**The Hon. CATHERINE CUSACK:** Yes, who pass it on to consumers.

**Mr ELTON:** Correct.

**The Hon. CATHERINE CUSACK:** In terms of the conservation agreements that were entered into with the environment trust, I am not quite clear what has happened to all of those. Have those come to you or have they gone somewhere else?

**Mr ELTON:** The environment trust never had a role in entering conservation agreements. In the past a small number were entered by the Nature Conservation Trust, which we replaced. A large number were entered by the Office of Environment and Heritage or National Parks and Wildlife Service historically. There are also some registered property trust agreements under the very old native vegetation legislation, before the 2003 Act. All of those are now deemed to be effectively conservation agreements that we now administer.

**CORRECTED**

**The Hon. CATHERINE CUSACK:** That you now administer?

**Mr ELTON:** Yes, we now administer all of them.

**The Hon. CATHERINE CUSACK:** Those stretch back to the 1980s? Would that be right?

**Mr ELTON:** Forties or fifties. There are wildlife refuge agreements that were struck, I think, as early as the forties or fifties.

**The Hon. CATHERINE CUSACK:** Is that all included in the figure of 193?

**Mr ELTON:** No, there are nearly 2,000 all up. The 193 is just the new ones that we have done.

**The Hon. CATHERINE CUSACK:** Could I ask you, on notice, to give us a list of the types?

**Mr ELTON:** Numbers of agreements?

**The Hon. CATHERINE CUSACK:** I assume this is obtainable for you.

**Mr ELTON:** Absolutely. We can give you that.

**The Hon. CATHERINE CUSACK:** And how many hectares and the level of protection.

**Mr ELTON:** Yes. It is more than two million hectares overall. We can give you that. It is about 2.7 per cent of New South Wales—a bit less than one-third of the National Parks estate.

**The Hon. CATHERINE CUSACK:** In how many of those are the landholders relying on an income stream from the trust?

**Mr ELTON:** Historically, of the ones that we inherited—the 1,800-odd—very few of those had an ongoing income stream. One of the initiatives we have introduced is what we call our conservation partners grants. Those people who have what we think of as unfunded or voluntary conservation agreements can apply now for small grants from us to help them with conservation management works on their properties. We have issued quite a number of grants so far; I think it is in the order of 60. I can get those numbers if you wish.

**The Hon. CATHERINE CUSACK:** Are all of those properties permanently protected? The issue, obviously, that I am concerned about is that that they are getting grants from, effectively, our community and they are doing great work, but then they pass away and the kids sell the property.

**Mr ELTON:** I can get you that breakdown. The vast bulk of them that were conservation agreements entered by the parks service or the Office of Environment and Heritage or the Nature Conservation Trust are in-perpetuity agreements. Wildlife refuges are an interesting category. They are in perpetuity but they are immediately revocable by either us or the landholder, and some landholders do seek to have wildlife refuge agreements revoked.

We do have graduated grants. So, we have a grant cap of up to \$15,000 per annum for in-perpetuity agreements; \$8,000, I think it is, for term registered property agreements; and, I think, \$2,000 for wildlife refuge agreements. We also offer our grants program to people who are participating in equivalent schemes through NGOs, principally the Land for Wildlife program, run by the Community Environment Network, and also the Humane Society International equivalent program. We offer those \$2,000 grants to those members of those schemes as well.

**The Hon. CATHERINE CUSACK:** I have one more question. Earlier today we heard from Mr James Fitzgerald from the Two Thumbs Wildlife Trust whose property, tragically, was—

**Mr ELTON:** I heard part of his testimony, yes.

**The Hon. CATHERINE CUSACK:** Terrific. I do not know if you heard him say that he had been offered money under your scheme. He had been offered financial assistance, but I think his words were, "I couldn't accept that because if I'm accepting credits then that would mean koala habitat is being destroyed elsewhere." So, as someone who is very dedicated to protecting and enhancing—he certainly did not say "blood money" but that was kind of the implication; that it was not ethical for him to accept those credits. Firstly, I wonder what your response is to that. Secondly, as someone who is trying to do the right thing but does not want to do it as an offset for a developer, is there assistance he can get from your—

**Mr ELTON:** Yes. I am not aware if he has a conservation agreement with us but, if he did, he could then—

**The Hon. CATHERINE CUSACK:** Benefit without being in an offset scheme?

**CORRECTED**

**Mr ELTON:** Yes, definitely. So he could either come in through our voluntary program, which is open to everyone across the State. If he signed a voluntary conservation agreement with us, he would then be eligible to apply for those grants.

**The Hon. CATHERINE CUSACK:** What is the budget for that each year?

**Mr ELTON:** We have, so far, allocated \$2.5 million per annum but it has not been fully subscribed yet. However, I might add that, in relation to fire, of our 2,000 landholders, 260 have been directly impacted by fire. That has been about 51,000 hectares—80 per cent of the conservation areas, on average, to varying degrees of severity. So we have also updated our grant guidelines and eligibility requirements to be more flexible in relation to people who have been impacted by fire. We are reaching out to all of those landholders. We have made contact with about 120 of them so far.

**The Hon. CATHERINE CUSACK:** Yes.

**Mr ELTON:** Some we are yet to get to. Some are still dealing with the more immediate issues of immediate fire recovery, but we want to do whatever we can with ecological advice to support them in the recovery of their site and, if appropriate, grant assistance to assist with re-establishing fencing, to assist with the additional weed and pest problems they may face post-fire. So we are being very active in the fire recovery front.

**The Hon. CATHERINE CUSACK:** It did not sound like he had been contacted. Maybe he is not registered—

**Mr ELTON:** I do not know his particular case.

**The Hon. CATHERINE CUSACK:** Does he need to register with you to be—

**Mr ELTON:** I do not know. I would have to take that on notice as to whether he holds an agreement with us at the moment or not.

**The CHAIR:** Thank you very much. I think that is the end of time for questions and the end of today's hearing. Thank you, Mr Elton, for appearing today. The Committee has resolved that answers to questions taken on notice, of which you have taken a few, be returned within 21 days. There may be some additional questions that members may wish to put to you in writing, which you will receive within 48 hours of when we receive the transcript. Thank you very much.

**Mr ELTON:** Thanks for your time.

**The CHAIR:** Thank you, everybody. That is the end of today's hearing.

**(The witness withdrew.)**

**The Committee adjourned at 15:34.**