



COMMONWEALTH OF AUSTRALIA

# Proof Committee Hansard

## SENATE

ENVIRONMENT AND COMMUNICATIONS REFERENCES  
COMMITTEE

**Effectiveness of threatened species and ecological communities' protection in  
Australia**

(Public)

WEDNESDAY, 20 FEBRUARY 2013

MELBOURNE

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**SENATE**

**ENVIRONMENT AND COMMUNICATIONS REFERENCES COMMITTEE**

**Wednesday, 20 February 2013**

**Members in attendance:** Senators Bilyk, Birmingham, Cameron, Di Natale, Milne, Ruston, Waters.

**Terms of Reference for the Inquiry:**

To inquire into and report on:

Environment Protection and Biodiversity Conservation Amendment (Retaining Federal Approval Powers) Bill 2012

The effectiveness of threatened species and ecological communities' protection in Australia, including:

- (a) management of key threats to listed species and ecological communities;
- (b) development and implementation of recovery plans;
- (c) management of critical habitat across all land tenures;
- (d) regulatory and funding arrangements at all levels of government;
- (e) timeliness and risk management within the listings processes;
- (f) the historical record of state and territory governments on these matters; and
- (g) any other related matter.

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**LOWRY, Ms Rachel, Director, Wildlife Conservation and Science, Zoos Victoria****Committee met at 08:30.**

**CHAIR (Senator Birmingham):** I declare open this public hearing of the Senate Standing Committee on Environment and Communications in relation to its inquiry into the effectiveness of threatened species and ecological communities protection in Australia.

The committee's proceedings today will follow the program as circulated. These are public proceedings. The committee may also agree to a request to have evidence heard in camera, or may determine that certain evidence should be heard in camera. I remind all witnesses that in giving evidence to the committee they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to a committee, and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence to the committee.

If a witness objects to answering a question the witness should state the ground upon which the objection is taken and the committee will determine whether it will insist on an answer, having regard to the ground which is claimed. If the committee determines to insist on an answer a witness may request that the answer be given in camera. Such a request may also be made at any other time. Mobile phones and the like should be switched off or turned to silent.

I welcome Ms Rachel Lowry from Zoos Victoria. Thank you very much for speaking with us today. The committee has received your submission as No. 42. Do you wish to make any amendments or alterations to your submission?

**Ms Lowry:** No, I do not.

**CHAIR:** Would you like to make a brief opening statement?

**Ms Lowry:** Yes, thank you. Thanks for having me here today. I open our positioning statement with a quick audio file which has certainly helped us cement our position at Zoos Victoria with regard to this inquiry. It is a 15-second audio.

*An audio file was then played—*

**Ms Lowry:** That audio clip is the call of the last male Christmas Island pipistrelle bat prior to them going extinct. It was recorded by our team on 26 August 2009. Zoos Victoria, as you are most likely aware—I will not go into the details of the case because I can see from the submissions that a few people raised this particular case study—was called weeks prior and asked whether or not we could assist with captive intervention of this native threatened species because its numbers were now at less than 10 individuals in the wild. You can imagine that, as a conservation team working in a zoo for a number of decades serving native threatened species recovery, we were a little alarmed when we received the call that the animals were down to their last numbers and could be counted on two hands. One of the challenges we had, even though we mobilised a team to go out there, was that we arrived just in time to record the extinction of the species.

It is a really difficult process to be involved in. When people come to work for a zoo they obviously value wildlife and want to be more involved with the solution rather than just recording the extinction of a species. I would love to say it was the first time this has happened but it is not. But we regrouped after the event in 2009 at Zoos Victoria and made a decision that it will be the last time. We do not want to receive calls when the numbers are of less than 10 individuals in the wild. Consequently, we embarked upon a study—thanks to the expertise of our senior ecologist, Dr Dan Harley, who is here today—in which we are focusing on Victoria, since we are Zoos Victoria, and which species are likely to go extinct in the next 10 years based on current projections, as well as ecologically significant units that we know are pertinent to the recovery of species.

After the 18-month study—that is how long it took to gather all the data and speak to all the individuals required—we found there were 16 Victorian species that came up on that list that without captive intervention were very likely to go extinct in the next 10 years in Victoria alone. That allowed us, as a zoo, to recognise that we were already working with 11 species, however, there were an additional five that we needed to bring into the captive interventions.

I am here today because 2009 and the Christmas Island Pipistrelle was not our conservation awakening. We had been serving our native threatened species for at least 20 years prior. However, it did cement for us that we have a strategy at Zoos Victoria that has two conservation arms. It is an important strategy. One is our field conservation work. We have small population management skills; we can care for animals and crack the codes from some of the most cryptic animals, and care for their husbandry when captive intervention is required. We have 1.9 million people who come through our gates at Zoos Victoria and, in 2005, we conducted some social

science research that helped us realise that we can do more than fill their minds with information; we can actually influence the behaviours of people. We have gone on to conduct a number of studies over the years that show that zoos are very influential in getting community behaviour to change. That is really important to us, because one thing you become very aware of when you are working in a zoo is that you cannot just breed animals and release them into the wild if the threatening processes that cause them to come onto your list in the first place are still out there.

The majority of threatening processes are human driven—based on human behaviour—so we honestly believe that it is very important that you fight extinction on both fronts; that you look at the community action that is required and use sophisticated social science to get the outcomes that you need, as well as ensure that if captive interventions are required, they are done in a timely manner and not when it gets too late. Consequently, in closing my positioning statement, Zoos Victoria do recognise that the fight against extinction is an enormous fight; we are aware of the data and view it all the time and contribute to that dataset. However, when we are asked whether or not we believe it is a fight that can be won, we honestly do believe that is the case. In 1969, we sent man to the moon. We did so because we had a very clear vision, and a vision that we valued. We had the right people develop the right plans and we made a commitment to that plan and funded it. We are here today because we very much hope that a similar type of movement will be happening in this region for native threatened species, and we would very much like to play an integral role in that movement.

**CHAIR:** Thank you very much for a gripping opening statement to start the day.

**Senator WATERS:** Thank you for your evidence and your submission. I agree your opening statement was very powerful. I particularly liked your proactive action that you have summarised for us in a nutshell. Are you aware whether the federal environment department or any state environment departments are taking similar sorts of proactive action to identify species before they become threatened and prevent them from becoming threatened?

**Ms Lowry:** I am not aware to the extent where there is a really strong set of criteria and whether that is conducted annually. We were able to produce a list that said, as a consequence of the black Saturday fires, for example, the dataset has changed for a certain species, and consequently it is now projected to be extinct by a certain time, and therefore we are acting accordingly. It was very difficult for us to get some of the information we required just to do the study within Victoria, with a large number of species not having had any monitoring occur for a number of years. Of course, with Zoos Victoria, as a not-for-profit organisation, each year we do invest our revenue back into conservation. So we have tried to prioritise some of that monitoring but there are still some enormous gaps within Victoria.

**Senator WATERS:** Thank you. I might take that up with the various departments in questions on notice, because we have already heard from them. You talk in your submission about the fact that you have had some successful breeding programs, but unfortunately those species are still threatened the wild. Can you talk through why you think those recovery plans are failing and what needs to be fixed so that they could restore species health?

**Ms Lowry:** When you review—and I do often speak from a Victorian context, I am aware this is a national review, but obviously that is what I am more familiar with—the last 20 years of our recovery efforts, I think it is fair to say we have been quite effective in preventing extinction on the whole. There are a large number of recovery programs where the scientists can look at the data and say, 'Had we not been breeding and releasing certain individuals, say for example the Helmeted Honeyeater, it is highly likely that species would be extinct.' The Eastern barred bandicoot is another example. However, we have been very poor at recovering the species, and that is because I believe the fight against extinction needs to occur on a few fronts, and it is not as simple as just breeding and releasing animals. The threats that are actually driving the pressures on these species are very rarely addressed in a timely and appropriate manner. It may take us five years to develop an insurance population and that is no easy feat, let me tell you; making sure you get the numbers and genetics right, and the behavioural fitness of the animals.

It is very costly for a zoo to do so and very intensive, and quite demoralising when you get to the other end of it and the habitat is in no better quality than when you first went in to collect the founders for the insurance population or when you see that the disease and feral species issues et cetera have not been addressed. We need to make sure that with what is happening 'ex situ', which is what we call the zoo captive environment, efforts are also being met out there in the wild, in situ—and very rarely is that the case. Also, the community actions often are not being addressed.

**Senator WATERS:** So do you think there needs to be a greater focus on those? Federally, we have threat abatement plans, which are meant to match up with recovery plans and key threatening processes. Do you have any views on the success or otherwise of those instruments?

**Ms Lowry:** One of the challenges with many of the species is that there is often more than one threatening process at play, and the longer we leave it the more we have death by a thousand cuts. Whilst we may have seen some progress with feral species management, there are case studies to show that we have not seen the level of progress that we need. It is certainly challenging. There may be pressures, for example, from logging in certain areas. Unless consumers change their behaviour, or there is an enormous shift in political will, those particular pressures will continue to exert that species towards extinction.

**Senator WATERS:** On page 5 of your submission you referenced Tim Flannery's *Quarterly Essay*, which talked about the imminent extinction crisis that we are facing. You said that you think prevention of further extinctions is entirely achievable. Can you talk us through how you think that could be achieved?

**Ms Lowry:** As a species, we achieve incredible things all the time, especially when we have a clear vision and a good plan that is funded. Two years ago I stepped into this role. I have been working in the zoo and conservation space for 10 years. I stepped into the director of wildlife conservation role only two years ago, and because I am leading our native threatened species recovery teams I had to take the time to look at some of the recovery team plans. Some have huge gaping holes but, to be fair, there were some that were really good plans. When you look at them you see that they have a clear vision of success. They say, 'In 20 years we want to have three self-sustaining populations of this number here, here and here, and to get there we need to do this, this and this.' We have got the plans for many of the species, but the actions are not happening because they remain unfunded or there is a lack of commitment to see those plans through. In many cases, it is not that we are sitting there going, 'What do we need to do?' We know what needs to be done, we just need to get on with doing it.

**Senator WATERS:** Why do you think there is a lack of commitment?

**Ms Lowry:** It is very difficult for me to answer that question, because I often see the commitment from the ex situ side rather than from the in situ side. I imagine it comes down to resource allocation and prioritisation, like everything else.

**Senator WATERS:** You mentioned the extinction of that beautiful little bat. We heard its call at the start of your submission. Can you expand a little bit on the situation that happened there, if you are across those details? It is something that has been raised a number of times in submissions.

**Ms Lowry:** As I said, we were very much motivated by not wanting ever to be in that position again. What we discovered, when we went back and had a look at the data and the projections that had been done right back through to the 1990s and had been submitted to the Queensland government, was that when you look at the population projections the date of extinction was predicted almost 15 to 20 years out. It was shared with people and it was very clear that if the status quo continued we would lose this species at this point in time. It is really quite demoralising not to have had that data shared with us prior to the extinction occurring. When a species gets to as low as 10 individuals in the wild, it is fair to say that it is functionally extinct anyway. So whilst we were there to record the extinction of the species we never went across with great hopes because we knew that the numbers were that low. It was really a salvage mission to try to see if we could bring some animals into captivity. I would love to be able to say that it is a rare example, but we have other examples here in Victoria at the moment that are very likely to head down that very similar line if we do not prioritise intervention much earlier.

**Senator WATERS:** You talked about a landscape approach to species and you warned that that has been happening in recent years at the expense of species conservation, which is a reasonably controversial statement. Can you expand on that a bit for us.

**Ms Lowry:** It seemed that in the 1990s there was almost a pendulum shift, where trying to take a single-species focus almost became a bit of a primitive idea, and there was recognition that the species were a larger part of a broader ecosystem, and a broad-based ecological approach was championed. When you go back and look at the actions that fall out of both approaches I am not convinced they are all that different. A lot of the time you are using a species as an ambassador to try to promote a flagship of an ecosystem that requires help.

However, what I think began to happen in that period of time is that we moved away from communicating the needs of the species and more towards the landscape, which I think disenfranchised the community to some degree. When we talk to the 1.9 million people who come through our gates, and try to sit down with people to understand, it is very easy to connect to a species and see why something needs to be done. But it is that much harder to connect to a landscape. When you actually look over the last two decades to see if that shift has generated the outcomes that we need to see, to see whether it has actually taken some species off the threatened

species list, that is not the case at all. We have seen funding decline and some actions in certain areas decline as a consequence. I am not convinced that the two approaches really are all that different. People have always recognised that, when you have an effort to protect a species, you need to address the concerns within the ecosystem. So the point we are trying to make here is that, even if you just protect a landscape rather than managing the landscape within it, there is no assurance that the species within the landscape will thrive as a consequence of you doing that. The data suggest quite clearly that the species do need to be our primary focus and that we have not really gained any traction in the last 20 years by making that shift.

**Senator WATERS:** You have talked about the need to manage landscape, not just protect it. That sounds like a whole lot of common sense to me. Are the Victorian government or the federal government doing that proactive management? Do you have a view on that?

**Ms Lowry:** You can see examples where it is being done really well, to be fair; and there are some species that benefit as a consequence, such as the red-tailed black cockatoo. However, there are some clear examples where there needs to be a greater focus and greater attention. The Yellingbo reserve in Victoria is a primary example of this. We have two of our most critically endangered species and state faunal emblems—the helmeted honeyeater and Leadbeater's possum—in that reserve. I have been there a number of times over the past 10 years, and just with your own eyes you can see the degradation of that land with very little land management going into that area.

**Senator CAMERON:** We have had some fantastic submissions from a range of groups concerned about threatened species. You indicate in your submission that you have arrived at a priority list of 20 native threatened species. If you look at the submission we have from Birdlife Australia, there are some 35 birds alone that they say are threatened. It seems to me that there is a disjointed approach between a range of groups in terms of priorities, identification and how you deal with it. Is there an overarching group that could bring all of these groups together to develop a national NGO type plan?

**Ms Lowry:** To answer the second part of your question, I would love to see a single point of accountability or some body that is accountable and takes a coordinated approach to help close the divide between some of that discontinuity you have mentioned. However, I think it is worth noting that we recognise that our priority list purely looks at what species require captive intervention; it is very different from the list that the group that you mention has generated. As a zoo, we recognise that we cannot do it on our own. But because we do not want to be called 'too late', we have looked at which species are likely to go extinct in the next 10 years. That is not a huge time frame. Their list would be looking at—and so it should—a much broader time frame that just 10 years, as we know early intervention is critical. When you are a zoo, because of the expertise you bring to the situation, you would always try first to save the species in the wild; it is much preferable to do so. But sometimes you just need to intervene and bring them into captivity and breed them up. So our list is certainly not a list that I believe challenges that list or any other list; it looks at the role of a zoo and where captive intervention is required. However, I certainly support the sentiment that we require a national body, an NGO, to provide a more coordinated approach and accountability.

**Senator CAMERON:** The other issue for me is that COAG set about looking at a whole range of economic and productivity issues. Many of the decisions COAG make would not directly but probably indirectly put more pressure on a range of environmentally sustainable areas. Have any of your groups spoken about the need to have COAG actually have some environmental linkage to the work that they do?

**Ms Lowry:** To be honest, it is not a discussion I have been involved in at a great length. There seems to be a very poor understanding about the integration of some of the actions of small NGOs and how that links to state and then federal politics, let alone the COAG example. I believe that does need to be addressed. We need to take a more integrated approach. And when you look purely at how we assemble our recovery teams for the species, it is a little mind-boggling to me that we get a group of people who are generally all scientists and viewed as technical experts to sit and develop a plan for the species, when the majority of other problems we need to solve in society require an interdisciplinary approach. There are no recovery teams that have a marketeer or a fundraiser on them, and I honestly believe we need to integrate right across the disciplines as well as federal, state and NGO based actions.

**Senator CAMERON:** The Threatened Species Scientific Committee have appeared. What is your view of how they operate and whether improvements to their operations could be made?

**Ms Lowry:** I think it is difficult to pinpoint any one single group. At the moment I actually agree with the point I think you were raising before: the current coordination of native threatened species is a little disjointed. It is not always clear why some species get the prioritisation that they do and others do not, when you have data that shows that a species—for example, the Baw Baw frog—has had a decline in its population of over 98 per cent in



the last 20 years yet has had funding piled to even monitor the species. Yet you look at other species, such as the Tasmanian devil, which—rightly so—is receiving quite a large portion of support. So prioritisation still remains unclear to me. I believe we lack a framework across our nation that helps organisations like ours understand why decisions are being made—and the role that we need to play at the time that we need to do it. And I am not getting that from any group within Australia.

**Senator RUSTON:** I have a question about the community response you get to the issue. It seems to me that if you could actually start addressing it from the other perspective—that is, the problem—then maybe you would save yourself an awful lot of time and effort. What is the process currently in terms of engaging with the community—whether it is funding, volunteers or general awareness? Is there any program in place in Victoria? Obviously that is the only area you know.

**Ms Lowry:** It is incredibly unsophisticated at the moment, in my view, and uncoordinated. It tends to often be small NGOs that become aware of a threatening process and decide to take on this enormous challenge of mainstreaming biodiversity or generating behavioural change. There are times, however, when you can see that there has been change. Even our state government here in Victoria has run effective behaviour-change programs to address threatening processes. You just need to look back to our recent drought. They had interventions in the wild that were required, as well as a behaviour-change campaign to shift behaviours back in the home. But when it comes to biodiversity, quite often it is run by small community groups. Behaviour change is a very challenging thing. A lot of social scientists warn that not every organisation can run these campaigns. In order to run a behaviour-change campaign your organisation's brand needs to have certain qualities, which at the zoo we are very lucky to have. One of those needs to be trust, for example.

At the zoo we have tried to tackle simple behaviours, such as asking consumers to switch their toilet paper to a recycled toilet paper or FSC certified toilet paper. It may sound small, but when you equate the changes that would occur if every Australian did that, and the pressures it would take off our logging community, it is actually quite drastic. And we have actually had social scientists track the success of that campaign and found that as a consequence more than one-third of the people who engaged within the next six months actually did go and change their consumer behaviours as a consequence. It is very achievable; again, there is just no sophisticated, coordinated effort saying which key threatening processes are critical to biodiversity and which are driven by the human threats. When we say 'human threats', what are the target audiences? Do we know which families, which communities, are driving that, and what alternative behaviour we need to influence? And we are really not engaging with the social science and the market world, who influence our behaviours all the time, to get us to do something differently that will serve these species, and I think that is a missed opportunity that we could definitely leverage better.

**Senator RUSTON:** Certainly from the discussions you had earlier, it seemed that it was one of those things where you are never going to fix the problem; human nature says you are never going to fix the problem, but you can make improvements. Just to get completely off the track here, what is the concept of natural extinction as opposed to man induced extinction? Obviously there is such a thing as natural extinction.

**Ms Lowry:** Absolutely there is. The IUCN have done a lot of work on this and have published some great papers; they are probably in a far better position to explain it. But they have looked at it and really it comes down to the pressures and the rate of decline and the cause of those threatening processes. At present, I believe, around 98 per cent—I would have to go back to the paper that it was in to be absolutely sure, but I believe it is 98 or 99 per cent—of the extinctions that we are seeing are human-induced. They are man-made. They are not natural. It is very much worth keeping that in mind, because there is very little that we see at the moment going on in our ecosystems out there in Victoria that can be put down to natural shifts.

**CHAIR:** As to the place for captive intervention, do you feel that it is recognised quickly enough or early enough in the process, or does there need to be an engagement at this level? Do people—or even authorities—perhaps cling too long to the idea that saving in the wild, being the ideal, is what they are going to completely focus on and thus miss any opportunities for engagement with the likes of Zoos Victoria?

**Ms Lowry:** A key point that helps speak to that is this. Look at the recovery team plans at the moment. As I alluded to before, some are better than others, of course; it is going to happen. But all of them that I have viewed, and I have viewed quite a number, lack trigger interventions. A trigger intervention says: 'This is what we are going to do to get there'—and let us assume we have secured the funding and we are getting on with doing it, which is not always the case, but let us assume we are—'but, at some point, at year 4 or 5, if we do not see these indicators or these KPIs, we need to do something differently; we need to pull the trigger and call the zoo and let them know that it is time for captive intervention,' before we allow the genetics to become so inbred that it is too late, for example. When you actually go and review some of our more high-profile recovery programs, a lot of

them have been doing the same thing for 12, 17 or 20 years without the results that they require. They are following a plan that was endorsed, and they have the best of intentions. But at no point is there anything to say: 'After five years, if we do not see something different, we are going to get together and look at this again.' As a consequence, the zoo really relies on interest groups or members of government contacting us and letting us know when the right time is. So we are trying now to be more proactive and get across the Victorian landscape and try and work with recovery teams to say, 'At which point would you like us to intervene?' But it has not been done well, to date.

**CHAIR:** So either recovery plans need to be more dynamic when they are first drafted or there needs to be a more regular reviewing of recovery plans when they are put in place?

**Ms Lowry:** Absolutely.

**CHAIR:** Let us step back from that. As to the initial identification and listing of species—and Senator Cameron quizzed on the approaches of different organisations, and of course there are also different approaches at state, federal and global levels—do you have a view on how effective those processes are? Are some more effective than others? Is there an ideal way of harmonising that approach nationally?

**Ms Lowry:** That is a difficult question to answer. In short: yes, there are some that are more effective than others. There are those that I view as effective, whether run by a state government or the federal government or an NGO, and there are others where the intervention is early. They have the right people developing a very clear vision. It is not: 'We want to save it,' and when you say, 'What does success look like?' one member of the team thinks it is just recovering the population in one geographical location and another member down the other end of the table sees 10 populations across the landscape, and they have never actually mapped out that vision of success clearly. Those that succeed have a clear vision of success—a very clear plan—and, as I mentioned before, clear funding. I cannot pinpoint whether it is a national failing or a state-based failing or the failing of a certain NGO. There are pockets of success out there, and then there are, more often than not, those that are not working.

The point that I would like to make in regard to captive intervention, in response to your earlier point, is: captive intervention does come at enormous cost; however, we do get some positive results. The eastern barred bandicoot would be extinct without Melbourne Zoo's captive intervention, for example. However, the costs are carried by the zoos at the moment, and I do believe that we need to be more realistic, especially with this next wave of extinction that we are being warned we are facing, and to make sure that captive interventions are also funded accordingly, because it is not cheap and if you are going to do it properly it needs to receive adequate funding.

**CHAIR:** Lastly, you mentioned before the difference between recovery efforts and recovering species. If we get to the point of needing captive intervention and simply trying to maintain a species, how possible is it to recover that species from there, really?

**Ms Lowry:** It depends on the efforts going into mitigating the threats in the wild. In our opinion recovering a species means it is re-established in a self-sustaining way back in the wild. There is a difference between conservation and preservation and, sadly, zoos all around the world including our own now actually host a range of animals that are already extinct in the wild. We have a range of native threatened species on our list that, within my lifetime, will fall into that category. Our aim is always to conserve rather than preserve, however, you cannot conserve a species if the threats in the wild are not addressed and if we do not have an integrated plan. There are some species at the moment where that is working quite well and there are others that require a lot more attention.

**CHAIR:** Thank you, Ms Lowry, for your time, your submission and your evidence this morning. It really is greatly appreciated. If the committee has any additional questions on notice we will get them to you promptly.

**GARNETT, Professor Stephen, Coordinator, Threatened Special Committee, Birdlife Australia**

**VINE, Ms Samantha, Head of Conservation, Birdlife Australia**

[09:01]

*Evidence was taken via teleconference—*

**CHAIR:** Good morning. Thank you very much for joining us today via teleconference and for your submission from Birdlife Australia, which is submission No. 82, and a very comprehensive submission it is. Do you have any amendments or alterations to make to your submission before we get underway?

**Prof. Garnett:** No I do not, thank you.

**CHAIR:** Would you like to make a brief opening statement before we proceed to questions?

**Prof. Garnett:** Thank you for hearing us this morning. I would like to start by saying: do not be too discouraged by some of the predictions about threatened species. I had a look at quite a few of the submissions and they are fairly gloomy. I think Australia has been remarkably successful in many ways over the last 20 years since it became conscious of threatened species. There are a number of lessons to be learnt from that. One is that it threatened species need to time to recover and short-term funding programs do not give that time. Declines are often slow and recovery slower. Recovery is associated with good research. A lot of money can be wasted if you do not know why things are threatened.

We believe there needs to be dedicated funding. There has been a shift in the balance towards landscapes in recent years. You can have a very good-looking landscape and still lose the threatened species within it. We think that, if there is threatened species funding, it should be available for both protected and non-protected areas. We would not want a state-Commonwealth conflict. National parks do not get funding in states for threatened species. We do think that, if funding is provided, it ought to be contingent on proper monitoring. The monitoring of certain species is really pretty woeful. If you look at health and education, they spend something like 10 per cent of their funds on monitoring. Nothing like that percentage is spent on environmental funding. That leads to wastage, we think. There would also be greater efficiency in having a global approach instead of looking at all the threatened species and developing priorities from that. You cannot have a global approach if your lists are out of date.

One of the things we became very conscious of was that the EPBC lists for birds does not reflect current thinking about their threat status, and, of course, if they are not on the list they do not trigger the EPBC Act and they do not get funding, so extinction risk is higher. But there are also quite a few species on the list that should not be. Of course, they are the more common ones and so are more likely to be picked up in surveys and delay development, so waste a great deal of departmental and developer resources for no conservation benefit. At least some of those resources could be spent on more worthy activities. The reason is that the listing process is very cumbersome; it is slow and it is a bit ad hoc. We would favour lists being reviewed per taxon group—like birds or frogs—every decade and then maintained through public submissions in between. If you did that, you could actually bring these lists into the national environmental accounts. We applied something called the IUCN Red List index to Australian birds. We were able to do that because, in our submission, you could see that what we did showed a much more dismal picture for Australian birds than you would get from looking at the changes to the EPBC lists. But, on the other hand, you can use those lists effectively where there has been successful conservation action.

I would like to make two final points. One is that in 2015, if the program on Macquarie Island to eradicate rabbits is successful, you could actually get a rise in our Red List index, which would be a remarkable achievement globally, because quite a number of the threatened birds on Macquarie Island would come off the list. The last point I would like to make is that for the last 20 or 30 years much of the effort with threatened birds has been done by a relatively small group of people, and I would just like to take the opportunity to acknowledge the debt we owe to both public servants and volunteers who have given their whole careers to protecting species, some of which would have gone extinct but for individual efforts. That is all for now. I am very happy to answer your questions.

**CHAIR:** Thanks very much, Professor Garnett. Have you or your organisation being involved directly in the process of getting species listed, either under the EPBC Act, or through the IUCN Red List process or at a state level?

**Prof. Garnett:** All three. I have put in submissions for the EPBC listing. At the state level, I am not as much across the organisation and what they have done, but I know Queensland has been involved in listing processes. I chair a committee for BirdLife Australia that advises the IUCN on the appropriate status under the IUCN Red List.

**CHAIR:** You described the EPBC process as being more bureaucratic, or words to that effect. In terms of the rigorousness of the different assessments, could you tell me, comparing the EPBC process to the IUCN process, how you think the rigour applied in those different processes of listing compares?

**Prof. Garnett:** I do think the EPBC process is more rigorous, and I think it has to be, because of the legal implications. I think IUCN listing can take a more precautionary approach, but I think the two processes can be aligned a lot more closely. There is not that much difference between them in the information that is made available for the IUCN listing and the EPBC process. In the IUCN process, we are able to draw on a wider range of experts, I think. We had a lot of input into our action plan for Australian Birds from the most authoritative people on each taxon.

But I can also appreciate that for the EPBC listing there does need to be a greater level of caution. I support entirely the minister having to sign off on the EPBC list.

**CHAIR:** You suggested and recommended during your opening statement that perhaps the process should involve a review of EPBC every decade, with the listing being maintained with a submissions type process in between. Can you talk us through, just briefly, how you think that would work and how you think that could provide a more effective outcome in terms of the listing of species.

**Prof. Garnett:** It is certainly what we have done for the last 20 years for the action plans of Australian birds. It meant bringing together or consulting experts around the country and looking not just at birds that are on the list and how they are going, but at every bird in the country to assess whether there had been any shifts. So it meant going through the scientific literature and any monitoring data available and looking for things that might have been missed through a public submission process. That is the decadal adjustment that we think is probably needed because you might not pick things up on an annual basis but annually there are likely to be particular developments, particular changes or pieces of research that have come out that have alerted people to changes in status, up or down. This should be incorporated into the lists in a timely manner.

**Senator WATERS:** I appreciate the detailed submission which Birdlife Australia popped in. There are some really useful recommendations in there. Can you expand on what you think are the key recommendations in that report that you attached to your submission, particularly with regard to recovery planning.

**Prof. Garnett:** The recovery planning is one of the processes. It has a patchy success rate. Where it has been most successful it had members from multiple sectors—research, government and the broader public. It can be costly, so there needs to be a cost effectiveness filter on recovery planning. But the best plans have been decisive in ensuring effective conservation. I think of recovery plans like that developed for the south coast birds in Western Australia, which faced one crisis after another but managed those through the team, and retained birds that would otherwise have been lost. They need strong leadership so that they can be decisive. There is some potential for having recovery teams across multiple species. It is not a panacea but there can be efficiencies gained there.

Do you want to be specific about what else you would like me to expand on?

**Senator WATERS:** You made some useful remarks—I thought they were useful—about the need for longer time periods of funding to support the recovery plans. And you also mentioned the need for national environmental accounts. I was particularly interested in those two aspects.

**Prof. Garnett:** I noticed that AusAID has also picked up on this. I will go back. The declines in species can take a long time—can take decades. To reverse a process like that takes at least as long as that. So if you are looking at recovering vegetation before you can let the species recover you are looking at many decades. Short-term funding can have short-term goals but unless there is some guarantee of long-term funding you can lose your gains very quickly. I would like to see a process where you are not having funding going from one three-year cycle to another and people deciding, 'Well, that species has had three years of funding; it does not deserve it this time. We need to go on to other species.' Rather, do what AusAID is doing; I will get back to that point. You can have funds that are guaranteed for eight years and at four years you have a review to see whether there should be an extension for a further four to eight years. You can have rolling reviews and funding subject to proper monitoring of meeting targets and appropriate checks and balances.

Within the Environment Council I do know that the ABS is developing a system of national environmental accounts and have two people involved in developing that. The idea, I believe, is that they would sit alongside the normal national accounts. The red list index slots very easily into that. It would drive behaviours to have something as immediate and as easy to understand as that.

**Senator WATERS:** You mentioned, on pages 10 and 11 of your submission that you feel that the government's response to the 2009 Hawke review of the EPBC Act requires significant revision to include some

of the environmental protection elements recommended by Dr Hawke rather than just the streamlining amendments put forward to date. Could you expand on those parts of Hawke that are environmentally protective and have not been adopted and which ones you would like to see adopted.

**Prof. Garnett:** I am not sure I can talk to that a great deal. I haven't got that at hand.

**Senator WATERS:** Perhaps you could take that on notice. How do we stop species getting onto the threatened species list? Why haven't we successfully done so to date? What needs to change in our management of species in order to stop this massive decline that we are seeing?

**Prof. Garnett:** It is a very difficult thing to do. I should point out that most species are not on the threatened species list. What we have in the IUCN, that you have not got in the EPBC Act is a near-threatened category—species that are not vulnerable that are likely to become vulnerable if actions continue. Having a category like that would probably be very helpful for the EPBC Act. It gives some advance warning. We do most of our reporting on threatened and near-threatened species so you get an idea of the total picture of what is under some threat. But in terms of the legal listing, having that near-threatened list gives you some warning of species that are on the way, where we can act now to prevent that happening. So I could see that as being a useful innovation.

More broadly, some of the things are already in place—like reducing land clearing—that will slow the rate. Having this precursor list is something that would be very useful.

**Senator WATERS:** I know in Queensland we have a near-threatened category. Could you take on notice to reflect on the success of that and perhaps expand on any further recommendations for that to be applied nationally.

For my final question I take you to a statement in the cover letter to your submission, where you say:

Given the decline in biodiversity noted in each state and territory, combined with increasing population pressures, land clearing, invasive species and climate change, now is not the time to be streamlining and minimising legal requirements in relation to threatened species assessment.

Would you expand on those remarks, please.

**Prof. Garnett:** This is referring to the suggestion that approvals be handed back to the states and territories on threatened species. From experience, we find that the state environment authorities have relatively little power, even if they have the will, to influence decisions by the larger departments in their jurisdictions. Having the Commonwealth with extra powers maintains a balance that is otherwise lost. In saying this is not the time for streamlining, if there were greater resources put into the Commonwealth approval process, particularly greater technical support for people making assessments on threatened species, I think it could be a far more efficient process. I am also personally involved in environmental assessments and see decisions that seem to have little environmental benefit. I see it not as a problem of the states not having control, though they do have the local knowledge; I see it as a problem of the Commonwealth departments not having the local context and not having the technical expertise to judge whether an issue warrants the controls put on developments. I think there could be some streamlining there. But, as I said, I do not think it is advisable that all the decisions be made by the states and territories.

**Senator WATERS:** Thank you.

**Senator CAMERON:** This morning I raised the issue of the role of COAG, the Council of Australian Governments, in environmental issues. Have you had any engagement with the COAG approach on the environment?

**Prof. Garnett:** I have not, I am afraid. I am aware of some of the recommendations, but I have had no engagement in the process.

**Senator CAMERON:** I find this one of the puzzling issues at the moment. COAG have a Standing Council on Environment and Water, which has a number of priorities, including seamless environmental regulation, water reform, waste policy and chemicals, ecosystem scale, biodiversity, a national plan for clean air, and governance and legislation. Do you think any additional strategic priorities would help the process of ensuring a better approach to threatened species?

**Prof. Garnett:** It would be nice to see biodiversity given greater priority in that list of responsibilities of the COAG council. I can see threatened species falling through the gaps in that list. If they were to pay attention to the way threatened species are managed, you could get greater efficiencies. But, because they are not specifically mentioned in that list of responsibilities, I can see that they would not consider the issues properly. With some technical input, you could have a more efficient system.

**Senator CAMERON:** Can I ask you to provide on notice, to give you time to think about it, details on any recommendations from Birdlife Australia about the operation of COAG to improve its effectiveness in protecting threatened species.

**Prof. Garnett:** Should I take that on notice? I don't know the process—whether I am allowed to provide you with a written submission on that.

**Senator CAMERON:** You certainly can, yes.

**Prof. Garnett:** I would be very happy to do that.

**Senator CAMERON:** I don't think we have had any submissions on the role of COAG. Given that we have COAG dealing with many of the productivity and efficiency issues that place pressure on the environment, I am pretty keen that COAG should have a role in terms of threatened species, so I would be pleased to have your input on that, thanks.

**Prof. Garnett:** Okay.

**CHAIR:** Professor Garnett, thank you very much for your time with us today. You have taken some information on notice, and the committee has requested that answers to questions on notice be returned by the close of business on Wednesday, 6 March. If you could work towards that deadline, that would be appreciated in terms of fitting in with our reporting timelines.

**Prof. Garnett:** My pleasure, thank you.

**CHAIR:** Excellent. Thank you so much for your submission and your participation today.

**GODDEN, Professor Lee, Director, Centre for Resources, Energy and Environmental Law, Melbourne Law School, University of Melbourne**

[09:26]

**CHAIR:** Professor Godden, thank you for taking the time to talk with us today. We have received your submission, which is submission No. 123. Do you have any amendments or alterations to make to that submission?

**Prof. Godden:** No, I don't.

**CHAIR:** Thank you very much. Would you like to make a brief opening statement before we proceed to questions?

**Prof. Godden:** Yes, I will make a very brief opening statement, just to reiterate some points with respect to the protection of threatened species and ecological communities in Australia. One of the points I would like to reiterate is the need for stronger integration of Commonwealth and state frameworks and the need for the Commonwealth to still retain leadership in the area of matters of national environmental significance.

The second point is that, while there have been welcome advances in relation to community impacts being acknowledged, and we now have a test within the EPBC Act that deals with community impacts, my view is that it does not sufficiently take into account the manner in which cumulative impacts work in the context of threatened species. It was designed around a particular idea of third-party impacts, and I am not entirely certain that the way it is drafted will take into account the types of impacts that we are looking at with threatened species, particularly as climate change impacts accelerate.

Another point is that climate change governance integration with threatened species is an area that I think needs more attention.

Then there are the perennial issues of monitoring and adequate resourcing. Much attention is directed upfront, as it should be, in relation to impact assessment and so on; but I think the record of research shows that where we are falling down most directly is with respect to monitoring and compliance. I think this is a particular issue with the increasing use of offsets in relation to conditions on approval. Thank you.

**CHAIR:** Thanks very much, Professor Godden. Senator Waters, do you want to start?

**Senator WATERS:** Yes, thank you, Chair. Thanks, Professor. I appreciated your submission and your comments so far. You have mentioned offsets, and you talk in your submission about concerns that offsets cannot appropriately compensate for the overall threatened species loss. Can you just expand a bit on your view of whether offsets are an appropriate response or if they are not working?

**Prof. Godden:** The idea of an offset as it is embedded in a lot of the policy frameworks and so on—and I note that it is not specifically addressed within the EPBC Act; it has developed as an administrative practice over a number of years.

It is predicated on the idea that the first step should be avoiding harm, keeping threatened species and ecological communities intact where possible. After that, offsets should only be used where necessary and feasible. I have concerns that they are being used in the first instance and we are not giving sufficient attention to that first step: avoiding the harm where possible. We are seeing a proliferation of offsets. I think offsets are becoming the more convenient way to balance development interests and environmental protection. We need further investigation and research in this area, particularly in respect of compliance issues in terms of offsets. We have some very good systems in place. For example, here in Victoria, we have Trust for Nature, who have very appropriate monitoring and long-term compliance built into the areas set aside that can be used as offsets. I am not sure that that standard is met everywhere.

**Senator WATERS:** Do you know if there has been any research done on the level of protection for offsets and whether that is permanent protection, whether over time the protection is being managed appropriately, and whether the use for conservation is even being maintained?

**Prof. Godden:** I am not aware of much work done here in Australia around offsets. There has been quite a lot of work done in the US, for example, around wetland mitigation banking. I think Trust for Nature has done some work, but I am not sure it is fully available in the published literature. So there is some grey literature around but no detailed research that I am currently aware of.

**Senator WATERS:** In terms of the legal status of offsets, are they generally protected from natural resource extraction?

**Prof. Godden:** That depends, obviously, on the conditions of approval. Looking at the statutory covenants that they work under, planning frameworks such as section 173 here in Victoria are clearly not protected. Without going into the detail of the legislation I cannot speak authoritatively, but I know from some of the work that I am aware of that there may be instances where, even if offsets are not immediately impacted by resource extraction, offsite impacts may be being felt. For example, an area of forest might be set aside as an offset. If you have resource extraction happening around it, it is going to be less ecologically valuable than an area of intact forest.

**Senator WATERS:** In terms of Queensland statutory covenants, any form of conservation protection on private land is not safe from mining. I am interested that you say there are some mechanisms that do provide that level of protection. If you have the capacity, it would be greatly beneficial to receive information on notice on the various different levels of protection that can be provided through those offset mechanisms. I am trying to get at whether they provide genuine protection—whether they can secure that land in perpetuity. If you could take that on notice it would be really helpful.

**Prof. Godden:** Certainly.

**Senator WATERS:** Thank you. I am pleased to hear that there are at least some mechanisms to do that. You raised climate change in your opening submission. Obviously the act does not deal with that currently—should it, and, if so, in what manner?

**Prof. Godden:** There is a history of suggestions that climate change in various ways should be one of the matters of environmental significance that triggers impact assessment. There are advantages and disadvantages to that, so I do not have a decided view on that. We are seeing that, often, at a discretionary level, climate change—or climate risk, as I think it is increasingly being termed—is incorporated into the terms of reference for environmental impact assessment. But if it was a clearly identified trigger, a matter of national environmental significance, then we would have a stronger basis. Perhaps it would even be worth thinking about how it might be aligned with the other triggers that explicitly deal with threatened species and so on.

The other issue is how threatened species and climate change will impact when you get a change in ranges and habitats. We have the built quite a comprehensive system of protection. Australia has an international reputation for its degree of protected areas. But those are protected areas based on an earlier pre-climate change regime of climate and so on, so there are some concerns there. How we effectively deal with that under the biodiversity conservation aspects and how they are integrated through the impact assessment are issues for consideration.

**Senator WATERS:** Are you aware whether that factoring in of climate change and the effect on future ranges are being considered by the department in its threatened species planning or in habitat management?

**Prof. Godden:** No, I am not.

**Senator WATERS:** Okay, I will take it up with the department. You talk about cumulative impacts. Can you tell us a bit more about how the act deals with that and what improvements you think need to be made?

**Prof. Godden:** The definition of impact as it is currently drafted was basically a reaction to the Nathan Dam case which dealt with the third-party agricultural use of chemicals and the potential to impact on the Great Barrier Reef. Its formulation is very much what in a legal way we would talk about the negligence type 4 test. I do not think it deals with well with cumulative impact where you need to set an overall ecological system view and then look at the impact cumulatively to deal with what is known as the death by 1,000 cuts, which is seen as one of the major issues in relation to biodiversity loss. I think the current drafting, because it looks for this discreet third-party impact, does not actually have an effective model sitting behind it that could more directly address this cumulative impact problem where it is the one adding to the two to the three to the five to the nth degree.

**CHAIR:** You touched both in your submission and in your answers to Senator Waters on some of the recommendations out of the Hawke review. Broadly speaking, do you think the Hawke review recommendations would provide a good step forward in the operation of the EPBC legislation?

**Prof. Godden:** Yes I do. I think we have identified a couple of discrete areas in the submission. I think one of the fundamental things that was recognised in relation to endangered species and ecological communities by the Hawke review was the need to take a holistic approach. I think it marks another transition away from where we started with protection around endangered species to develop a broader more holistic approach. Whether we call it landscape ecology or whatever the term is, I do think the Hawke review was fundamental in recognising the way in which the science has developed and needs to be reflected in legislation.

**CHAIR:** Are there any particular recommendations you would have concern about or that you would be less keen to see pursued?



**Prof. Godden:** We have, in the submission, noted as a welcome advance the development of strategic environmental assessments, which take that broader approach. I guess the concern that I would be raising here is that if we are going to move to these broader-scale assessments done strategically that they are not then just a blanket for what could be quite contentious proposals. I do not think we should necessarily abandon a project-by-project-assessment. I think we are still learning how to deal with strategic environmental assessments and it is an evolving process. We need to think about how, particularly at a Commonwealth level, given matters of national and environmental significance around endangered species that we do not in an indirect way hand over a blanket approval without being able to have a more nuanced understanding of what a particular project might be doing.

**CHAIR:** Do you believe that strategic assessments could provide the capacity for greater certainty for business, developers and others as well as greater protection?

**Prof. Godden:** I do. I think the long-standing research has argued for the development of strategic environmental approaches, on the basis that it says, 'Here are some areas' and we set the parameters. In some instances I think we are going to be in almost a triage situation with climate change where we need to best direct efforts of protection and other areas where, perhaps, development can proceed. There are broader scale issues that can deliver certainty but, as I said, my rider is that we still need to ensure that there is that default protection setting on a project-by-project basis and where that balance sits. We would want to look at detailed legislation and drafting of any changes or amendments. Then, of course, there is the integration of state-backed legislation as well.

**CHAIR:** That is where my next question was going to go. With that integration of state based legislation, to what extent do you see the opportunity, through any reforms of EPBC that might stem from the Hawke review, to better align in particular the approvals processes between state and federal legislation?

**Prof. Godden:** It would not in relation to threatened species. Again, I think there have been marked improvements in this area in the coordination of assessment through the bilaterals process, but if we look at the actual approvals, then strategic environment assessments and identifying priorities and so on may be a way in which you can set the broad parameters upon which the Commonwealth and states can agree. The difficulty I would have is that in instances, say here in Victoria—where there is quite weak legislation under the Flora and Fauna Guarantee Act, which is very nominal protection for threatened species and so on—it needs to be a joint process. The Commonwealth needs to work through and maintain its leadership role but it also needs to work with the states, particularly where there is quite old legislation, to bring up the standards. Then we will have some processes that will work well among approvals, because you have agreed parameters, and then that in a way will work through for some efficiency in the approvals stage.

**CHAIR:** If I can shift from the legislative framework to the resourcing issues, we have heard some evidence already this morning about the effectiveness of resource allocation. Later today we will hear from Professors Possingham and McCarthy who suggest that still more resourcing and funding is required, although they certainly argue that what is available in the environment and threatened species space could be applied a lot more effectively towards getting better outcomes. Do you agree with that and, if so, how do you think governments could and should go about better applying the finite resources available?

**Prof. Godden:** I agree with that on resourcing and I talked about compliance. Obviously there are major resourcing questions—these are perennial problems. I acknowledge that and certainly, we need to think how the dollar can be stretched most effectively. There are issues that have been on the table about the listing processes, and so on, with some streamlining there. Clearly, there are administrative and technical efficiencies that could be achieved if there were agreed processes for listing. Also, if we are developing strategic environmental assessment to give broader parameters that perhaps we can have state and Commonwealth agreement on—thus, if you are working within a whole-of-the-landscape approach—then some of the coordination is already in place.

**CHAIR:** And what about that resourcing as it applies to recovery efforts and those types of activities, looking at the significant funds available through the Biodiversity Fund and Caring for Our Country activities and then flowing down through what may be available in different states. Do you think there is a better way that can be applied to take those funds and focus them on what should be the priority outcomes?

**Prof. Godden:** I think this is again a long-standing problem in natural resource management and environmental protection over many years. What we have seen I think is that Commonwealth funding at times comes in on a project specific basis, and it might mean that the Commonwealth has particular identified priorities, whether it is Caring for Country, for the pocket of money that is available. Then that comes in and has to fit in with the processes of the state legislation that is also operating. There are perhaps long-standing statutory obligations and so on there. So, it is a matter looking at how we integrate funding so that the Commonwealth does

not, with all the best intentions, come in over the top with a funding package that may reorient priorities, so that the managers on the ground who are trying to work with this just become very frustrated.

When talking to people working in the area of water and ecological protection, this has been one of the issues they have raised with me. So I think there is a need for an integration of various projects and money. I do not know how you resolve the streamlining and the whole-of-government approach on funding, but it is a matter of looking at the budgeting issues and how priorities are set. I would say that the catchment management processes, where you do advanced planning and identify ecological assets and priorities and then you develop your planning into the future, is a nice model to look at in terms of threatened species. I do not think we have looked at the sophisticated way in which that works. Then you actually get a prioritisation at the resource catchment level that is aligned to budget. So I think perhaps those might be some useful models to look at.

**Senator CAMERON:** Professor Godden, I am becoming more convinced that there is a fundamental problem at the COAG level. We have just completed an inquiry into the transfer of Commonwealth powers to the state, and the implications of that. But in your submission I wondered if you had actually talked about stronger integration of Commonwealth and state frameworks. You do that in the context of the EPBC Act, as I read it. What is your understanding of the role of COAG and the role that COAG could play in ensuring better environmental standards?

**Prof. Godden:** This is something I have had occasion to look at in relation to water, in particular. What we have seen under the water law reform process is that we have had strong Commonwealth leadership evolving in the face of some dire ecological necessity with respect to the emergence of what was a reform process initiated by Commonwealth funding and then carried out through a state legislative process. Again, the water model might be something we could look at in terms of lifting standards. The water reform process was one that initially was predicated on a process of state legislative reform with financial incentives to do so—the so-called fiscal federalism model.

I think there are some areas, particularly in relation to state legislation, where there are some very big gaps in coverage. Some of the state legislation is very good and some is not so good. So I think it is a matter of looking at a process driven through COAG. I heard the earlier speaker mention the idea that threatened species are falling off the agenda. I would certainly endorse that, because Australia has been impacted by things like drought and other areas. We have had a lot of attention given to climate change, which is a good thing, but by the same token we have seen threatened species fall off the agenda in a significant way. I think there is a key role for Commonwealth leadership in working with the states. That is why I am arguing for integration and looking at the role. That is one of the primary areas in which the Commonwealth can take a role through COAG. And obviously COAG is a process where there needs to be a balance achieved between the Commonwealth and the states. So I am not just blanket saying that the Commonwealth should take leadership.

There have been some really great initiatives on the ground at the state level, and the expertise in ecological areas has built up in a lot of the government departments. But I think COAG could be a major vehicle for lifting the standards and for implementing new frameworks and models. I talked about the cumulative impact one. We do not see that routinely in state legislation, for example.

**Senator CAMERON:** I have just had a quick look at some of the communiqués from the COAG Standing Council on Environment and Water. Do you monitor them?

**Prof. Godden:** Not all the time.

**Senator CAMERON:** I am trying to find something on threatened species and I just cannot find it. I would have thought that threatened species are an issue that should be more clearly identified in a work program within COAG. Could you on notice provide the committee with any views in relation to how the COAG process could be strengthened to provide a focus on threatened species, because a lot of the COAG work puts pressure on threatened species in other areas of productivity and efficiency! It would be nice to see some kind of balance in COAG on this issue, so I would like your view on that on notice if you could?

**Prof. Godden:** Yes.

**CHAIR:** Thank you for your time and evidence to the committee today. We appreciate your participation and efforts.

**Proceedings suspended from 09:52 to 10:15**

**BROWN, Mr Ian, Technical Director, Hg Recoveries Pty Ltd**

**HELPS, Mr Andrew, Managing Director, Hg Recoveries Pty Ltd**

**CHAIR:** I welcome representatives from Hg recoveries. I invite you to make a brief opening statement before we proceed to questions.

**Mr Helps:** Thank you for the opportunity to appear before the committee. I am about to take you in a slightly different direction in relation to threatened species in Australia. The point I am making to the committee today is you can have all the rules and regulations that you like but if the environment where the species is living in is polluted and they cannot live there safely then we have a bit of a problem.

My background is as an environmental disaster manager and I have been doing this job since 1966. I have had a lot of experience in Asia with Ramsar wetlands looking at the cumulative effects of actions, mainly industrial, on the Ramsar wetlands. I have had quite a bit of experience in Australia with the EPBC Act having done three EPBC permits in the last couple of years.

I am talking to the committee today about the impacts of mercury and arsenic pollution from historical goldmining in Australia. I have given you all a map of where the Australian Ramsar wetlands are and also a map provided by the Commonwealth government, very graciously, of where all the historical goldmining areas are in Australia. If you look at the historical goldmining areas and then look at the Ramsar wetland areas, you will find that 34 of the listed Ramsar wetlands in Australia are in areas that have been subject to historical goldmining when mercury was used as a gold recovery medium.

If you look at the state of Victoria at the moment, 24 of the 29 river catchments in Victoria are mercury and most probably arsenic polluted, some of them exceptionally seriously. A lot of those catchments run off into the Murray-Darling Basin, which has seven Ramsar wetlands in it. It is interesting to note that the new Murray-Darling Basin Plan has water quality objectives which the state of Victoria needs to comply with for water running out of the state of Victoria into the Murray River, which it has no hope of complying with.

The global community is heading to finalise the Minamata protocol on removing mercury from the environment. My company is the UNEP's mercury recovery partner in Asia Pacific. With the Minamata protocol coming into force, Australian farmers for the first time are going to have some toxic metal content restrictions on products that they sell into Europe. I have been having discussions with Senator Heffernan about this particular issue because Australian farmers have some edge products they sell into Europe, mainly non-GM canola, and that is all going to have toxic metal limits within the canola.

I am particularly worried about threatened species in Australia because we have international obligations under JAMBA, CAMBA and ROCKAMBA agreements. If you look at the Murray River Ramsars, you have really heavy mercury and arsenic pollution that the Commonwealth knows about flowing into those Ramsar wetlands and that has the ability to stop the international migratory species from breeding properly because if their food that they are eating is mercury contaminated it quite often prevents them from laying viable eggs.

From talking to my colleagues in Korea and the people in Siberia at the moment who monitor migratory species, in the last 20 years there has been a dramatic drop-off in the number of species that are migrating purely and simply because they are not breeding properly.

We have been trying to raise the issue about this mercury pollution in Australia. The only reason that Mr Brown and I set up a project in Australia back in 2010 to look at the mercury pollution in a gold mining area was the Howard government approached us to get some experience so that, when the Senate had to eventually ratify what is now called the Minamata protocol, there would be sufficient data to do the risk assessment for the parliament to ratify that protocol. We got a federal EPBC permit for that project in the Upper Goulburn River, which had significant historical studies on the impact of mercury on the fish and wildlife in that catchment. In 2010 the Victorian government was heavily involved in that process and had all the opportunities, as you do, in an EPBC process to object but did not. We started work and we raised some money from responsible mining industry investors to do the job. Two weeks after we started work the Victorian government put \$1.2 billion worth of additional permitting requirements on us and basically brought that project to a halt. We are not even now allowed to walk in the streams to sample the sediments. A few weeks ago, the Victorian government banned us from collecting sediment samples out of the Yarra River, because we have some evidence emerging of mercury poisoning in humans close to Melbourne.

I originally put in a submission to your committee back in October and you sent it back to me. I think it was probably a bit heavy. Then Bill Heffernan rang me and said, 'What's happening about that committee?' and I said, 'Well, we didn't get a jersey, Bill,' and all of a sudden I am here today. I wanted to take you a bit off the regulatory

thing and take you back to looking at the huge threat to species in Australia, especially in Victoria with the logging issues and the fact that the loggers do not have to comply with the EPBC Act—they are supposed to under the Regional Forest Agreements Act, but they are not—and focus the committee just for a short period of time on the issues with toxic metal pollution of the environment in which the threatened species are actually living.

**CHAIR:** Thanks, Mr Helps. Perhaps from the outset, are you able to pick on an area, give us an example and give us, as best you can, empirical evidence of how in a particular site the type of metal levels that you are talking about are having a direct impact on threatened species, the extent of that impact and how effectively it is or is not being measured and acted upon?

**Mr Help:** I can give you a couple of examples. Mr Brown and I are currently doing some work for the residents of Port Botany in New South Wales. Orica—previously ICI—had a chlor-alkali plant at Port Botany. Orica are trying to take a very novel process of entombing the original mercury in an unconfined containment facility that is underground with three aquifers running underneath it. We have done a lot of pro bono work for the residents there on that issue because the UN process specifies how you long-term store mercury wastes these days—and you do not build an unconfined containment facility on top of three aquifers that run into Port Botany.

If you look at the endangered species issues with Port Botany, if you do the threatened species EPBC tool, you would be flat out to find more things that are at risk. I have copies here for senators. That is the search for Port Botany and the Orica site. So you have got one wetland of international importance within seven kilometres of the site, one threatened ecological community, 45 threatened species, 60 migratory species, seven lumps of Commonwealth land, seven Commonwealth heritage place, 83 listed marine species and eight whales and other cetaceans within the area that is subject to mercury run-off from the Orica site. We believe there are about 6,800 tonnes of mercury unaccounted for from that chlor-alkali plant.

It is on a six-hectare site. To put that into perspective, the upper Goulburn River in Victoria, where we have an EPBC permit, covers 277,550 hectares, and it only lost 4,900 tonnes. So we have got a six-hectare site in Sydney that has lost 6,800 tonnes and there has been some limited testing in Port Botany which indicates mercury levels in Port Botany nine times over the Japanese government dredging level for mercury in marine sediments. You cannot get the New South Wales government to even focus on the fact that they need to do some sampling around the site to see where all the gaseous and metallic mercury has gone and what the impacts are on the community. In fact, a New South Wales bureaucrat said: 'Oh well, if babies are being born up there with impaired neurological development due to their mothers' exposure to mercury while they had a baby in the womb, that is a Commonwealth problem, because that is the cost that is picked up under Medicare.'

Then you go to a place called Liddell's calcine sands in Bendigo, Victoria, which is an old goldmining calcining site. There are 150,000 tonnes of crusher fines there within 40 metres of residents. Some of those crusher fines are running 50,000 to 60,000 parts per million arsenic. There are up to 1½ kilograms per tonne of mercury, and there are nine other toxic metals in the site. The Victorian government is, at the moment, proposing to spend money to bulldoze the piles into a bigger pile and then put clay over the top of it and call it a capped facility. Now, that mine site is in the upper reaches of the Bendigo Creek. It runs into rich dairying area, and eventually the run-off from it winds up in the Murray River and immediately impacts a number of Ramsar wetlands. As a community, in relation to threatened species that are in the Murray-Darling, we have got really serious problems. Bendigo has got well over 20 million tonnes of crusher fines just in the Bendigo area, and they are all dripping stuff into the Murray-Darling River.

**CHAIR:** Mr Helps, just lastly from me, and drawing on those examples, can you point particularly to how the exposure to, or the existence of, heightened levels of mercury is having a direct impact on any particular species?

**Mr Helps:** Mercury has many forms. It is the only liquid metal at room temperature, but it also converts to a gas very quickly. In the river and stream environments, it converts itself into a product called methylmercury, which bioaccumulates through the food chain. So you have got all the benthic communities in the stream working very hard to make, inadvertently, methylmercury, then the little things in the community that feed on the benthic communities bioaccumulate the methylmercury. That goes up the food chain to the bigger predators, so it winds up in the fish. The fish in Lake Eildon are heavily contaminated with mercury and arsenic. Ultimately, it affects things like platypuses and quolls that eat the little crayfish that come out of the river at night and forage on the bank. It affects the cormorants, because they are eating the fish, so they are the ultimate top order predator. It affects the sea eagles who are eating the fish who are heavily mercury-contaminated, and those birds then lay eggs that are probably unviable due to mercury pollution. It just goes straight through the food chain.

**Mr Brown:** And the biggest animal of all is us.

**Mr Helps:** It is humans.

**Mr Brown:** Pregnant women are seriously impacted.

**CHAIR:** Thank you both. Are there any other questions?

**Senator WATERS:** You have just addressed my first question which was going to be: 'What are the effects of that bioaccumulation on the breeding cycles?' Thank you for that; it sounds very alarming indeed. I am particularly concerned about your description of Orica and their proposed containment methodology, which sounds woefully inadequate. I come at this from an environmental law background, so my first hunch is always to say: 'Have they sought approval for this?' Do you know if Orica did seek federal government approval, given the massive concentrations of mercury on their small site?

**Mr Helps:** I believe your colleague, Cate Faehrmann, is in—

**Senator WATERS:** I am sure Cate knows all about it, but I have not bent her ear about it yet.

**Mr Helps:** I have to plead guilty here. I have recently written a letter for her to the honourable Tony Burke about it, but I do not know whether Tony will do anything about it. It is Peter Garrett's seat, but Peter must have been hit by lightning or something, because he is not getting involved in this issue. The recent petition at Port Botany had 9,000 signatures on it, just looking at testing around the area.

**Senator WATERS:** So have you sought for the federal minister to step in?

**Mr Helps:** I think it would be inappropriate if I raised it, but it is certainly something that Cate Faehrmann should be raising.

**Senator WATERS:** It sounds like something that the federal government should be investigating, given the long list of species that you have identified here as potentially present on the site. There is a number of trees there—

**Mr Helps:** I have never seen one with so many hits.

**Senator WATERS:** Yes, it is very long.

**Mr Helps:** You go to the Upper Goulburn and it has got five things on it.

**Senator WATERS:** Does the federal government have obligations to investigate the potential environmental harm done by this?

**Mr Helps:** I think the Commonwealth EPBC investigator should be all over this. You run into a problem, especially in New South Wales, where you have regulatory capture by Orica of the regulators. I find it fascinating that in New South Wales Orica could go and talk to the environment minister but the residents cannot. They are building this encapsulation on-site and it will be a legacy issue for the next 20 generations. Ultimately, somebody is going to have to dig it up and do it properly.

**Senator WATERS:** I am pleased you raise that, because one of the terms of reference of this inquiry is the historical record of state and territory governments on threatened species protection generally. Can you elaborate a bit on the concept of the states not performing their role appropriately?

**Mr Helps:** Mr Brown and I are very into historical research on these things, and we spent a lot of money in the Upper Goulburn researching all the data. We discovered buried EPA reports from the 1970s and 1980s which were basically saying to government: 'You have got a massive problem here with mining pollution. It is killing off the fish, and a whole lot of other species. We need to do something.' In fact, one of the senior people in the EPA said at the time, 'This catchment needs to be stripped from top to bottom.' Those reports just got buried. If you raise them now with state government people they say: 'That's crap from the past. We don't have to do anything about that.' Mr Brown and I were at a meeting with one of the state government departments, and they said, 'If we've got a problem with mercury, we'll put it in drums and send it to Belgium and put it through the incinerator.' It is an element. And then the heat started to get a bit higher in Victoria and recently they changed the regulations in Victoria to make mercury a mineral so they do not have to do anything about it.

**Senator WATERS:** Interesting. Are you aware whether legacy mining or the use of mercury in mineral recovery is listed as a key threatening process or is there any threat abatement plan?

**Mr Helps:** No. I have raise that with the department. The workers in the department are very good, but they keep saying to me, 'Helpsy, it is a great idea, but we cannot get critically urgent things through the system at the moment.'

**Senator WATERS:** Why do you think that is? That is what we are trying to get at with this inquiry: the problems in the system.

**Mr Helps:** I got a letter from the deputy secretary of the department saying there is no urgent need to clean up toxic metals at mine sites in Australia. I asked them for a 158 extension. We did an EPBC permit for the Upper Goulburn. We spent a lot of time and money getting an approved operations plan going, because they had concerns about Smoky Mice if we were cleaning up roadways, so we did all that. We spent \$400,000 to get a permit. Under the Victorian law there is the Environment Protection Act 1970 and that was designed to be legislation that sat across every other bit of legislation in Victoria. Unfortunately, the Environment Protection Authority in Victoria is now controlled by one of the biggest toxic metal polluters in Asia, which is the Department of Sustainability and Environment. To me this seems to be a conflict but everybody says, 'No, that's just efficient management.' Key threatening process is something that needs to be done. In our first EPBC application with the Commonwealth we gave them a cumulative effects study, which was the first one that they have ever had and they said, 'Oh gosh, this is neat and really important.' They had never issued a permit for a toxic metal clean-up before under the EPBC Act. Then I put in a second one, and they came back and said, 'No, you need to do a \$80,000 ecological study on a bit of land that has been burnt out and levelled by loggers.' So there is a problem there.

**Senator WATERS:** Could you table that letter where you say that the department has indicated that they are not interested in toxic metals?

**Mr Helps:** Yes, I have it here somewhere. Here you are.

**Senator WATERS:** We have many problems like that in Queensland, where I am from. In fact, we have just had our Premier authorise release of such contaminated water into Great Barrier Reef catchments, which I am very alarmed about and would like the federal government to take a greater interest in. I will read that with great interest. Thank you very much.

**Mr Brown:** I will address one of your earlier issues. You asked why they—'they' being the DSE and various other government departments in Victoria—are not addressing it appropriately, in the way they are mandated to. My cynical person says litigation and class action. The mercury contamination in this country is over levels that are causative for cerebral palsy and aspects of autism. That has been proven time and time again, and nobody is doing anything to address that issue. That is a core issue.

**Senator CAMERON:** Are you saying that there is not a government minister or bureaucracy—either state or federal—that is treating this issue seriously?

**Mr Helps:** I know that Malcolm Turnbull is on top of it because I—

**Senator CAMERON:** There is a surprise.

**Mr Helps:** Strange things do happen.

**Senator CAMERON:** What is Malcolm Turnbull doing?

**Mr Helps:** I do not know. I do not think he can do much.

**Senator CAMERON:** He is on top of it, but you do not know what he is doing?

**Mr Helps:** No. He is on top of it.

**Mr Brown:** He is aware of it.

**Senator CAMERON:** He is aware of it. And Senator Heffernan is on top of it as well, is he?

**Mr Helps:** Yes Bill is very—

**Senator CAMERON:** What is he doing?

**Mr Helps:** He is doing what he can in New South Wales to get the Port Botany thing on the agenda. I know Kevin Rudd's office was interested in it when Kevin became Prime Minister because I got a call out of his office about the project that we were putting together, but then it all got lost in the—

**Senator CAMERON:** So it is either incompetence or a conspiracy. What do you say it is?

**Mr Helps:** You always put your money on incompetence.

**Senator CAMERON:** You think it is incompetence, do you?

**Mr Helps:** Conspiracies take a lot of extra skills.

**Senator CAMERON:** Who have you raised this with?

**Mr Helps:** Anybody and everybody.

**Mr Brown:** In the government, everywhere.

**Mr Helps:** But it is not an easy sell.

**Mr Brown:** The environment minister in Victoria does not want to know. We wrote to him 2½ years ago, and we were promised we would have a response within two or three weeks. We are still waiting. It was a serious question with serious issues.

**Senator CAMERON:** What medical advice have you had in relation to this? Who is providing you with the medical advice?

**Mr Brown:** Numerous. Basically, myself and my co-author, Associate Professor David Austin. At the time he was at Swinburne, heading up the Swinburne Autism Bio-Research Initiative in the Brain and Psychological Sciences Research Centre at Swinburne University. He has now gone to Deakin University.

**Senator CAMERON:** Has he written papers on this?

**Mr Brown:** He and I have written a paper.

**Senator CAMERON:** A paper? A single paper?

**Mr Brown:** No, he has written a lot. But this paper that we have written is unique in the world in that I looked at the contamination and intake of mercury into a pregnant female as it passed through the placenta from the perspective of the body weight of the developing foetus.

**Senator CAMERON:** Have you submitted this for peer review?

**Mr Brown:** It is peer reviewed and it was published in the *Toxicological and Environmental Chemistry* journal, a UK publication, in September last year.

**Senator CAMERON:** Why has the medical and scientific community not been raising this more widely?

**Mr Brown:** The scientific community has been raising it for 40 years. Why has the medical community not been?

**Senator CAMERON:** It is the first I have heard of it, and I have been chairing the environment committee for some years.

**Mr Brown:** I do not know what you are referring to—

**Senator CAMERON:** It has not been raised with me.

**Mr Brown:** What, sorry?

**Senator CAMERON:** This issue.

**Mr Brown:** Which issue?

**Senator CAMERON:** The issue of mercury poisoning.

**Mr Brown:** Internationally, it is No. 1 or No. 2 of the known toxicological problems facing this world today. The UNEP, WHO, USEPA, USGS, and a whole lot of European organisations—

**Senator CAMERON:** I am just wondering why the medical community is not up in arms about it?

**Mr Brown:** They are getting up in arms about it.

**Senator CAMERON:** How long has it been known for?

**Mr Helps:** Forty years.

**Senator CAMERON:** So they are a bit slow, are they?

**Mr Helps:** Yes.

**Senator CAMERON:** A bit slow off the mark.

**Mr Brown:** The problem is more deep seated than that, because when you are getting—

**Senator CAMERON:** I do not want to be cynical about it, but—

**Mr Brown:** We are all cynical. There is a clear and simple answer.

**Senator CAMERON:** I just want to know why you can come here and make a submission to say that a significant part of the Sydney community is facing serious medical threats and you are not getting any response anywhere.

**Mr Helps:** The New South Wales health guys told the people in a press release a couple of years ago not to worry about gaseous mercury as it is heavy and runs round at low levels.

**Senator CAMERON:** Who are these New South Wales health guys?

**Mr Helps:** The head pediatrician for south-west New South Wales health. He is presuming that everybody sleeps standing up.

**Senator CAMERON:** This sounds farcical. I have no more questions.

**Mr Helps:** You talked about COAG. The removal of toxic metals from the environment has been enshrined under the 2010 national waste plan. All the states have signed off on it, but when you raise it at state level they say it is just an ambient goal they do not have to do anything about.

**Mr Brown:** Medicos are starting to become informed on these issues. They are developing concerns which are published internationally. It is a very difficult situation because you cannot see it, smell it or taste it. The associations from the direct cause of mercury on aspects of autism and cerebral palsy have been known about for decades: cerebral palsy since 1974, and in the last 10 to 15 years, and more particularly in the last two to four years, the causative associations between mercury and autism. That information is in peer reviewed documents and in big international journals et cetera. It is filtering through but it takes time, unfortunately. This is all new stuff where the causative associations are confirmed scientifically. Prior to that, people would say: 'No, not proven; can't do it; leave it alone.' That was the response.

**Senator DI NATALE:** As somebody who came to parliament from the medical community I think there is no doubt about the potential impact of mercury on human health and animal health. I do not think that is in question, so that is not necessarily a line of questioning that is worth pursuing. I suspect what is in question is whether the level of mercury in the environments you discussed is at a level that is going to expose animals and humans to dangerous levels of mercury and therefore potential risks.

**Mr Brown:** We believe so. In Liddells in Bendigo in particular, which has been subjected to what is called calcine sands—we have had this from a politician in Bendigo—there are higher levels of autism, cerebral palsy and ADHD than the state and national—

**Senator DI NATALE:** In the interests of time, those associations are very difficult to prove. At face value this is obviously very serious and no-one would dispute the connection between mercury and adverse outcomes on human health and animal health. Are people being exposed to dangerous levels? Are animals being exposed to dangerous levels?

**Mr Brown:** Very definitely.

**Mr Helps:** Without doubt.

**Senator DI NATALE:** On what basis do you make those claims?

**Mr Helps:** We sample: we walk up streams and sample them; we sample the mine sites. We have the most sophisticated technology.

**Senator DI NATALE:** Has that been corroborated beyond your work?

**Mr Brown:** We have corroborated what was done in the 70s. We have corroborated the levels of mercury toxicity and occurrences in species in Victoria.

**Senator DI NATALE:** Have the regulatory agencies been concerned enough to independently verify your concerns?

**Mr Brown:** No, they have done their own work. Liddells have had \$3 million spent on studies but they still will not take on board that they have a problem.

**Senator DI NATALE:** Let's stop there. They have done their own sampling. Does their sampling corroborate the evidence that you have put to them?

**Mr Brown:** We do not know, because we cannot see it. We cannot get access to it.

**Senator DI NATALE:** I am trying to gauge what is in dispute. Is the level of mercury in the environment in dispute?

**Mr Brown:** No, we have documents from the Victorian government, especially at Liddells, which say it is a public health risk.

**Senator DI NATALE:** What is the basis on which the agencies are not acting?

**Mr Helps:** Cost control, I think, more than anything else.

**Senator DI NATALE:** They are not going to write you a letter saying, 'We can't do this because it is too expensive.' What basis have you been given for the regulatory agencies' inaction?

**Mr Helps:** We just did a big report on Liddell's and finished it yesterday.

**Senator DI NATALE:** I just want to say this. You have got mercury and you know it is bad. What you are saying is that they know and you also know that we have dangerous levels in the environment. Those two things, at face value, are of huge cause for concern.



**Mr Brown:** Yes.

**Senator DI NATALE:** Then you are saying that there are now regulatory agencies who are doing nothing on the back of that. We are missing part of the picture here.

**Mr Helps:** The part of the picture is that you need the regulatory agencies to actually understand that, like in North America now. There is no contest in North America. They do not accept that there is a problem, Senator, that is the issue.

**Senator DI NATALE:** On what basis? That there are not dangerous levels in the environment? I do not think they would be disputing the health impacts.

**Mr Brown:** The US, from 1982 onwards, have been identifying and notifying of streams where the fish species in those streams have mercury content way above the regulations. They have natural advisories there. We have not got one in Australia; not one. The levels of mercury that we have seen in the fish species—not our analyses, but analyses that we have had access to from government sources—are up to orders of magnitude higher than the US cases.

**Senator DI NATALE:** That is, I think, something we should probably investigate independently.

**Mr Helps:** I will just tell you, in America at the moment there are 68,000 square kilometres of lake area and 2.019 million kilometres of rivers under fish consumption advisories, and they are very small consumption advisories. You raise it here and they say, 'Oh, we're worried about the tourism.' So my retort is, 'Well, if you start getting dead tourists, you've got a problem.' But they will not put signs up because they are worried about the tourism. In America, they had that argument in the 1980s, and then they discovered that tourism got bigger because people catch bigger fish, and they are not eating them, so they have to go into the townships to buy their food. But they will not transpose that experience to here. They will not even go to the international conferences.

**Senator CAMERON:** I have got no more questions, but just before we move on I have got something I just wanted to say.

**CHAIR:** Briefly.

**Senator CAMERON:** I find this extremely concerning that we have got a proposition here that a large part of the Sydney metropolitan area has got mercury poisoning. I do not think that we as a committee can just ignore this. I do not know what the implications are or what the truth of this matter is. I propose that we immediately send the documentation to the Minister for Health and to the Minister for the Environment and we get copies of *Hansard* for this sent to both the ministers and the departments and ask for an urgent response to what has been put. I just am not going to sit here, get this evidence and we say nothing about it. I would propose that we do that. I cannot make an informed judgement on the evidence that is before us.

**CHAIR:** Senator Cameron, I am certainly not against your proposal, and I did mention to the secretariat that I think there are some issues we will have to follow up on this. I think we will consider exactly who we send it to and how we approach that. In a private meeting of the committee is probably the appropriate place to do it. I am confident that, yes, the committee should take some steps that are perhaps outside of the terms of reference for this particular enquiry to get some responses to the issues that have been raised. Gentlemen, thank you very much for your time today and for your participation.

**BLEYER, Ms Vanessa Elizabeth, President, Lawyers for Forests**

**HOWARD, Mr Leigh, Vice-President and Chair, YLS Law Reform Committee, Young Lawyers' Section, Law Institute of Victoria**

**OLDEN, Ms Leanne, YLS Law Reform Committee member, Young Lawyers' Section, Law Institute of Victoria**

**TROUP, Ms Rachele Elene, YLS Law Reform Committee member, Young Lawyers' Section, Law Institute of Victoria**

[10:48]

**CHAIR:** I now invite to the table representatives from Lawyers for Forests and the Young Lawyers' Section of the Law Institute of Victoria. I thank you all for talking to us today. We have received your submissions Nos 70 and 84 respectively. Does either organisation wish to make any amendments or alterations to their submissions?

**Mr Howard:** We have just one. It is on the second page of our submission. On the second page of our submission in the first paragraph the third last line reads: 'committee, the Victorian government should.' That should instead read: 'the Commonwealth government should use its power' rather than 'the Victorian government.'

**CHAIR:** Thank you, Mr Howard. I invite either or both organisations to make a brief opening statement.

**Ms Bleyer:** I am happy to make an opening statement on behalf of Lawyers for Forests. You would have noticed from the Lawyers for Forests' submission that it was particularly concerned about recovery plans. Less than 40 per cent of listed threatened species under the EPBC Act have recovery plans. A large proportion of those are endangered species, which causes even greater concern. So more recovery plans should be made. How they are made is something that Lawyers for Forests is concerned about. There should be input and involvement from appropriately qualified experts, and the threatened species should be put first, not the processes that cause their extinction.

Reviewing the recovery plans needs to be properly attended to, particularly following, for example, extreme weather events. There is a prime example at the moment with Victoria's faunal emblem, the Leadbeater's possum. During the fires in February 2009 the population was halved; its habitat has been halved. We now have just about 1,000 left—if 2,000 were not bad enough in the first place. I was lucky enough to act on behalf of a group named MyEnvironment Inc. who went to the Supreme Court. In the course of delivering judgement, the the Hon. Justice Osborn was particularly concerned about the plight of the Leadbeater's possum. He said:

... the evidence called by MyEnvironment demonstrates a strong case for the overall review of the adequacy of the reserve system intended to protect LBP habitat within the Central Highlands Forest Management Area.

It is endemic to the central highlands forest management area. He goes on to say:

The 2009 bushfires have materially changed the circumstances in which the existing system was planned and implemented and there is, on the evidence, an urgent need to review it.

I table that summary delivered by His Honour Justice Osborn.

We could overcome all of the issues with the way in which listed threatened species are protected under the EPBC Act by simply removing section 38 exemption. There are regional forest agreements between the Commonwealth and states and, in Victoria for example, there are a number of them in respect of a number of forest management areas. They are not working. A number of clauses have been breached in a number of them, including in the central highlands regional forest agreement which relates to the habitat of the Leadbeater's possum. There is not very much that the community can do about that, because it is obviously a contract between two parties, and those parties should really be taking steps to enforce clauses that are being breached via the counterparty to the agreement. That does not appear to be happening. If the section 38 exemption is removed, then part 3 of the EPBC Act will apply and the Commonwealth will need to approve logging of threatened species habitat in advance of it occurring.

So, if we are not making recovery plans and if we are not reviewing recovery plans and if recovery plans are not being properly implemented, and we remove section 38, then that is okay because you are going to be properly monitoring the species, the destruction of their habitat and the protection of them on a case-by-case basis, which is what they deserve. This is not about finding an easy fix; this is about finding an easy way to fix the problem. The easy way to fix the problem is to remove section 38 from the EPBC Act.

**CHAIR:** Thank you. Mr Howard?

**Mr Howard:** The Young Lawyers thanks the standing committee for the opportunity to give evidence today. Young Lawyers is an organisation comprised of 7,000 practising lawyers across Victoria. Membership of the Young Lawyers comprises lawyers under the age of 36 or those with less than six years practical experience. I appear in my capacity as vice president, together with Ms Leanne Olden and Ms Rachele Troup, members of the Young Lawyers Law Reform Committee.

We have become acutely aware of the issues being considered by this inquiry by virtue of the concern that we hold for Leadbeater's possum. Our submission to this inquiry annexes a letter that we sent to the Victorian Minister for Agriculture and Food Security, the Hon. Peter Walsh. That letter outlines in some detail the regulatory issues faced for the protection of the possum.

We regard the minister's response, which is also annexed, as inadequate and as shirking of responsibility. We are happy to take the inquiry through these letters in more detail.

More generally, we support a regulatory environment that divides this responsibility between federal and state governments in a way that best promotes environmental protection and reduces green tape. In this regard, we wish to make the following four submissions. First, we believe that the development and implementation of the recovery plan should no longer be managed by federal or state ministers and their respective departments. Second, we believe a federal regulator should instead be charged with this responsibility. This federal regulator should be independent of government and comprise expertise from all relevant stakeholders. Using this expertise, it should be able to triage requests for recovery plans, manage the listing of species and be able to respond to new information. This should be in full consultation with stakeholders. All stakeholders should have standing to be able to apply to this regulator to develop or review recovery plans and to air their related grievances. Third, we believe that recovery plans should be enforceable. The regulator should make use of parliamentary drafters to ensure the legal voracity. Fourth, recovery plans must have application across all habitats. To this end, the exclusion of their applicability when a regional forest agreement applies must be removed. In other words, we support Ms Bleyer in her submission that section 38 should be removed. I am able to table this opening response if required.

**Senator DI NATALE:** I will need to excuse myself shortly, so I appreciate the opportunity to go first. Just to put this into context and maybe plain English, we have a recovery plan for the Leadbeater's possum, and that was established some time ago. We have the Leadbeater's possum on the way to extinction. We have a major event that has intervened since the recovery plan was established—that is, the bushfires, which have wiped out half of the Leadbeater's habitat. What you are suggesting is that the recovery plan has not changed as a result of that major event—something which has a clear and demonstrable impact on the prospects for the Leadbeater's possum.

**Ms Olden:** It is our understanding that the recovery plan came into force in about 2000 and, despite lobbying by a number of groups, the plan has not changed in light of the 2009 bushfires. Part of our concern arising out of the MyEnvironment case were His Honour's comments that the scope of that proceeding meant that he could only address the impact on the Leadbeater's possum in the particular area of forest which was proposed to be logged by VicForests at that time. He was not able to look more broadly at the impacts on the Leadbeater's possum across all its habitat. That is part of the reason that we support the implementation of a new regulator who would have capacity to oversee the entirety of the Leadbeater's possum's habitat and force a review of the recovery plan. I understand that there may have been a draft amended version tabled some time during 2009 or 2011, but no movement has happened on that since then.

**Senator DI NATALE:** We have, just to put it into simple English: a major event; no change in the recovery plan; just proceeding with business as usual. That seems to be a gaping hole and it is something that has been repeated in other submissions. You are suggesting an independent regulatory body that has the capacity to make sure that these recovery plans are kept up-to-date and enforceable. They are the two essential requirements that you are talking about for this independent regulatory body—is that correct?

**Ms Olden:** That is correct—yes.

**Senator DI NATALE:** That seems to me to be a pretty reasonable step. I am satisfied with that.

**Senator WATERS:** Thanks for your evidence and your submissions. Pardon me for my legal questions, but I think I have the right folk to ask. I am interested in the interaction between the recovery plan and the RFA exemption. How can you have a recovery plan when the very activity that is threatening the critter is exempt from the federal laws? I do not understand how that works.

**Ms Bleyer:** One of the difficulties with a number of processes under the EPBC Act is that there are a number of inconsistencies which, when you put them into action, mean that things do not work in the way that they should.

Under the Regional Forest Agreements there are supposed to be reserve systems and, since we are talking about the Leadbeater's possum, under the Leadbeater's possum recovery plan, there is supposed to specifically be a Leadbeater's possum reserve system.

Much of the prior reserve system was burnt in February 2009 and, although it is unclear from the law, I suppose that the Leadbeater's possum reserve should correlate in some way with the CAR reserve system that is supposed to be created in the Regional Forest Agreements but is not necessarily. You could interpret it to require them to marry up but, if these reserve systems were being properly created, then we would need a lot more of them because, despite the fact that large tranches of them were burnt and have not been replaced, there certainly were never enough of them and there are not enough of them now.

**Senator WATERS:** It sounds like the two instruments are not talking to each other properly and, even in isolation, the reserves under those RFAs are inadequate.

**Ms Bleyer:** That is right. Under the EPBC Act, there are options that the Commonwealth and the state can take in respect of integrating the recovery plans with the laws of the various states. In respect of the Leadbeater's possum, one of those options does not seem to have been specifically selected and then, obviously, implemented so we have got a recovery plan that says one thing and an action statement that says something else. Neither of the documents are being properly complied with; otherwise, the Leadbeater's possum would not be critically endangered. So long as any logging of the native forest in which it inhabits continues, there is always going to be a problem with the Leadbeater's possum. Under the current legal scheme, no change needs to be made; it needs to be properly implemented and the very small habit that remains for the Leadbeater's possum simply needs to be put into reserves. The appropriately qualified expert to assist the Commonwealth in doing so is Professor David Lindenmayer from the Australian National University.

**Senator WATERS:** I might touch on the issue of the recovery plan and Professor Lindenmayer's involvement later on. On that point about the lack of review of the recovery plan after the bushfires, is there no provision in the EPBC Act to review recovery plans after significant events? That seems sheer madness to me.

**Ms Bleyer:** There is no provision.

**Senator WATERS:** Are there proposals to have such a provision under the Hawke review response by government—I have not looked at that point myself?

**Ms Bleyer:** From my recollection, the Hawke review supports proper review but did not expressly suggest that section needed to be amended or inserted into the act to allow for it.

**Mr Howard:** Dr Hawke does not go as far as recommending an independent regulator; he suggested a national commission that was essentially an information-producing body that sat across the scientific committees that already exist under the act. We think that Dr Hawke did not go far enough. Someone needs to be charged with this responsibility to review and develop, because no-one is. It is wholly reliant on the minister at the moment—or ministers, state and federal—and it is not being done.

**Ms Bleyer:** Dr Hawke suggested an emergency listing process and that would not preclude varying and existing listings to fall within the emergency category. On one view, under the act as it stands, the minister has the discretion to declare areas of forest critical habitat, so what you would expect the outcome to be for an emergency listing can be achieved under the current critical habitat determination provisions.

The minister has never made a critical habitat determination under the act. He was asked by Environment East Gippsland to do so in respect of a number of threatened and endangered species at Brown Mountain in East Gippsland. He failed to make a decision in response to EEG's request and, as a result, Environment East Gippsland went to the Supreme Court. After a long hard-fought piece of litigation, successfully achieved an injunction to restrain VicForests from logging at Brown Mountain because of the number of threatened species that were present in those proposed logging coupes. That could have been avoided had the minister declared Brown Mountain a critical habitat. The findings of the Supreme Court judge in that case showed that, had the minister considered it, he would have had all the elements he needed to determine a critical habitat, so the minister can now determine the remaining Leadbeater's possum habitat a critical habitat so it can be protected.

**Senator WATERS:** On that point, and please correct me if I am mistaken, my understanding is that critical habitat is not that well protected anyway, even if it is ever declared, and I think there have only been five instances where it has been. Is that correct? If so, should that be fixed?

**Ms Bleyer:** It should be fixed. The EPBC act does not go far enough to define what critical habitat is, or what you do with that habitat when it is declared to be critical habitat. In Victoria, for example, and it is the same in other cases, there is some correlation between state and federal law. Under the Flora and Fauna Guarantee Act in Victoria there are also some critical habitat provisions. Declarations can be made for conservation orders together

with the determination of critical habitat, which ends up meaning that that habitat needs to be protected. Although the critical habitat provisions at the federal level do not go far enough—and it should be made clear that once a critical habitat determination is made the area must be protected from logging—and even if the minister made a decision, it would be helpful because it could be argued to correlate with the states' associated laws and lead to ultimate protection of threatened species and their habitat.

**Senator WATERS:** I am interested in the level of protection that is provided or could be provided federally under the EPBC act for threatened species when they are in an RFA, given the activities regulated by the RFA are then exempt. How does the act work to protect threatened species in an RFA area? Again, it seems to be in conflict.

**Ms Bleyer:** That is the problem; if we remove the section 38 exemption then the Commonwealth will be able to exercise a wider range of powers to achieve what it no doubt wants to achieve because that is the purpose of the EPBC act—to stop Australia having the highest level of species facing extinction in the world. The inconsistency between the Regional Forest Agreements and the very purpose of the EPBC act goes to the very heart of why the EPBC act is not working. That inconsistency does not need to be there; we need to remove section 38 and then it will not be there and this will make it easier for threatened species to be removed from the list, which has never happened before. No threatened species has ever recovered under the Commonwealth's EPBC act, and that is what the Commonwealth should be moving towards. It will move towards that only if it stops being involved in a regime specifically designed, in one view, to destroy the habitat in which the threatened species resides.

**Senator WATERS:** That is clearly what you would like to happen. I want an understanding of how it currently works; how do those two things interact?

**Ms Bleyer:** They interact by allowing the Commonwealth to turn its back on threatened species in areas of native forest which are scheduled to be logged.

**Senator WATERS:** So if an action were likely to have a significant impact on a threatened species but that action were logging regulated by the RFA then it would not be a controlled action? Is that correct?

**Ms Bleyer:** That is right. A referral is not required, so you do not even get to the controlled action decision. The recovery plans and the creation of the reserve systems are supposed to achieve protection for threatened species habitat, but when we do not have recovery plans for more than half of them when they are not being reviewed or properly implemented, when the reserve systems are not being properly created, then it is not working the way it is anyway. It seems to me that the Commonwealth really has not properly embraced the whole recovery plan and reserve system process. What the Commonwealth is very good at is receiving referrals, assessing them and determining whether they are controlled actions—so why does the Commonwealth not keep doing what it is good at, remove the section 38 exemption and allow threatened species to be considered under the area of the act that the Commonwealth is so good at?

**Mr Howard:** The short answer is they do not interact. RFAs do not interact with the EPBC at all. The RFAs are contracts—their legal status is actually uncertain, but they appear to be contracts between governments. The only people who can act on contracts are parties to the contracts. So we, as private individuals, cannot do anything about it.

**Senator WATERS:** So there is no public enforcement. What happens when there is a breach?

**Mr Howard:** Nothing.

**Ms Troup:** Nothing, and that is what we have seen occurring. There are provisions in the RFAs, for example, to report on progress every five years, to publish reports of internal audits of compliance with the code of practice for timber production, and that has not been done.

In our view that points to the fact that it allows state governments to engage in environmental vandalism without the oversight of the federal government. We think that is a bad thing.

**Ms Olden:** The RFAs themselves are supposed to respond to new information and amend accordingly. In this situation, we have seen the 2009 bushfires dramatically change the landscape in the Central Highlands region which is covered by the particular RFA we are discussing in relation to the leadbeater's possum. As far as we are aware, no amendment has happened.

**Ms Bleyer:** One action that was taken in response to breaches of clauses of the regional forest agreement was a Federal Court proceedings brought by former Senator Brown. He won in the first instance, before Justice Marshall, but then failed when the government appealed against that decision. However, one finding that the Full Court of the Federal Court on appeal did not interfere with was that if there was a breach of a clause of a regional forest agreement then the section 38 exemption falls over. So I would not be surprised that if something is not

done about it and, given the state of our environment, there are not more cases being brought in the Federal Court, when there are breaches of clauses of RFAs, to remove the section 38 exemption and to require a proper assessment and approval process before logging takes place in threatened species habitat. If so, if the Commonwealth does not do something about it, it may find that it will have to be through legal intervention, which obviously concerned individuals and environment not-for-profit nongovernment organisations are having to do through desperation for the protection of threatened species. But the Commonwealth has an opportunity now to do something about it. It could be the greatest environmental legacy of this Commonwealth government, to remove the section 38 exemption and to give threatened species a chance.

**CHAIR:** Just to pick up on that last point, Ms Bleyer, are you saying that if there were effective assessment of RFAs and in that assessment it were determined that there were breaches of the RFAs, then essentially the provisions would work in a way that you would want them to work?

**Ms Bleyer:** If a logging operation was required to be referred under the act and it was assessed, and if there were threatened species present in the area proposed to be logged, then it would be found to be a controlled action. We would hope then that it would not be approved, and that the act properly applied. So long as it was found there were threatened species in the logging coup, there is no way that logging can occur and the species can survive. In respect of breaches of the clauses of the regional forest agreement, the regional forest agreement becomes irrelevant if the logging has to go through the referral process under the EPBC Act.

**CHAIR:** But if a breach of a clause under an RFA would trigger such an approval process?

**Ms Bleyer:** From my understanding, no.

**Senator WATERS:** The community would have to go to court. Was that not your point earlier?

**Ms Bleyer:** That is right. If a third party, not a party to a regional forest agreement, wanted to do something about the fact that a clause of a regional forest agreement has been breached, then they would need to go to court and prove that in the Federal Court. If they prove that, then the section 38 exemption no longer applies. A successful outcome of the case from the protection of the environment perspective would be that breach of a clause of the RFA, the section 38 exemption does not apply and so any logging that has not been approved through part 3 of the EPBC Act would be unlawful. If logging had taken place in the proposed logged area the subject of such a court case would then need to be referred.

**CHAIR:** So there is no provision for the Commonwealth to identify a breach of the clause itself. It has to be identified through such a legal process through the court.

**Ms Bleyer:** The EPBC Act does not address what the Commonwealth would need to do if there is a breach of a clause of the RFA. Given the RFA is a contract, it is contract law that demands it. If the Commonwealth is a party to a contract, such as a regional forest agreement, and the party that it is in the contract with breaches it, then you are entitled—in my view, ought to—hold that party to account. At the moment, the Liberal Victorian government is breaching clauses of a number of regional forest agreements in the state of Victoria and it may be that a way that the Commonwealth can immediately do something about protecting threatened species in Victoria whilst it is considering any amendments to be made to the EPBC Act is that it can start enforcing compliance with its contracting partner, being the state of Victoria.

**CHAIR:** On the overall principles here, so that we know where everybody is coming from, Lawyers for Forests, do you have an overall policy position when it comes to the logging of native forests?

**Ms Bleyer:** Lawyers for Forests purpose is to protect Australia's remaining native forests.

**CHAIR:** So you are opposed to the logging of native forests?

**Ms Bleyer:** That is right.

**Senator CAMERON:** It is an interesting submission you have made, and congratulations for it. Young lawyers are actually turning their minds to some of the environmental issues that we face. It seems to me that this is a pretty narrow area that the bulk of your submission is about. I do understand that the Leadbeater's possum is the formal emblem in Victoria. Is that the only reason you have turned this up?

**Ms Troup:** I suppose we thought that it was a very pertinent example of what is happening when the federal government is not overseeing the protection of threatened species and what happens when a very environmentally destructive process is basically within the power of one government alone. We do not really understand why logging, which is such an environmentally destructive process, would be exempt from federal oversight in the sense that it is contracted out under the EPBC Act. What happened was that we got wind of the MyEnvironment decision, which was made early last year, which focused on the Leadbeater's possum as an example of species that are being made extinct by logging processes. We thought that was something that should form the basis of a

submission. We did not understand why nothing was being done by either federal or state governments, although it is more obvious why nothing is being done by the federal government because it has given itself less powers of oversight over such issues.

**Ms Olden:** I think our comments can apply more broadly and, as Ms Troup said, the trigger for our interest was the MyEnvironment case and comments of Justice Osborn, who addressed the fact that these plans and the action statements have not been reviewed in some time, and that there is no body able to review these plans which are designed to protect the endangered species. I think our comments in relation to the inaction in amending plans when significant events occur or new information comes to light, whilst our submission is focused on the Leadbeater's possum, can be considered more broadly.

**Senator CAMERON:** Yes, considered more broadly. That is the point I was trying to make. I am not sure if you were here earlier, but I have been raising the issue of COAG and the number of decisions that COAG make about improving productivity and efficiency and the implications that has, mainly in business areas, for the environment. There is a sort of lack of focus by COAG on some of these issues in terms of endangered species. Have you ever given any thought to the role of COAG as distinct from the act itself?

**Ms Troup:** COAG tries to focus on the benefits for states and giving greater powers to the states in terms of environmental oversight. In our opinion it is important that there be two avenues of review. COAG has tried to promote the idea of cutting green tape and giving oversight of environmental issues more to the states. We believe that it is not necessarily a bad thing to have two levels of oversight of environmental issues. We think it is good if there is an avenue of review at the state and federal levels. We also think that the federal government is in a better position to oversee environmental protection because often it is a national issue such as how climate change, for example, or extreme weather events might affect a certain threatened species or a species that might not be threatened in one state but may be threatened nationally. I suppose we would say that COAG does not really have the interests of environmental protection.

**Senator CAMERON:** We have just concluded an inquiry on the very point that you are raising and there will be a report on that shortly. Could you look at the broader issue of the role of COAG in protecting endangered species to see whether you want to provide some further evidence to the committee on how we could improve the role of COAG on that environmental issue.

**Mr Howard:** Sure.

**CHAIR:** As there are no further questions, I thank you all for your time and participation as well as the submissions you provided. I remind you of the 6 March request for responses to questions on notice.

**MCCARTHY, Associate Professor Michael Andrew, Private capacity**

[11:20]

**CHAIR:** Prof. McCarthy, thank you for joining us. We have received the submission you prepared jointly with Prof. Hugh Possingham, submission No. 127 to the inquiry. Do you have any amendments or alterations to that submission?

**Prof. McCarthy:** No, no amendments.

**CHAIR:** There being none, would you like to make a brief opening statement before we proceed to questions?

**Prof. McCarthy:** Thank you. First, I apologise. Hugh Possingham would have liked to have attended, but he is in Paris.

**CHAIR:** Our heart goes out to him.

**Prof. McCarthy:** There are four main points in our submission. One is the money spent on threatened species could be spent more efficiently. Even if we spent that money efficiently we are not really spending enough resources on saving threatened species to get the extinction rate back to something that could be regarded as acceptable. There are long delays in listing species and there is duplication. That could be made more efficient which would help move things along faster, so that species are not waiting to be listed and potentially declining before a recovery plan is developed. Also, the current protected areas are not adequate for protecting all of Australia's threatened species. In fact, a large fraction—I think about 13 per cent—do not exist in any protected area, so there needs to be a lot of thought about protecting species beyond protected areas as well as better management within protected areas. Those are the four main points.

**CHAIR:** I go to those four points. In your submission in talking about how to spend money more efficiently you speak of a rational prioritisation approach. How do you think governments should be adopting a prioritisation approach when it comes to dealing with threatened species.

**Prof. McCarthy:** It is relatively straightforward. Essentially you think of the benefits you can achieve by protecting a particular species which would essentially be how much you can reduce the risk of extinction and, to some extent, how much you care about that species. You can measure how much benefit you will receive if you spend a certain amount of money. Essentially the ratio of those two numbers gives you how important it is and you can list the species according to that index. It is a basic cost-benefit analysis. It is a really simple way to do this prioritisation.

New Zealand has done it recently and as a result about twice as many species are being protected as would have been the case prior to going through this process. In that case some species were quarantined simply because the benefits are too large. In New Zealand they decided not to put kiwis and kakapo through this process because they are iconic New Zealand animals. They were quarantined and will be funded regardless of what this process says. For 98 per cent of the species they looked at which ones could be most efficiently saved.

**CHAIR:** In that process there needs to be an acknowledgement that hard decision will be made and sometimes there may be a species that is recognised as vulnerable or endangered, but when it comes to prioritisation you will not invest funds in attempting to save that one because the cost-benefit analysis says you are better off investing elsewhere?

**Prof. McCarthy:** Yes, and that is exactly it. It is easy to think of it as those hard decisions but hard decisions are being made regardless of how we do it, simply because we do not have enough money and resources being spent across Australia by federal government and state government. There is also a lot of investment by individuals and organisations putting a lot of time and, in some cases, money into saving threatened species. Across all of that, there is just not enough, so we are making hard decisions anyway and giving some species less chance than others. We think it is just better to do that rationally, because otherwise we are going to be sorely disappointed in decades time when a lot of other species that we had not thought about have declined severely or gone extinct.

**CHAIR:** In terms of the pool of available resources that we are talking about here, you are looking comprehensively at the Commonwealth's hundreds of millions of dollars spent annually across Caring for our Country, the Biodiversity Fund and perhaps some other initiatives—state initiatives, management of parks and reserves—as well as private philanthropy or NGO activities. How do you think, in a coordinated sense, we can take the resources from those disparate groups and manage to actually harness them around a targeted and prioritised approach to threatened species?

**Prof. McCarthy:** Some of those resources are being spent on things other than threatened species and they are really having very little benefit for threatened species. Most of those resources are probably being spent for other



purposes—and I am not saying they are not useful environmental purposes. The work that we have done in Australia suggests that across all organisations we are currently spending around \$300 million per year on threatened Australian birds. Our analysis suggests that that has actually been somewhat effective. We have been able to reduce—the people who are doing it, not me personally—the number of species that have gone extinct; so it has been somewhat efficient, but our analysis suggests that we would probably have to triple that to prevent further extinctions over, say, the next century to actually get some recovery. At the moment, the resources that are being spent are not really achieving much in the way of recovery; they are more just preventing further declines and extinctions. Our work suggests a tripling of that, so up to about \$10 million per year for Australia's birds. That agrees with a recent analysis that was published that suggested that, worldwide, we would probably need to have about a tenfold increase in funding for threatened species management to actually meet the Convention on Biological Diversity targets. That sounds like a lot but, in the context of Australia's economy and the world economy, it is not actually a lot of money.

**CHAIR:** A lot of the Commonwealth environmental spending—and you are right, some of it goes to areas well beyond threatened species—is the result of competitive grants type processes and so on. Whilst guided by terms of reference and particular objectives for the programs, they certainly do not apply the type of central and hierarchical prioritisation of particular outcomes that the approach you are talking about might achieve. Are you suggesting that we should, to take birds as an example, have a very focused national strategy that says: 'In terms of birdlife care, recovery and priorities there is a national pot of money that might be supplemented by other sources around the country. Here are the specific species that we are going to target and we should be utilising funds towards recovery plans that should be well spelt out'?

**Prof. McCarthy:** Yes, essentially like that. I think we could go broader than just thinking about a single taxonomic group. The risk of just focusing on a couple of taxonomic groups is that we are going to lose the focus on a lot of other important species. So something that was broader across a larger suite of threatened species—probably all of them—would be ideal to do this prioritisation. That is essentially the idea we had. This idea really only works if that money is tradable between species; if it is not, it is not going to work as we would envisage.

**CHAIR:** Obviously, in a biodiversity context and a habitat context, there will be occasions when similar objectives across various species can be met simultaneously, you would hope.

**Prof. McCarthy:** Yes. In New Zealand they have done exactly that. There are some projects that they had where there were synergies, essentially. If they did a project, they would get a couple of different species at once, and that allows them to be essentially more efficient. So the cost per species halves in that case, if there are two species in the one area you can work on. It is really about trying to get a focus on thinking about doing things efficiently—acknowledging, essentially. We cannot save everything. Even if we had 10 times the amount of money, we are still going to be above what would be a background rate of extinction. It still would be dangerous for some species.

**CHAIR:** You might want to take an aspect of this in notice: are you able to provide us with a bit more detail or point us to any particularly useful research that demonstrates what was changed in New Zealand and how that has worked? Could you briefly take us through when those changes were made and, in practice, what actually differs now in the New Zealand system compared with the Australian system? How might that be applied here as a model?

**Prof. McCarthy:** I cannot remember the exact years but it was about mid-2000, so approximately eight years ago. I am not exactly aware of it. It took a couple of years to implement from the point where the New Zealanders said, 'We want to think about how we're prioritising funding for our threatened species,' through to estimating essentially what different projects could be done for different species—how much they cost, how successful they are likely to be. They thought about the relative merits of some of the difference species, and that is where kiwi and kakapo were quarantined. In Australia, you would imagine that we are not going to let the koala become extinct. So something like that would be quarantined as well, although in that case the benefit of saving koalas would be so large. Even if it went through this process, it would probably come out as being funded. There would be certain things that they quarantine. Then they just went through the process. They made a list. They thought, 'We've got this amount of money,' and went down the list. The things that were towards the bottom of the list lost out. They are now working on slightly over 600 species that are receiving funding to try and help prevent their further decline and extinction. Prior to that, there was about half that number. They are able to work on more species, essentially, with the same amount of money. That is also beneficial. In this case, the Department of Conservation in New Zealand was able to show the government that they were able to spend the money efficiently. I think that is helpful for other threatened species, because you can say, 'They're going through a process to try and think about how to use the national money efficiently.'

**Senator WATERS:** I am alarmed at the notion that we need to somehow choose what is going to survive and what will be sent to extinction. Obviously we need to accept that with climate change there is going to be a level of extinction that is locked into the system. I want to take you back to your remark that, even if we had 10 times the amount of funding, we still could not save everything. Is there a level of funding at which we could save everything?

**Prof. McCarthy:** When I said '10 times', the rate of extinction would still be above background rates. We are talking about extinction risks that are way beyond our lifetime, if we are spending 10 to 100 times the amount of money. The average lifetime of a species is around a million years. At the moment the average lifetime—it is hard to estimate these things—seems to be around 10,000 years, so we have reduced that by about—

**Senator WATERS:** Is that natural extinction we are talking about?

**Prof. McCarthy:** Yes.

**Senator WATERS:** I am talking about the human introduced extinctions.

**Prof. McCarthy:** Regarding human introduced extinctions, the global analysis suggests that 10 times the amount of money would reduce it to a level that is around a 10th of the background rate. At the moment we are at probably around 100, but these numbers are very hard to estimate.

**Senator WATERS:** I hear you about the need to use money more efficiently. I have no difficulty with that. You make the comparison with Defence funding—that we have no problem finding money for those issues and yet here we are damning species to extinction simply by not allocating sufficient funds to improve and manage that process as best we can. Thank you for making that distinction and highlighting that inconsistency. You talked about recovery plans on page 3 of your submission. You say that, unfortunately, recovery planning has no discernible impact on recovery. Could you expand on that for us, please?

**Prof. McCarthy:** That is a paper that was published out of the University of Queensland and looked at what is the actual process of recovering planning doing to save species. The analysis suggested that there was not a large influence. There are cases for Australian birds in work that I have done which shows that actions that have been done are able to help. I would need to check, but my impression of this paper is that it is more about the process of recovery planning. The actions that are done on the ground can be useful, and we have shown that for some species, and other people have shown, we have been able to save them from further declines and extinctions. I think that BirdLife Australia's submission, which I read yesterday, was pointing out a few of those examples, and there are other examples as well beyond birds.

**Senator WATERS:** In your view are there ways that we can improve that flawed process so that it could deliver outcomes and actually help recover species?

**Prof. McCarthy:** Yes. In New Zealand, when they went through the process of prioritisation, they focused the recovery planning process on what needs to be done to save the species and how much does it cost. They then worked out what to do. That really focused people's minds in the recovery planning process on actions on the ground that would help. I think that is a key.

**Senator WATERS:** For all of my concern with the New Zealand process I am interested to know more about it. What was the criteria on which they chose which species would make the grade for funding and which would not?

**Prof. McCarthy:** They went through the process of thinking, 'What's the change in extinction risk? If we do a particular project how much does that cost?' Then you can work out the change in the risk of extinction per dollar and which one has the most benefit, and you start spending money on that.

**Senator WATERS:** So the species that were most easily able to recover as opposed to keystone species in an ecosystem? It seems to be a non-scientific selection.

**Prof. McCarthy:** That is weighted by the benefits. So, if a species is regarded as a keystone species, then you need to make some assessment on what is the benefit of saving that species relative to the others. Then they would get upweighted if they were known to be particularly important.

**Senator WATERS:** There were a number of criteria factored in. Can you go through some of the other criteria?

**Prof. McCarthy:** They were the three: the benefit, the expected change and the risk of extinction and the cost. It is just a case of multiplying the benefit by the change and extinction and dividing by the cost, and you have your index.

**Senator WATERS:** The benefit was not just the benefit to that species but to the ecosystem generally.

**Prof. McCarthy:** Yes. The benefit could be to the ecosystem, the benefit to the economy or just the benefit to society. It is like the kiwis in New Zealand, they are valued really highly, so they get a massive benefit. It is so large that it puts it out of the prioritisation in their case. You need to take into account both the social and economic aspects as well as the ecosystem aspects. The other thing that is considered is how genetically diverse that species is. In the case of tuatara in New Zealand there is nothing else like it on the planet, so it gets weighted very highly.

**Senator WATERS:** It seems to me that there is quite a sophisticated level of information that would be required before you could ascertain the likelihood of an expected change from an effective recovery program. Do we have that level of information in Australia?

**Prof. McCarthy:** All this approach does is focuses on the information that you actually do need to make a decision.

**Senator WATERS:** It seems to be making pretty serious decisions. You would need a good information base.

**Prof. McCarthy:** It says: this is the key factor; how do we change the risk of extinction with the money that is being spent. That is one of the benefits of the process. It says: that is the thing or one of the things that really drives the decision, so let's think about that. That is why it focuses the recovery planning process a lot more because people are thinking about that rather than lots of other things that really are extraneous to the rest of what you are going to do to save the species.

**Senator WATERS:** On page 2 of your submission you talk about private land conservation or the interaction between conservation in protected areas. You talk about how there need not be competition with existing land uses off-reserve. Can you expand on that for us? You mentioned the benefits to ag production, tourism and livelihoods. I am interested to hear more about those aspects.

**Prof. McCarthy:** You can see those sorts of aspects in some of the NGOs works. They are going to organisations and individuals and getting involvement of those organisations and individuals to help threatened species management. You can see examples right across Australia where there are those synergies either because it helps production or people just like to do it on their land. So taking advantage of those synergies is useful.

**Senator WATERS:** Are there any further examples? Is there any elaboration on that? Obviously we can only have so many protected areas—as much as I would like there to be more—and they need to be properly managed when we do have them. Private land conservation does play a large role. I am interested in the co-benefits that can be had by landholders.

**Prof. McCarthy:** A benefit to landholders through protecting species might be fencing. The benefit to the landholder is they essentially get some fencing, and that also protects some species. Things like revegetation plantings can help salinity and, if they are done in an appropriate way, biodiversity. There are those sorts of examples. Some fire management can both help to protect properties from damage and also help to protect native species. That varies from circumstance to circumstance but there are certainly cases where fire management can do that.

**Senator WATERS:** Is the Australian government doing enough in that regard? Are we focusing on those issues? I know we have our Environmental Stewardship Program.

**Prof. McCarthy:** Yes. There is certainly some effort in that area. The federal government has looked at those benefits. But I think more could be done.

**Senator CAMERON:** I have been asking witnesses to consider the role of COAG in relation to protecting endangered species. Do you have a view on that?

**Prof. McCarthy:** That is well beyond my expertise. I do not really have a view on the role of COAG, I am afraid.

**Senator RUSTON:** What was the response to the application of this particular triaging process, as you described it earlier, when it was implemented by the green, or environmental, movement in New Zealand?

**Prof. McCarthy:** It was implemented by the Department of Conservation. What was the response from the environmental movement? I am not sure. That is a good question. I certainly have not heard about a big backlash. There have been some cases where someone has suggested we triage tuatara or kakapo because there is not a good chance of saving them, but those sorts of opinions ignore the benefits of a species. If you factored in the benefits of a species, tuatara, kakapo and those sorts of species in New Zealand would get funded anyway. The idea would be that you would factor into the prioritisation the public's perception of the value of losing or saving particular species. That should, theoretically at least, assuage some of those fears. I have not heard of any backlash, which suggests that it has gone down pretty well.

**Senator RUSTON:** It interesting in the sense that it is cold, hard reality of life that, unless you have unlimited money, you have to make some of these decisions. The implementation of a program such as this, if it has not met with any major negative response, probably suggests it needs further looking into.

**Prof. McCarthy:** It gets presented as a cold, hard decision, but, previous to this, there were cold, hard decisions being made and lots more species not getting funded. If it is presented in that light, it is actually a really useful way of looking at it. There is a perception that it is a horrible, rational economic approach to species management, but actually it is a warm, fuzzy economic approach to species management because it does greater good for the same amount of money.

**CHAIR:** Thank you very much for your time today and for your submission with Professor Possingham.

**Prof. McCarthy:** Thank you.

**CHAIR:** I thank all the witnesses for their informative presentations and I thank Hansard, Broadcasting and the secretariat for their assistance. Can I have a motion to accept documents tabled during today's proceedings?

**Senator CAMERON:** It is so moved.

**CHAIR:** It is duly carried.

**Committee adjourned at 11:45**