New South Wales Government
Independent Planning Commission

TRANSCRIPT OF PROCEEDINGS

RE: McPHILLAMYS GOLD PROJECT (SSD-9505)

STAKEHOLDER MEETING

COMMISSION PANEL:	DR PETER WILLIAMS (PANEL CHAIR) MS CLARE SYKES PROFESSOR NEAL MENZIES
OFFICE OF THE IPC:	STEPHEN BARRY JANE ANDERSON OLIVER COPE
INDEPENDENT EXPERT, BELUBULA HEADWATERS PROTECTION GROUP (BHPG):	ASSOC. PROF. MATHEW CROWTHER
OBSERVERS:	DANIEL SUTTON REBECCA PRICE SHARYN GOLDSTEIN NADJA ZIMMERMANN
LOCATION:	VIA VIDEO CONFERENCE
DATE:	4.30PM, WEDNESDAY 1 FEBRUARY 2023

TRANSCRIBED AND RECORDED BY APT TRANSCRIPTIONS

DR WILLIAMS: So before we begin I'd like to acknowledge that I'm speaking to you on Dharug land and I acknowledge the traditional owners of all the country from which we virtually meet today and pay my respects to their Elders past and present. Welcome to the meeting today to discuss the McPhillamys Gold Project, SSD-9505, currently before the Commission for determination. The applicant, LFB Resources NL, a wholly-owned subsidiary of Regis Resources Limited, proposes to develop McPhillamys Gold Project, an open cut gold mine to extract up to 60.8 million tonnes of ore and produce up to twenty million ounces of gold over 11 years and build an associated underground water supply pipeline in Central West New South Wales.

My name is Peter Williams. I'm the Chair of this Commission Panel. I'm joined by my fellow Commissioners Ms Clare Sykes and Professor Neal Menzies. We are also joined by Mr Steve Barry, Ms Jane Anderson and Mr Oliver Cope from the Office of the Independent Planning Commission. This meeting is an opportunity for us to hear from and ask clarifying questions of Associate Professor Mathew Crowther who we understand is representing the Belubula Headwaters Protection Group and will be unavailable to appear at the public hearing next week.

The Commission has also extended an invitation to representatives of the Environmental Defenders Office and the Environmental Defenders Office client, the Belubula Headwaters Protection Group, to observe this meeting. So in this regard I would like to welcome Nadja and Sharyn, Daniel and Rebecca. I understand that some of the members of the Belubula Headwaters Protection Group will be speaking at next week's public hearing and the panel will have the opportunity to hear from you then.

In the interests of openness and transparency and to ensure the full capture of information today's meeting is being recorded and a complete transcript will be produced and made available on the Commission's website. This meeting is one part of the Commission's consideration of this matter and will form one of several sources of information upon which the Commission will base its determination.

It is important for the Commissioners to ask questions of attendees. I think what we will do is leave our questions to the end to replicate what would happen in a public hearing and these questions, for example, might be to clarify issues that arise. If you are asked a question and are not in a position to answer, please feel free to take the question on notice and provide any additional information in writing which we will then put up on our website. So I request that all members here today introduce themselves before speaking for the first time and that all members ensure that they do not speak over the top of each other to ensure the accuracy of the transcript.

So, we'll now begin. The purpose of today is mainly to listen to Associate Professor Mathew Crowther. So, Professor Crowther, I understand you have prepared a presentation so we would like you to go through that for us please. And then we might have some clarifying questions at the end and maybe just some thoughts or views you might have overall about the Department's assessment report, and anything that jumps out to you in relation to the conditions of consent that have been recommended as well. So without any further comments from me, Professor Crowther, are we right to commence the presentation?

ASSOC. PROF. CROWTHER: Yes, I will.

DR WILLIAMS: Thank you.

ASSOC. PROF. CROWTHER: Okay. I'll just introduce myself again so you know who I am in context. I'm Associate Professor Mathew Crowther. I am an Associate Professor at the School of Life and Environmental Sciences at the University of Sydney. My speciality is wildlife ecology and evolution with a particular focus particularly on recent years in koalas. I have researched koalas since 2006. I have published over 130 scientific papers generally in wildlife management but I've published probably around 20 on koalas, or just over, on koalas themselves. I have been investigators on ARC grants on koalas. I have been on the panel of the NSW Saving our Species Koala Strategy. I have contributed to the koala recovery plan, New South Wales koala recovery plan. I represent koalas on the IUCN, Australasian marsupials and monotremes group.

I have contributed to many, many documents on habitat restoration and koala management and I spoke at the New South Wales inquiry into koala populations and habitat in New South Wales at both Sydney and at Gunnedah. So I've worked a lot in the academic and the research but also I've been on other panels working on, so for government agencies and also non-government agencies and private consultancies. I've reviewed the documents, including the environmental impact assessment and associated documents. I won't go through it on here. They'll be included in the report. I don't need to read out all that list. But just say I've read through all the reports. It's quite a read, too.

Okay. So as I said, I am here to basically talk about what this McPhillamys Gold Project will do for the koalas. So, just context, the koala is an endangered species at both the New South Wales level and at the Commonwealth level and some of the main threats to why the koala is an endangered species is because of the threatening processes of both habitat loss and habitat fragmentation. Note that habitat fragmentation also has secondary causes of koala decline which includes weed

invasion, includes increased koala road mortality, increased attack from dogs and also there's increased mortality of eucalyptus trees and other associated habitat trees on the edges.

So I'll say probably in more detail now about what this project will do to the koala population and my, I suppose, expert opinion on that. So again, there's a lot to discuss in the EIS but I'll go straight to the koala section. So McPhillamys Gold Project involves removal of 132.38 hectares of native vegetation and fauna habitat. Now, this includes 77.75 hectares of koala habitat which has increased in the amended proposal to about 78.57 which from a koala's point of view is not really that much more but again, I'll talk about how would that removal of habitat affect koalas.

Now, there's a few issues also with koala habitat is we don't really know how many koalas were there. We do know it's a koala habitat but we don't know the koala density and the reason is again, they did perform, the consultants did perform scat surveys and there's one called a Spot Assessment Technique which is the standard used in the field and they did spotlighting surveys but they found no koalas in either of them. The only koala that was found - well, no koala or koala scats. The only koala found was found opportunistically hence having the koala there means it's koala habitat but it raises some issues about maybe some of the use of some of these techniques and in recent years we know that basically scats, searching for koala scats and spotlighting are probably not the most efficient techniques. They struggle often to find koalas at very low densities and koalas often live in very low density populations and that is because particularly scats can, there's different rates of decay. They decay quite quickly. They can be difficult to find in certain areas. Spotlighting is the same. You can walk past, koalas can be just on the other side of the tree or in the dense foliage and you never see them.

So indication that a koala was seen but the standardised techniques that they use couldn't find them so that maybe some more effort probably should have been put into finding these koalas. Luckily we do have tools that are much more effective at finding koalas at low densities. These include song meters which are used very regularly. These all have advantages, disadvantages. Song meters basically only measure koalas during sort of the breeding season sort of around spring, but they're quite good at detecting koalas in the nearby area. We also have drones. Again, drones are limited. You only can really do it in sort of the winter so you can get the heat differentiation between koalas and the landscape. And there's also detection dogs which will find the scats and much more effectively than the human approach on the Spot Assessment Technique. So again, scats very affected by weather and decay and so they often go undetected and this can often be quite difficult to pick them in spotlights.

So again, one thing that I would be cautious about is that we don't really know how many koalas will be affected. However we can estimate based on the area of koala habitat. We know it's a koala habitat. There's a primary, there's a koala there and there's a primary koala food tree species called the manna gum that's found in that area and that's one that's listed on the SEPP 44 Koala Habitat Protection and the subsequent SEPPs that came after that. The areas are divided into what's called primary and secondary habitat in the EIS and this was based on using plant community types which is a classification used by the NSW Government.

So one of the plant community types represented the core koala habitat, the other secondary habitat. I would be a bit cautious of using plant community types. Often they're not that accurate. Often they are very good at predicting what plants are there but not necessarily the fauna there. So again, everyone in NSW Government wants to use these techniques because they're much more efficient than finding koalas themselves but there's going to be an issue that, you know, they may not basically represent both core and secondary and it may be all core or it may be all secondary.

Okay. So as I mentioned before, we can work out how many koalas might be in an area by the area of koala habitat and we can compare that to areas elsewhere in New South Wales that are vaguely similar and work out what density of koalas should live in that sort of habitat. Note that densities of koalas in different areas can change a lot due to factors such a soil fertility which can affect the amount of nitrogen in the leaves. Nitrogen in the leaves affects protein in the leaves, affects how palatable they are to koalas. Also can affect these toxins called FPCs and again, these are basic deterrents to stop both insects and koalas from eating the leaves and in certain soil types these FPCs are quite high.

So we do have to be a bit cautious when we relate different areas of koala habitat. However I have worked extensively I suppose in an area of I suppose the Liverpool Plains and what I did in that region I was trying to work out what density of koalas were living out there. Liverpool Plains like this area is rural habitat with scattered remnant trees, so some of them probably is similar type habitat and what I used in that area, I calculated what we call the home range. The home range is just, koalas are not very social animals and they tend to stick in their same area except for breeding times. So this is where they tend to live and rest and feed in these areas and they don't change much unless they get kicked out by other koalas or there's some other catastrophe in the area like a fire or something that makes them have to move on. So they generally stay in here throughout their life, once they leave their mother basically.

And so koala sort of home ranges in two sites. One was called Watermark which was going to be the Shenhua Watermark coal mine but never was so it's just an area of

habitat and the average home range was probably 18.62 hectares. And another site which was called Dinverai, which is just another rural property again, very, very similar so about 14.42 hectares. So if we compare their home range sizes allowing for a little bit of overlap, but not much because they don't overlap that much, there's probably going to be I suppose the habitat equivalent of five koalas lost by the land clearing for this proposal.

So again, what has been difficult to assess this proposal is mostly it's all come down to one koala. We don't know how many koalas are there. I could take a very educated guess that that would be not the only koala there. It'll be a very lonely koala if it was. Koalas are in populations but they're in low-density populations. So we don't know how much of that population would be affected but it could be a reasonable proportion of the population. Again, they calculated in the EIS that about - sorry, I've just got to read this again - 1,516 hectares of koala habitat occurs within five kilometres of the proposed area of clearing and so this loss represents about 5% of the koala habitat loss.

They do mention however that 148.6 hectares within the area of koala habitat would be retained but the problem is if you're creating an impact such as a large impact such as mining, which it has clearing, you will have these edge effects and habitat fragmentation nearby. So not only will there possibly be a loss of area for the koalas but increased mortality, increased dog attack and other feral animals, increased weed invasion. Weed invasion can affect the nutrient levels and the recruitment levels of eucalypt, of trees and also just edge effects because being subjected to erosion and wind and that increases the mortality of trees on the edge.

Now, the proposal does say that this loss of habitat will be compensated with revegetation. However, you know, you don't have to think too hard about it but trees take a long time to grow. Like a koala can use a tree that's five years old or ten years old to feed in but they can't rest in that. Koalas rest about 20 out of 24 hours of the day. In areas, particularly an area around there it gets very hot. They've got to pick trees where they can dissipate heat either on naked trunks or gums or they can sit in foliage. So again, revegetation is important but the impacts, positive impacts I should say on koalas can take probably at least ten years to be realised and possibly more. So the main concern that I have here seeing all of these type of areas is well, we're losing habitat, we don't know how many koalas there are and the revegetation can take a long time to occur.

In addition, the EIS mentions that koalas will be encouraged to relocate. This is popular in many clearings, i.e. you don't actively move the koalas you just basically search for the koalas and if you don't see them you remove the trees so you're basically encouraging them to go to some other areas. But again, we don't know what

the koala intensities are in the neighbouring regions. Are they habitats that have resident koalas that will prevent these new koalas from moving into or will they evict the area the koalas are going into. Will they have the same sort of characteristics such as the leaf nitrogen levels which are so, so vital for koala habitat in this new vegetation.

The vegetation on the pipeline just briefly was not identified as koala habitat even though it contains manna gum. No koala traces were found there but as I said, in the core habitat only one koala was actually found which it doesn't say much about koala densities it just says the detectability, i.e. the ability to find koalas is very, very hard in that area. So again, I would encourage in certain other areas that more, I suppose, sensitive techniques such as detection dogs, drones and song meters would use them in those areas as well and it may be presumptuous to assume that it's not primary habitat when you've just got, when you've had, you know, the detection methods you have have a low detectability in that area.

So finally I just want to talk a bit about the offsetting. So the proponent's main mitigation action, they are doing revegetation but the main mitigation is biodiversity offsetting. So they've calculated offsets using the framework of biodiversity assessment in New South Wales, and they've got the greater koala species credits of 1,970 further koalas, but again, offsets can be problematic in the way that they apply. So the way it's meant to be implied here they're going to apparently establish a biodiversity stewardship site which is near, sort of near six kilometres south-west of Blayney which has a box gum habitat and they're going to be purchasing and retiring credits available on the biodiversity credit register and they're going to pay into the Biodiversity Conservation Trust.

Now, again, we don't know the density of the koalas in that area. Are you compensating for those koalas there. Is it the same habitat there. Do we know at the same levels of leaf nitrogen, the same levels of soil fertility that can be used for higher koala numbers. Are there pets in those offset sites that we don't. There has been many cases when they've even like moved koalas to an area saying this is the same habitat and within two weeks dogs killed them all because they weren't detected before. So offsets, you've got to be very, very careful because you're assuming a like for like, these offsets seem to be relatively close, but they're not that close in that there could be a huge variation between them and also there's also a lot of issues within the scientific literature about offsetting itself. Maybe it's not the place to discuss here.

The problem is if you're relying on offsets there's often a lag between the habitat loss and the habitat to be maintained or even restored or created because it takes a long time for trees to grow. Again, as a rule of thumb offsets are not necessarily bad but

you're always better to mitigate the disturbance or the effects on a site. So again, mitigating for a loss of koala habitat I would find the offsets is a very difficult thing to do because it's very difficult to do like-to-like. And I suppose that's probably the summary of my opinion on the impacts of koalas from what I've gathered from the documents on the McPhillamys Gold Project.

DR WILLIAMS: Thank you, Professor Crowther. That was very detailed. Did you have any other just general observations at all about any other aspects of the assessment report or conditions?

ASSOC. PROF. CROWTHER: Well, again, the problem is, I suppose, I was just trying to, I was combing through because I was concentrating on koalas and it's, they're large reports and there's other impacts, but I was concentrating on koalas. The thing is, like it was interesting that they just saw one. This is based on one koala sighting and it wasn't even part of their formal survey, like it was just seen there. But we find that in many areas throughout New South Wales because koalas can live and feed in low densities. So it's really, really hard to say much about the population if you don't really know how many are there. Like, yeah, one koala you can't base a density or something like that, so I'd say that's going to be always quite difficult.

Again, the thing about habitat is based on plant community types. I've mentioned that before. Again, they might relate to koala densities. We haven't found a tight relationship between plant community types and koala densities so it's difficult. There seems to be a lack of information but there are ways to get more information out there so I would be encouraging, again a lot of these have only recently come onboard, but things such as the song meters are very easy to deploy. Things such as drones can be done very, very efficiently and so can detection dogs and they all have a much higher detectability, i.e. ability to find koalas. So I think it'll be much easier to make the decisions if you actually found koalas.

DR WILLIAMS: Thank you. I was interested in your comments on offsetting. In the assessment report in relation to biodiversity, and that's both biodiversity consideration of the state and Commonwealth legislation, when assessing this project under both sets of the legislation the Department makes the finding that any significant impacts that still might exist would be covered by the implementation of a proposed biodiversity offset strategy. Now, you've pointed out some of the deficiencies or problems that do arise with offsetting, that may arise with offsetting. The offset site, do you know much about that? I mean, clearly it's a similar ecological community - - -

ASSOC. PROF. CROWTHER: Yeah, well, that's the thing. I don't know much about that site. It is a similar ecological community. It's not too far away which is probably

better. I've seen cases where offsets have been quite far away and then of course, you know, it's too many, it's distance. It's like there's a whole lot of things that change geographically when you move further away. But the thing is again the detail of that site, like are there koalas at that site. I couldn't find much information on that and - - -

DR WILLIAMS: Sorry, that was the point. That was going to be my next question - - -

ASSOC. PROF. CROWTHER: Yes.

DR WILLIAMS: - - - what would be the likelihood of koalas on that site?

ASSOC. PROF. CROWTHER: Well, again, it's really, really hard in this case because this area obviously they're not in really high densities I think on this habitat. I sort of can gather like, I'm comparing the places like the Liverpool Plains before they started having a big population crash those rural areas and you didn't have to do much to find a koala or find koala scats. But obviously they have been doing surveys and not finding them very, you know, they didn't find any. So like they just happened to see one opportunistically so again, I'd probably want to, you know, to see if the offset was any good. For koalas basically you probably want to put a bit of detail and what type of surveying they use on those offset sites.

DR WILLIAMS: Right. Thank you. Okay. Thanks, Professor. I think that's all from me. Clare or Neal, did you have any questions for Professor Crowther?

MS SYKES: Yeah. Thanks very much, Professor Crowther. That was very interesting and informative in terms of your perspectives there. I just had one question that you mentioned the, you know, more effective techniques in terms of detection and surveying, the song meters, the drones and detection dogs. Could you just provide some context in terms of the size of the area sort of what would be involved in that type of program and how long would that take as an example. Like how big a project would that be, you know, to be able to run another sort of program around surveying in that area?

ASSOC. PROF. CROWTHER: Yeah. Most of those techniques I suppose they're probably, they don't take that much time. You could put out the song recorders two weeks and then - - -

MS SYKES: Okay.

ASSOC. PROF. CROWTHER: But they have to be done in breeding season that's the thing. Sort of April. The drones again, they can't be done in the summer because they use thermal cameras and koalas are quite well insulated so they don't really pick them up very well in the summer months so winter. But they can cover quite a, I suppose within a week you'd probably get a lot of information from that. Detection dogs again, it depends on the area but I think the area is not unreasonable, that you could get detection dogs, for example, into that area. And if there are koala scats to be found those dogs do find them. They find them with a much greater rate of efficiency than people do. I think the only reason I say that all these sort of techniques are worth trying it's because, yeah, as I said, obviously the detectability is really low, like you're not picking them up in those surveys but they saw a koala so obviously they're there.

MS SYKES: Mmm.

ASSOC. PROF. CROWTHER: So then I think they are now becoming more, I suppose, for a lot of survey areas some of those drones are a problem because of certain areas of flightpaths and things like that, but they tend to be now becoming more the standard. The scat surveys and the spotlighting surveys used to be the standards but again, they probably, in human hours probably all those other techniques take a lot less in human hours to do like a thorough scat search or a thorough spotlighting to transact.

MS SYKES: Thank you. That's helpful.

PROF. MENZIES: Mathew, Neal Menzies. That was a really interesting presentation. Thanks for that. Quite a few new ideas in there for me. I'm a soil scientist so the connection of quality of foliage to eat to the soils is a very obvious one to me and I thought, you know, looking for similar landscapes, you know, similar rainfall, et cetera, that you could make a comparison, that's a nice strategy. I missed the number of koalas that you estimated would be in the area on the basis of your Liverpool Plains work. Was it five koalas?

ASSOC. PROF. CROWTHER: Well, that would have been five koalas worth of habitat that would have been lost - - -

PROF. MENZIES: Yeah.

ASSOC. PROF. CROWTHER: - - - of what they call koala habitat, yes.

PROF. MENZIES: Yep, yep, perfect. And then here's the soil science question, mate. You know, Liverpool Plains stands out to us as an area of really high-quality soil and

that's why it's such a valued agricultural landscape whereas here we're talking about, you know, fairly acid sandy soils and so, you know, less effective as an area to grow vegetation whether it's trees or crops. How much do you think you'd scale back from, you know, the really good Liverpool landscape to this landscape, you know, are we talking four koalas or three or is it just impossible to say, Mathew?

ASSOC. PROF. CROWTHER: It will be hard to say. Again, there's variation in those landscapes I talked about before as well. Liverpool Plains does have some very, very high-quality soils as I mentioned. I think it's more the talk about sort of the, again you've got to have enough trees as well. So like soil is important but, you know, it's not, the Liverpool Plains are still like a farm and a rural landscape so I'd say, so you might have fewer koalas but I'm just thinking within that sort of area, yeah, I wouldn't say that that was an average. I would say that I think that even in times past the Liverpool Plains might have been able to support more koalas. They're sort of not at their maximum and it's not, again soil probably is a reason why they are higher but again, there's other issues there. They've got a very high chlamydia level and things like that at the moment. So 80% of them have chlamydia so they're probably not at carrying capacity. So, yeah, so there could be, it could be fewer so, yeah, you could say three but, you know, again it's all an average so there could be seven, yeah. It's hard to base something when there's actually one koala being sighted.

PROF. MENZIES: Yeah. When you've got so little data a coincidental sighting. But I guess that also reflects the fact that koalas do move around, don't they, they're not stationary in one little bit of habitat, they'll move reasonable distances?

ASSOC. PROF. CROWTHER: Well, yes and no. Like they will disperse from where their mothers are but they generally, if they find a good patch of habitat they generally stay there. That's why they have these quite stable home ranges. The movement, like we have seen them move a long distance but that's again breeding, the males will go quite a distance to get to the females in an area but most of the time it's actually quite surprising that their home ranges, they don't even overlap that much. They're very antisocial animals. They don't really particularly like each other's company. But, yeah, so they just tend to keep, so specifically the females are sort of the stables of the home ranges.

PROF. MENZIES: Okay. So, you know, we're more or less saying there'd be a resident population of koalas that occupy that sort of mine site area and surrounds and they would stay there year in, year out.

ASSOC. PROF. CROWTHER: Year in, year out unless there was something that meant that they couldn't.

PROF. MENZIES: Yeah.

ASSOC. PROF. CROWTHER: We have seen movement after like fires or there's some, well, there's a lot of clearing or whatever happens that the koalas have to move. They are capable of moving home ranges but again, it's remarkable how consistent they can be year after year.

PROF. MENZIES: Excellent. Thank you, Mathew. That clarified my couple of points of, one of clarification and one actually just because I'm a soil scientist and was interested.

ASSOC. PROF. CROWTHER: Yeah. No, there's a lot more work to be done and we are working with soil scientists on koala habitat. Just try and get that link a bit tighter because it's again, the soil affects the leaf nutrients and that affects the koalas so we're quite interested in that.

DR WILLIAMS: Thanks, Neal. Sorry, just one final question from me anyway, Professor Crowther. Sorry if I've missed this. I think you were talking about the removal of habitat, habitat loss, and correct me if I'm wrong, but I think you mentioned about 78 hectares of koala habitat being removed on the site.

ASSOC. PROF. CROWTHER: Yes.

DR WILLIAMS: What's remaining? How much is remaining?

ASSOC. PROF. CROWTHER: Oh, okay. Yeah. Well, they, actually they do say that. I'll just find where I've written that down. Because that was about 5% of the habitat that they - - -

DR WILLIAMS: Yes, yes, that's right. You mentioned the 5% too.

ASSOC. PROF. CROWTHER: Yeah. So that's about, where do I have it. I've got it written here. Here it is, yeah. So it's about, yeah, about 1,500 hectares within five kilometres of the mine development.

DR WILLIAMS: Okay. Thanks for that, yeah. Are there any other questions at all from fellow Commissioners? Okay. Well, thank you. Thank you very much,

Professor Crowther. That's been extremely valuable for us. It's a far longer presentation than you would have been able to give at the public hearing so - - -

ASSOC. PROF. CROWTHER: Yeah. So I noticed that. Yes.

DR WILLIAMS: Which is fine by us. So it was great that we had as much time as was needed to go through your material which we appreciate very much. So look, we'll leave it there I think. I don't think there's any questions I need to ask of the IPC officers just to say that this will be, as I said, the transcript will be uploaded on the Commission website along with all the other presentations that will be provided at the public hearing next week. So if that's all that we need to cover all that remains for me to do is to thank you all very much. Thank you, Professor Crowther, for making yourself available today to meet with us. Thank you for the office staff for organising the transcription and at short notice. Thank you for the observers, Sharyn and Nadja. Daniel I think is still there and Rebecca I'm not sure but thank you also for joining us in your capacity as well. So there's nothing else for me to mention. I'll close our meeting here and thank you all very much for joining us. Thank you everyone. Bye.

MEETING CONCLUDED **[5.14pm]**