

Submission to IEPMC (personal details redacted)

Dear Panel,

Thank you for the opportunity to meet with you on Tuesday 12 February, and also for the opportunity to provide this submission now.

I write to provide feedback on your recent report (*Initial report on specific mining activities at the Metropolitan and Dendrobium coal mines*, 12 Nov 2018) which deals with your panel's first term of reference and focusses only on Dendrobium and Metropolitan mines and only on water quantity (losses from water reserves). However I expect that my feedback really is more relevant to your panel's second and third terms of reference.

I have been a resident of Wollongong and NSW for almost 8 years. And over that time I have become increasingly concerned, shocked and frustrated by the lack of protections of the Sydney Water Catchment and in particular, special areas within the catchment, from coal mining. **I repeat my message at the meeting on 12 February which is that I do not find it acceptable for coal mining to be allowed to continue doing any damage in our water catchment. That means no amount of water loss from the Sydney Water Catchment swamps, waterways or water reserves due to coal mining is acceptable. This really translates to banning coal mining from the water catchment altogether. Water is much more precious than coal.**

I am not an expert on coal mining, I am not an expert on groundwater modelling, but I am an applied scientist with considerable diverse experience with mathematical modelling, some in environmental contexts. When reflecting on your report and my experiences so far, just related to water quantity issues only, then what is clear to me is that mining companies don't know what the losses are going to be, Department of Planning and Environment doesn't know what the losses will be, any convened PAC doesn't know and also you, the IEPMC don't know. Understandably of course, how could you know? I am not privy to the databases that you refer to in your report, but I doubt that you have adequate and extensive spatial-temporal data on which to validate any of the models. Based on the limited data available so far, you might assess that one model is better than the other in terms of quantity losses in one context over another, but my guess is that your data is 20-30 years deep at best and entirely patchy spatially and of variable quality. What good are models based on such limited data when we are (should be) contemplating water security for people and the environment, for the next 200-1000 years?

The real problem is not that no-one knows exactly what the water losses will be, or even what the cumulative water losses will be (across different mines, and over extended time) but that without really knowing anything thoroughly, NSW Department of Planning and Environment nonetheless gives the benefit of doubt to mining proposals and approves them. That is a failure to apply the precautionary principle on their part – and is so wrong.

What the NSW Department of Planning and Environment does know, and what many in the community do know, is that coal mining damages water catchments. The exact amounts of water losses might be debatable and uncertain, but I think we could all agree that the evidence supports that underground coal mining has damaged and is damaging the Sydney Water Catchment. So a continuation of the status quo whereby the NSW government continues to allow any coal mining in the Sydney Water Catchment is negligence, and a failure of their duty of care to protect the capacity of the Sydney Water Catchment. The Sydney Water Catchment is a vital piece of environmental health infrastructure, and is relied on by the ever-growing population of Sydney and Wollongong.

Your initial report concerns water quantity only, and your second term of reference requests a focus again on water quantity. And given this, I have focussed above also only on water quantity damages. But it is clear also already that water quantity losses from the catchment

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are not the only problems. As I now understand it, based on reading too many reports and based also on limited first-hand experiences and observations, underground coal mining (whatever type):

- directly damages geological structures, potentially causing collapses, fracturing, subsidence, connectivity to water bodies, water losses;
- in some places, directly damages 'preserved' bushland through above-ground infrastructures (roads, service areas, monitoring holes etc);
- potentially damages upland swamps, particularly through loss of water-retention capacities, leading to profound environmental changes with associated loss of species habitats and ecosystems;
- allows exposure of previously buried coal-rich materials to air and/or water, which can react or change state, leading to observed phenomena such as: (1) methane/other gas releases; and (2) pH, turbidity, coal particulate and heavy metal pollution of mine waters or nearby waterways (e.g., see relevant reports by Dr Ian Wright at https://www.westernsydney.edu.au/staff_profiles/uws_profiles/doctor_ian_wright). There seems to be many failures of regulation and of monitoring/compliance related to coal mining in the Sydney Water Catchment. That is, here I express water quality concerns in addition to the earlier water quantity concerns. And there is not even any guarantee that water quality problems will improve with mine closures (water pooling issues too).

OF course, this list of environmental damage associated with coal mining is not complete, as it does not even include climate-change effects, or direct or indirect social effects. I appreciate that such things are not within your terms of reference. I also appreciate that mining approvals for Dendrobium and Metropolitan were granted years ago, and that your initial report also specifically focusses on these two mines. BUT I appeal to you as a panel to reflect my sentiment, and to reflect the requests of community others who ask for much greater protection of the Sydney Water Catchment, in your later reports and recommendations to NSW Department of Planning and Environment.

I feel that you as a panel are being set up to discuss the wrong things. That we as responders are being also set up to discuss the wrong things. I do not want to work out or discuss which model is better or what amount of water loss will be lost from Dendrobium and/or Metropolitan collieries. I am all for studying the environment to understand how it works and I agree that we should try to model subsidence and fracturing such as has occurred. I ask that these models (as limited as they are to date) should be put to the service of protecting (and repairing/remediating) our water catchment (and other relevant places) as best we can. But I do not want to put my time or others' modelling efforts put to the service of going along with Metropolitan/Dendrobium mining approvals that were granted years ago. This problem needs a political fix rather than a technological/scientific fix. As Mary O'Kane said in her 2014 reports about cumulative impacts on the Sydney Water Catchment: "**Finally, it is important to recognise that many of these issues have a value dimension – that is, the features to be protected and the level of impact to be tolerated are not items that can be identified through a purely scientific enquiry. These are conversations that must be held with the community, in order for government to effectively balance the need for the economic resources of the Catchment with the ecosystem services it provides (drinking water) and the values of the land itself.**"

(http://www.chiefscientist.nsw.gov.au/data/assets/pdf_file/0007/44485/140530_SCA-Report-Final-Combined.pdf, p30)

My limited understanding is that even despite these existing approvals for Dendrobium and Metropolitan, mining cannot proceed until NSW Department of Planning and Environment

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accepts and approves a subsidence management plan (SMP). And after that mining still can't proceed post SMP-approval until conditions attached to the SMP approval are met to the satisfaction of the Secretary (Planning). Isn't it also true that your next reports and recommendations could require approval conditions to meet requirements of NO DAMAGE WHATSOEVER, NO WATER QUANTITY LOSSES, NO WATER QUALITY DEGRADATION reflecting the requests of community members present on February 12? The legislated purpose of the Special Areas within the Sydney Water Catchment is to protect the catchment's waters. Please give that legislated purpose some enacted meaning!

Very simply, my message is a VALUES message: I write to request that you recommend that the Sydney Water Catchment (including its special areas) should be completely off-limits to all forms of coal mining. Water is too precious a resource to the community and to the environment. Any amount of water loss from the catchment due to coal mining is unacceptable (as is any impact on water quality and any deterioration or loss of precious upland swamps and any cumulative effects). No water loss allowable in one coal mine or any coal mine.

Yours sincerely,

Deidre Stuart