

Submission to IEPMC (personal details redacted)

Submission to the Independent Expert Panel on Mining in the Greater Sydney

Catchment Special Areas (IEPMC)

Julie Marlow

Thank you for this opportunity to express my concerns about mining in our drinking water catchment to the Independent Expert Panel on Mining in the Greater Sydney Catchment Special Areas (IEPMC) and to respond to the IEPMC's initial report.

My concerns

I live in Wollongong and, based on reports and photographic evidence provided by local independent experts, I have long been concerned about the adverse environmental impact of mining in the Special Areas and the risks it poses to dams vital to Greater Sydney, including the Illawarra, and to the precious ecological values of the catchment.

While I personally have no scientific expertise, my commonsense leaves me in no doubt that risks are significant if not extreme.

My desperate hope is that the work of the IEPMC will expose the level of risk and leave no doubt that the threat to water supplies and the area's ecology is unacceptable. The assumption behind the IEPMC's terms of reference is that mining will continue. However, I believe it is well within the IEPMC's remit to recommend a moratorium on mining in the catchment until it can be reliably shown that "risks to the total water quantity and holding capacity of surface and groundwater systems, including swamps and reservoirs" are inconsequential, and that "methodologies used to predict, monitor, assess and report on mining effects, impacts and consequences" are reliable.

I am scandalised by the favouring over the decades by approval bodies of the assessment reports used by mining companies to justify their plans and activities despite the incompatibilities between these reports and the reports of independent experts. The latter have provided strong evidence of serious environmental damage resulting from mining and threatening water supplies. It is shockingly revealing that WaterNSW, in its submission to the IEPMSC (Task 1 Matters, May 2018), feels compelled, when discussing key findings of the Height of Cracking Study (PSM 2017), to expound the importance of independent science: "A further important finding arising from the HoCR and associated review reports is that independently engaged studies produce different results to those engaged by mining proponents. WaterNSW consequently recommends that the Panel consider this and make recommendations aimed at ensuring that such studies generate information in which all stakeholders can have confidence."

The Special Areas has been legislated as such for good reason: to provide protection to vital water supplies for millions of people in Sydney and thousands in the Illawarra. I object to any activity that poses significant risk to the quality and quantity of our water supplies.

To my mind, even a remote risk to significant water loss would be unacceptable. Our water is 'life', too precious to be exposed to even a remote risk.

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Coal mining presents significant risk to our water supplies. I understand that the geology, hydrology, ecology etc., of the Special Areas are all very complex and it is clear from the IEPMC report that science has not/cannot yet provide certainty on how much water is being lost, or will be lost, as a consequence of coal mining. However, environmental damage to the Special Areas – drainage of swamps, fissures in sandstone, contaminated water – is known to be the result of mining. The scientific uncertainty plus the mining damage surely equate “extreme risk”. On the basis of uncertainty alone, the precautionary principle should be more than enough to require moratorium on mining until, and only until, decisions based on certainty can be made.

A further unknown factor concerns closed mines. The amount of water that has collected and continues to collect in old mines and worked-out sections of current mines is yet to be established.

Putting uncertainty aside, the estimates of water loss stated in the IEPMC report are not insignificant. Current average total inflow to the Dendrobium alone is said to be 3ML/day from the surface, that is, 40% of the total water received by the mine (7.5ML/day). This surface water is very likely a loss to our water storages. This loss is unaffordable, bearing in mind that Special Areas’ dams are already below 60%, NSW is in drought and, most urgent, we have the impacts of climate change bearing down on us. Furthermore, the contribution of near-surface groundwater to our water stores is known to be important yet it is not given due consideration in the IEPMC’s initial report.

Please note that in the National Parks Association report of December 2016, displayed on the IEPMC web page, large groundwater drawdowns in the rock layer securing Avon and Cordeaux Reservoir are listed (Table 5). This is particularly relevant to my hometown of Wollongong, which depends on the waters stores of the Avon.

In its above mentioned submission, WaterNSW states “... the single most important consequence which has been highlighted by the HoCR [Height of Cracking Study] is that subsidence induced by the Dendrobium Mine longwalls is likely to be resulting in significant diversion of surface water which would otherwise contribute to Greater Sydney’s water supply. The associated degradation of water quality and ecological integrity of Special Area catchments are also of concern.”

WaterNSW also reiterates a key finding of the Catchment Audit 2016 Mining in Special Areas: “The Audit found an emerging issue of unquantified loss of surface flows associated with the cumulative impacts of underground coal mining activities.”

Following are further points I need to make:

- The risks to our water catchment are compounded by current impacts of climate change and the even greater impacts predicted for coming seasons.
- As our population grows so does demands on our water supplies.
- Coal extraction has a short-life. However, damage caused by coal extraction is permanent. No known methods exist to repair the damage being caused and biodiversity offsetting is not a feasible option. Please note that the offsets for the swamps over the Dendrobium mine are not ‘like-for-like’ and are not even in the Special Areas.

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My response to IEPMC's initial report November 2018 (the Report)

I am alarmed by the Report's conclusions and recommendations.

For the Dendrobium, the IEPMC concludes that (I underline where I feel the emphasis should lie): weak correlation is exhibited between water inflow into the mine's Area 3B; this "high influx" is very likely within "a connected fracture regime that extends upwards to the surface; 3ML/day of surface water and seepage from reservoirs is currently being diverted into the mine workings; and, very careful risk assessment is needed going forward.

This picture of fracturing and movement of water surely spells high risk. IEPMC's recommendation for 'very careful' risk assessment strongly implies that previous assessment has not been careful enough. More to the point, no amount of care can counteract the burden of scientific uncertainty: current scientific knowledge is inadequate. As stated in the Report's Executive Summary: "The insufficiency, variability and limitations of information restrict the scope and accuracy of calculations of groundwater and surface water diversion from the catchment into mine workings and other storages".

For the Metropolitan mine, the IEPMC makes the only conclusion possible: that mining beneath the Woronora Dam poses risks.

It is disappointing that, after painting this alarming picture, the IEPMC then endorses the Department of Planning's approach to legacy damage and to new knowledge. Its grounds for doing so are weak. It is stated in the Report that the DPE accommodates new knowledge by adopting an incremental approach to approvals; relies on miners' compliance to conditions attached to plans; and makes selective use of independent experts. These undertakings by the DPE do nothing to address the high level of risk and simply cannot guarantee safe mining.

I commend the IEPMC's recommendations for "robust independent peer review" of applications and/or "demonstrated history of reliability" of applicants; high quality independent risk assessment; and, key stakeholder approval of "the standard of investigations, data collection, analysis and reporting". However, these recommendations are unnervingly revealing. What they imply is that approvals for past and current mining activities are based on investigations and assessments compromised by lack of independence and unacceptable, unprofessional standards.

I also note with concern that the IEPMC has yet to consider a range of critical matters, such as cumulative impacts of flow losses, and the practicality of establishing a robust regional water balance. No mining should be allowed to proceed while uncertainty exists in regard to these critical matters.

Conclusion

My plea to the IEPMC is to strongly advise the Government to cease coal mining in the Greater Sydney Catchment Areas as a matter of urgency. Please do so now – waiting for the results of your study into the Russell Vale and Wongawilli mines and the rest of the catchment, and for decisions by government, is to delay unnecessarily. There is no doubt that significant environmental damage has occurred and continues to occur as a result of mining operations, including gross disruption of the ecological water cycle. The risk of water

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loss to storages is high. Past and current approvals for these operations are beleagued by scientific ignorance and unresolved technical difficulties. Climate change is already adversely impacting our water supplies and, according to well-based prediction, the impacts will get worse. For the sake of the lives of present and future generations, coal mining in our water catchment is irresponsible in the extreme, and must stop until the key stakeholders—the people of the Greater Sydney area, experts and lay people alike—can have full confidence in the approval processes and the thoroughness and reliability of ongoing monitoring.