



## THE COLONG FOUNDATION FOR WILDERNESS LTD.

Wednesday January 9<sup>th</sup>, 2019

Emeritus Professor Jim Galvin  
Chair  
Independent Expert Panel for Mining in the Catchment  
[catchment.panel@chiefscientist.nsw.gov.au](mailto:catchment.panel@chiefscientist.nsw.gov.au).

Dear Professor Galvin,

**ToR1 submission regarding Metropolitan and Dendrobium Mines in the Metropolitan Special Area**

The Colong Foundation notes that the "initial report\*" by Independent Expert Panel for Mining in the Catchment (the Panel) confirms surface water is being diverting into the workings of the Dendrobium mine from surface streams and stored waters. This is a starting point but many stakeholders are disappointed that knowledge about environmental impacts to catchments by coal mining has not progressed. There is insufficient relevant data to understand mining impacts on water supply catchments but that should not be an excuse for inaction to significantly reduce this damage.

A precautionary approach to mine regulation is appropriate. It should be agreed by all stakeholders that application of the precautionary principle to decision making has not been adequately applied to mine approvals within Special Area catchments. The staged approach to mine consents and further to assessment is also inadequate when faced with the level of uncertainty and catchment damage experienced. Mining intensity must be reduced for existing mine operations.

The Colong Foundation believes that an analogue of the Environment Protection Authority adaptive pollution control framework should be applied to existing coal mine approvals, so that more stringent controls can be applied when circumstances dictate it necessary. In a roundabout way, the regulatory power to increase restrictions on a development consent, I believe, is what your Panel concluded is necessary and appropriate for the Dendrobium mine. The Colong Foundation believes provisions for adaptive coal mine development consents with more stringent (or more relevant) performance criteria should apply when it is necessary to reduce damage. Monitoring reports of damage "within performance criteria" are pointless if after approval of the mine the subsequent damage is found to be serious and there is no means to reduce that damage.

The Foundation believes that the impacts of "intense" longwall coal mining at the Metropolitan and Dendrobium mines affects the capacity of the affected parts of the Special Area to collect, transmit and store water. The Foundation would like research to determine how these three characteristics of a water supply catchment are being affected by longwall coal mining. To do this a consistent

catchment monitoring data set must be developed across all underground coal mine operations in the Sothern and Western Coalfields. This can only be done if the regulatory framework is changed.

Further, there is a statutory obligation to protect the ecological integrity of Special Areas. In addition to Special area's capacity to collect, transmit and store water, the Foundation would like the Panel to make recommendations regarding instream storage and near surface ground water storage in swamps. I believe these factors are already part in your Panel's considerations.

Existing mined areas should inform research design and advise stakeholders on the important factors sensitive to mine damage. What have stakeholders learnt from our collective mistakes? The Colong Foundation has learnt that current management and oversight takes too long to respond to significant damage and by default allows catchment to damage continue over wide areas.

The Panel confirmed that total mine water inflows to the Dendrobium mine responds to rainfall, establishing that there is a hydraulic connection between the underground mine workings and surface water catchments. The Panel undertook a reservoir a water balance for Dendrobium Mine area and estimated surface flow losses due to longwall mining to be 2.4 ML/day or 3% of the incident rainfall. So is the remainder of losses, 0.6 ML/day of mine inflows, attributed to leakage of stored water? It is not clear from the initial report.

A key conclusion in the report, as I read it, is that the 20 year old Dedrobium consent had maximised its mining dimensions (i.e. mining intensity) which, in turn, is reflected in a high percentage extraction of the coal resource, a high level of vertical surface displacement and significantly higher daily water inflow than at Metropolitan Mine. This is logical, higher intensity coal mining causes more damage to the capacity of the catchment to collect, transmit and store water. Stakeholders do not understand relationship and its thresholds.

I add here a work of caution. I believe there is too much emphasis in the Panel's initial report placed on surface water reporting to mine being a key consideration. This may be a consequence of stakeholder ignorance about the water that is not reporting to streams following mining but also not reporting to the mine. The unknown amount of water not reporting is important.

What then is the significance of catchment (stream and swamp) damage arising from the Metropolitan mine? When it is not raining, the streams and swamps affected by the Metropolitan mine do not transmit surface waters. In the case of Flat Rock Swamp, it no longer exists to collect or transmit water.

Water is lost from steam pools to a significant degree, despite mining at a lower mining intensity at this mine. In-stream pools may overflow during medium sized rainfall events, but the Foundation's believes that in-stream pools on the Waratah Rivulet stand empty nearly all the time. So the classical relationship of mining intensity and catchment damage is not linear or simple. Regulation that assumes that it is so, may be a mistake.

The Colong Foundation is disappointed that the independent report did not classify and map the streams and swamps damaged by the Dendrobium and Metropolitan mines. Better mapping may help understanding of catchment damage.

The reason for the absence of better mapping may be that there is no agreement about how impact is to be measured. The Panel needs to make decisions upon, and not be stymied by complexity or technical disagreements. The precautionary principle should guide such decision making by the Panel.

For example, a stream that can't hold water in its pools between rainfall events may not necessarily be significantly impacted according to a mine's consent conditions if that storage is not a high proportion of rainfall. Yet most people and decision makers would agree that these dry streams have been significantly impacted.

The Colong Foundation believes that the Panel adopted an inconsistent position of accepting definition of significant impacts for a stream to be a function of incoming rainfall from mine consent conditions, while flagging that the definition may be flawed. The Panel would be well aware that a stream that dries out when it's not raining is a stream that loses its dependent fauna and flora. Such streams should be classified as having been subjected to a significant mining impact. The Panel should move on from the flaws in the consent, to classify and map streams and swamps that have been damaged in an attempt to gain an overall picture of catchment damage.

As the Panel understands, the definition of what is unacceptable damage in the consent conditions arises from mining companies that draft consent conditions for an Independent Planning Commission and regulatory agencies to consider. When a draft condition appears reasonable it is usually waved through. This then determines subsequent monitoring and the Colong Foundation agrees with the Panel that this is not good enough. Inconsistent and unhelpful data sets from each mine do not inform stakeholders or decision makers. Nobody is able to compile data sets from the various mines and it is difficult to develop an overall picture of the damage occurring in the catchment.

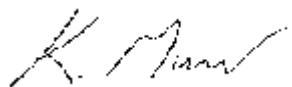
The Colong Foundation is pleased that the Panel has recommended a review (I read reduction) of mining to avoid significant environmental consequences for watercourses. It also recommended that the definition of significant stream flow impacts be "on meaningful surface water loss performance measures". Yes, twenty years down after the Dendrobium coal mine was approved and the regulatory agencies may get on top of its regulatory game. Or it may end up being overwhelmed by yet another battle of experts over the nature of these meaningful performance measures. The Panel must apply leadership and set down performance measures for existing mining operations.

One overall criticism of the Panel's initial report is its complexity. Too few regulators and politicians will understand it. The Panel must make its reports accessible. Complexity is a reflection of the highly contested and political nature of coal mining in water supply catchments. It must be overcome, otherwise the mining industry controls the debate through its technocrats to the disadvantage of the water supply catchment.

The Colong Foundation believes complexity and jargon is used by the industry to control issues. I wish the Panel to spend more time cutting through complexity and seeking relevance. The stakeholders, bureaucrats and decision makers need to know the full extent of damage to catchments and the Panel's views on the significance of that damage.

Thank you for the opportunity to comment. I apologise that I am unable to delve further into your important but baffling report.

Yours sincerely,



Keith Muir  
Director  
The Colong Foundation for Wilderness Ltd

\* Initial report on specific mining activities at the Metropolitan and Dendrobium coal mines, 12 Nov 2018