

## Submission to the Independent Planning Commission (IPC)

### Regarding:

### McPhillamys Gold Mine Proposal, Kings Plains NSW

**Background:** I live 23 km NE of the proposed mine. I am a resident of the central west for the first 20 years of my life, and the past 7 years. Long-term family connections to the central west towns of Bathurst, Oberon, Blayney and Forbes. Retired veterinarian; former medical writer and editor; my career has included research assistant roles in sociology, and research associate/research project manager roles in early childhood education and care (0-3 years).

My submission concerns **human health, and its intrinsic interconnection with animal/environmental health.**

**Specifically:** in the current era of climate change and increasing pandemic risk, there is a prescient need for a holistic **cumulative assessment of the interconnected human-animal-environmental health impacts described in the DPE Assessment Report.** The DPE report of November 2022 responds *individually* to the applicant's multitude of human-animal-environmental risks and impacts described in the revised development application and EIS, however the DPE takes a 'silo' approach that **fails to connect these risks to form a summative impact statement for either human health or for environmental health.**

I therefore request that the IPC review the DPE report and the DPE processes to address and rectify this absence through a plan of action that is relevant to global expectations of risk assessment in this era of negative climate change impacts on future human health, and increasing future pandemic risk. To this end, world governing bodies have elevated a **One Health Framework** as the tool to assess human-animal-environmental impacts in a model that is responsive to the real-world interconnectedness of human-animal-environmental health.

Please refer to:

WHO One Health Expert Panel: <https://www.who.int/groups/one-health-high-level-expert-panel/meetings-and-working-groups>

Public Health Association of Australia – One Health Special Interest Group: <https://www.phaa.net.au/about-us/SIGs/one-health-sig> ]

Gruetzmacher, K., et al. The Berlin principles on one health – Bridging global health and conservation. *Science of the Total Environment*. Vol. 764 April 2021. <https://www.sciencedirect.com/science/article/pii/S0048969720364494>

**See figure in BOX 1 in the following Medical Journal of Australia article:**  
<https://www.mja.com.au/journal/2022/217/9/vision-one-health-system-australia-need-rethink-our-health-system>

I request the following of the IPC Review:

- That the IPC review uses the **One Health Framework** to undertake a **holistic** interrogation of *human-animal-environmental health impacts* of the mine proposal, whereby the IPC engages a **One Health Expert Panel** to investigate cumulative impacts, prior to any progression of mine approval or denial.

Such an integrated review is a contemporary ‘gold standard’ expected of a review that seeks to understand health impacts, in-depth, in this era of climate change and emerging pandemic risk.

- **POINTS (A), (B) and (C) below** make specific reference to impacts described in the documents before the IPC, as these are examples in the DPE Assessment Report in which no holistic/cumulative examination has occurred by the proponent or the DPEI to garner the interconnected and cumulative human health risks. These following points represent **minimum One Health investigations requested of the IPC in considering the DPE’s response to the McPhillamys Gold Mine proposal:**

**(A) Child and infant health impacts:** investigation of in-perpetuity impacts on the children of Blayney\* and surrounding localities of heavy metal\*\*and silicate accumulation in the environment through both windborne dispersal and groundwater seepage during mine construction and operation, including tailings failures, and across 200 years following mine closure. This investigation at **minimum would include baseline soil lead** measurements in Kings Plains and in Blayney, and sampling of **baseline blood-lead levels** in children residing in Blayney and Kings Plains today.

\*Blayney township, located 7 km to mine site, has a child population of **1,982 children aged 0 to 19 years (448 aged 0 to 4 years)** according to the ABS Census 2021.

\*\*Heavy metal contaminants from McPhillamys’s proposed mine include lead, arsenic, cadmium, chromium, molybdenum, among others (see p 31 of DPE Report) .

This investigation would be formulated according to the advice of an expert One Health Panel that includes paediatricians and human health toxicologists. In its assessment, the cumulative risk of harm must include **Blayney township becoming sandwiched between two major gold extraction and ore processing mines** (Cadia 32 km west and the proposed McPhillamys 7 km east), **and a third disused gold mine (mined for > 100 years) at Browns Creek, 9 km west of Blayney**, all of which are either historical, current or proposed sources of heavy metal and silicate accumulation in the environment.

Using lead (Pb) as an example, such a review needs to account for the NHMRC in 2015 halving the safe blood lead level in children from 10 mcg/dL to 5 mcg/dL.

I note that in the proponent’s ‘Response to submissions’ Appendix E

(<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9505%2120200908T224210.061%20GMT> ) – in section B8 (unfortunately there are no pages numbers here, but it’s on the 10<sup>th</sup> and 11<sup>th</sup> pages of section B8 of Appendix E) the proponent’s health impact report diminishes the significance of the NHMRC halving tolerable blood lead levels from 10 to 5 mcg/dL in 2015. Here, the proponent states that it persists in using the pre-2015 safe blood lead level of 10mcg/dL used by the NEPM in calculating risk of lead accumulation from the McPhillamys’s project. The IPC needs to confirm whether any model of environmental lead contamination in the DA and EIS includes the safe lead level of 5 mcg/mL. If not, all modelling needs to be repeated to include the new safe lead level prescribed by the NHMRC in 2015, and children of Blayney and Kings Plains, and the soils they are exposed to need to be examined at baseline.

**(B) Woodland clearing, flying fox colony behaviour, Hendra virus and other bat viruses in Eastern Australia** – zoonotic risk in which animal viruses shift from their host species to infect humans can occur when the host animal’s environment is significantly changed, often through land clearing, forcing the species to change feeding behaviour that shifts that animal population closer to human population centres. This is where zoonotic risk increases significantly. This has occurred with Hendra virus in Eastern Australia, first reported in humans and horses in the early 1990s, and most

recently at its furthest south occurrence in the Hunter Valley in 2018. At first the black headed flying fox was the species assumed to be the host of Hendra virus, however recent research (sampling of grey headed and spectacled flying fox populations for viral markers), has shown a novel variant of Hendra virus in the grey headed flying fox (ref: [https://tools.cdc.gov/podcasts/media/pdf/EID\\_05\\_22\\_HendraBlackGreyFoxesAustralia.pdf](https://tools.cdc.gov/podcasts/media/pdf/EID_05_22_HendraBlackGreyFoxesAustralia.pdf)). This flying fox is seasonally nomadic, and in recent years changes in colony behaviour and location have been observed, including new colonies in 2022 close to Canowindra CBD, to the west of Blayney (presentation to IPC Feb 2023), and since 2017, grey headed flying fox colonies have also formed in the CBD of Bathurst, to the east of Blayney. These unusual colony observations are supported by the below research paper [Eby, P. et al] as due to the impact of land clearing and bushfires in seemingly distant regions that has nonetheless resulted in the close proximity of bat-human populations in townships close to the McPhillamy's mine proposal. The DPE Report and the EIS describe clearing 22 Ha (54 acres = 41 football fields) of critically endangered grassy boxgum woodland to create the mine. This is *not* an insignificant area of flying fox winter food-source clearing. Given that this type of woodland grows the typical pollen and nectar food sources of flying fox species, clearing this woodland **becomes an impact risk for bat-human viral zoonotic disease spill-over across Eastern Australia**. This mine proposal must be therefore assessed in terms of **zoonotic disease risk actions**.

Once again, a One Health Expert Panel is in the best position to collaboratively explore these risk actions.

The applicant's EIS also describes disturbance to the habitat and potentially the ecological behaviour of several bat species, including the large bent-winged bat, large-eared pied bat, and others. Has the DPE investigated the viral spill-over (zoonotic) risk of these impacts of the proposed mine?

Please see the following paper published in the prestigious *Nature* journal in 2023 from on-the-ground Australian scientific research that supports the relationship between land clearing actions and zoonotic risk for humans in Australia today:

**Eby, P. et al. Pathogen spillover driven by rapid changes in bat ecology. *Nature* 613, 340-344 (2023).** <https://www.nature.com/articles/s41586-022-05506-2?fbclid=IwAR1XMNrwlpYDGAaggWiCF3tFa9sy9p5d9NMSFZPITKNjCCXmgY8Q-30xiGE>

**See also:** Baranowski, K., et al. Quantifying the impacts of Australian bushfires on native forests and grey-headed flying foxes. *Global Ecology and Conservation*, vol. 27, June 2021. <https://www.sciencedirect.com/science/article/pii/S2351989421001165>

Further, abundant literature on the viral leap of SARS-CoV2 (Covid-19) in China from bats to the human population in 2019 describes the future reality of zoonotic risk for human health and the likelihood of local epidemics and global pandemics. A project that seeks to land clear an extensive area of bat feeding habitat, close to towns already observing altered colony establishment of flying foxes in close proximity to human populations, is immediately engaging in zoonotic risk actions that must be expertly assessed. The Covid-19 pandemic serves as a prescient warning that environmental health, animal health and human health are crucially interdependent. Continuing to silo risks in environmental impact assessment processes is a rapidly outmoded approach and cannot be justified in 2023, in a world that seeks to minimise pandemic risk, and maximise human health and equity through ethical and sustainable acts, decisions and processes. I urge the IPC to contemporise its review of this proposal with the very latest in scientific scrutiny utilising the One Health framework, as exemplified by the quadripartite WHO High-Level Expert

Panel on One Health. Incorporating present circumstances and contemporary knowledge practices is incumbent upon the IPC process, and this includes co-considering impacts to human-animal-environmental health especially when the perils of ignoring this triad of interdependence has been so starkly demonstrated in the enduring Covid-19 pandemic.

Please refer to the following additional research paper in support of this investigation:

**Woolaston, K., Nay, Z., Baker, M.L. et al. An argument for pandemic risk management using a multidisciplinary One Health approach to governance: an Australian case study. *Global Health* 18, 73 (2022).** <https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-022-00850-4?fbclid=IwAR0IJfJPY4984i1jHiJsEQQU29hyzE-RywcajrCH3AQiUroAAlyDnyXTBKU> ]

**(C) Human mental health:** oral presentations to the IPC hearing in Blayney in February 2023, described in detail harrowing stories of mental distress that the mine proposal had caused residents in its immediate locality of Kings Plains. Further presentations from the communities in close proximity to the nearby Cadia Valley gold mine described ongoing mental anguish at the lack of agency or control in the face of tailings dam failures and wind-borne tailings-dust pollution of the local environment from that neighbouring mine. These presentations demonstrate that damage to an environment equates with damage to the mental health of that environment's residents. I urge that each negative environmental impact described in the DPE Report and the EIS be assessed for its linked negative mental health impacts. Each negative environmental impact must be fully justified and, if approved, mitigated, not just in terms of environmental mitigation, but mental health mitigation strategies. This is with the understanding that not all human mental health impacts are 'mitigatable' in real terms. It must be questioned whether a mining company has the capacity to mitigate the collective mental health of a community, and if not, what must they become to both mine and carry causal responsibility for the negative mental health impacts on the communities in which they choose to mine. An expert One Health Panel that includes experts in mental health I believe has the capacity to assess this complex area.

**CONCLUSION:** The purpose of this submission is to respectfully promote that the IPC undertakes its review to highest standards of contemporary health impact assessment in its review of the DPE Assessment Report. In the context of climate change and emerging pandemic risks, the highest standards expected of an integrated review would incorporate the **WHO-endorsed One Health Framework** to assess environmental impact in its real context of the interconnected triad of human-animal-environmental health.

Failing this, the IPC is requested to justify any process that does not fully engage with expected standards of a holistic integrated review of human health and environmental health risks, and the subsequent impacts to human, animal and environmental health that may result.

I ask that any balance sheet created by the IPC and/or DPE of positive and negative human health impacts of the McPhillamy's mine proposal consider negative human health impacts and negative environmental health impacts to be ADDITIVE, CUMULATIVE and INTERCONNECTED and that the **TOTALITY of such impacts must be given appropriate weight (value) in the deliberations of the IPC.**