

Submission
No 28

**INQUIRY INTO CURRENT AND POTENTIAL IMPACTS OF
GOLD, SILVER, LEAD AND ZINC MINING ON HUMAN
HEALTH, LAND, AIR AND WATER QUALITY IN NEW
SOUTH WALES**

Organisation: Healthy Rivers Dubbo

Date Received: 31 August 2023



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Portfolio Committee No. 2 - Health
Parliament House
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Submission - Parliamentary Inquiry

Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales

31/8/2022

Healthy Rivers Dubbo is a grass roots community network dedicated to providing a strong voice for our local rivers, aquifers and wetlands in the Murray-Darling Basin for the benefit of wildlife, plants and people. We pay our respects to Elders past and present, and acknowledge that this land was never ceded.

Healthy Rivers Dubbo (HRD) strongly objects to the proposed Bowden's Lead, Zinc, Silver Project near Mudgee. This submission will summarise our concerns about this project.

Process

The project was approved by the Independent Planning Commission in April 2023, before any of the controls for the projects risk have been addressed.

The cumulative impact of heavy metal mines in the Central West has not been assessed, and current projects are not adequately regulated.

People in the central west are already suffering the impacts of heavy metal mining, and these experiences are not reflected in the outcomes of the planning process.

Water Use

This project would be located on Lawsons Creek, which flows into the Cudgegong River and then into the Wambuul-Macquarie, Bogan and Darling-Baaka, into the Murray River.

This project would use a lot of water - 1,825 million litres (ML) of water a year, and has no external water supply. For scale, the whole Dubbo Region uses 8,000 million litres from the river per year.

The modelling done to assess the hydrological impact of this project fails to identify and assess impacts on ground and surface water quality and quantity, including from acid mine drainage.

Tailings dam

Bowden's tailings dam has been approved to seep 1.6 million litres (ML) per day of contaminated water into Lawson Creek. This must be reviewed.

The assessment relies on average rainfall data, which does not predict the damage that is done by severe events.

The tailings dam for the Bowden's Lead, Zinc, Silver Project proposal would be built within a kilometre of Lawson Creek. It would be unable to withstand the impacts of a major flood. We know that climate change has brought on greater risks of severe, damaging floods.

Lead is a particularly environmentally damaging metal to mine. The process creates a lot of tailings.

The Central West is currently suffering the impacts of the failure of the Cadia mine tailings dam. Tailings dams are much more likely to fail than dams that hold water, because of the great weight of sludge they contain. Over the past century the failure rate for tailings dams was more than 100 times higher than that of reservoir dams.¹

"Lead is almost always contained in sulfide ores as galena, or lead sulfide. Waste rock material from mines that contain metal sulfides can lead to sulfuric acid drainage when left out in the open air. Tailings also contain minerals and materials that can lead to dangerous runoff and water contamination when stored improperly. Some mine waste and tailing dump sites are structurally unsound and often overflow and break, allowing contaminants to spill out over the surrounding environment."²

HRD is concerned that the assessment of the integrity of the tailings dam, which would contain heavy metals and cyanide, does not factor in the much higher risk of severe flooding due to climate change.

The irreversible pollution risk to the Cudgegong River, Burrendong dam, Wambuul-Macquarie River and the Ramsar listed Macquarie Marshes is unacceptable. These water courses provide town water for Gulgong, Mudgee, Wellington, Dubbo and communities between and beyond.

The assessment that groundwater would only be polluted up to 40 metres from the mine site has no basis for fact. There is nothing to stop the pollution from permeating the ground over time. **Such an enormous and permanent risk to groundwater sources is unacceptable.**

¹ <https://www.sciencemag.org/news/2020/08/catastrophic-failures-raise-alarm-about-dams-containing-muddy-mine-wastes>

² https://www.worstpolluted.org/projects_reports/display/84

Climate Change

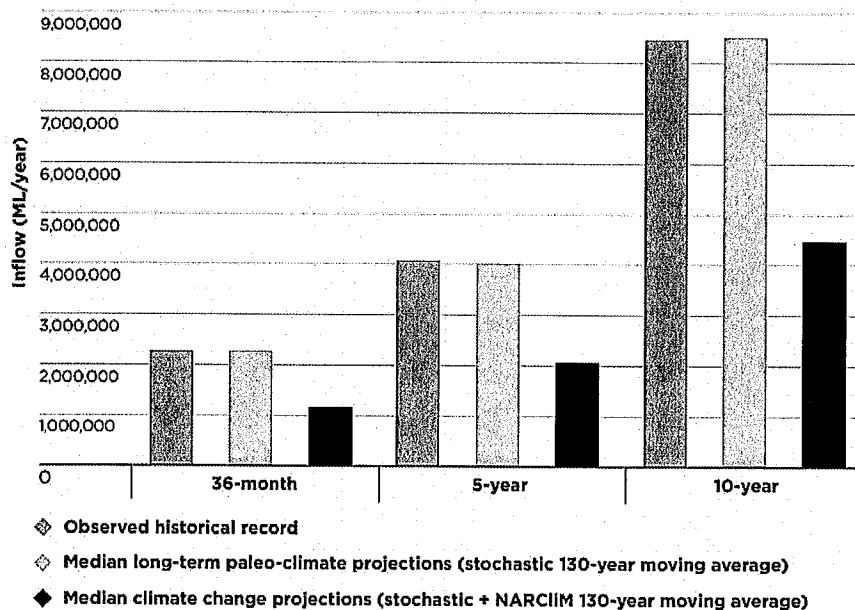
The draft Macquarie Regional Water Strategy (RWS) presents climactic modelling produced by the NSW Government showing the impact of climate change on water in the valley. The report presents what it says is the worst case scenario, however we have witnessed a summer of horrendous disasters in the northern hemisphere, and all the signs point to the so-called 'worse case' scenario actually being understated.

"...a study this year of ocean-salinity data from between 1950 and 2000 by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) found that the global water cycle – **the rate at which water evaporates and falls as rain – has increased at double the pace projected by models** that aim to simulate the global climate."³

The RWS tells us that in the next few decades the **risk of extreme drought could increase from 1% to 20-25%**, and that **inflows into Burrendong dam could decline by up to 50%**.

The drought experienced in 2019/20 was unprecedented in its extremity. The valley was months away from the river being cut off at Burrendong dam. **There is not the extra water available that would be needed to suppress lead dust at a new lead mine.**

Figure 12. Median annual inflows into Burrendong Dam under three climate scenarios



Source: Department of Planning, Industry and Environment—Water 2020, hydrological modelling

³ <https://www.newscientist.com/article/mg21628911-600-climate-downgrade-extreme-weather/#ixzz72eXjse8>

Not only is climate change bringing more frequent and more intense droughts, we are also seeing globally that when floods do come, they are more likely to be large and more destructive.

For more information:

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