

**IMPACTS OF THE WATER AMENDMENT (RESTORING OUR RIVERS) ACT
2023 ON NSW REGIONAL COMMUNITIES**

Organisation: Mudgee Region Health Alliance

Date Received: 14 April 2025



Submission in response to the Inquiry into the impacts of the Water Amendment (Restoring Our Rivers) Act 2023 on NSW regional communities

Thank you for the opportunity to put forward our concerns on the health of the Lawson Creek Valley, Lake Burrendong, Lake Windemere and the UNESCO Greater Blue Mountains Park.

CASE STUDY – BOWDENS LEAD, ZINC AND SILVER MINE

The Bowdens project is a greenfield development of an open cut lead, zinc and silver mine in the popular Mudgee-Rylstone tourist district, two kilometres from Lue village and primary school.

Bowdens plan to catch an average of 924 megalitres of rainfall and runoff each year from the site under the excluded works rules.

This water is unlicensed and will be used in processing of silver lead and zinc. Due to its further contamination by its use this will not be able to be rehabilitated and returned to the system.

Bowdens also plan to construct storage dams of 180.6 megalitres to catch rainfall and runoff for dust suppression from an adjacent property.

Bowdens claim the mine activity will increase the no flow days by 2 days per year on average.

During the last drought the creek ceased to flow for several months, like many creeks and rivers around the state.

Bowdens used flow data from a flow gauge over 20 kilometres from the mine site in an entirely different catchment to make its assessment and cannot be relied on to provide accurate data for water flows in Lawsons Creek.

This raises serious concerns about the accuracy and relevance of their environmental impact assessment. The use of distant, dissimilar data undermines the credibility of their conclusions regarding water flow impacts.

The following reports provide expert opinion on the impacts of Bowdens on the water resources of the Lawson Valley catchment.

- [Surface Water Impacts, Shireen Baguley](#)
- [Groundwater Impacts, Craig Flavel](#)
- [Groundwater and aquatic ecology issues, Dr Peter Serov.](#)



Lead (Pb) dust is the one of the main contributors to the contamination of the water resources and the environment in the Lawson Creek Valley and the dust dispersal and flow on effects to the UNESCO Greater Blue Mountains protected area and Lake Burrendong that will not be contained.

Given the open-cut nature of the mine and the prevailing wind patterns in the region (see Map A), it is reasonable to expect significant lead dust dispersal.

While a precise quantification requires detailed modeling, we estimate that even with dust suppression measures, several kilograms of lead dust could be dispersed annually, impacting a wide area.

The following paper from Kristensen et al, is the result of an Australian 50year study on the effects of lead emissions in the Adelaide CBD 1962-2012 and the wine grapes grown in McLaren Vale, 44.3km and Langhorne Creek 68.2km from the Adelaide CBD the source of the contamination. The conclusion was;

Lead concentrations and isotopic compositions measured in McLaren Vale and Langhorne Creek wine samples demonstrate atmospheric depositions from leaded petrol was the primary source of lead in wine.

Tracing changes in atmospheric sources of lead contamination using lead isotopic compositions in Australian red wine

Louise Jane Kristensen, Mark Patrick Taylor, Andrew James Evans

<https://www.sciencedirect.com/science/article/abs/pii/S0045653516303319>

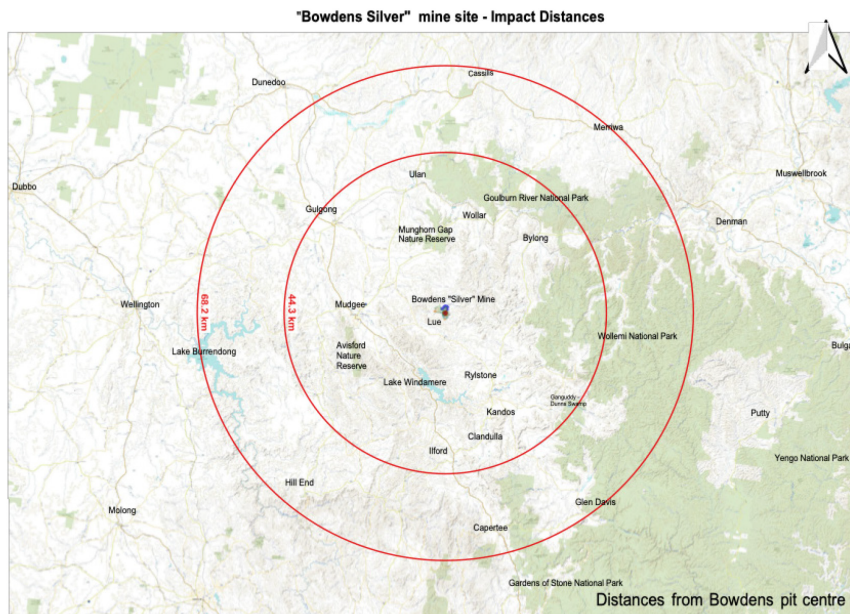
Likewise, the following paper, Ngunda et al 2016 supports the lead (Pb) isotope identification of contamination via sporadic aerosol dust deposits from Australian mining sectors at Mt Isa, Broken Hill and Port Pirie. Broken Hill is approximately 5000km from the Edmundsen Sea and Mt Isa is approximately 8000 km from the Edmundsen Sea

More recently in the Australian sector, Lai et al. 29 measured an average of 32 ± 21 pmol kg⁻¹ ($n = 132$, range 8–110 pmol kg⁻¹) from samples collected in 2002. They again attributed their elevated and highly variable Pb concentrations to sporadic aerosol dust deposition events from the Australian subcontinent.

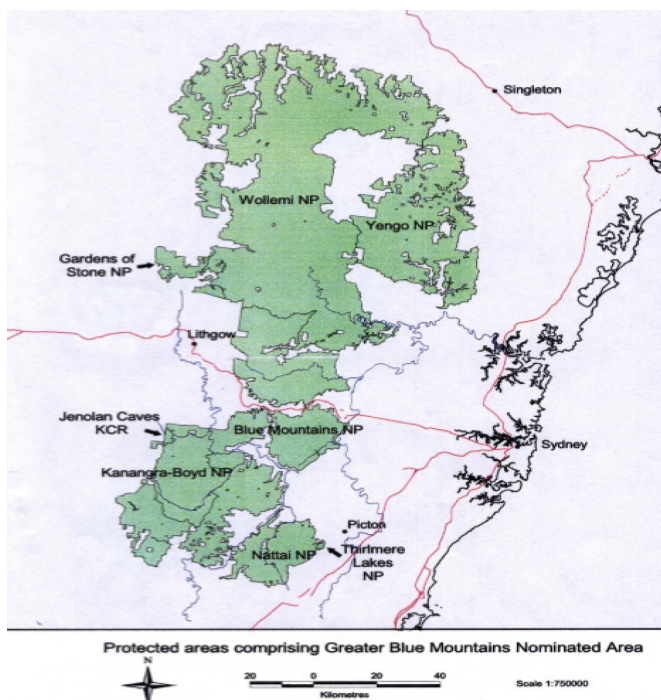
Lead sources Edmundsen Sea West Antarctica Ngundu et al 2016

<https://pubs.acs.org/doi/10.1021/acs.est.5b05151>

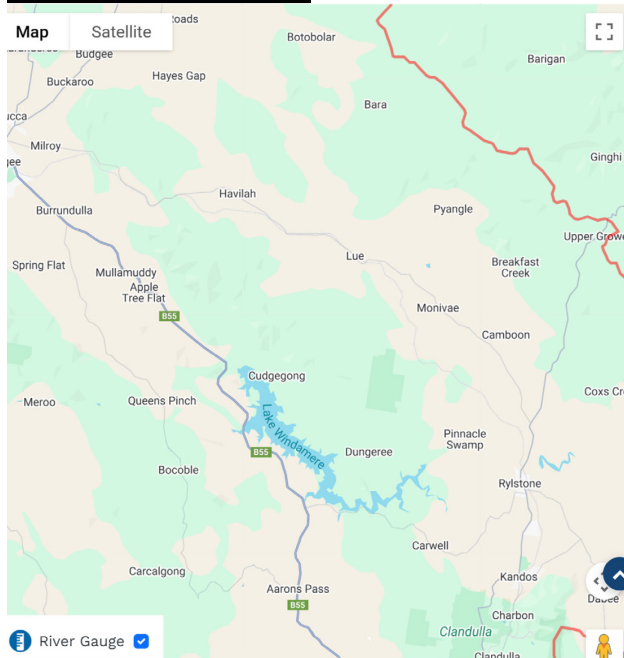
The following map A shows the measured distances from the Bowdens Mine pit and the distance of 68.3km extends out to lake Burrendong to the west, the UNESCO World Heritage Blue Mountains park to the east, Merriwa to the north and past Capertee to the south. Map B is the UNESCO map of the Greater Blue Mountains park.



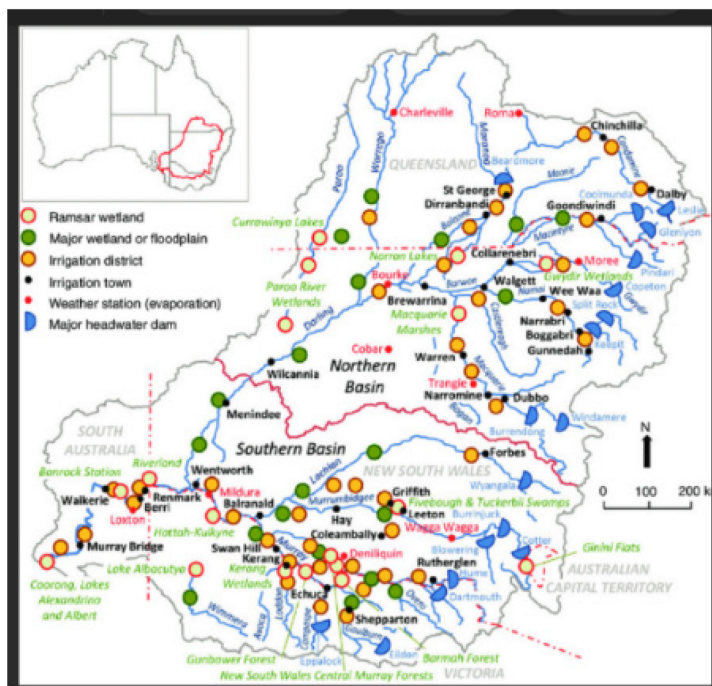
Map A: Shows the impact distance from Bowdens Mine Pit in Lue with (Pb) Lead dust dispersal on all the water catchment areas including out to Lake Burrundong and the UNESCO Blue Mountains – based on the impact distances in Kristensen et al 2016.



Map B: The UNESCO Greater Blue Mountains protected areas.



Map C – The Lue area including Lake Windemere to the south of Lue 10 km from the Bowdens Mine pit.



Map D – The Murray Darling Basin with both Lake Windemere and Lake Burrendong to the east of Dubbo.



Conclusion:

The Bowdens Lead Silver Mine (Pb) dust risk to the Lawson Creek Valley, the UNESCO World Heritage Blue Mountains protected park, Lake Burrendong and Lake Windemere are not to be dismissed in this inquiry.

The Kristensen et al, 2016 and Ngundu et al 2016, must be taken into account with the contamination of Pb dust dispersal into the waterways and environment.

This Inquiry into the impacts of the ***Water Amendment (Restoring Our Rivers) Act 2023 Act on NSW regional communities*** must independently evaluate the contamination of the Bowdens Mine on the future of our waterways and protect them from the contamination in these areas of the Murray Darling Basin. It will be too late in 23 years, when Bowdens mine has contaminated the Lawson Creek Valley out to Lake Burrendong.

It is up to the current Government to support this water inquiry and acknowledge the correct findings. Not to redact and or remove the opinions of the NSW people like they did in the 2023 Inquiry into the Health Impacts of Metal Mining in NSW.

To date there is not a mine in the world that ***does not*** have offsite impacts.

Bowdens claim that their dust suppression measures will adequately mitigate the risk of lead contamination.

However, the details of these measures are vague and lack specific, measurable targets.

Furthermore, given the scale of the open-cut operation and the inherent difficulty in containing dust, we believe these measures are fundamentally insufficient to prevent significant offsite contamination to the Lawson Creek Valley and the Murray Darling Basin and the UNESCO Greater Blue Mountains Park.

We urge the inquiry to consider the precautionary principle as Bowdens cannot demonstrably guarantee the prevention of (Pb) Lead dust contamination and this inquiry must consider to reject this mine outright.

Prepared by the Mudgee Region Health Alliance

April 2025