Submission No 6

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: P & J Smith Ecological Consultants

Date Received: 22 August 2023

Submission to: ***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***

Dr Judy Smith and Dr Peter Smith, P & J Smith Ecological Consultants

Introduction

We are terrestrial ecological consultants with expertise in flora and fauna. We have worked continuously as principals of *P and J Smith Ecological Consultants* since 1985 and are based in the Blue Mountains. We are familiar with the proposed Bowdens Silver Mine (SSD 5765), located adjacent to Lue near Mudgee. In July 2020, August 2021 and February 2023 we made submissions to the Independent Planning Commission objecting to this proposed project given its significant likely adverse impacts on terrestrial biodiversity.

We are also very concerned about the likely long-term and lasting impacts of the proposed Bowdens Silver Mine (and other such proposed and existing mines in NSW) on the health of local residents. Two of our grandchildren are past pupils of Lue Public School and we have family in the Mudgee district. We note that, although touted as a "silver" mine, the output of the proposed Bowdens "silver" mine will be predominantly zinc (130,000 t) and lead (95,000 t) with only a small amount of silver (66.3 million ounces) (Table 1, DPE 2022). The lead and zinc outputs are measured in tonnes (1 tonne = 1,000,000 g) but the silver in ounces (1 ounce = 28.35 g). On-going and long-term issues with lead poisoning in the Broken Hill area, particularly in children, are yet to be solved.

One of us (Judy) spent time living and working on a property at Four Mile Creek, Orange in the 1970s. The property has since been incorporated into the Cadia gold mine. The continued impacts of this mine on community anxiety levels and health are clear and have received a lot of recent media attention.

Inquiry Terms of Reference

Our concerns are wide ranging and relate to the Inquiry Terms of Reference 1 (a), (b), (c), (e), (f), (g) and (i).

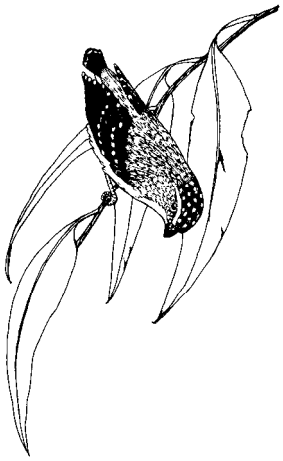
Our concerns

Our concerns, as related to the proposed Bowdens Silver Mine at Lue but which also extend to other existing and proposed such mines in NSW, include:

- Project is not in the Public Interest.
- Significant uncertainty in regard to risks to environment and human health associated with project.
- Significant uncertainty in regard to ultimate size and duration of project.
- Likely adverse impacts on terrestrial and aquatic biodiversity.
- Inability to offset biodiversity losses.

- Disregard of NSW Audit Office's 2022 report '*Effectiveness of the Biodiversity Offsets Scheme*'.
- Impacts on water resources.
- Unacceptable risk that proposed post-mining mitigation measures will not be achieved.
- Lack of inter-generational equity. For example with the Bowdens Silver Mine, there is no equity for future generations who will be left with diminished biodiversity as well as potential long lasting health risks including a contaminated and very large Tailings Storage Facility (covering approximately 117 ha), open cut mine void (covering close to 50 ha) and contaminated waste rock emplacement (covering approximately 77 ha) to manage in perpetuity. The proposed Tailings Storage Facility that is to be left to future generations is only marginally smaller than Lake Wallace (125 ha) at Wallerawang. In our opinion, future generations will be quite justified should they ask "what were they thinking?" .

We attach a copy of our February 2023 submission to the Independent Planning Commission which presents our above concerns in greater detail.



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Submission in regard to

Bowdens Silver Project

State Significant Development No. 5765

Dr Judy Smith and Dr Peter Smith

P & J Smith Ecological Consultants

24 February 2023

Introduction

In July 2020 we objected to the Bowdens Silver Project. The project has since been amended to include the realignment of a transmission line and to change the water supply and water management strategy. Our objection to the Bowdens Silver Project, as currently proposed, stands.

The project is not in the Public Interest. It contradicts the objects of the EP & A Act (for example, Object e. *to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats*). It does not meet the principles of Ecologically Sustainable Development. Consideration of the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines,* which provides overarching guidance on determining whether an action is likely to have a significant impact on matters protected under national environment law — the *Environment Protection and Biodiversity Conservation Act 1999* - indicates that the proposed activity, despite the proposed avoidance, mitigation and off-setting measures, will have a significant and unacceptable impact on such matters.

We believe that the risks and likely impacts associated with the project, including in regard to loss of terrestrial and aquatic biodiversity; human health; pollution and degradation of air and water quality including with lead and cyanide; noise; alteration of existing surface water flows, baseflows of Lawsons Creek and Hawkins Creek; and increased heavy vehicle traffic are unacceptable. The NSW Department of Planning and Environment's (DPE) assessment of the project (dated December 2022) recognizes various potential adverse impacts associated with the project and indicates significant uncertainty in regard to these impacts, for example "Key infrastructure has been designed **to limit the risk** of failure" (p. v); "ongoing monitoring and adaptive design is proposed **to minimize the risk** of water pollution" (p. v.); though considered unlikely, "a groundwater through flow system **could** develop" (p.v); "water flowing towards the void **in perpetuity**" (p. v); "a **further verification** process to confirm the volumes of PAF material" is required, etc. Approval of the project, given the significant uncertainty in regard to such potential impacts in the short term, long term and in perpetuity, as indicated in DPE's (2022) assessment, would contravene both the *Precautionary Principle* ("if one is not sure what may happen, caution is the proper course of action") and the *Principle of Intergenerational Equity*.

Duration of the project

Though touted as a silver mine, the output of this mine will be predominantly zinc (130,000 t) and lead (95,000 t) with only a small amount of silver (66.3 million ounces) (Table 1, DPE 2022). Note that the lead and zinc outputs are measured in tonnes (1 tonne = 1,000,000 g) but the silver in ounces (1 ounce = 28.35 g).

The likely duration and extent of the proposed project is uncertain. DPE's (2022) Section 3.2 Point 27 states "there may be opportunities for mining to continue beyond the project life currently proposed (subject to further approvals)". The uncertainty in regard to the duration of the project, and thus the likely total impacts of the project, is unacceptable.

Terrestrial biodiversity values

As we have previously stated in our submissions, our particular concern is in regard to the likely impacts of the proposal on terrestrial biodiversity. We are terrestrial ecological consultants with expertise in both flora and fauna. We have worked continuously as principals of our ecological consulting firm *P and J Smith Ecological Consultants* since 1985. Dr Judy Smith holds a PhD in Zoology and Ecosystem Management, Dr Peter Smith holds a PhD in Botany. Our ecological consulting firm is based in the Blue Mountains. Since 1985 we have worked widely across Australia but particularly in the Greater Sydney and Blue Mountains areas. We are familiar with the flora and fauna of the Lue area. We are also very familiar with the flora and fauna of important nearby internationally recognized biodiversity conservation areas including the Greater Blue Mountains World Heritage Area/Key Biodiversity Area and the Capertee Valley and Mudgee-Wollar Key Biodiversity Areas (KBAs). Two of our grandchildren are past pupils of Lue Public School.

Location of proposed project

The proposed project is located approximately 20 km from the Greater Blue Mountains World Heritage Area and Key Biodiversity Area (Wollemi National Park) to the east, 30 km from the Capertee Valley Key Biodiversity Area to the south, and 20 km from the Mudgee-Wollar Key Biodiversity Area to the north. Existing habitat within the area of the proposed project plays an important role in facilitating the movement of fauna (including the Critically Endangered Regent Honeyeater and the Endangered Koala) between the above important areas for biodiversity. The recent 2019-20 bushfires were unprecedented in terms of their scale and severity. These fires

burnt around 75% of the Greater Blue Mountains World Heritage Area and an estimated 25% of all Koala habitat in south-eastern Australia. All areas of unburnt habitat, particularly in areas such as Lue that are in close proximity to major biodiversity areas, are now important refuges which are needed if we are to prevent the local extinctions of many plants and animals.

In March and April 2022, AREA Environmental & Heritage Consultants (AREA) conducted a Koala survey within the mine site and adjacent proposed biodiversity offset areas. The survey confirmed the presence of Koala activity at 17 of 67 sites surveyed (11 within proposed operational areas of the mine and 6 in adjacent proposed biodiversity offset areas). Most Koala scat records were found within the area of impact; no Koala scat records were found in the more easterly proposed offset area (Figure 3-2, AREA 2022). AREA considered that Koalas use the site in low numbers. This does not reduce the significance of the site, particularly given the impacts of the 2019-20 fires on Koala populations across NSW and the on-going deleterious impact of Climate Change on Koalas which are susceptible to (i.e. are killed in) high temperature events (heatwaves).

Significance of biodiversity that will be impacted by the proposed project

EnviroKey Pty Ltd (2020), in their ecological assessment for the proposed project prepared for Bowdens Silver Pty Ltd, found that the proposed mine site supports a very rich and significant terrestrial flora and fauna. In our previous submissions we have elaborated on these values (see extract below).

The DPE (2022) assessment acknowledges the existence of these highly significant biodiversity values within the proposed mine site.

Offsetting of impacts on biodiversity

DPE (2022) recommends that the proposed project be approved. DPE's approval assumes that the impacts of the action on biodiversity values would be acceptable, subject to the impact avoidance, mitigation and offsetting measures proposed.

Given the nature of the project, it will not be possible to avoid or effectively mitigate impacts within the area of the mine beyond a few cosmetic adjustments such as shuffling piles of topsoil etc. Thus the proposal is reliant on targeted and effective offsetting. The Biodiversity Offsets Scheme, auspiced by the Department of Planning and Environment and the Biodiversity Conservation Trust, permits, regulates and manages the loss of biodiversity (including threatened species and ecological communities) due to clearing of native vegetation for development. This scheme is market-based. It intends that the loss of biodiversity due to a development is quantified and costed, then "offset" by funding the protection and management of similar biodiversity in the same or other locations.

The efficacy of such schemes in NSW has been questioned since their inception. With almost 1,000 animal and plant species at risk of extinction in NSW, it is important to be certain that proposed offsets for this project will result in no net loss of biodiversity.

In 2022 the NSW Government's Audit Office undertook a Performance Audit of the Biodiversity Offsets Scheme and released their report '*Effectiveness of the Biodiversity Offsets Scheme*' on 30 August 2022. The Audit Office is a statutory authority established by the NSW Government.

The Audit Office's report details major concerns about most if not all aspects of the Biodiversity Offsets Scheme including, but not limited to, the scheme's design, implementation, integrity,

transparency, sustainability and the “risk that biodiversity gains made through the Scheme will not be sufficient to offset losses resulting from the impacts of development”. In short, the audit indicates that the biodiversity gains required to offset biodiversity losses are not being achieved. The audit identifies many worrying short-comings of the scheme. Examples include shortfalls of suitable offset credits, increasing offset obligations acquired by the Biodiversity Conservation Trust from developers but not acquitted (and with little likelihood that effective offsets will be possible), lack of ecological monitoring of offsets, lack of information in regard to discretionary Ministerial (Planning Minister) discounting of offset requirements, possible conflicts of interest, ability of major mining companies to use proposed future mine-site rehabilitation as an offset, lack of the required published complete register of credits and their transaction history, and many more.

The Audit Office’s report identifies species and ecological communities with an undersupply of suitable available offset credits. The ecological community with the largest potential undersupply of credits in NSW is

- White Box - Yellow Box - Blakely’s Red Gum, listed as critically endangered with an undersupply of 21,830 credits

This critically endangered ecological community will be cleared within the Bowden’s mine site. Adjacent examples of this community will be degraded.

The fauna species with the largest potential shortfall of credits in NSW is the

- Squirrel Glider, listed as vulnerable with an undersupply of 106,592 credits

The mine site and adjacent areas provide potential suitable habitat for this species that will be destroyed.

Considerable uncertainty remains as to how biodiversity impacts will be offset. The DPE (2022) assessment assumes that staged “offsetting” measures will improve or maintain biodiversity values. In our previous submissions we have stressed our concerns in regards to the effectiveness of the proposed offsetting measures. These concerns still stand. We believe that the DPE should take account of the findings of the NSW Audit Office’s report. It is disappointing that the DPE (2022) assessment takes no account at all of the very relevant findings of this statutory authority.

The below sections repeat our concerns, as provided in our previous submissions. These concerns still stand.

Adequacy of proposed mitigation measures and biodiversity offset strategy

EnviroKey (2020) state that “the impact assessment has conservatively been undertaken without formally considering that approximately 344 ha of the Mine Site would be revegetated to native woodland and grasslands using species consistent with the existing vegetation communities. In the long-term, these rehabilitation areas would further reduce impacts to biodiversity.” EnviroKey

do not elaborate as to what they mean by “long-term”. It will take hundreds of years to re-establish vegetation communities as they now occur on the mining site and along the water pipeline. We do not believe that species and communities, such as the critically endangered Regent Honeyeater and threatened Koala, can wait so long.

Of particular concern is the critically endangered Box-Gum Woodland (Regent Honeyeater habitat) that will be removed from the site and that is very poorly represented in conservation reserves (it occurs predominantly on fertile soils outside reserves, the reserves themselves being generally located on poorer soils). This is one of the most threatened and most studied ecological communities in Australia. The relatively large remnant at Lue is highly significant. Research into the restoration and rehabilitation of the critically endangered Box-Gum Woodland (as found at the Lue site) is being undertaken by the Fenner School of Environment and Society, Australian National University, and led by Dr Damien Michael, Senior Research Officer. This research is being undertaken because this ecological community has already declined to a critical level and “Currently, we lack effective methods for returning threatened plants to areas of box-gum woodland from which they have been lost, or including them in revegetation and restoration projects aimed at bringing back this habitat type. Techniques are particularly lacking for ground cover plants like forbs (flowering herbs).”

Proposed offsets entail seeking credit to retain some existing native vegetation in the proposed project area, using existing off-site native vegetation to secure the establishment of Biodiversity Stewardship Agreements and the potential purchase of credits from third parties who have established Stewardship Agreements. If these schemes do not fully eventuate then payment would be made into the Biodiversity Conservation Trust. There is still no detail provided as to how such offsets will be managed or secured in perpetuity i.e. beyond the life of the current generation.

There still appears to be no consideration given to the fact that the retained native vegetation within and surrounding the project site (which is to be used as an “off-set”) will have been fragmented and thus degraded by edge effects during the life span of the mining operation. Initial clearing operations will result in injury and mortality of fauna. Most fauna cannot simply move to adjacent habitats and re-establish territories – such habitat, if it exists, is already occupied. It is likely that some species will become extinct in the reduced areas of habitat remaining on site. Retained on-site vegetation will be fragmented, subject to noise over the period of mine operation, and subject to on-going increased weed invasion and feral animal invasion and altered hydrological conditions.

The proposed off-setting, whether on-site or off-site, relies on changing the legal status of existing stands of native vegetation. Given the high conservation value and current restrictions curtailing the loss or degradation of this critically endangered ecological community, it is highly unlikely that such areas would ever have been subject to future intense agricultural activity (as is given as justification for off-setting). Indeed, many local individuals and community groups are now working hard to restore such habitats and receiving government and private sponsorship to support their efforts. The end result will be a net loss of critically endangered Box-Gum Woodland and Regent Honeyeater and Koala foraging and breeding habitat.

The impacts of the proposed project on biodiversity values

DPE (2022) acknowledge the significant impacts will have on biodiversity values. The proposed project would include

- The removal of 180 hectares of NSW *Biodiversity Conservation Act 2016* listed Box-Gum Woodland of which 146 ha meets the legal classification of the Commonwealth

Environment Protection and Biodiversity and Conservation Act 1999 critically endangered 'Box-Gum Woodland'.

- Loss of integrity within the critically endangered Box-Gum Woodland that would remain within the Study Area on completion of the project. This remaining Box-Gum Woodland would be fragmented by the proposed action. Such fragmentation of an ecological community invariably leads to long term degradation of the community due to factors such as increased weed and feral animal invasion, changed microclimate and increased predation at increased edges, increased erosion and changes in the local hydrology. The Noisy Miner is also likely to increase in numbers with increased fragmentation. This is a native species but one that is recognised as a Key Threatening Process under the NSW legislation because it has major impacts on other bird species when it becomes too abundant. EnviroKey (2020) note that the proposed action could (though they deem it "unlikely") also cause mobilisation of chemicals or pollutants into the remaining Box-Gum Woodland that could destroy or inhibit growth. This is a very substantial area of critically endangered ecological community that will suffer long term degradation.
- The removal of 139.59 ha of known core Koala habitat.
- The removal of 182.27 ha of important Regent Honeyeater habitat including Box-Gum Woodland. It is unclear how many remnant Box-Gum Woodland trees as occur along the proposed water pipeline outside of mapped Box-Gum Woodland remnants would also be cleared. Loss of their woodland habitat and mature remnant trees (as occur along road sides) is the major threat to the Regent Honeyeater as well as to the other threatened woodland birds that inhabit the study area. Due to past clearing for agriculture, and more recent clearing for other developments such as mining, the Box-Gum Woodlands, once extensively distributed across inland eastern Australia, have now largely been cleared, making them one of the most threatened ecosystems in Australia. Thomas *et al.* (2000) estimate that in south-eastern NSW the extent of Box Gum Woodland has been reduced to around 5% of its pre-1750 distribution. Within the Central West of NSW, between 67% and 95% of the forms of Box-Gum Woodland present in the study area and proposed for clearing, have already been cleared. Pre 2019-20 bushfire estimates indicate that only 350-400 mature Regent Honeyeaters remain in the wild. This number may well now be lower and the critically endangered species is considered to be on the brink of extinction
- Impacts to at least 13 threatened species that are listed in NSW as 'ecosystem credit' species.
- Impacts to at least six threatened species that are listed in NSW as 'species credit' species.
- Accumulation of cyanide-bearing waste in the Tailings Storage Facility posing a risk for any fauna which comes into contact with such waste, either directly in the Facility or in contaminated water that has seeped from the Facility.

Proposed site rehabilitation

If approved, proposed clearing of native vegetation would be undertaken within 18 months of project approval. According to EnviroKey (2020), the nature of the proposed project dictates that the major disturbed areas associated with the main open cut pit, processing area and tailings storage facility would remain active throughout the mine life and, as a consequence, the opportunity to undertake progressive rehabilitation of these components would be minimal. It is thus proposed that most of the site rehabilitation would be undertaken within a limited 7 year period following cessation of mining. Within this 7 year period Bowdens Silver proposes to ensure that the following rehabilitation objectives are met:

• the rehabilitated landform is safe, stable and sustainable particularly with regards to soils and hydrology;

• components of the final landform, including diversion channels, are re-instated or stabilised with native vegetation to specifically provide fauna habitat and corridors;

• the surrounding environment is not polluted by any mine-related activity during the mine life or following mine closure;

• the contaminated areas remaining on site, namely the Waste Rock Emplacement and Tailings Storage Facility are appropriately covered and vegetated to ensure the materials in both component areas do not contribute to any off-site pollution;

• the rehabilitated final landform requires low levels of maintenance; [it is not stated who will provide maintenance in perpetuity]

• the approach to rehabilitation is continually reviewed based on site specific knowledge, research and monitoring; and

• the mining lease over the rehabilitated landforms can be progressively relinquished and the security returned progressively within a reasonable timeframe after the successful completion of rehabilitation activities.

We believe that there is an unacceptable risk that these objectives will not be achieved. The project will involve removal of mature vegetation and fauna habitats that have taken hundreds of years to reach maturity. Such vegetation cannot be removed from a site for a 16.5 year period and then re-established and secured within a 7 year period, particularly on ground that has been extensively impacted and modified. Initial proposed rehabilitation will involve sowing of disturbed areas with grass seed. The period taken to move from initial establishment of grass (it is not stipulated if grasses native to the locality will be used) to the recovery of mature hollow-bearing trees (critical habitat for many fauna species) will far surpass a human lifespan.

Conclusion

We believe that the likely loss of biodiversity that would result from the proposed Lue Silver mine project is unacceptable. It will lead to habitat loss, habitat fragmentation, loss of habitat connectivity and wildlife corridors, and degradation of remaining habitat. The proposed mine does not achieve an acceptable level of environmental performance as claimed by DPE (December 2022, p. viii).

Despite the proposed mitigation measures and off-setting, we believe that the project will have a significant negative impact on the critically endangered Box-Gum Woodlands and Regent Honeyeater, as well as other threatened woodland birds and other species including the Koala. The proposed project (including off-set and mitigation measures) will lead to a net loss of Box-Gum Woodland. It is clearly contrary to the first objective of the *National Recovery Plan for Box Gum Woodland (White Box – Yellow Box – Blakely's Red Gum and Derived Native Grassland),* prepared in 2010 by the NSW Department of Environment, Climate Change and Water on behalf of the Australian Government, which is to

> *Achieve no net loss in extent and condition of the ecological community throughout its range*.

Evaluation of a development application by a consent authority must consider the Public Interest. We do not believe that it is in the Public Interest to risk the continued existence of critically endangered vegetation communities, such as the Box-Gum Woodland, nor to place species such as the critically endangered Regent Honeyeater and threatened Koala at an increased risk of extinction. It is not in the Public Interest to undertake activities, such as this project, which will undermine the efforts of many individuals and groups who have been working to ensure the continued existence of local biodiversity such as will be lost due to this project.

In order to be approved, the proposed project must be in keeping with the principles of Ecologically Sustainable Development. Ecologically Sustainable Development can be defined as "development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends".

The principles of Ecologically Sustainable Development include:

- Conservation of biological diversity and ecological integrity
- Inter-generational and intra-generation equity
- Sustainable use
- Precautionary principle

We believe that the proposed project is not in keeping with these principles. Despite proposed mitigation and off-setting measures, there will be an irreversible loss of biological diversity and ecological integrity. While some members of the current generation will benefit financially from the project, other members risk suffering significant detrimental impacts due to the project. There is no equity for future generations who will be left with diminished biodiversity as well as a possibly contaminated and very large Tailings Storage Facility (covering approximately 117 ha), open cut mine void (covering close to 50 ha) and waste rock emplacement (covering approximately 77 ha) to manage in perpetuity. The proposed Tailings Storage Facility that is to be left to future generations is only marginally smaller than Lake Wallace (125 ha) at Wallerawang.

Bowdens Silver state that they would commission a "Plan" that documents actions and procedures that would be followed in the "highly unlikely" event that a partial or full failure of the Tailings Storage Facility occurs. Bowdens Silver do not state who will undertake, in perpetuity, the required safety and regular surveillance and monitoring intended to avoid partial or full failure of the Tailings Storage Facility. To create a situation in which there is any possibility (even if "highly unlikely") of partial or full failure of the Tailings Storage Facility, either during the life of the project or under the watch of future generations, is not in keeping with the Precautionary Principle nor the principle of Inter-generational Equity.

The Australian Government's *EPBC Act Policy Statement 1.1 Significant Impact Guidelines* provide overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under national environment law — the *Environment Protection and Biodiversity Conservation Act 1999*.

According to these *Guidelines*, an action is likely to have a significant impact on a critically endangered or endangered ecological community (such as the Box-Gum Woodland that is to be removed from the study area) if there is a real chance or possibility that it will:

• reduce the extent of an ecological community

• fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines

• adversely affect habitat critical to the survival of an ecological community

• modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns

• cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

• cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: – assisting invasive species, that are harmful to the listed ecological community, to become established, or – causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or

• interfere with the recovery of an ecological community.

Under these same *Guidelines*, an action is likely to have a significant impact on a critically endangered or endangered species (such as the Regent Honeyeater for which the study area provides likely important habitat) if there is a real chance or possibility that it will:

• lead to a long-term decrease in the size of a population

• reduce the area of occupancy of the species

• fragment an existing population into two or more populations

• adversely affect habitat critical to the survival of a species

• disrupt the breeding cycle of a population

• modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

• result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat

• introduce disease that may cause the species to decline, or

• interfere with the recovery of the species.

Clearly, the proposed project is contrary to these *Guidelines*. The EnviroKey (2020) Biodiversity Assessment Report states (page 308) that, in regard to the *Significant Impact Guidelines* and the critically endangered Box-Gum Woodland, that yes, the proposed action "will interfere with the recovery of this ecological community". EnviroKey go on to infer that this is not of consequence because:

> "*the CEEC* [Box-Gum Woodland, critically endangered ecological community] *is reasonably well represented in the wider locality. This comment is based on the basis of personal observations rather than a reliance on broad-scale regional mapping by OEH* [Office of Environment and Heritage], *given that in our experience, this is largely inaccurate. Therefore, the extent of CEEC is the wider locality cannot be accurately quantified.*"

Such a statement is unsubstantiated speculation that has no place in a scientific assessment. It is beyond comprehension that any critically endangered ecological community, including the critically endangered Box-Gum Woodland, one of the rarest ecological communities in Australia, is reasonably well represented anywhere.

Account needs to be taken of the findings of the NSW Audit Office's 2022 damning report '*Effectiveness of the Biodiversity Offsets Scheme*' . It is disappointing that the DPE (2022) assessment takes no account at all of the very relevant findings of this statutory authority.

We recommend that the proposed Bowdens Silver Mine not be approved.

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