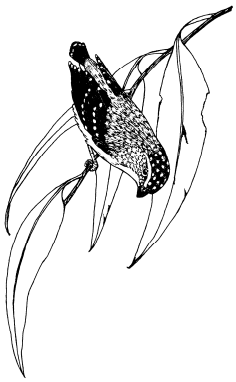

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Submission in regard to
Bowdens Silver Project – SSD-5765

Dr Judy Smith and Dr Peter Smith
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15 August 2021

Introduction

We object to the proposal.

We thank you for the opportunity to comment on the amended Bowdens Silver Project proposal. Our objection to the project and our concerns in regard to the likely detrimental impacts of the proposal on terrestrial biodiversity, as outlined in our submission of 1 July 2020, have not been alleviated by the amended proposal.

The amended project proposal increases the likely direct impacts of the project on biodiversity values. The amended proposal requires an easement 70m wide and approximately 3km long through the mine study area for the re-aligned 500kV transmission line. The exact area of additional clearing required is not specified. The *Amendment Report for the Bowdens Silver Project* states that the easement

"*for the re-aligned section of the transmission line would be 70m wide although based on experience of advisors on the process, it is realistic to assume that only 40m to 50m of clearing would be necessary for the construction of the re-aligned section*".

The extent of rehabilitation within the easement is uncertain: canopy plantings would not be allowed within the easement and the amount of ground cover allowed in the easement will be determined by TransGrid at completion.

The amended project proposal does not address our concerns in regard to indirect impacts associated with the fragmentation of existing vegetation and fauna habitat outside of the mine and pipeline development footprints. There still appear to be no "avoidance measures", ie measures taken to avoid impacts on biodiversity, proposed apart from shuffling locations for soil stockpiles. Details of biodiversity off-set strategies and mitigation measures remain scant and unconfirmed. Bowden's *Response to Submissions* proposes the "*use of trial rehabilitation areas across the Mine Site would assist Bowdens Silver to identify / confirm the most appropriate rehabilitation methods for the respective components of the*

Mine Site." This confirms our concerns, as noted in our original submission of July 2020, that there are currently no proven methods to successfully rehabilitate communities such as the critically endangered Box-Gum Woodland.

We make the following comments in regard to new material presented with the amended project proposal:

1. Additional threatened species requiring consideration: *Swainsona* species

The Biodiversity Assessment for the EIS (EnviroKey 2020) recorded about 25 Silky Purple-pea *Swainsona sericea* plants (vulnerable species at state level) at the mine site but outside of the mine development footprint. This species was not then considered further in biodiversity assessments. The Biodiversity Assessment for the EIS found no Small Purple-pea *Swainsona recta* plants (endangered species at state and national level) and concluded that the species "is not likely to occur in the Study Area". The original "comprehensive" surveys for the EIS were undertaken in a generally dry period between December 2016 and April 2019. Australia was subject to a severe drought over the three years 2017 to 2019 (Bureau of Meteorology 2020). The peak year of the drought was 2019, which was the hottest and driest year on record in south-eastern Australia and Australia generally (Abram *et al*. 2021). Thus, the original EIS surveys were undertaken under conditions that were decidedly suboptimal for effective assessment of the impact. It is not surprising that additional issues of concern have arisen and it is likely that further issues would be found with further survey.

A subsequent survey was undertaken by AREA Environmental (Annexure 9, EnviroKey 2021) in 2021 in a period following inundating rain and warm conditions. In these good conditions, AREA Environmental recorded 64 *Swainsona sericea* plants and four *Swainsona recta* plants within the mine footprint. The additional survey work undertaken by AREA Environmental appears to have been confined to a portion of the mine development area despite there also being likely habitat for these two species in the pipeline development area. Searches for these species should also be made in the pipeline corridor under appropriate conditions and timing.

As noted in the updated Biodiversity Assessment Report (BAR) (EnviroKey 2021), plant species are generally flagged as 'unable to withstand loss' and known as 'Red Flag species' if there are two or less populations in the relevant sub-region or if the species is exceptionally rare or poorly understood. The original BAR located a single 'Red Flag' species, *Acacia ausfeldii*, in the pipeline corridor. Both the newly recorded Small Purple-pea and the Silky purple-pea are also 'Red Flag' species. Under current environmental legislation, 'Red Flag' species are not used in the decision making threshold for State Significant Developments to be assessed in accordance with the Framework for Biodiversity Assessment. However, 'Red Flag' species remain in urgent need of effective conservation measures. It is worth noting that this proposed development will reduce or eliminate populations of three known 'Red Flag' species. This clearly contradicts the National Recovery Plan (OEH 2012) for the Small Purple-pea that states that all populations and the habitat they occupy are critical to the survival of the species.

Given that two species of such high significance, and which should have been targeted during surveys, were missed in the original ecological surveys, it is concerning what other

species may also have been missed. The likely effect of the very dry conditions during the field survey period brings into question the adequacy of the ecological field surveys undertaken. Surveys undertaken in such dry conditions are likely to increase difficulty of detection of flora and fauna species, particularly rare and cryptic species, and to result in field assessments that underestimate the condition of the native vegetation. Accurate field assessments are essential to calculate accurate off-setting requirements.

2. Assessment of the impacts of the 2019-20 bush fires

In south-eastern Australia, extreme drought and heatwave conditions in 2019 culminated in the 'Black Summer' bushfires of spring/summer 2019-20. More than 23% of the temperate forests of south-eastern Australia were burnt in this one fire season, making the scale of the fires unprecedented both for Australia and globally (Boer *et al.* 2020). The 2019-2020 mega-fires were beyond anything that had been anticipated in conservation planning and management for biodiversity (Gould *et al.* 2021). The Greater Blue Mountains World Heritage Area, to the east of the mine site, was one of the worst affected areas with some 79% burnt (Smith 2021).

Following the 2019-2020 fires, the Department of Agriculture, Water and Environment (DAWE) (2020) identified the protection of unburnt areas, within or adjacent to recently burnt ground, that provide post-fire refuges as a priority action. The proposed mine and pipeline development areas were unburnt but close to areas burnt in the 2019-20 fires and provide a post-fire refuge.

In March 2020 a Technical Report prepared for the Wildlife and Threatened Species Bushfire Recovery Expert Panel (DAWE 2020) identified species considered particularly vulnerable to the impacts of the 2019-20 fires. The list of identified species included nationally listed taxa whose distributions were greater than 10% fire affected and unlisted species with distributions greater than 30% fire affected. DAWE's listing includes a number of species known to occur within the vicinity of the mine/pipeline areas: Regent Honeyeater (critically endangered EPBC listing), Gang-gang Cockatoo (unlisted at national level), Koala (endangered) and Spotted-tailed Quoll (endangered). In view of the likely impacts of the 2019-20 fires, an assessment of the Gang-gang Cockatoo's status at national level has been instigated – the Threatened Species Scientific Committee (DAWE 2021) has recommended that it now be listed as an endangered species at national level. Following the 2019-20 fires, numbers of Gang-gang Cockatoo increased markedly in the unburnt Bara-Lue area (personal observations).

DAWE has requested that an assessment be made of the impacts of the 2019-20 bush fires on Matters of National Environmental Significance (MNES) that are likely to be impacted by the proposed mine and pipeline development. Niche's (2021) assessment prepared in response to this request entails a desktop review but no on site assessment.

Niche (2021) determined that, as a result of the loss of habitat associated with the 2019-20 fires, the proposed area of the mine development is a potential refuge area for threatened species, such as the Koala and Regent Honeyeater, which are likely to be impacted by the proposed mine and pipeline development. Based on a limited review of literature, Niche

(2021) concluded that, given that impacts associated with the project would not commence before 2022, a

"significant degree of vegetative recovery in burnt areas (outside of the Project area) would be expected, particularly those areas impacted by low to moderate severity fire. As such, the increased significance of the habitat within the Project and Offset areas will reduce over time and the assessment outcomes of the BAR would not be significantly affected by the 2019/20 bushfires."

This finding is speculative. To reach such a conclusion, Niche (2021) have extrapolated the findings of studies of the impacts on birds of drought and fire such as those undertaken by Richard Loyn (Loyn 1997) and Peter Smith (Smith 1989). Richard Loyn and Peter Smith (co-author of this submission) studied the impacts of fires in 1983 in Victoria and in 1981 in south-eastern NSW. The on ground impacts of the drought, heatwaves and mega-fires of 2019-20, which were unprecedented in their spatial extent and severity, are vastly different to the impacts of the droughts and fires studied by Richard Loyn and Peter Smith (personal observations P. Smith and J. Smith). The fire studied in south-east NSW (Smith 1989) was of low intensity, the canopy vegetation was not burnt and all gully vegetation and some ridgetop vegetation remained unburnt. In the early 1980's drought there was no evidence of drought induced canopy dieback as was seen in the Mudgee-Lue-Capertee-Goulburn River area in the drought and heatwaves prior to the 2019-20 fires.

The now increased severity of fire weather and increased drought conditions are likely to lead to a reduction of fire refugia across the forests of southern Australia (Gould *et al* 2021, Mackey *et al* 2021). In order to now protect threatened species and biodiversity generally, assessment of the importance of currently unburnt refuges needs to take proper account of the impacts of the recent unprecedented drought, heatwaves and fires and the fact that the climate is changing rapidly, extreme fire weather conditions are increasing and fire regimes are projected to change. The Niche (2021) assessment fails to do this.

Reportable political donations

We have not made any reportable political donations in the last two years.

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