Planning, Industry & Environment | NSW Government

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Dear Ms Hawkeswood

Bowdens Silver – response to submissions report

Thank you for your e-mail dated 13 July 2021 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning, Industry and Environment inviting comments on the response to submissions report for Bowdens Silver (SSD-5765).

BCS has reviewed the submissions report and accompanying revised biodiversity assessment report (BAR). Many of our recommendations made in our response dated 16 July 2020 have been satisfactorily addressed. However, there are some issues that remain, and some additional issues that will require further information. In particular, BCS considers that the calculation of species credits for Regent Honeyeater, Koala and Large-eared Pied Bat are inadequate.

BCS's biodiversity recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**.

If you require any further information regarding this matter, please contact Liz Mazzer, Conservation Planning Officer, via liz.mazzer@environment.nsw.gov.au or (02) 6883 5325.

Yours sincerely

Sarah Carr
Director North West
Biodiversity, Conservation and Science Directorate

13 August 2021

Attachment A – BCS's Recommendations

Attachment B – BCS's Detailed Comments

BCS's recommendations

Bowdens Silver – response to submissions

BAR	Biodiversity Assessment Report
BCS	Biodiversity, Conservation & Science Directorate
BVT	Broad vegetation type
EIS	Environmental Impact Statement
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
FBA	Framework for Biodiversity Assessment
Original BAR	BAR dated May 2020 (accompanying the EIS)
PCT	Plant Community Type
Revised BAR	BAR dated June 2021 (accompanying the submissions report)
SAII	Serious and Irreversible Impacts

Recommendations

1.1   The Koala species polygon should include all woodland vegetation communities associated with Koalas in NSW BioNet that contain mature trees.

1.2   If the woodland vegetation communities are not included in the species polygon, additional survey effort must be conducted in accordance with a methodology approved by BCS.

2.1   All woodland habitat, including CW 111 and CW 112 be included in the calculation of Regent Honeyeater species credits.

3.1   Species polygons for Large-eared Pied Bat be developed that include all impacted PCTs associated with the species.

3.2   Species credits for Large-eared Pied Bat should be calculated and offset.

4.1   Explanation be provided regarding changes in ecosystem credit calculations for impacted vegetation types.

5.1   DPIE note the requirement to offset species credits for Silky Swainson-Pea and Small Purple-Pea.

5.2   Mitigation measures such as seed collection and propagation be explored for Silky Swainson-Pea and Small Purple-Pea.

6.1   Measures that have been taken to avoid impacts on biodiversity should be clearly explained in the BAR. Changes to mine layout or the pipeline route that have been made to avoid impacts should be described and mapped.

7.1   An assessment be conducted focussing on vibration impacts on nearby cliff lines.

8.1   An updated biodiversity offset strategy be prepared once biodiversity credit liabilities are finalised.

8.2 Any consent condition that relates to the quantum of offsets to be retired should refer to the relevant submitted and approved BioBanking credit report.

9.1 DPIE to note that these recommendations have been satisfied.

BCS's detailed comments

Bowdens Silver – response to submissions

1. Koala species polygons are inadequate

BCS considers that Koalas are likely to use all woodland habitat on the site, and that all woodland vegetation zones associated with Koalas in NSW BioNet should be included in the Koala species polygon regardless of vegetation condition.

Current Koala species polygon

Compared with the original BAR, the Koala species polygon now contains four broad vegetation types (BVTs) rather than three, all in moderate/good-high condition:

- CW 242 (PCT 325), moderate / good - high (1.04 hectares)
- CW 263 (PCT 324), moderate / good - high (56.65 hectares)
- CW 270 (PCT 358) moderate/good - high (0.77 hectares)
- CW 291 (PCT 323), moderate / good - high (81.90 hectares)

This has increased the species polygon area by 0.77 hectares.

Koala residency

In discussing Koalas, the revised BAR refers to a study from south east Queensland to argue that Koalas recorded within the study area were likely to be dispersing rather than being resident at the site. The BAR states that Dique *et al* (2003[i]) found that Koalas disperse up to 10.6 kilometres, often in a southerly or westerly direction. The BAR states that two Koalas were recorded November and December, which are months where Dique *et al* recorded dispersals, indicating that the Koalas were dispersing rather than resident.

Dique *et al* found that the mean straight-line distance between the natal and breeding home ranges for males and females was similar and was measured at 3.5 km (range 1.1-9.7 km) and 3.4 km (range 0.3-10.6 km) respectively. In addition, Dique *et al* recorded dispersal occurring between June and December (i.e. over a period of six months).

BCS considers that the Dique *et al* study has been misused in the revised Bowdens Silver BAR due to the selective use of the data. BCS also considers that it is of low relevance to the BAR as the climate and vegetation of south-east Queensland are considerably different to those of central-west NSW.

The BAR also states,

Since the EIS was exhibited, Bowdens Silver personnel have recorded four additional sightings. Each sighting was of an individual Koala traversing the Study Area.

The revised BAR fails to provide any information about these Koala sightings. Subsequent information obtained by BCS (email from Steve Sass of EnviroKey 6 August 2021) shows that Koalas have been seen on or adjacent to the impact site in five different locations between 20

August 2019 and 28 May 2021. Only one of these records (30 January 2020) appears to have been included on map 42 of the revised BAR.

These additional records indicate that Koalas may be resident on the site.

Survey effort

Koala survey effort may be inadequate to inform Koala polygons:

- The two transects and opportunistic scat searches while searching for other species scats/tracks/traces are inadequate to draw the conclusion Koalas are no longer occupying the site due to the time period they were done, and the lack of detail on methods used.

- The scat surveys are the main substantial effort (~ 23hours) and are distributed across the site well. However, it is unclear whether scat searches were targeting food trees or following established survey methodology. Scat searches were only done every 50m along the transects.

- Almost all of the flora and fauna surveys were undertaken during summer in the drought. Many species, including threatened species and threatened ecological communities, can reduce in number, extent, and floristic diversity during drought so those data are possibly underestimated.

Importance of habitat on the site

All of the vegetation types except for CW 249 / PCT 796 Derived grasslands of the NSW South Western Slopes are associated with Koalas in NSW BioNet.

In addition, based on the vegetation descriptions provided in the revised BAR, all of the woodland vegetation types except CW 263 / PCT 324 (Inland Scribbly Gum grassy open forest on hills in the Mudgee Region, NSW central western slopes) contain Koala feed trees as identified in the NSW Koala recovery plan (DECC 2008[ii]).

It should be noted that the revised BAR bases the Koala species polygon on four vegetation zones in moderate/good_high condition. However, vegetation types in other conditions, such as CW 217 / PCT 273 (moderate/good_medium) and CW 112 / PCT 277 (moderate/good_poor) also contain mature Koala feed trees.

Those woodland vegetation types associated with Koalas that may not contain listed feed trees are also of importance for sheltering and movement of the species. The NSW Koala recovery plan states that,

Although primary and secondary food trees provide the bulk of a koala's diet, leaves from other species, including non-eucalypts, may provide a seasonal or supplementary dietary resource (Smith 1992). The quality of habitat is also influenced by the presence of suitable shelter trees, particularly in harsh climates. Examples of important shelter trees are cypress pine (Smith 1992; Kavanagh and Barrott 2001; J. Callaghan, Australian Koala Foundation, pers. comm.) and brush box (Phillips 2000b).

The Koala recovery plan also states that native vegetation which does not necessarily support Koala food trees but which forms a buffer between primary or secondary habitat and urban and/or rural development, a corridor or link between areas of primary or secondary habitat, or a refuge from fire, may still provide resources important to the survival of Koala populations.

1.1   The Koala species polygon should include all woodland vegetation communities associated with Koalas in NSW BioNet that contain mature trees.

1.2   If the woodland vegetation communities are not included in the species polygon, additional survey effort must be conducted in accordance with a methodology approved by BCS.

2   Regent Honeyeater species credits have been significantly reduced

BCS has compared the areas of native vegetation to be impacted and the biodiversity credit liability generated in the original BAR (May 2020) with the revised BAR (June 2021) and BioBanking Credit Calculator reports for the pipeline and mine sites (generated by BCS from the submitted cases on 27 July 2021).

While the areas of each broad vegetation type (BVT) to be cleared have not changed significantly (a total difference of 0.2 hectares reduction), the area of the species polygon for Regent Honeyeater has been reduced by 86.85 hectares and 6687 species credits (table 1).

Table 1 Comparison of Regent Honeyeater polygon area and species credits

Species credit report May 2020		Species credit report July 2021			
Species polygon area	*Species credit liability*	*Species polygon area (ha)*	*Species credit liability*	*Species polygon area difference*	*Species credit liability difference*
375.33 ha	28,900	288.48	22,213	-86.85 ha	-6,687

There is no explanation in the revised BAR regarding this loss of area and species credits.

Advice from Steve Sass (EnviroKey Pty Ltd) on 4 August 2021 states that two vegetation zones were removed from the Regent Honeyeater credits as they were not considered to provide Regent Honeyeater habitat. These vegetation zones are:

- CW 111 Rough-barked Apple – Red Gum – Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion (Moderate/Good_poor) – 66.38 hectares

- CW 112 Blakely's Red Gum – Yellow Box grassy tall woodland the NSW South Western Slopes Bioregion (Moderate/Good_poor) – 21.8 hectares

Both of these vegetation zones have no or occasional scattered trees and are considered by the consultant as derived grasslands.

BCS has reviewed the vegetation descriptions and conclude that both CW 111 and CW 112 contain mature key feed tree species on fertile soils, including Yellow Box. Regent Honeyeaters are known to utilise paddock trees, particularly Yellow Box. The likelihood of Regent Honeyeaters using these vegetation zones is increased given the proximity of adjacent suitable habitat in woodland form (as shown in Plate 3 of the revised BAR).

BCS considers that both CW 111 and CW 112 woodland PCTs should be retained in the Regent Honeyeater species polygon, and species credits calculated accordingly.

Recommendation

2.1   All woodland habitat, including CW 111 and CW 112 be included in the calculation of Regent Honeyeater species credits.

3 Offsets are required for Large-eared Pied Bat

Large-eared Pied Bat has been recorded on the site. The revised BAR states (section 5.3) that the Large-eared Pied Bat is only listed as a species-credit species when there is potential breeding habitat likely to be impacted.

However, NSW BioNet states that the species is a full species credit species because it cannot be reliably predicted to occur on a site based on vegetation and other landscape features (either foraging or breeding). It should be noted that the reference in BioNet to potential breeding habitat and presence of breeding individuals is a Serious and Irreversible Impact (SAII) threshold, not a threshold for calculation of species credits. SAII does not apply to Framework for Biodiversity Assessment (FBA).

There are potential cliff lines adjacent to the development footprint (Map 17 of revised BAR). The revised BAR states that these could contain small caves, crevices and overhangs suitable for microchiropteran bats.

BCS considers that, as Large-eared Pied Bats have been recorded on the site, PCTs associated with the species are present, and there is potential breeding habitat adjacent, impacts on this species must be offset.

Recommendations

3.1 Species polygons for Large-eared Pied Bat be developed that include all impacted PCTs associated with the species.

3.2 Species credits for Large-eared Pied Bat should be calculated and offset.

4 Changes in ecosystem credits should be explained

BCS has compared the areas of impact of each vegetation zone and the ecosystem credits generated for each vegetation type for the original BAR (May 2020) and the revised BAR (June 2021). While the areas (hectares) of impact are essentially the same, there are some differences in the ecosystem credits calculated:

- o CW249 has a credit reduction of 142 credits
- o CW111 has a credit reduction of 12.49 credits
- o CW 291 has a credit increase of 487 credits.

The changes in ecosystem credits between the original BAR and revised BAR should be explained.

Recommendation

4.1 Explanation be provided regarding changes in ecosystem credit calculations for impacted vegetation types.

5 Additional threatened species have been identified on the mine site

Investigations in November 2020 found two additional threatened species on the site; Silky Swainson-Pea (*Swainsona sericea*) and Small Purple Pea (*S. recta*).

Surveys have located a total of sixty-four Silky Swainson-Pea plants across four discrete populations on the site.

The number of Small Purple Pea plants has not been specified in the text of the BAR (page 9a-111), and it appears that there may be text missing from this section. However, examination of map 59 and the BioBanking Credit Calculator species credit report indicates that there is one population of four plants that will be impacted by the proposal.

Biodiversity species credits have been calculated for both species and will need to be offset.

BCS considers that there is potential to mitigate impacts on Silky Swainson-Pea and Small Purple-pea. For example, seed could be collected from the plants that will be impacted, propagated and seedlings planted in appropriate areas outside the impacted footprint.

Recommendations

5.1   DPIE note the requirement to offset species credits for Silky Swainson-Pea and Small Purple-Pea.

5.2   Mitigation measures such as seed collection and propagation be explored for Silky Swainson-Pea and Small Purple-Pea.

6   Avoidance of biodiversity impacts has not been fully addressed

Section 8.3 of the Framework for Biodiversity Assessment requires demonstration of avoidance and minimisation of direct impacts on biodiversity values.

In our response to the EIS of 16 July 2020, BCS recommended:

1.1   Measures that have been taken to avoid impacts on biodiversity should be clearly explained. Changes to mine layout or the pipeline route that have been made to avoid impacts should be described and mapped.

This recommendation has been partially addressed in section 5.26.7 of the submissions report, which refers to table 1.2 of the EIS. While soil stockpile design has been modified to reduce impacts on terrestrial biodiversity (and the size of open cut pits has been reduced for economic reasons), there is no indication that there has been any change to the pipeline route or design to avoid impacts on biodiversity.

This detail is required in the BAR in accordance with the FBA.

Recommendation

6.1   Measures that have been taken to avoid impacts on biodiversity should be clearly explained in the BAR. Changes to mine layout or the pipeline route that have been made to avoid impacts should be described and mapped.

7   Indirect impacts have not been fully assessed

In the BCS response to the EIS, we recommended:

Any caves, overhangs, crevices, cliffs, escarpments, old mines, tunnels, culverts or building on or within two kilometres of the development footprint should be identified and mapped, and direct and indirect biodiversity impacts on these areas assessed.

The revised BAR now includes an additional section (section 3.4) discussing these habitat components and includes map 17 showing potential cliff lines near the mine site. However, the revised BAR does not provide an assessment of potential indirect impacts on the cliff lines from activities such as vibration from blasting and other mining activities.

7.1   An assessment be conducted focussing on vibration impacts on nearby cliff lines.

8   The biodiversity offset strategy needs to be updated

The biodiversity offset strategy (May 2020) submitted with the EIS has not yet been updated. BCS advises that an updated biodiversity offset strategy will be required that incorporates the final credit liabilities.

It should be noted that, if consent is granted, any consent condition that relates to the quantum of offsets to be retired should refer to the relevant submitted and approved BioBanking credit report rather than relying on figures in the tables in the BAR. This will ensure that the consent is consistent with final credit requirements.

Please note also that once the BioBanking credits have been finalised, these will need to be converted to biodiversity credits through an assessment of reasonable equivalence.

Recommendation

8.1   An updated biodiversity offset strategy be prepared once biodiversity credit liabilities are finalised.

8.2   Any consent condition that relates to the quantum of offsets to be retired should refer to the relevant submitted and approved BioBanking credit report.

9   Many BCS recommendations have been satisfied

The following recommendations made in BCS' response dated 16 July 2020 have been fully satisfied:

2.1   BioBanking credits should be calculated separately for the mine site (site-based) and pipeline (linear).

2.2   All data for both the mine site and pipeline components should be clearly presented in the biodiversity assessment report.

2.3   The case in the BioBanking Assessment Methodology calculator (proposal ID 0143/2019/4954MP) should be split so that the site-based tool is used for the mine site while the linear tool is used for the pipeline.

3.1   Management site scores for development within the BioBanking Assessment Methodology calculator should be set to zero for the pipeline.

5.1   Additional information be provided regarding the locations, size, circumstances and implications of applying buffers to Ausfeld's wattle populations.

7.1   Stream orders and riparian buffers be identified and mapped in the BAR.

7.2   Clarification be provided regarding whether all native vegetation visible on aerial images has been used in calculation of landscape score value.

7.3   Check if the credit calculation for CW 291 has been duplicated, noting that this issue may be resolved if the project is split into site-based and linear cases in the BioBanking Assessment Methodology calculator.

7.4   Further information regarding timing and location of targeted flora surveys is required to
        verify the adequacy of the surveys.

In addition, BCS made a recommendation (8.1) that justification be provided regarding why the full power line has not been included in the environmental assessment for SSD 5765. We note that an amendment to the EIS has been submitted to incorporate assessment of the power line realignment as part of the Part 4 application for SSD 5765. BCS supports the inclusion of this component of the project in the SSD 5765 assessment.

Recommendation

9.1   DPIE to note that these recommendations have been satisfied.

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[i] Dique, D. S., Thompson, J., Preece, H. J., de Villiers, D. L., and Carrick, F. N. (2003). *Dispersal patterns in a regional koala population in south-east Queensland. Wildlife Research 30* (3) 281-290

[ii] DECC (2008). *Recovery Plan for the koala (Phascolarctos cinereus)*. Department of Environment & Climate Change November 2008.