Our ref: DOC20/414898
Your ref: SSD 5765

Rose-Anne Hawkeswood
Team Leader
Planning and Assessment Group
Resource Assessments
rose-anne.hawkeswood@planning.nsw.gov.au

Dear Ms Hawkeswood

Bowdens Silver (SSD 5765)

Thank you for your email dated 1 June 2020 to the Biodiversity and Conservation Division (BCD) requesting advice on the Bowdens Silver project (SSD 5765).

The proposal consists of a mine site covering 422 hectares and a water pipeline approximately 58.5 kilometres long. A total of approximately 381.71 hectares of native vegetation will be directly impacted by the proposal.

BCD has reviewed the biodiversity assessment report (BAR) and biodiversity offset strategy (BOS) for the project. BCD'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 and Conservation Division

16 July 2020

Attachment A – BCD's Recommendations

Attachment B – BCD's Detailed Comments

Attachment A

BCD's recommendations

Bowdens Silver – Environmental Impact Statement

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.

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.

4.1 Further targeted surveys should be conducted for koalas in all plant community types of all condition classes that contain potential koala habitat, or koalas should be presumed present.

4.2 Selection of PCTs and condition classes for koala species polygons should be fully explained and justified.

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

6.1 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.

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.

7.5 Updates be made to ensure that the areas (hectares) and biodiversity credits in the calculator match those provided in tables in the biodiversity assessment report and biodiversity offset strategy.

8.1 Justification be provided regarding why the full power line has not been included in the environmental assessment for SSD 5765.

Attachment B

BCD's detailed comments

Bowdens Silver – Environmental Impact Statement

Biodiversity

1 Avoidance and minimisation of impacts has not been demonstrated

The NSW Biodiversity Offset Policy for Major Projects applies to the Bowdens Silver project. Principle one of the offset policy states:

> *Before offsets are considered, impacts must first be avoided and unavoidable impacts minimised through mitigation measures. Only then should offsets be considered for the remaining impacts*.

Measures to avoid and mitigate are outlined in section 6 of the biodiversity assessment report (BAR). A 'traffic light' approach has been taken to identify areas of relatively high biodiversity value (maps 54 and 55):

- Red – presence of native vegetation that qualifies as a critically endangered TEC under the schedules of the BC Act or EPBC Act.
- Orange – presence of native vegetation that does not qualify as above.
- Green – presence of vegetation that is dominated by introduced flora species.

The EIS (section 4.10.5.2) states that, as a result of the traffic light model a range of alterations were made to both the mine site layout and positioning of the water pipeline corridor, reducing the area of disturbance within the red and orange areas. The key adjustments to the mine site layout related to the locations and boundaries of the soil stockpiles. In light of the traffic light model, most soil stockpiles were confined to low and moderate impact areas and the area of soil stockpile reduced by increasing the thickness of subsoil stockpiled from 3m to 5m, thereby reducing the area for soil stockpiling.

The BAR would benefit from further discussion of efforts to avoid impacts on areas of higher biodiversity value. This should include maps illustrating the mine and pipeline components that have been adjusted to avoid areas of higher biodiversity value and minimise impacts.

Mitigation measures are briefly outlined, and predominantly rely on sub-plans to be prepared post-consent.

Recommendation

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.

2 Calculations in the BioBanking Assessment Methodology calculator need to be restructured

The BAR states (section 2.2.3) that given that part of the project is a linear development in the context of the Framework for Biodiversity Assessment (FBA), inner and outer assessment circles were applied to the mine site, while the required 550 metre 'buffer' was applied to, and centred upon, the linear water pipeline.

While connectivity and landscape score information is provided in the BAR for the assessment circles for the mine site using the site-based assessment (sections 3.6 and 3.7), no equivalent information is provided for the linear assessment of the pipeline.

Calculation of landscape values, and percentage native vegetation cover in the landscape, differs between the site-based and linear methodologies in the FBA. This affects calculation of biodiversity credits in the BioBanking Assessment Methodology (BBAM) calculator.

Data has been entered into the BBAM calculator as one site-based case rather than being split into separate site based and linear components. The BAR does not provide an explanation regarding why the linear tool was not used for the pipeline.

In addition, the BBAM calculator has a glitch where it will not allow the consultant to submit the case. This may be rectified if the case is split into two.

Recommendations

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 Management zone scores for native vegetation clearing along the pipeline need to be zero

The EIS (section 2.10.4) states that pipeline construction will include vegetation clearing and grading of the construction corridor. The trench will then be excavated, and pipeline installed. This indicates that all vegetation is likely to be removed.

BCD has examined the future site scores with development for all components within the BBAM calculator and note that the future site scores for the pipeline retain native ground cover and shrubs. If vegetation is to be cleared and graded along the pipeline route, the future site scores should be zero.

Recommendation

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

4 Koala habitat identification needs further investigation

Koalas have been recorded twice within the study area. Based on the time of year of these two sightings, the BAR has concluded that they are likely to have been dispersing through the site rather than being resident.

There are twenty-five koala records (not including the two in the study area) within ten kilometres of the site (BioNet Atlas search conducted 10 July 2020). Despite this, only two koala survey transects, and two koala scat transects, have been conducted within a limited area within the study area. There appears to have been no targeted survey for koalas elsewhere across the study area.

The species polygon shown for this species was generated by using the three broad vegetation types (BVTs) with a vegetation zone in moderate / good - high condition. These totalled 139.59 hectares. Specifically, it includes the following within the BAR footprint.

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

The BAR does not justify why only these three PCTs have been selected.

BCD considers that additional potential koala habitat may be present within the project footprint. A search of the threatened species profile database has found that koalas are associated with all woodland and forest PCTs within the development footprint (i.e. all PCTs except for PCT 796 / CW 249 derived grassland of the NSW south western slopes).

Recommendations

4.1 Further targeted surveys should be conducted for koalas in all plant community types of all condition classes that contain potential koala habitat, or koalas should be presumed present.

4.2 Selection of PCTs and condition classes for koala species polygons should be fully explained and justified.

5 The buffer applied to Ausfeld's wattle requires clarification

An estimated population of 239 individual Ausfeld's wattle plants across eight locations was recorded within the study area. The species polygon created for Ausfeld's wattle includes all individual plants that were recorded during the field surveys and a suitable buffer if deemed appropriate. Biodiversity species credits have been generated for 120 of the plants.

The BAR does not contain information regarding the application of the 'suitable buffer'. The size and circumstances under which the buffer has been applied are unknown, as are the intended implications of the buffer.

Recommendation

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

6 Identification of cliffs, caves and other potential bat habitat is required

Threatened bat species that use caves, or overhangs or crevices, cliffs or escarpments, or old mines, tunnels, culverts or buildings for breeding and roosting have been recorded on the mine site. These include eastern cave bat, eastern bentwing bat and large-eared pied bat.

The BAR concludes that no caves, rock crevices or disused mine shafts occur within the BAR footprint, and as such, only foraging habitat is present. However, the Aboriginal cultural heritage information contained in the EIS (section 4.14.3) states that rock shelters and rock art sites were considered possible in caves and overhangs in sedimentary and volcanic bedrock in the low hills and ridges of the mine site. The Aboriginal cultural heritage survey located one rock shelter on the mine site.

In addition, table 23 of the BAR states that land containing escarpment and cliffs is adjacent to the development footprint, and some old mine shafts are present. Small portions of the footprint are within one kilometre of rock outcrops or cliff lines.

BCD considers that further information is required to determine whether bat roosting and breeding habitat occurs on, or within two kilometres, of the site. If bat habitat is present, the direct (i.e. land clearing) and indirect (e.g. blasting) impacts of construction and operation of the mine on these habitat features should be assessed.

Recommendation

6.1 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.

7 Further matters need to be addressed

BCD has reviewed the BAR and the inputs to the BBAM calculator against the requirements of the FBA. The following items require addressing:

- The FBA requires that stream orders be identified, and riparian buffers mapped. This has not been included in the BAR.
- There are gaps in the vegetation mapping in map 11 of the BAR that appear to contain native woody vegetation. The landscape value score requires calculation of all native vegetation within the outer and inner assessment circles. Table 5 may therefore be based on incomplete mapping.
- BCD note that there is a glitch in the BBAM calculator which has added duplicate data for CW 291 moderate / good - high and moderate / good - medium. This may have also been duplicated for the credit calculations. This will need to be checked, although splitting the project into site-based and linear cases (as per recommendation 2.3) may resolve the problem.
- With regard to targeted flora species surveys, the BAR states that, whenever travelling between Biometric plot/transect surveys, and any of the fauna surveys, vegetation community surveys and threatened flora searches were completed over a period of 15 minutes. These were completed at each of the EnviroKey Biometric plot/transects. While the random meander surveys have not been mapped, they have been occurring across the study area since 2016.

  Based on this information and the spatial files provided, EnviroKey would have done ten transects within the mine site and nineteen along the pipeline route. The location and number of targeted flora surveys conducted by the previous consultant is unknown. BCD cannot verify the adequacy of targeted flora surveys without this information.
- There are some small discrepancies in area calculations between the BAR and the BBAM calculator. These may affect the biodiversity credit calculations and should therefore be reviewed to ensure consistent figures are applied. This includes the following:
  - CW111 moderate / good - medium: 92.58 ha in BBAM calculator and 92.85 ha in BAR
  - CW291 moderate / good - high: 80.97 in BBAM calculator and 81.90 in BAR

Recommendations

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.

7.5 Updates be made to ensure that the areas (hectares) and biodiversity credits in the calculator match those provided in tables in the biodiversity assessment report and biodiversity offset strategy.

8 Power transmission line has not been assessed

The executive summary of the EIS states that a 132 kV power transmission line is also required for the project, and that this will be assessed separately under Part 5 of the *Environmental Planning and Assessment Act 1979*. The area of the transmission line within the proposed mine footprint (12.46 hectares) has been assessed as part of SSD 5765. BCD questions why the full transmission line was not assessed under SSD 5765.

Recommendation

8.1 Justification be provided regarding why the full power line has not been included in the environmental assessment for SSD 5765.