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HumeLink Supplementary Biodiversity Strategy

Contents

Document Control

Version	Author	Status	Comments	Date
V1 – V6	Tuesday Heather	Preliminary internal draft	Daniel Whaite	27 March 2024 – 27 November 2024
V7	Tuesday Heather Peter Monsted	Internal draft	Suzanne Westgate Denise Lo Daniel Whaite	30 October 2024
V8	Tuesday Heather Peter Monsted	Draft for peer review	Adam Cavallaro	17 November 2024
V9	Tuesday Heather Peter Monsted Daniel Whaite	Draft for CPHR review	Angie Jenkins Allie Cash Daniel Robson	17 January 2025
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V11	Tuesday Heather	Final draft	Denise Lo Daniel Whaite Peter Monsted	13 March 2025
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1. Introduction

1.0. Background

The HumeLink Transmission Project (the Project) is the construction and operation of around 365 km of high-voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle in southern New South Wales. Transgrid has received NSW Infrastructure Approval (SSI 36656827) (November 2024) for the Project under Part 5 Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) (CSSI approval). The Project was declared Critical State Significant Infrastructure (CSSI) under *State Environmental Planning Policy (Planning Systems) 2021*. The Project was also declared a controlled action by the Commonwealth Department of Climate Change, Energy, the Environment and Water (Commonwealth DCCEEW) and requires a separate approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which was issued in December 2024.

Biodiversity assessment of the Project was conducted in accordance with the Biodiversity Assessment Method (BAM) 2020 to identify vegetation communities, flora and fauna occurring and/or potentially occurring within the Project footprint. Outcomes of the assessment are detailed in the *HumeLink Technical Report 1 – Revised Biodiversity Development Assessment Report* (the Revised BDAR) (Niche, Rev 0 June 2024). Minor amendments to the direct impact areas recorded in the Revised BDAR were made in consultation with NSW DCCEEW Conservation Programs, Heritage and Regulation (CPHR) division prior to project approval and are reflected in the Infrastructure Approval and post-approval documents. These included the smoothing of disturbance polygon and additional disturbance areas for temporary construction access to clearing polygons.

A total of 46 Plant Community Types (PCTs), 49 candidate flora species and 30 candidate fauna species and populations have potential to occur within the project footprint, 20 of which are potential Serious and Irreversible Impact (SAII) candidates, some of which occur on non-native or Category 1 land.

The direct impacts on biodiversity values resulting from the Project include:

- Direct impacts to 45 PCTs including five Threatened Ecological Communities (TEC) listed under the NSW *Biodiversity Conservation Act 2016* (BC Act), with two of these also listed under the EPBC Act. One PCT is within the project footprint but outside the impact area.
- Removal of 926.43 hectares of native vegetation including 490.32 hectares of TECs listed under the BC Act.
- Direct impact to the habitat of 76 threatened flora and fauna species, including two endangered fauna populations. Three candidate flora species are within the project footprint but outside the impact area.

During the BDAR field surveys, access was gained to 79% (7013.42ha) of the project footprint (8834.70ha). This restricted the location, number, timing and efficacy of field surveys undertaken in these areas.

As a result, the presence and associated offset liability for a number of species has been assumed (in accordance with the BAM), resulting in an overestimation of the likely impact. The mapping of PCTs within inaccessible lands was completed on a conservative basis where higher condition class data was used as a surrogate. This may have resulted in an increase in species and ecosystem credits.

Acknowledging the above, Conditions B28 and B29 (see section 1.7 & Appendix A-1) of the CSSI approval provide for additional survey prior to development that would impact the relevant biodiversity values (see section 1.3 for definition) for the following:

- Biodiversity values for which a reduction of credit liability is being sought , including refinement of the extent of assumed presence for each threatened species potentially impacted by the Project, as per Condition B28(b)(i)

- SAII entities in Condition B28(b)(ii).

Table 1 illustrates the residual area of assumed presence for the project footprint at the time of project approval. These areas will be subject to supplementary surveys wherever possible, noting ongoing land access and unmanageable factors including weather may impede survey coverage.

Table 1: Approved project footprint – residual assumed presence which will be subject to supplementary survey

	Total predicted habitat for candidate threatened species (ha)	Known habitat (ha)	Sufficiently surveyed – species ruled out (ha)	Expert report (ha)	Residual - assumed presence severely burnt (ha)	Residual Assumed presence (ha) potentially subject to survey
Flora	13,216.9	35.3	4,820.2	N/A	N/A	8,361.4
Fauna	19,364.1	2,594.3	4,769.1	5,746.4	816.3	5,438

1.1. Location and Land Access

This Strategy applies to the project footprint as approved on 16 November 2024. Figure 1 below illustrates the location of the project. Supplementary survey will be conducted throughout the footprint as land access allows and multiple survey campaigns may be undertaken to reduce assumed presence as much as possible. The location of individual surveys will be provided in the Biodiversity Assessment Verification Report as required by Condition B29 (further described in Section 4).

Land access for survey at the EIS/Revised BDAR stage was approximately 7013ha (79%) of the project footprint. Supplementary surveys conducted between October 2024 and March 2025 are predicted to cover an additional 11% (1023 ha) of previously inaccessible land. The remaining 9% is due to become accessible by June 2025, with further survey to be undertaken where the construction program allows. Section 4.0 describes the revision of the verification reports to incorporate additional survey data.

1.2. Objectives of the Supplementary Biodiversity Strategy

This Supplementary Biodiversity Strategy (Strategy) has been prepared to meet the requirements of Condition B28 of the CSSI Approval.

The objectives of the Strategy are to:

- Define the relevant biodiversity values which this Strategy relates to
- Describe survey methods to confirm the extent of suitable habitat and presence of all listed SAII species potentially impacted by the Project, in accordance with the BAM and other guidance documents that are relevant and applicable
- Detail survey methods to reduce assumed presence of specific non-SAII entities for which a reduction in offset liability is being sought
- Describe methods for validation of Plant Community Types (PCTs) on previously inaccessible land.

Figure 2 illustrates the relationship between the Strategy and other key guiding documents.

1.3. Relevant biodiversity values

Conditions B28 and B29 require that the Supplementary Biodiversity Strategy and Biodiversity Assessment Verification Report are submitted to the Planning Secretary's satisfaction prior to development that would impact the 'relevant biodiversity values'. For the purposes of this Project, Strategy and the Verification Reports, 'relevant biodiversity values' are defined as:

> *Those SAII entities listed in condition B28 of the HumeLink infrastructure approval, and any other threatened entity impacted by the Project for which a credit liability reduction is being sought specific to the location where assumed presence has been revised via Verification Reporting.*

This definition allows for revised Verification Reporting prior to impacts occurring at a particular location within the Project footprint if required. For example, proposed impacts to both known and remaining assumed present locations of *Diuris aequalis* near Yass would be reported in a Verification Report prior to impacts occurring in that location. Further survey could continue for this species elsewhere along the alignment when land access is gained and the survey window is open, and would be reported in revised Verification Reporting prior to construction occurring in that location. Figure 3 illustrates this example.

This will allow for maximum survey coverage to inform avoidance and minimisation of impacts during detailed design, development of detailed Environmental Control Maps and Biodiversity Exclusion Zones through the Biodiversity Management Plan (BMP), guide avoidance and minimisation during construction and ongoing credit reduction.

1.4. Scope of this Strategy

This Strategy addresses condition B28 of the HumeLink Project approval. It outlines the methods for surveys for SAII and non-SAII entities across the approved project footprint. This Strategy outlines the process that will be undertaken to provide Verification Reporting on survey results prior to construction (in accordance with condition B29) and the process for credit liability reduction, Biodiversity Offset Package and Biodiversity Management Plan updates.

Additional information has been included where relevant to provide clear links between the Strategy and other approval documents or compliance requirements and describe key processes that will be undertaken to meet the Project approval (see Appendix A).

1.5. Supporting documents

This Strategy is supported by several key documents & datasets (see Table 2 below) which are referred to throughout the text. A number of documents listed in Table 2 are post approval documents and are therefore referred to as draft until finalised.

Table 2: Key supporting documents and datasets

Document/data set	Title	Version	Source	Author	Date
Humelink BDAR	Revised Biodiversity Development Assessment Report, 2024	REV 0	NSW Planning Portal	Niche	1 June 2024
Post-BDAR mapping	A8196_PostBDAR_20240830.gdb	PostBDAR	Transgrid	Niche	30 August 2024
Additional and Appropriate Measures	AAM – HumeLink's SAII – letter to BCS – September 2024_FINAL_v1.pdf	V1	Transgrid	Transgrid	2 September 2024
Humelink Biodiversity Offset Package (BOP)	8279_HumeLink_Draft BOP_ver2_BCS_20240916	V2	Transgrid	Niche	16 September 2024
Enabling Works Management Plan	HumeLink EWMP_Rev 5.2_Final 20250313.pdf	Rev 5.3.1	Transgrid	Transgrid	13 March 2025
Constraints Mapping (Enabling Works)	A8196_Humelink_PostBDAR_Constraints_20250129pm.gdb.zip	20250129 pm	Transgrid	Niche	29 January 2025
Peer Review	31908_Transgrid_IndReview_Letter_V1_20250129	V1	Transgrid/Umwelt	Adam Cavallaro	29 January 2025
BAVR revisions proposal to DPHI	Humelink B29 BAVR_Request for Approach_20250523	V1	Transgrid	Transgrid	23 May 2025

Figure 1: Humelink approved project footprint

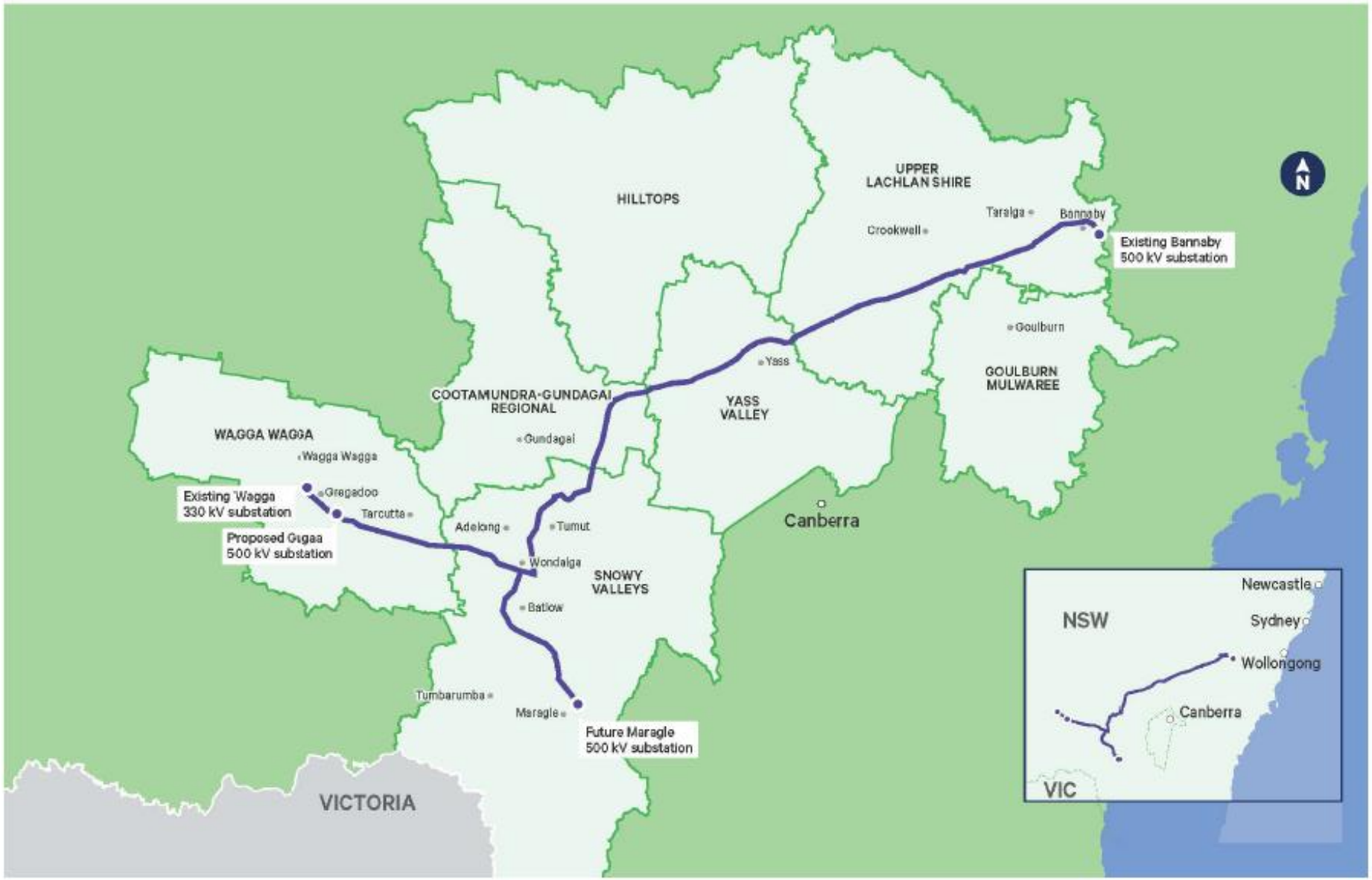


Figure 2: Relationship between the Strategy and other key guiding documents

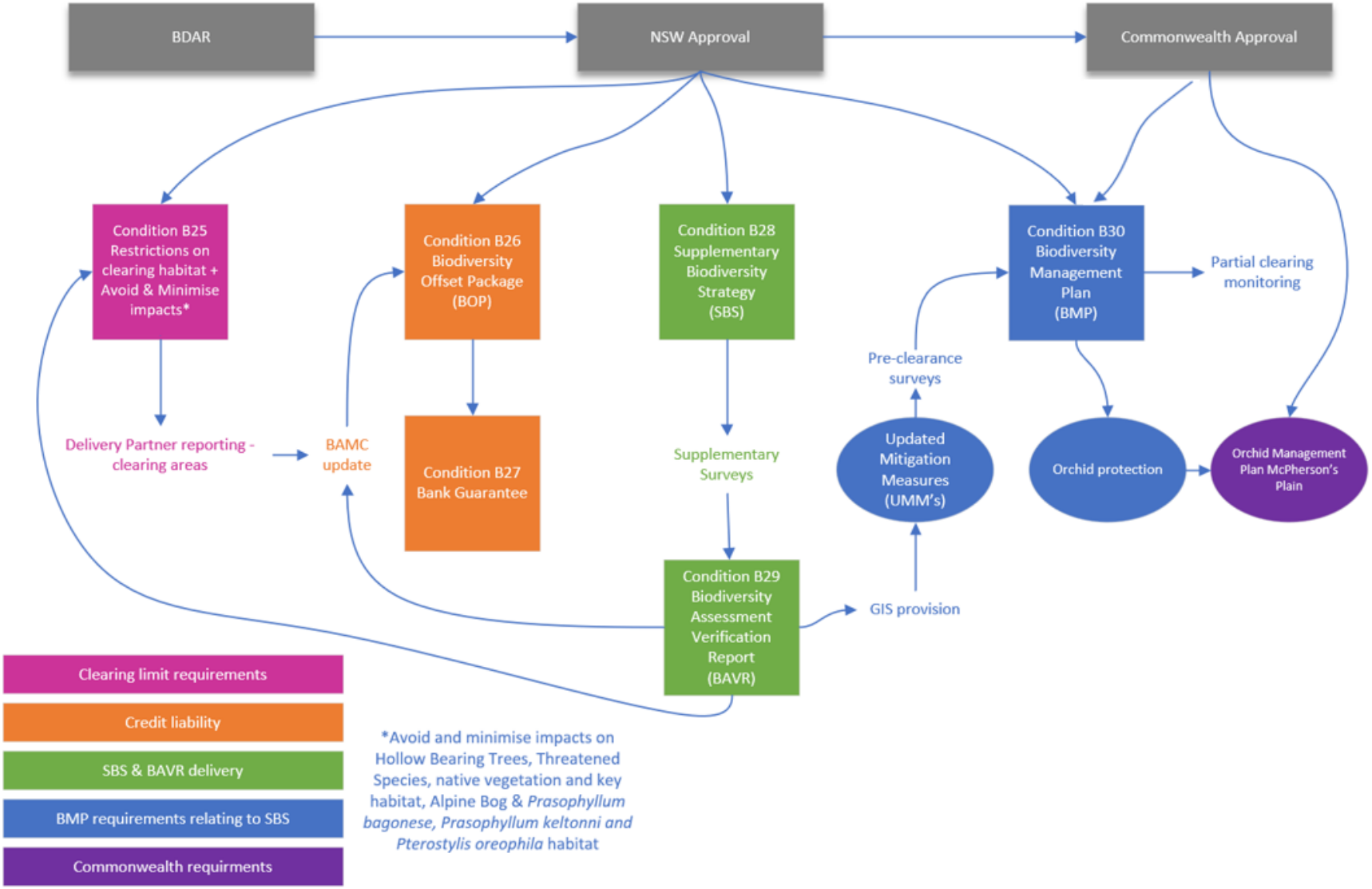
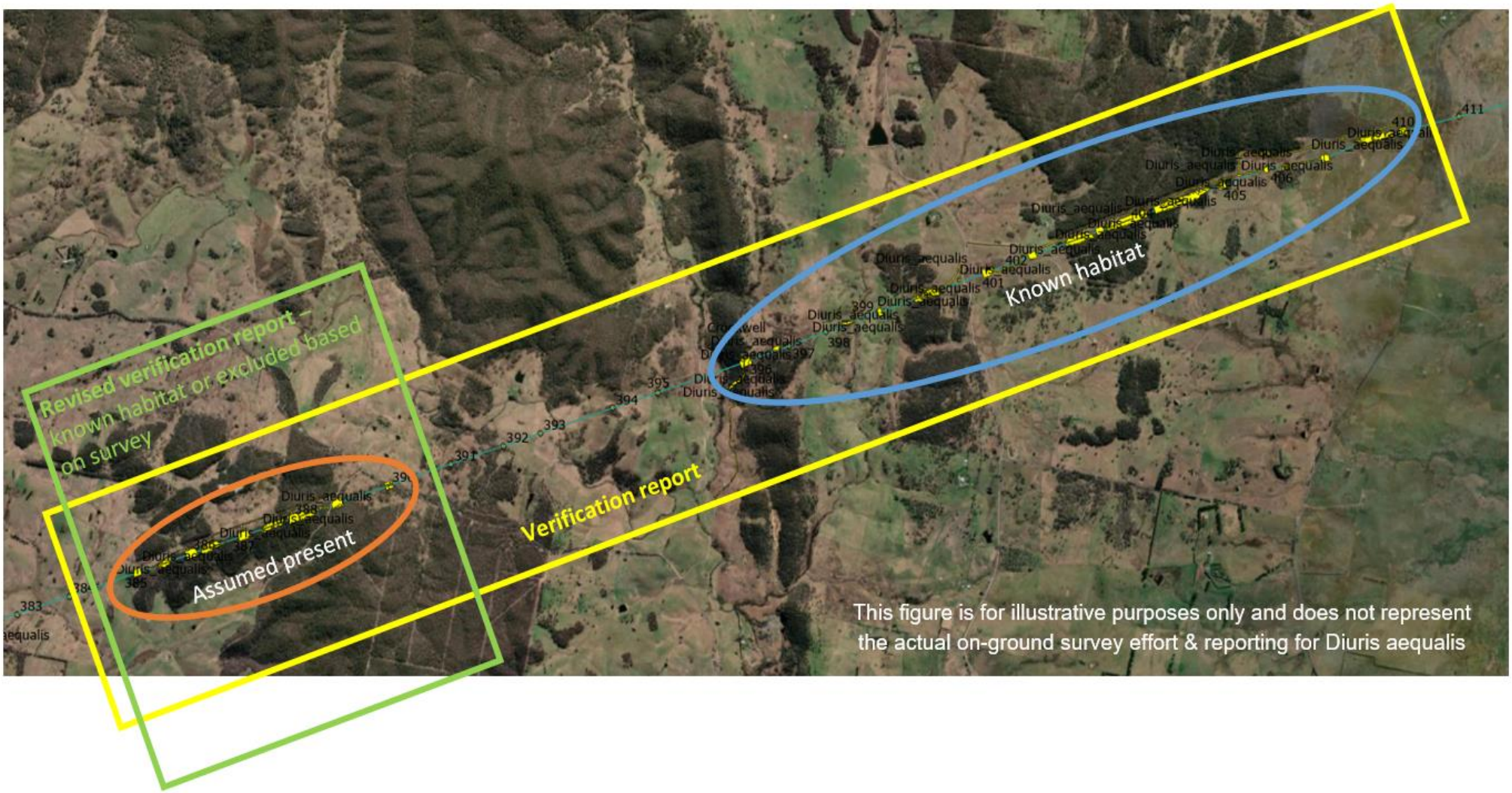


Figure 3: Successive survey and Verification Reporting example using *Diuris aequalis* (illustrative example only)



1.6. Relevant legislation and guidelines

Section 3 of the Revised BDAR provides the legislative and policy context of the Project. All survey methods described in this Strategy are in accordance with the BAM (2020) and related guidelines, unless otherwise approved by NSW CPHR as indicated in Appendix E & F. Survey details (timing, conditions, location, effort) and outcomes will be prepared in accordance with the BAM and will be reported in a Verification Report as required by condition B29 and outlined in section 4 of this Strategy.

1.7. Minister's Conditions of Approval

This Strategy has been prepared to address the NSW Infrastructure Approval (SSI 36656827) Condition B28 - Supplementary Biodiversity Strategy (below). The Strategy interacts with other conditions of the Infrastructure Approval including B25, B26, B27, B29 and B30 as outlined in Appendix A.

> *B28 - Supplementary Biodiversity Strategy*
>
> *Prior to carrying out any development that would impact on the relevant biodiversity values (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64), the Proponent must prepare a Supplementary Biodiversity Strategy as committed to in the EIS, in consultation with CPHR and to the satisfaction of the Planning Secretary. Unless otherwise agreed by the Planning Secretary, the Strategy must:*
>
> *(a) be peer reviewed by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary;*
>
> *(b) detail survey methods for all entities to be targeted by the Strategy, in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared, including but not limited to:*
>
> > *(i) surveys within unsurveyed areas of the development area identified in the EIS where a reduction in credit liability for the relevant biodiversity value assumed present is being sought;*
> >
> > *(ii) surveys for the following serious and irreversible impact (SAII) entities:*
> >
> > - *Prasophyllum bagoense*
> > - *Pterostylis oreophila*
> > - *Caladenia concolor*
> > - *Genoplesium superburn*
> > - *Pomaderris delicatat*
> > - *Litoria castanea*
> > - *Prasophyllum innubum*
> > - *Solanum armourense*
> > - *Calotis glandulosa*
> > - *Grevillea iaspicula*
> > - *Pomaderris pallida*

- *Mixophyes balbus*
- *Prasophyllum keltonii*
- *Bossiae fragrans*
- *Eucalyptus robertsonii subsp, hemisphaerica*
- *Grevillea wilkinsonii*
- *Chalinolobus dwyeri*
- *Pseudomy fumeus*
- *Pimelea bracteate*
- *Tyto tenebricosa*

1.8. Updated Mitigation Measures

The Strategy has been prepared to address the relevant biodiversity Updated Mitigation Measures (UMMs) from the HumeLink Amendment Report. Appendix B provides a cross reference to indicate where the mitigation measures have been addressed in this Strategy or other management documents where relevant.

1.9. EPBC Act Conditions

HumeLink is a controlled action that required assessment and approval under the EPBC Act before it can proceed (referral number EPBC 2021/9121). The EPBC Act approval was issued on 18 December 2024. Condition 4 of the EPBC Approval requires Transgrid provide the Commonwealth Department of Climate Change, Energy, the Environment and Water with the Supplementary Biodiversity Strategy and Biodiversity Assessment Verification Report required under conditions B28 and B29 of the NSW approval. The Commonwealth Government have endorsed the use of the BAM as the assessment tool for this Project under the NSW Assessment Bilateral Agreement. The Commonwealth Offsets Policy also applies.

1.10. Peer review of Strategy

Condition B28 requires the Strategy to be peer reviewed by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary. Adam Cavallaro (BAM Assessor Accreditation number BAAS18056) has been approved by the Planning Secretary's delegate on 20 November 2024 and was engaged to conduct the peer review.

A letter report of Adam's findings is provided in Appendix C of this Strategy, with a cross referenced table illustrating how Adam's feedback has been incorporated into the Strategy.

1.11. NSW DCCEEW Conservation Programs, Heritage and Regulation division

NSW Conservation Programs, Heritage and Regulation division (CPHR) have provided ongoing support and advice throughout the Project, including species specific survey methods and species polygon advice for the supplementary surveys. Formal consultation is required on both the Strategy and Verification Report in accordance with the conditions of approval. Transgrid has had ongoing meetings to discuss the Strategy and provided a draft for comment on 17 January 2025. Comments were returned to Transgrid on 7 February 2025, with comments incorporated and a revised version of the Strategy provided to CPHR on 25 March 2025. Additional comments were received on 11 April 2025 and have been incorporated into this version which will be provided to CPHR at the time of lodgement to the NSW Planning Portal.

The Verification Reports detailing survey effort at specific locations, revision of species polygons and credit reduction outcomes will be provided to CPHR for consultation prior to submission.

1.12. NSW Planning Secretary

The Strategy and Verification Reports under Conditions B28 and B29 are required to be prepared to the Planning Secretary's satisfaction. Following CPHR consultation, the Strategy and Verification Reports will be presented to the Planning Secretary for approval.

Approval of the Strategy must occur prior to carrying out any development that would impact upon the relevant biodiversity values. A staged approach is proposed to Verification Reports, to enable maximum survey coverage without delaying construction (see Section 4.0 and BAVR Revisions proposal submitted to DPHI May 2025).

1.13. Glossary

Term or abbreviation	Definition
Approved impact area	Clearing limit set by NSW Planning Approval for the Humelink Project – SSI-36656827, Condition B25, Tables 2-1, 2-2 & 2-3.
Assumed present/presence	An area of threatened species predicted habitat where survey cannot be conducted or is insufficient to show absence.
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BDAR	Biodiversity Development Assessment Report
BMP	Biodiversity Management Plan
BOP	Biodiversity Offset Program
Candidate species	The threatened species identified to be assessed for species credit species under the BAM-C
Category 1 land	Land that was cleared of native vegetation as of 1 January 1990, or land that was lawfully cleared between 1 January 1990 and 25 August 2017.
Disturbance zone	An area proposed to be disturbed and either fully or partially cleared during construction.
Early notification data	Point data such as Hollow Bearing Trees or Threatened Species locations (that are unlikely to change during CPHR review of the BAVR) that will be provided to Delivery Partners for use in pre-clearance survey & preparation of Environmental Control Maps.
Easement	The lots of land on which transmission overhead lines are built and include a buffer area to ensure the safe and secure operation of the lines. The Easement is within the Approved Project Footprint.
ECZ	Easement Clearing Zone – partial clearing proposed
ESRI ArcGIS	A geographic information system software used to spatially map the extent of flora and fauna habitats based on surveys, expert reports, or assumed presence.
Habitat constraint mapping	Desktop and field-based mapping to identify specific constraints relevant to a target species.
HTZ	Hazard Tree Zone – only trees that pose a hazard to the safe operation of the transmission lines will be cleared in this zone.
PCT	Plant Community Type

Predicted habitat	An area where a species has been predicted by the BAM-C to occur.
Project approval	Approval issued by the NSW Government on 14 November 2024
Project footprint	The project footprint as included in the Revised BDAR at the time of project approval (14 November 2024). The project involves the construction and operation of high voltage transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle. The area that may be directly affected by the construction and operation of the amended project. It includes the indicative location of project infrastructure, the area that would be directly disturbed during construction and any easement required during operation. Amended project footprint has the same meaning as 'Development Site' as defined by the BAM.
Revised BDAR	The Revised BDAR for the CSSI project HumeLink, inclusive of the proposed amendments and project refinements to the project as described in the EIS.
SAII	Serious and Irreversible Impact
SIA	Significant Impact Assessment
Supplementary Survey	Ecological survey conducted following completion of the Revised BDAR (June 2024).
Survey Effort Reduction	The reduction in assumed presence through supplementary survey.
PCT	Plant Community Type
TBDC	Threatened Biodiversity Data Collection
TCZ	Total Clearing Zone – all vegetation will be cleared
TEC	Threatened Ecological Community

2. Approved Biodiversity Impacts

Potential biodiversity impacts from the amended Project have been assessed within the Revised BDAR (Niche, June 2024) as required by the Planning Secretary's Environmental Assessment Requirements (SEARs) and in accordance with the BAM (DPIE 2020).

The Revised BDAR contains a full description of the site context, assessment area and landscape features. The final offset liability is provided in the HumeLink Biodiversity Offset Package (BOP) (Niche, December 2024) and summarised below.

2.0. Amendments Post-BDAR prior to Approval

Increases to credit requirements and clearing limits for some entities were agreed post-submission of the Revised BDAR following consultation with DPHI and CPHR, to include potential additional direct, prescribed and indirect impacts. Amendments to the Revised BDAR assessment and the resulting changes included the following:

- smoothed clearing polygons – impact area and credit increase
- incorporation of single-use access tracks for construction – impact area and credit increase
- indirect impacts (connectivity) – credit increase
- prescribed impacts (edge effects) – credit increase
- adjustments for full loss considerations within the Easement Clearing Zone – credit increase

Mapping adjustments were made post-BDAR but prior to project approval to include additional clearing areas. Where amendments have resulted in a credit increase to the Revised BDAR reported credit requirements, these have been outlined in the BOP. All total clearing limits contained in this Strategy reflect the post-BDAR amendments and limits set at project approval.

The approved project footprint shapefiles (Vegetation, Flora, Fauna, Endangered Populations) were provided to CPHR and DPHI and are listed in the supporting documents in Table 2.

2.1. Plant Community Types

Native vegetation within the approved project footprint falls within six IBRA regions, twelve vegetation formations and over 45 PCTs. A total of 703 BAM plots were collected across the project footprint, including plots that were no longer used due to alignment changes. The Revised BDAR describes the methods for BAM plots and PCT allocation in sections 4.4.3 & 6.2.

Where site specific plots were unable to be collected due to land access or other constraints (e.g. weather), surrogate, duplicate and benchmark plots were used to determine the PCT. The predicted condition of areas where access was not possible was estimated using a combination of NSW BioNet Atlas data, 'over the fence' observations, existing mapping and aerial photo interpretation. Where surrogate plots were utilised, a higher condition class than the estimate was applied to ensure predicted Vegetation Integrity scores were conservative. Table 3 includes the total approved PCT clearing limits for the Project (condition B25, Table 2-1, 2-2 & 2-3 NSW approval).

Table 3: Total clearing limit of Plant Community Types

Plant Community Types	Full loss	Partial loss	Grand Total
5	0.53	2.11	2.64
266	48.29	6.55	54.85
268	24.11	2.49	26.61
277	115.34	12.60	127.94
278	6.40	3.28	9.68
280	61.07	11.22	72.30
283	4.47	1.63	6.10
285	2.85	8.31	11.16
287	4.08	3.61	7.70
290	9.56	1.99	11.55
294	0.14	0.00	0.14
295	1.79	2.47	4.26
297	1.54	0.66	2.20
299	5.30	13.35	18.65
300	6.43	16.15	22.57
301	3.37	0.00	3.38
306	3.70	0.22	3.93
314	6.83	1.43	8.26
316	8.65	10.32	18.96
319	1.40	0.08	1.48
322	0.82	0.09	0.91
335	0.36	0.01	0.37
343	5.16	1.07	6.22
349	3.14	1.32	4.46
351	5.22	1.46	6.67
352	14.52	0.79	15.31
637	0.02	0.00	0.02
638	21.87	50.04	71.91
679	2.67	2.86	5.54
727	3.55	0.49	4.04
731	5.95	4.32	10.27
870	1.10	0.83	1.93
939	0.07	0.58	0.65
952	5.17	0.71	5.88
953	39.58	61.87	101.45
1093	28.05	18.30	46.35
1097	0.30	0.08	0.38
1107	0.01	0.02	0.03
1150	9.03	8.69	17.71

Plant Community Types	Full loss	Partial loss	Grand Total
1151	5.44	7.40	12.85
1191	1.00	0.32	1.32
1196	7.09	26.16	33.25
1224	0.02	0.00	0.02
1256	0.32	0.02	0.34
1330	137.20	26.99	164.20

2.2. Revised BDAR candidate species credit species assessment process

The preparation of the EIS for the project utilised a model to predict habitat where field access was not possible. Following the EIS, and once further land access was gained and surveys able to be undertaken for a larger portion of the alignment, the model was replaced by the BAM for candidate species habitat prediction which was presented in the Revised BDAR.

Species credit species are threatened species for which vegetation surrogates and/or landscape features cannot reliably predict the likelihood of their occurrence or components of their habitat. Threatened species to be assessed for species credits are identified by the BAM-C, referred to as candidate species.

Assessing habitat suitability for a species credit species involves the following steps:

Step 1: Identify species credit species for assessment

Step 2: Assess the habitat constraints and vagrant species for species credit species on the biodiversity assessment development footprint

Step 3: Further assessment of candidate species credit species

Step 4: Determine the presence of a candidate species credit species

Step 5: Determine the area or count, and location of suitable habitat for a species credit species (a species polygon)

Step 6: Determine the habitat condition within the species polygon for species assessed by area.

The list of candidate threatened flora and fauna species (species credit species) generated via the BAM-C is provided in the Revised BDAR. No additional threatened flora and fauna species were identified as requiring assessment.

Given the size of the amended project and the complexity of the assessment (i.e. involving consideration of many candidate species over six different IBRA subregions), a mapping process was applied in the Revised BDAR using ESRI ArcGIS to delineate the extent of suitable habitats for candidate species in which further assessment of species presence/absence would be required by means of targeted surveys, an expert report or assumed presence.

The mapping process applied broadly followed the principles outlined in the BAM (steps 2, 5 and 6 above) incorporating the use of the Threatened Biodiversity Data Collection (TBDC) and BioNet species profile information, field data and site observations, BAM-C outputs, supplementary desktop and mapping methods and species-specific feedback received from NSW DCCEEW as a part of the amended project consultation. In summary, the process to map suitable habitat for candidate species credit species includes the following steps applied consecutively:

- vegetation zones forming a known PCT habitat association were identified
- listed geographic constraints were mapped and excluded

  habitats were excluded where the patch size assigned to each vegetation polygon did not meet the patch size threshold for the candidate species, as per the TBDC (NSW DCCEEW, 2024b threshold for the candidate species, as per the TBDC (NSW DCCEEW, 2024b)
- habitats were excluded where the native woody vegetation cover score assigned to each vegetation polygon did not meet the vegetation cover threshold for the candidate species, as per the TBDC (Attachment 1 of the Revised BDAR identifies candidate species with higher vegetation cover thresholds for which this filter was applied)
- habitat constraints listed within the TBDC were considered provided these could be confidently mapped for all lands (including inaccessible private lands within the amended project footprint). Relevant habitat constraints applied as a part of the mapping process included:
    - semi-permanent/ ephemeral wet areas
    - riparian areas and drainage lines
    - cliffs
    - karst
    - rocky areas
    - hollow presence/ absence and associated hollow size class (i.e., hollows greater than 20 centimetres diameter)
- degraded habitats were defined and excluded where necessary microhabitats for candidate species were considered absent. Where relevant, degraded habitats generally incorporated:
    - low and very low condition PCTs subject to significant land use disturbance as a result of historical clearing, cropping and intensive grazing practices
    - PCTs under-scrubbed or lacking a native understorey
    - Category 1 exempt lands and scattered trees completely enveloped by these lands.

The process followed for predicted habitat refinement for supplementary survey is outlined in Section 3.

2.2.1. Threatened Flora

Habitat for threatened flora was predicted across the Project corridor based on PCT associations (candidate species) in accordance with the BAM and as outlined in the Revised BDAR. Field survey was then undertaken as part of the Revised BDAR campaign which further reduced the predicted habitat where property access was able to be gained during the appropriate survey window. Where a species was detected, this was recorded, and the appropriate buffer drawn to indicate known habitat. Where surveys were unable to be conducted, or where survey effort was insufficient, species were assumed present in all areas of potential habitat.

The Revised BDAR survey results for threatened flora are presented in Table 4 below, with remaining assumed presence following Revised BDAR survey illustrated. The supplementary survey will target these areas to reduce the level of assumed presence.

Table 4: Approved project footprint (Nov 2024) - Flora predicted habitat, survey results and total impact area

Species	Revised BDAR Survey results (ha)		Approved impact area (ha)*		
	Assumed present	Known habitat	Residual Assumed present	Known habitat	Total approved impact area
Acacia_ausfeldii	76.3	-	17.67	-	17.67
Acacia_bynoeana	45.31	-	4.17	-	4.17
Acacia_clunies_rossiae	Not detected				
Acacia_flocktoniae	57.02	-	11.25	-	11.25
Ammobium_craspedioides	1955.6	9.65	295.22	2.52	297.74
Baloskion_longipes	5.81	-	1.31	-	1.31
Bossiaea_fragrans	31.39	-	6.31	-	6.31
Bossiaea_oligosperma	9.93	-	2.42	-	2.42
Caesia_parviflora_var_minor	19.32	-	1.71	-	1.71
Caladenia_concolor	246.48	-	34.66	-	34.66
Caladenia_montana	633.46	-	233.51	-	233.51
Calotis_glandulosa	0.06	-	Only detected on Category 1 non-native land – no offset required		
Calotis_pubescens	Not detected				
Carex_raleighii	Not detected				
Commersonia_prostrata	10.09	-	0.82	-	0.82
Cullen_parvum	106.7	-	19.05	-	19.05
Dillwynia_glaucula	5.81	-	1.31	-	1.31
Diuris_aequalis	278.33	-	46.05	-	46.05
Diuris_ochroma	Not detected				

Diuris_tricolor	10.9	-	1.61	-	1.61
Eucalyptus_aggregata	6.96	-	0.79	-	0.79
Eucalyptus_macarthurii	16.44	-	2.64	-	2.64
Eucalyptus_robertsonii_subsp_hemisphaerica	4.53	-	0.77	-	0.77
Euphrasia_scabra	Not detected				
Genoplesium_superbum	42.2	-	10.89	-	10.89
Glycine_latrobeana	Not detected				
Grevillea_iaspicula	31.16	-	5.19	-	5.19
Grevillea_wilkinsonii	151.5	-	22.51	-	22.51
Hakea_dohertyi	Not detected				
Kunzea_cambagei	38.39	-	8.27	-	8.27
Lepidium_hyssopifolium	374.37	-	67.53	-	67.53
Leucochrysum_albicans_subsp_tricolor	1107.75	23.36	182.44	4.36	186.8
Persoonia_marginata	30.18	-	5.03	-	5.03
Persoonia_mollis_subsp_revoluta	3.88	-	1.37	-	1.37
Phyllota_humifusa	45.45	-	11.35	-	11.35
Pimelea_bracteata	14.97	1.08	4.48	0.28	4.76
Pomaderris_cotoneaster	37.22	-	8.96	-	8.96
Pomaderris_delicata	3.89	-	1.37	-	1.37
Pomaderris_pallida	6.45	-	1.17	-	1.17
Prasophyllum_bagoense	0.32	0.28	-	0.04	0.04
Prasophyllum_innubum	5.12	-	0.02	-	0.02
Prasophyllum_keltonii	-	0.28	-	0.03	0.03
Prasophyllum_petilum	303.41	-	49.67	-	49.67

Pterostylis_alpina	22.67	-	2.76	-	2.76
Pterostylis_foliata	124.67	-	54.06	-	54.06
Pterostylis_oreophila	2.64	-	0.65	-	0.65
Pultenaea_humilis	141.25	-	20.21	-	20.21
Rutidosis_leiolepis	Not detected				
Rytidosperma_vickeryae	Not detected				
Senecio_garlandii	90.16	-	11.56	-	11.56
Solanum_armourense	1.6	-	0.4	-	0.4
Swainsona_recta	453.32	-	69.45	-	69.45
Swainsona_sericea	789.69	-	116.25	-	116.25
Thelymitra_alpicola	2.04	-	0.63	-	0.63
Thesium_australe	1014.53	-	149.12	-	149.12
Xerochrysum_palustre	2.17	0.66	0.65	0.12	0.77

* impact area includes additions since finalisation of the Revised BDAR to include smoothing of species polygons – outlined in section 2.0.

2.2.2. Threatened Fauna

Habitat for threatened fauna was predicted across the Project corridor based on PCT associations (candidate species) or important habitat mapping in accordance with the BAM and outlined in the Revised BDAR. Field survey was then undertaken as part of the Revised BDAR campaign which further reduced the predicted habitat where property access was gained during the appropriate survey window. Where a species was detected, this was recorded, and the appropriate buffer drawn to indicate known habitat. Where surveys were unable to be conducted, or where survey effort was insufficient, these areas remain as assumed present.

The Revised BDAR survey results for threatened flora are presented in Table 5 below, with remaining assumed presence following Revised BDAR (Nov 2024) survey illustrated. The supplementary survey will target these areas to reduce the level of assumed presence. The survey results presented in the Verification Report will, once approved by the Planning Secretary, be used to update the clearing limits set under condition B25 (Tables 2-2) of the NSW approval and hence be the basis for credit reduction.

Table 5: Approved project footprint (Nov 2024) - Fauna predicted habitat, survey results and total impact area

Species	Revised BDAR survey results (ha)				Approved impact area (ha)*				
	Assumed present severely burnt	Assumed present	Known habitat	Species expert	Residual Assumed present severely burnt	Residual Assumed present	Known habitat	Species expert	Total impact area
Aprasia_parapulchella	-	257.42	36.15	-	-	29.90	7.39	-	37.29
Burhinus_grallarius	-	355.53	-	-	-	60.87	-	-	60.87
Callocephalon_fimbriatum	18.73	62.35	1940.58	-	1.86	8.97	465.04	-	475.87
Calyptorhynchus_lathami_lathami	-	181.25	32.92	-	-	37.36	7.73	-	45.09
Cercartetus_nanus	-	862.11	62.09	-	-	230.87	22.52	-	253.39
Chalinolobus_dwyeri	-	10.57	-	-	-	3.08	-	-	3.08
Crinia_sloanei	-	3.56	-	-	-	0.75	-	-	0.75
Cyclodomorphus_praealtus	52.74	54.74	-	-	17.23	17.92	-	-	35.15
Delma_impar	-	-	-	885.08	-	-	-	92.81	92.81
Haliaeetus_leucogaster	-	10.46	0.74	-	-	2.87	0.17	-	3.05
Hieraaetus_morphnoides	-	-	0.25	257.43	-	-	0.06	95.82	95.89
Keyacris_scurra	-	-	10.59	1594.23	-	-	1.13	172.78	173.91
Litoria_booroolongensis	-	3.91	-	-	-	0.06	-	-	0.06
Litoria_castanea	-	7.06	-	-	-	1.26	-	-	1.26
Lophoictinia_isura	-	-	-	101.17	-	-	-	39.66	39.66
Mastacomys_fuscus	-	5.13	-	-	-	0.03	-	-	0.03
Mixophyes_balbus	-	58.85	-	-	-	15.56	-	-	15.56
Myotis_macropus	-	403.58	98.42	-	-	58.76	13.56	-	72.32
Ninox_connivens	-	-	26.81	1013.54	-	-	8.89	256.18	265.06

Ninox_strenua	-	-	20.07	834.96	-	-	3.52	248.52	252.04
Petauroides_volans	149.78	91.26	197.08	-	53.14	28.13	77.15	-	158.42
Petaurus_norfolcensis	157.94	39.25	106.99	-	35.67	5.88	25.38	-	66.93
Petroica_rodinogaster	-	121.41	-	-	-	38.77	-	-	38.77
Phascogale_tapoatafa	119.75	384.13	-	-	48.61	130.59	-	-	179.20
Phascolarctos_cinereus	317.32	1813.53	-	-	99.74	387.63	-	-	487.37
Polytelis_swainsonii	-	698.71	61.65	-	-	116.82	10.19	-	127.01
Pseudomys_fumeus	-	13.17	-	-	-	5.79	-	-	5.79
Pseudophryne_corroboree	Not detected								
Synemon_plana	-	-	-	256.33	-	-	-	28.48	28.48
Tyto_novaehollandiae	-	-	-	662.86	-	-	-	196.57	196.57
Tyto_tenebricosa	-	-	-	140.85	-	-	-	68.81	68.81

2.2.3. Endangered Populations

Two species associated with endangered populations were recorded during Revised BDAR surveys - Squirrel Glider in the Wagga Wagga City LGA and Yellow-bellied Glider in the Bago Plateau. Table 6 shows the survey effort results and impact area on these populations.

All habitat for Squirrel Glider and Yellow-bellied Glider is within severely burnt lands and is therefore unable to be surveyed to further reduce assumed presence.

Table 6: Approved project footprint (Nov 2024) - Endangered Population predicted habitat and total impact area

Endangered Population	Revised BDAR survey results (ha)			Approved impact area (ha)			
	Assumed present severely burnt	Assumed present	Known habitat	Residual assumed present severely burnt	Residual assumed present	Known habitat	Total impact area
Yellow-bellied Glider in the Bago Plateau	134.46	49.08	170.86	52.17	17.22	65.38	134.78
Squirrel Glider in the Wagga Wagga City LGA and	47.39	17.38	27.66	5.16	1.71	4.65	11.52

2.3. Expert reports

Expert reports were used for ten species where significant potential habitat was present within the project footprint:

- *Delma impar* – Striped Legless Lizard
- *Keyacris scurra* – Key's Matchstick Grasshopper
- *Synemon plana* – Golden Sun Moth
- Owls & Raptors – Powerful Owl, Barking Owl, Masked Owl, Sooty Owl, Litte Eagle, Square-tailed Kite, White-bellied Sea Eagle

In accordance with the BAM, subsequent surveys over part of an expert report species polygons are not permissible. Should supplementary surveys be proposed, they must cover all potential habitat for the species. Where an expert report has been utilised and accepted by CPHR, no supplementary survey or credit reduction is proposed.

The expert report for Owls and Raptors was rejected by CPHR during the final Revised BDAR review. As such, surveys in accordance with the BAM and TBDC will be undertaken on accessible land for these species, with assumed presence remaining in areas that are inaccessible or unable to be sufficiently surveyed. Should predicted impacts in known or assumed habitat for the species be avoided during construction, a credit reduction may be sought through the verification reporting process and subsequent updates to the BOP.

2.4. Serious and Irreversible Impact entities

The Revised BDAR provides a full assessment of the likelihood of a Serious and Irreversible Impact (SAII) occurring on 20 listed threatened entities. The assessment presents that SAII are likely to occur to *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Box Gum Woodland), *Pimelea bracteata* and Sooty Owl (*Tyto tenebricosa*). The likely SAII on Box Gum Woodland cannot be avoided, and Additional and Appropriate Measures (A&AM) have been agreed with CPHR with methods for delivery of the A&AMs outlined in the BMP as required by condition B30 of the project approval.

The SAII assessment for *Pimelea bracteata* and Sooty Owl in the Revised BDAR is based on partial assumed present for *Pimelea* and full assumed presence for Sooty Owl. Following Verification Reporting of supplementary surveys, the actual area of presence, and/or area remaining as assumed presence is likely to be reduced and subsequently the risk of SAII reduced.

Calotis glandulosa is a SAII species listed in Condition B28. The species is known from three sites in the upper Shoalhaven, with no Bionet records within 20km of the project footprint. The Revised BDAR surveys for the species did not detect any individuals within accessible predicted habitat. Within inaccessible areas, 0.06ha of assumed presence outside the disturbance zone, and 4.61ha in the disturbance zone is within non-native vegetation in the Green Hills State Forest pine plantation (Revised BDAR Figure 13-8, reference 29). Section 6 of the BAM requires that threatened species present on non-native land be assessed as prescribed impacts. Supplementary survey will be conducted for this species.

Table 7 and 8 show the SAII listed entities that are predicted to be impacted by the Project. Green shading shows those species where the impact is likely to be a SAII.

Table 7: SAII listed flora and fauna species predicted to be impacted

Species	Revised BDAR Impact area (ha)			
	Assumed present	Species expert report	Known habitat	Grand Total
Bossiaea_fragrans	6.31	-	-	6.31
Caladenia_concolor	34.66	-	-	34.66
*Calotis glandulosa**	0.00	-	-	0.00
Chalinolobus_dwyeri	3.08	-	-	3.08
Eucalyptus_robertsonii_subsp_hemisphaerica	0.77	-	-	0.77
Genoplesium_superbum	10.89	-	-	10.89
Grevillea_iaspicula	5.19	-	-	5.19
Grevillea_wilkinsonii	22.51	-	-	30.03
Litoria_castanea	1.26	-	-	1.26
Mixophyes_balbus	15.56	-	-	15.56
Pimelea_bracteata	4.48		0.28	4.76
Pomaderris_delicata	1.37	-	-	1.37
Pomaderris_pallida	1.17	-	-	1.17
Prasophyllum_bagoense	-	-	0.04	0.04
Prasophyllum_innubum	0.02	-	-	0.02
Prasophyllum_keltonii	-	-	0.03	0.03
Pseudomys_fumeus	5.79	-	-	5.79
Pterostylis_oreophila	0.65	-	-	0.65
Solanum_armourense	0.40	-	-	0.40
Tyto_tenebricosa	-	68.81	-	68.81

*assumed presence on non-native land

Table 8: SAII listed Threatened Ecological Communities likely to be impacted

Threatened Ecological Community	Impact area (ha)		
	Full loss	Partial loss	Grand Total
Coolac-Tumut Serpentinite Shrubby Woodland	3.37	0.00	3.38
Monaro Tableland Cool Temperate Grassy Woodland	1.67	0.36	2.03
Tableland Basalt Forest	5.60	1.31	6.91
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland	411.42	65.55	476.98

2.5. Matters of National Environmental Significance

This Strategy includes supplementary surveys for MNES listed species, some of which are dual listed under both NSW and Commonwealth legislation. The Revised BDAR gives a full assessment of the likelihood of a significant impact on MNES listed species, including those on Category 1 land which is excluded from consideration under the BAM.

One species, *Xerochrysum palustre* is only listed under the Commonwealth EPBC Act, however, as it is included in the NSW TBDC it can be offset using the NSW BOS under the Commonwealth Offsets Policy.

Table 9 lists the MNES species currently at risk of a significant impact. A full list of MNES species and the assessment for Likelihood of Occurrence and Likelihood of Impact can be found in the Revised BDAR (see Section 11, Attachment 3).

Table 9: MNES species at risk of significant impact.

Species	Impact area (ha)			
	Assume present severely burnt	Assumed present	Known habitat	Grand Total
Aprasia_parapulchella	-	35.19	7.56	42.74
Phascolarctos_cinereus	99.74	387.63	-	487.37*
Leucochrysum_albicans_subsp_tricolor	-	199.70	4.37	204.07*
Pimelea_bracteata	-	4.48	0.28	4.76
Xerochrysum_palustre	-	0.65	0.12	0.77

*MNES area is greater than BC Act area due to the EPBC Act requirement for inclusion of Category 1 lands

2.6. Mitigation Measures

Where a species remains assumed present, or where known locations occur, a series of mitigation measures are proposed to further avoid and minimise impacts. Mitigation measures are required through condition B25 (b) and B30 (b) (i). Appendix B of this Strategy outlines the Mitigation Measures proposed. Additional mitigation measures may be required as a result of supplementary survey and will be presented in Verification Reporting. Following consultation with CPHR, they will be incorporated into a revised version of the BMP as required by condition B29 (d) (ii).

2.7. Enabling Works

Enabling works are works required to set up for the main construction commencement and include construction of compounds, lay down areas, accommodation camps and access tracks to these locations. These works are subject to their own Enabling Works Management Plan (EWMP) approved under Conditions B64-67. Enabling Works are specifically restricted to areas of no or low biodiversity value. A hierarchy of constraints (Table 10) and corresponding constraints map (referenced in Table 2) has been developed to guide the design, planning and construction of enabling works to ensure all works are within areas of low or no biodiversity constraint, with the exception of unavoidable stream crossings which are subject to specific mitigation measures to ensure avoidance and mitigation of impacts. Should there be unexpected finds of threatened species, the unexpected finds protocol in the Enabling Works Management Plan (EWMP) will be enacted.

Constraints mapping for the purpose of Enabling Works is a separate process to 'habitat constraint mapping' for the purposes of predicted species habitat delineation referred to in section 3.4 of this Strategy.

The EWMP will be the guiding document for enabling works construction. Following lodgement of the Environmental Management Strategy as required by condition C1 of the NSW Approval, the EWMP will cease to have effect. Enabling works have been specifically excluded from Conditions B28 and B29.

Supplementary survey is not proposed within areas of Enabling Works, unless these intersect with stream crossings where aquatic species remain assumed present, as per the EWMP.

As such, a credit reduction will not be sought for any avoidance to impacts on biodiversity values in Enabling Works areas.

Table 10: Constraints hierarchy for enabling works

Constraint	Constraint level	Criteria
Connectivity corridors	High	Connectivity corridor locations for all threatened Gliders; OR Important riparian corridors for other threatened fauna in degraded landscapes
	Moderate	Connectivity corridor locations for threatened fauna linking two areas of high quality landscapes and habitats
	Low	Connectivity corridor locations for threatened fauna linking two areas of high quality landscapes and habitats
Booroolong frog habitat	Very high	All DPE streams mapped where the occur outside the project footprint. For habitats within the project footprint, please refer to the species polygon layer.
Conservation sites	Very high	All mapped sites
Actively managed conservation areas	No-go	All fenced areas
	Very high	All fenced areas with a 50m buffer
Hollow bearing trees	Low	All Hollow bearing trees with 100m buffer
Native vegetation and TECs	Very high	Very High or High condition of SAII; OR Very High or High condition CEEC; OR Limited extent TECs: (Alpine Sphagnum Bogs and Associated Fens, Coolac-Tumut Serpentinite Shrubby Woodland, Monaro Tableland Cool Temperate Grassy Woodland)
	High	Moderate or Low condition woody CEEC listed TECs; OR Moderate or Low condition woody SAII TECs; OR Very High and High woody condition EEC (V or E)
	Moderate	Any woody TEC in moderate or low condition; OR Woody vegetation in Very high and High condition
	Low	All non-woody TECs and very low condition woody TECs
Species polygons	Very high	SAII species polygons in very high or high condition vegetation; OR CE in very high or high condition vegetation; OR SAII species in known habitat
	High	SAII moderate and low condition vegetation; OR CE in moderate and low condition vegetation; OR Endangered and Vulnerable species in high or very high condition; OR Threatened species (not SAII) in known habitat
	Moderate	Endangered species in moderate or low condition; OR Vulnerable species in moderate or low condition
Streams	Very high	Streams that are Key Fish Habitat AND Threatened aquatic species; OR Rieks Crayfish predicted habitat AND Threatened aquatic species; OR Rieks Crayfish predicted habitat AND Class 1 to 3 KFH; OR Rieks Crayfish predicted habitat AND KFH.
		Stream areas within 10m buffer of confirmed Class 1 KFH
		Stream areas within 100m buffer of likely Class 1 KFH*
	High	Streams that are Rieks Crayfish predicted habitat only
		Stream areas within 10m buffer of confirmed Class 2 KFH
		Stream areas within 100m buffer of likely Class 2 KFH*
	Moderate	Streams that are Key Fish Habitat only
		Stream areas within 10m buffer of confirmed Class 3 KFH
		Stream areas within 100m buffer of likely Class 3 KFH*
	Low	All other streams (>= Strahler order 2)
Existing tracks	No significant biodiversity constraints	Existing roads and tracks - PCT9996 extracted from vegetation layer

3. Supplementary Strategy Survey Methods

A total of 49 candidate flora species, 30 candidate fauna species and 2 endangered populations have potential to occur within the Project footprint, 20 of which are potential SAII candidates. Of the 49 candidate flora species, habitat for 46 species occurs within a disturbance zone. All habitat for the 30 fauna species is within a disturbance zone.

Field surveys conducted under the Revised BDAR resulted in approximately 32% of potential habitat for threatened flora and fauna species being sufficiently surveyed. All remaining potential habitat was classified as 'assumed present'. The 'residual assumed present' areas in Tables 6 & 7 will be the primary area targeted by supplementary surveys. This section describes the survey methods for supplementary surveys where assumed presence has remained.

All supplementary surveys will be completed in accordance with the BAM s5.3 and guidelines by or under the supervision of suitably qualified ecologists that are BAM accredited assessors. Ecologists with expertise in specific (and often cryptic) species will also be engaged for the supplementary biodiversity survey where specialist advice would benefit the development of the survey plan. This approach is supported by CPHR and does not constitute an 'expert report' as per the BAM. Species polygons will be revised by following the steps outlined in s5.2.5 BAM.

Candidate flora and fauna species that will be targeted through supplementary surveys have been prioritised using the following criteria:

1. All SAII entities that may be impacted by the Project
2. All MNES that are likely to be significantly impacted by the Project
3. All candidate flora with high offset cost
4. Incidental co-located candidate species with smaller offset liabilities, where possible.

Table 11 & 12 assigns the relevant criteria to each species. A maximum clearing area by species is set in the Project Approval (Appendix D). If a survey method is proposed to be modified or scaled differently from that proposed in Appendix E & F, further consultation will be undertaken with CPHR.

Whilst all species will be targeted where possible, there may be residual assumed presence where survey is unable to be completed (eg due to land access and survey season).

3.0. Area subject to Supplementary Survey

The initial Verification Report will include supplementary surveys from October 2024 to March 2025 conducted over approximately 64% (5690 ha) of the alignment including previously accessible but under surveyed land, and previously inaccessible land. Additional supplementary surveys are proposed to cover remaining areas of inaccessible land where disturbance is proposed, and where the construction program and approval timeframe for a revised Verification Report allows.

The approved project footprint is within a 200m corridor, within which a 70m easement is located. Figure 4 illustrates an example of the area subject to survey.

3.0.1. Flora survey

Supplementary surveys for flora will be conducted within the 70m easement, with a 30m buffer to allow for buffers for species outside the proposed disturbance. Revised BDAR assumed present areas outside the 70m easement will remain as assumed present. Survey within these zones was not prioritised as construction is unlikely to occur here, and full supplementary survey across the entire easement would not be possible within time constraints. Should isolated instances occur where alterations are proposed outside the 70m easement

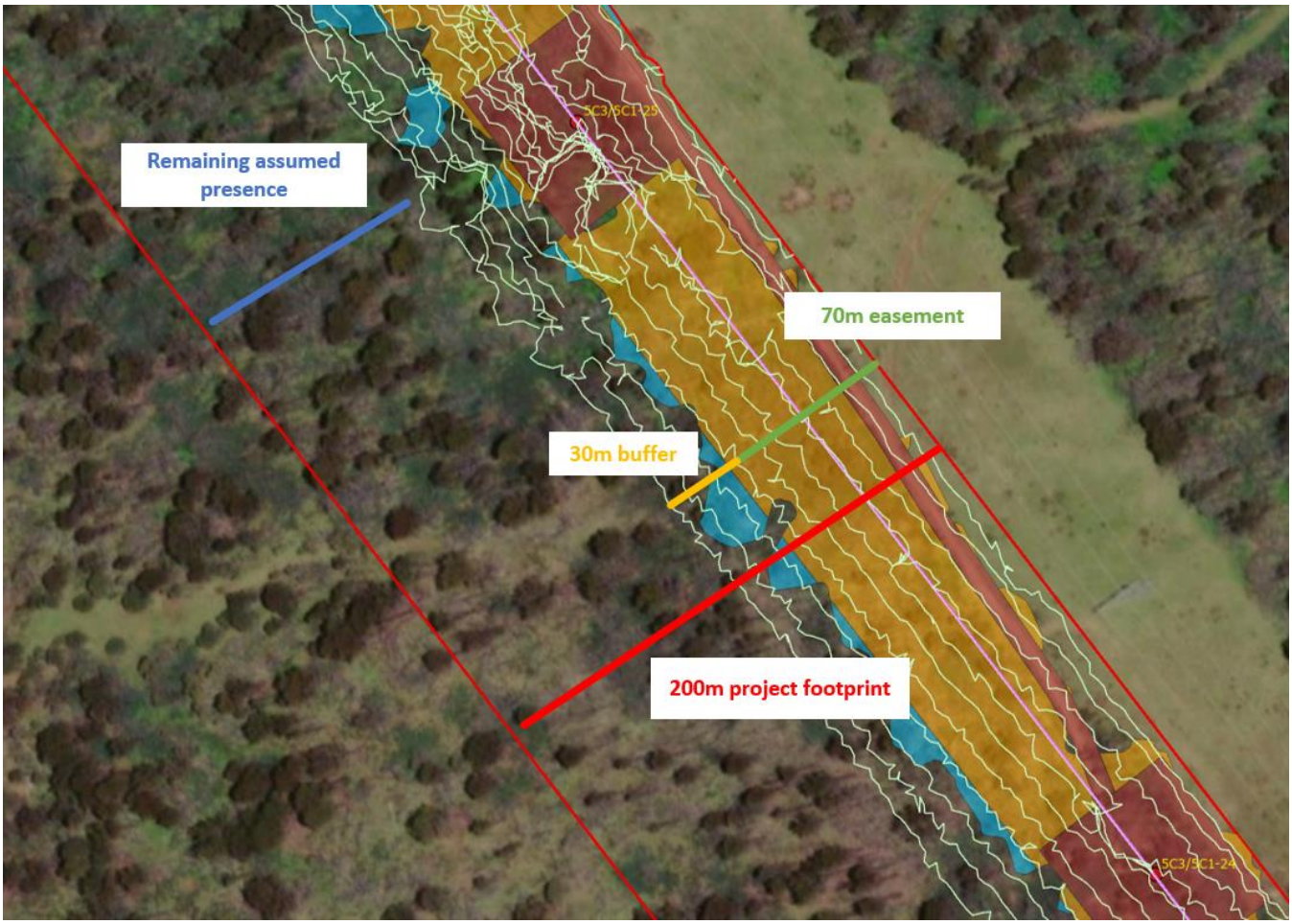
(but within the 200m project corridor) additional survey will be conducted wherever possible. Where survey is not possible, assumed presence and the corresponding credit liability will apply.

3.0.2. Fauna survey

Supplementary survey for fauna habitat suitability will be conducted within 70m easement + 30m buffer and was extended to the full 200m easement where suitable habitat was observed or mapped. Survey for suitable fauna habitat would ideally encompass areas outside the 200m easement, however this is not possible due to land access constraints. Further information on survey method by species is presented in Appendix F.

Where a species remains assumed present, mitigation measures are applied to further avoid and minimise impacts on the potential habitat of the species.

Figure 4: Area subject to supplementary survey



3.1. Predicted habitat refinement

Further refinement of Revised BDAR PCT's will be undertaken using methods in 3.1.1 below. This review will then allow refinement of predicted habitat using the approach in sections 3.2.1 – 3.2.2 below.

3.1.1. PCT verification

PCT verification will be undertaken for all species where insufficient or no survey has been previously undertaken, with a particular focus on previously inaccessible lands. This predominately involves the use of Rapid Data Point (RDP) collection (mini BAM plot to validate vegetation) and full BAM plots in limited locations where detailed floristic information is required to inform PCT assignment.

Data collected at a RDP includes:

- IBRA & subregion
- Landform pattern
- Landscape position
- Soil
- Structure – Woodland, Wetland etc
- Characteristics of each stratum - height; cover, dominant canopy sub-dominant and present species in each stratum;
- Attributes in relation to the originally mapped polygon - listed as one of the following 4 categories to guide post field work updates:

  i) Veg polygon correct & attributes correct

  ii) Veg polygon geometry correct but update attributes-

  iii) Attributes correct but geometry needs updating

  iv) No attributes correct, create whole new polygon.

3.1.2. Supplementary habitat constraint mapping

Revised habitat constraint mapping in accordance with BAM section 5.2 will target previously inaccessible lands (where access can now be facilitated) as well as locations where data deficiencies were present in the Revised BDAR (e.g. Green Hills route).

The following habitat constraints will be the focus:

- Tree hollows, for Owls, Cockatoos and Gliders
- Surface rock for Aprasia
- Roosts for Large-eared Pied Bat
- Rapid habitat assessments to note the presence / absence of suitable microhabitats. This is primarily relevant for threatened orchids, frogs and reptiles.

Where species habitats had a level of access during the BDAR preparation and for which supplementary constraint mapping is not required, there are likely to be minimal changes to the species polygons.

The supplementary habitat constraint mapping will be provided to Delivery Partners (on CPHR approval) prior to the Verification Report approval by the Planning Secretary to ensure these constraints are considered in Environmental Control Maps.

3.1.3. Severely Burnt Land

The Project footprint intersects areas which were impacted in the 2019/2020 bushfires. The method for classification of severely burnt land is described in detail in the Revised BDAR, including lists of entities that are affected in these areas. Consultation with NSW CPHR has indicated that reliable data for fauna is unable to be gathered from severely burnt land unless clear justification is provided regarding regeneration and viability of habitat features. Credit reduction will not be sought for fauna species on severely burnt land unless agreed with CPHR that targeted survey applied in severely burnt land is sufficient to justify absence.

Flora species presence on severely burnt lands has been assessed in the Revised BDAR. All candidate flora species were found to be sufficiently detectable and have therefore been included in supplementary surveys where they meet the survey hierarchy.

Field notes collected during flora survey within Severely Burnt Lands, as well as relevant data points (eg Hollow Bearing Trees) that provide further information as to habitat suitability for assumed present candidate fauna will be provided to Delivery Partners to assist in planning and execution of pre-clearance survey and preparation of Environmental Control Maps. This data will comprise the early notification referred to in sections 2.6 & 4.10.1

3.2. PCT / TECs

The post-BDAR survey will clarify PCTs through a series of rapid data collection points in as many locations as possible, however, will not cover all areas where surrogate plots have been utilised due to land access and survey time frames. Where the observation does not align with the predicted PCT, and has not previously been surveyed as part of this Project, a review of required plots/area will be undertaken. Additional BAM plots will be undertaken, or surrogate, duplicate or benchmark plots will be utilised for any plot shortfall if a BAM plot is unable to be undertaken. It is unlikely that a PCT will be allocated that has not previously been considered, however, in this event advice will be sought from CPHR regarding the use of existing plot data.

Amendments to the revised BDAR mapping may also be undertaken where justification can be provided (e.g. field validation of non-native vegetation on previously inaccessible land). BAMC updates required for any PCT changes are outlined in section 4.5.

3.3. Flora

Survey methods for flora generally follow methods outlined in the Revised BDAR, BAM and relevant survey guidelines which include:

- Threatened Biodiversity Data Collection (TBDC) advice per species – must be reviewed regularly to ensure any updates are incorporated into methodology.
- *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method* (NSW DPIE, 2020)
- *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities* (NSW DEC 2024 – draft)

Where an adapted survey method was utilised for the Revised BDAR due to limited land access, this has reverted to the BAM, guideline or CPHR approved method for the supplementary surveys. The criteria for prioritisation of surveys for each species is listed in Table 11. Survey methods for each species are outlined in Appendix E.

Table 11: Flora approved impact area & priority for supplementary survey

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Acacia ausfeldii	No	No	17.67	4
Acacia bynoeana	No	Yes	4.17	4
Acacia flocktoniae	No	Yes	11.25	2
Ammobium craspedioides	No	Yes	297.74	3, 4

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Baloskion longipes	No	Yes	1.31	4
Bossiaea fragrans	Yes	Yes	6.31	1, 2
Bossiaea oligosperma	No	Yes	2.42	3, 4
Caesia parviflora var. minor	No	No	1.71	2
Caladenia concolor	Yes	Yes	34.66	1, 2, 3
Caladenia montana	No	No	233.51	2, 3
Commersonia prostrata	No	Yes	0.82	4
Cullen parvum	No	No	19.05	2
Dillwynia glaucula	No	No	1.31	4
Diuris aequalis	No	Yes	46.05	3
Diuris tricolor	No	No	1.61	4
Eucalyptus aggregata	No	Yes	0.79	2
Eucalyptus macarthurii	No	Yes	2.64	2
Eucalyptus robertsonii subsp. hemisphaerica	Yes	Yes	0.77	1, 2
Genoplesium superbum	Yes	No	10.89	1, 3
Grevillea iaspicula	Yes	Yes	5.19	1, 2
Grevillea wilkinsonii	Yes	Yes	22.51	1, 3
Kunzea cambagei	No	Yes	8.27	2
Lepidium hyssopifolium	No	Yes	67.53	3
Leucochrysum albicans subsp. tricolor	No	Yes	186.80	2
Persoonia marginata	No	Yes	5.03	2

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Persoonia mollis subsp. revoluta	No	No	1.37	4
Phyllota humifusa	No	Yes	11.35	2
Pimelea bracteata	Yes	No	4.76	1, 2, 3
Pomaderris cotoneaster	No	Yes	8.96	2, 3, 4
Pomaderris delicata	Yes	Yes	1.37	1, 2
Pomaderris pallida	Yes	Yes	1.17	1, 2
Prasophyllum bagoense	Yes	Yes	0.04	1, 2
Prasophyllum innubum	Yes	Yes	0.02	1, 2
Prasophyllum keltonii	Yes	Yes	0.03	1, 2
Prasophyllum petilum	No	Yes	49.67	2, 3
Pterostylis alpina	No	No	2.76	3, 4
Pterostylis foliata	No	No	54.06	3
Pterostylis oreophila	Yes	Yes	0.65	1, 2
Pultenaea humilis	No	No	20.21	3
Senecio garlandii	No	No	11.56	2
Solanum armourense	Yes	No	0.40	1, 2
Swainsona recta	No	Yes	69.45	2, 3
Swainsona sericea	No	No	116.45	2, 3
Thelymitra alpicola	No	No	0.63	2
Thesium australe	No	Yes	149.12	2, 3
Xerochrysum palustre	No	Yes	0.77	2

3.4. Fauna

Survey methods for fauna generally follow that of the Revised BDAR, BAM and relevant survey guidelines including:

- Species specific survey requirements in the BioNet Threatened Biodiversity Data Collection (TBDC)(NSW DCCEEW, 2024)
- *'Species credit' threatened bats and their habitats, NSW survey guide for the Biodiversity Assessment Method* (NSW DPIE, 2021)
- *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities* (Working Draft) (NSW DEC, 2004)
- *NSW Survey Guide for Threatened Frogs: A Guide for the Survey of Threatened Frogs and their Habitats for the Biodiversity Assessment Method* (NSW DPIE, 2020).

In the absence of specific survey guidelines issued at the state level, Commonwealth survey guidelines were adopted:

- *Survey guidelines for Australia's threatened mammals* (DSEWPC, 2011)
- *Survey guidelines for Australia's threatened reptiles* (DSEWPC, 2011)
- *Survey guidelines for Australia's threatened birds* (DEWHA, 2010)
- *Survey guidelines for Australia's threatened frogs* (DEWHA, 2010)
- *Survey guidelines for Australia's threatened bats* (DEWHA, 2010)
- Relevant Significant Impact Guidelines and Referral Guidelines for EPBC
- *Draft survey guidelines for Australia's threatened orchids* (DoE, 2013).

Specific advice was sought from CPHR and the Saving our Species team for the following species:

- Koala
- Brush-tailed Phascogale
- Owls and Raptors
- Cockatoos
- Eastern Pygmy-possum

The area of impact is outlined in Table 12. A description of survey methods by species is included in Appendix F including the date of any CPHR approved methods. A description of survey timing and effort will be detailed in Verification Reports.

Table 12: Fauna approved impact area & priority for supplementary survey

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Aprasia parapulchella	No	Yes	37.29	2

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Burhinus grallarius	No	No	60.87	2
Callocephalon fimbriatum	No	Yes	475.87	4
Calyptorhynchus lathami	No	No	45.09	3
Cercartetus nanus	No	No	253.39	2, 3
Chalinolobus dwyeri	Yes	Yes	3.08	2
Crinia sloanei	No	Yes	0.75	2
Cyclodomorphus praealtus	No	Yes	35.15	2, 3
Delma impar	No	Yes	92.81	N/A expert report
Haliaeetus leucogaster	No	No	3.05	2
Hieraaetus morphnoides	No	No	95.89	3
Keyacris scurra	No	No	173.91	N/A expert report
Litoria booroolongensis	No	Yes	0.06	N/A CPHR advice to use habitat mapping
Litoria castanea	Yes	Yes	1.26	1, 2
Lophoictinia isura	No	No	39.66	3, 4
Mastacomys fuscus	No	Yes	0.03	3
Mixophyes balbus	Yes	Yes	15.56	2
Myotis macropus	No	No	73.68	2
Ninox connivens	No	No	265.06	3
Ninox strenua	No	No	252.04	3
Petauroides volans	No	Yes	158.42	2
Petaurus australis	No	No	134.78	N/A severely burnt land
Petaurus norfolcensis	No	No	66.93	N/A severely burnt land

Scientific Name	SAII	MNES	Approved impact area (ha)	Priority for supplementary survey
Petroica rodinogaster	No	No	38.77	2
Phascogale tapoatafa	No	No	179.20	2, 3
Phascolarctos cinereus	No	Yes	487.37	2, 3
Polytelis swainsonii	No	Yes	127.01	2, 3
Pseudomys fumeus	Yes	Yes	5.79	1, 2
Synemon plana	No	Yes	28.48	N/A expert report
Tyto novaehollandiae	No	No	196.57	2, 3
Tyto tenebricosa	Yes	No	68.81	1

3.5. Endangered Populations

All habitat for the Squirrel Glider in the Wagga Wagga City LGA and Yellow-bellied Glider in the Bago Plateau is within severely burnt lands. As such, no supplementary surveys are proposed for these species.

3.6. Approach to revised species polygons

Revised species polygons will be prepared in accordance with section 5.2 of BAM. Where on-ground investigation has verified PCTs and a change is proposed, species associated with the PCT will either be subject to additional survey or be assumed present if land access or survey window prevent on-ground verification.

Species polygons for Owls and Raptors will be prepared in accordance with the BAM, rather than utilising an expert report.

Justification of survey effort and resulting updated species polygons will be presented in the Verification Report per the BAM s5.3 and provided for CPHR consultation.

3.7. Limitations

Land access remains the key limitation to the Project with a number of properties not being accessible at all until prior to the commencement of construction, or during the relevant survey window.

Weather conditions during survey campaigns, especially those for species with limited survey windows is an ongoing constraint both during the BDAR preparation, initial and subsequent supplementary surveys.

4. Biodiversity Assessment Verification Report

Condition B29 of the NSW Approval requires that a Biodiversity Assessment Verification Report (referred to as the Verification Report) be prepared by an independent Accredited Assessor.

Niche Environment and Heritage were not supported as the independent Accredited Assessor to prepare the Verification Report, however DPHI have alternatively supported Niche's preparation of the Report provided the report is peer reviewed by a further, more independent Accredited Assessor. Adam Cavallaro (BAM Assessor Accreditation number BAAS18056) has been approved as this peer reviewer.

The Verification Reports will include a checklist to demonstrate how the relevant sections of the BAM (see Table 14) have been addressed.

4.0. Revision of Verification Reports

Condition B29 provides that unless otherwise agreed by the Planning Secretary, prior to carrying out any development that would impact on the relevant biodiversity values subject to survey in the Supplementary Biodiversity Strategy required by condition B28 (excluding Enabling Works), the Proponent must prepare a Biodiversity Assessment Verification Report (BAVR) in consultation with the Conservation Programs, Heritage and Regulation Group (CPHR) (formerly the Biodiversity Conservation Science Directorate, BCS) and to the satisfaction of the Planning Secretary.

Condition B29(c) requires that the BAVR be prepared 'with regard to' the final layout plans required under condition C8, including the location of final access routes within each clearing zone and stockpile locations.

The Final Layout Plans however are being prepared and finalised concurrently with the BAVR.

Therefore, while the BAVR will be developed having regard to the draft final layout plans, the timing of the finalisation of the Final Layout Plans will not facilitate the approval of a BAVR prior to the commencement of construction.

Transgrid has requested the Planning Secretary's agreement for sequential revision of the Verification Report to meet the intent of Condition B29 while also satisfying the following requirements prior to construction which is to:

- Facilitate field survey of Serious and Irreversible Impacts (SAII) entities assumed present in the Revised Biodiversity Development Assessment Report (BDAR)
- Verify absence of threatened species for which the Project is seeking a credit liability reduction
- Facilitate the update of biodiversity constraints mapping, mitigation measures and inform clearing limit reductions to ensure adequate avoid and minimise measures during construction.

The submitted BAVR will be subject to revisions to fully incorporate the final layout plans once they are completed. All BAVR revisions will be prepared in consultation with CPHR, and will:

- Be prepared and peer reviewed (as agreed with DPHI) by a suitably qualified, experienced biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary) (**B29(a)**)
- Be prepared in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared (**B29(b)**)
- Be prepared "with regard to" the final layout plans for the development, as set out below (**B29(c)**).
- Include:

- > detail of the outcomes of surveys undertaken in accordance with condition B28 (**B29(d)(i)**)
- > where species are found to be present following the surveys undertaken under condition B28 or that are assumed to be present, identify measures to avoid and / or mitigate the impact to those entities for inclusion in a revised version of the Biodiversity Management Plan (BMP) required under condition B30 (**B29(d)(ii)**)
- > provide findings and recommendations relating to the matters in B29(d), including, but not limited to, reducing the relevant credit obligations and calculating credit obligations for unexpected finds (**B29(e)**).

The BAVR revisions proposed to be submitted are described in the following sections.

4.0.1. BAVR – Approved Layout Plans

Purpose	Report on the findings of the supplementary survey undertaken in accordance with Condition B28. Enables the commencement of construction.
Timing	Prior to development that could impact on the relevant biodiversity values listed in B28 (b)(ii) or for which a credit liability reduction is being sought. Following approval, development that impacts the surveyed relevant biodiversity values may proceed without affecting Transgrid's entitlement to credit reductions being sought (to be resolved following receipt of final layout plans / BAVR revision 1 – see below)
Content	Detail outcomes of supplementary surveys completed to-date within the approved project area reported in the BDAR. The BAVR has regard to the final layout plans as the final infrastructure layout will be located within the approved project area. The first BAVR will include supplementary surveys from October 2024 to April 2025 conducted over approximately 64% (5690 ha) of the alignment including previously accessible but under-surveyed land, and previously inaccessible land. This first BAVR would include: Outcomes of the surveys undertaken and modified/reduced species polygons, including SAII species listed in condition B28 (b)(ii), as well as other relevant biodiversity values for which a credit liability reduction is being sought (B28(b)(i)) Updated scope of Additional & Appropriate Measures where required Revised measures to avoid / minimise impact to those recorded and remaining assumed present species, where required Findings and recommendations relating to: - reducing the relevant credit obligations - calculating obligations for unexpected finds - provision of updated constraints mapping (as requested by CPHR) - comparisons to the approved clearing limits.

4.0.2. BAVR – Revision 1 – Final Layout Plans

Purpose	Formally complete the requirements of Condition B29(c). Calculate and report on credit obligations based on the Final Layout Plans.
Timing	Following submission of the Final Layout Plans (Condition C8).
Content	This revision of the BAVR would incorporate the final layout plans and include: - Confirmation of BAVR findings and recommendations - Any additional survey results (for which additional credit liability reduction is being sought). - Any revised measures to avoid / minimise impact to those recorded and remaining assumed present species resulting from survey additional to that reported in the BAVR (approved project area), where required - BAM Calculator updates to inform credit liability reductions and calculations for unexpected finds (where required) for all surveys to-date. Details are to be collated in a subsequent revised Biodiversity Offset Package (BOP).

4.0.3. BAVR – Subsequent Revisions

Purpose	The revised BAVR may be subsequently updated to address additional survey campaigns to enhance biodiversity outcomes as well as reduce the credit liability.
Timing	Prior to development that could impact on any relevant biodiversity values subject to further survey (not already included in previous revisions of the BAVR) for which a credit liability reduction is being sought.
Content	A second and any additional revisions of the BAVR would report on any further survey that has been undertaken where the opportunity arises within the construction program to further reduce assumed presence. Subsequent BAVR revisions would be set against the final layout plans and include: - Outcomes of the further surveys undertaken for relevant biodiversity values for which a credit liability reduction is being sought - Revised measures to avoid / minimise impact to those recorded and remaining assumed present species, where required - BAM Calculator updates to inform credit liability reductions and calculations for unexpected finds (where required), and details to be included in a subsequent revised BOP - Updated constraints mapping data.

4.0.4. Consultation

Each BAVR revision will be provided to CPHR for consultation prior to submission to DPHI.

4.1. Additional Mitigation Measures

Under condition B29 (d) (ii) measures to avoid or mitigate impacts on threatened species (confirmed present or remaining assumed present) must be provided in the Verification Report. This will include measures for direct and indirect (including prescribed) impacts.

As outlined further in section 4.10, the BMP will be updated where required within 3 months following approval of a Verification Report.

However, the timing of preparation and approval of the BMP and the initial Verification Report is likely to be concurrent. Therefore, any additional mitigation measures that may be recommended in a Verification Report may not be able to be incorporated into the BMP prior to commencement of construction. In this instance, and with CPHR approval, an early notification (via Teambinder) will be provided to Delivery Partners of any additional mitigation measures, as well as provision of spatial files for known locations of threatened species and significant habitat features (eg Hollow Bearing Trees) prior to the formal DPHI approval of the Verification Report. This advanced provision would allow for the implementation of any additional mitigation measures to inform pre-clearance survey and identify opportunities to avoid and minimise impacts to biodiversity.

4.2. Quantifying Impacts

Prior to carrying out development that would impact upon the relevant biodiversity values, a Verification Report will present outcomes of supplementary surveys in relation to the approved / final layout plans. Results of survey and assessment described in this Strategy, and undertaken following the BAM 2020 will inform updates to threatened species impact polygons, PCT mapping (where applicable), and credit re-calculations.

Where avoidance of biodiversity impacts has been achieved and can be demonstrated, and impact reductions can be justified through ground survey by a registered surveyor (to accurately reflect area cleared/area approved to be cleared), a credit reduction will be sought.

Supplementary survey results will be used to update species impact polygons and, where required, PCT and Vegetation Zone mapping and calculations. Mapping updates will occur following each survey tranche and will be provided to Delivery Partners for use in pre-clearance surveys and constraints considerations during construction.

4.3. Additional and Appropriate Measures

Additional and Appropriate Measures (A&AM's) are required under Condition B30 of the Infrastructure Approval to minimise likely impacts to entities at risk of serious and irreversible impact (SAII). The Revised BDAR indicates a likely SAII to Box Gum Woodland, *Pimelea bracteata* and Sooty Owl (*Tyto tenebricosa*).

The approved A&AM proposal is referenced in Table 2. This document outlines the proposed A&AMs including:

- Preparation and execution of a Local Action Management Plan (LAMP) which would provide a regional conservation focus for Box Gum Woodland;
- Collaboration with the Botanic Gardens of Sydney on a genomic seed collection and translocation project for *Pimelea bracteata.*
- Restoration of Sooty Owl habitat on Biodiversity Stewardship Agreement or Conservation Agreement site.

The outcome of supplementary surveys (known presence/impact) will determine the type and extent of A&AMs to be delivered through the BMP, following negotiation with CPHR. The final A&AM proposal will be formally submitted to CPHR within 3 months of approval of the initial BAVR and may be revised in the subsequent BAVR (final layout plans) if required.

Additional and Appropriate Measures are required to be delivered under condition B30 (d) (viii) and will be reported through the BMP.

4.4. Unexpected finds

For the purpose of this Strategy, an unexpected find is any threatened biodiversity values detected during the supplementary biodiversity surveys or pre-clearance that requires offsets which were not assessed in the Revised BDAR. This includes any threatened species predicted but subsequently excluded from the BDAR.

An unexpected find detected during the supplementary surveys would be notified to CPHR, and the Commonwealth DCCEEW in the case of MNES, as soon as the identification of the species is confirmed. Transgrid would consult with CPHR regarding the species polygon development and offset requirement following an unexpected find. Verification Reporting will demonstrate application of the avoid, minimise, offset hierarchy by addressing BAM s7 and 8 requirements for any unexpected finds. For unavoidable impacts, including direct, indirect and prescribed impacts, recommendations will be provided for minimising and mitigating impacts in consideration of the BAM s8.4. Additional mitigation measures will be included in a revised BMP.

Any requirement for additional offset liability calculated in accordance with the unexpected finds protocol would be included in updates to the Biodiversity Offset Package (BOP) under Condition B26.

Should a non-dual listed MNES species be discovered as an unexpected find, an assessment will be undertaken as to whether an updated Significant Impact Assessment (SIA) is required. The NSW and Commonwealth DCCEEW departments will be notified of this assessment and provided with any updated SIA. Any required amendments will be made to the BOP as a result of unexpected finds offsets.

4.5. Prescribed impact offsets

Offsets for the prescribed impact of connectivity loss on potentially affected species are included in the BOP. The final offset liability for connectivity will be calculated following completion of supplementary surveys and will be based on the known (or remaining assumed) impacts to individual species. Any requirement for revised offset liability would be included in updates to the BOP.

4.6. BAM Calculator updates

The Biodiversity Assessment Method Calculator (BAM-C) case for the HumeLink Revised BDAR will be amended to reflect the updated impact area to calculate the credit liability reduction. The BAMC case will be finalised once the final layout plans for the project are available and would be submitted in a revised BAVR (final layout plans) as illustrated in Table 14. The HumeLink Project BAM-C case has 6 child cases as the Project crosses 6 IBRA regions as outlined in Table 13.

Table 13: BAM-C Case numbers and IBRA regions

Parent Case	BOAMS case number
8196 - HumeLink Biodiversity Assessment	00029440
Child Case	
Bungonia	00029441
Crookwell	00029442
Murrumbateman	00029445
Inland Slopes	00029446
Bondo	00029447
Snowy Mountains	00029448

NSW DCCEEW (Nature Markets Offsets (NMO) division) periodically update the BAM-C, including changes to survey periods, survey methods and PCT/species associations. Updates applied since June 2024, and any future BAM-C updates will impact the BAM-C output for this Project when the BAM-C case is re-opened to enter new survey data and impact areas. These updates are automatically applied once a case is reopened unless prior arrangements are made with the DCCEEW BAM-C team. CPHR have advised that any predicted species that are automatically added to the case as a result of an automated BAM-C updates may be excluded or removed from the assessment and must be documented in the relevant verification report. Any predicted species automatically added to the case as a result of revised PCT correction (should this occur) must be assessed under the BAM.

Approval was provided on 7 April 2025 by DPHI & NMO for continued access to legacy PCT's in the BAM-C for the Humelink project for the purposes of credit reduction. CPHR have provided support in liaising with the BAM-C team.

The BAM-C will be updated to the revised species polygons, with the impact area calculated from disturbance zones associated with the final layout plans. BAM-C updates will occur every 6 months or as required to gradually reduce the bank guarantee and allow for offsets to be finalised in accordance with condition B26 (e).

4.7. Updated biodiversity and constraints mapping

GIS mapping will be updated to include all supplementary survey results, approved reductions or alterations to species polygons, and reallocation of PCTs. This will occur following completion of the initial supplementary surveys in March 2025, with subsequent updates provided as surveys are completed and verification reports are approved

The full suite of biodiversity mapping, spatial and attribute data will be provided to Delivery Partners and CPHR, along with any required queries or filters to ensure data is displayed correctly. Updated constraints mapping will also be provided within 3 months of Verification Report approval to ensure there is formal documentation prepared for pre-clearing surveys, Environmental Control Maps and delineation of Biodiversity Exclusion Zones is as well informed as possible.

The early notification of supplementary survey results as outlined in section 2.6, specifically incidental Glider records, will be utilised to select final location of corridors which will be incorporated into the Connectivity Strategies within the BMP's.

4.8. Updated clearing limits

The survey results presented in the revised Verification Report (Final Layout Plans + subsequent versions) will, once approved by the Planning Secretary, be used to update the clearing limits set under condition B25 (Tables 2-2) of the NSW approval and hence be the basis for credit reduction.

4.9. Credit Reduction

Credit reductions will be sought where surveys have resulted in reduced areas of assumed presence, or where full avoidance can be demonstrated.

Calculation of predicted credit reductions can occur once survey is complete for a particular entity. These will be based on BAM-C outputs (credit requirement), and the most recent BCT quote for the BCF pay in price. In accordance with condition B29, any changes to biodiversity offsets will be reported through the Verification Report and a subsequent amended BOP.

4.10. Biodiversity Management Plan updates

In accordance with condition B29, the BMP will be updated where required following any supplementary survey results, including consideration of additional species specific mitigation measures and uncertain impacts (as addressed by BAM s8.5) within 3 months of approval of the Verification Report. Adaptive management measures in the BMP will outline appropriate response actions to be implemented if additional biodiversity constraints are identified. Pre-clearance survey results and processes for reporting and consideration of recommendations into design and construction methods, as relevant, will also be included in the BMP.

4.10.1. Early Notification

As outlined in section 2.6, due to the timing of Verification Reporting and BMP preparation unable to be aligned, early notification will be provided to Delivery Partners (with CPHR approval) of any additional mitigation measures, as well as provision of spatial files for known locations of threatened species and significant habitat features (eg Hollow Bearing Trees) prior to the formal DPHI approval of the Verification Report. This advanced provision would allow for the implementation of any additional mitigation measures to inform pre-clearance survey and identify opportunities to avoid and minimise impacts to biodiversity, with the additional measures to be incorporated in future updates of the BMP.

Early notification data will be provided by Transgrid to Delivery Partners within 2 weeks of approval from CPHR during the BAVR review period, unless otherwise agreed. Early notification data must be incorporated by Delivery Partners into future pre-clearing surveys within 1 month of receipt of information transmittal (via Teambinder). Pre-clearing reports, including details of data (timestamped) utilised in preparation of the report, will be provided to CPHR prior to the commencement of clearing.

Constraints mapping will be updated within 3 months of Planning Secretary approval of a Verification Report (as outlined in section 4.7) to ensure all available tools are provided to Delivery Partners for their continued avoidance and mitigation of impacts.

4.11. Biodiversity Offset Package updates

Condition B26(d) requires 6 monthly reports to be provided which set out the process towards delivering each specific biodiversity offset measure. BOP updates will be submitted to CPHR, BCT and the Planning Secretary and will be the basis of periodically reducing the bank guarantee.

Any updates to the credit liability will be based on survey results from an approved Verification Report/s and corresponding BAM-C case. BOP updates will also include any changes to credit liability for indirect and prescribed impacts based on revised species polygons.

Should additional credit obligations and/or conservation measures for unexpected finds, uncertain, indirect or prescribed impacts be triggered through any Verification Report or other means of reporting by Delivery Partners, and these impacts cannot be adaptively managed, consultation on the nature and scale of the additional offsets and/or conservation actions will be undertaken with CPHR. Updates to the BOP may then be required.

4.12. Format of the Biodiversity Assessment Verification Report

The Verification Report will be structured to specifically address the requirements of condition B29 of the project approval:

> *B29. Unless otherwise agreed by the Planning Secretary, prior to carrying out any development that would impact on the relevant biodiversity values subject to survey in the Supplementary Biodiversity Strategy in condition B28 (excluding Enabling Works, if the*

relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B66), the Proponent must prepare a Biodiversity Assessment Verification Report in consultation with CPHR and to the satisfaction of the Planning Secretary. The Report must:

(a) be prepared by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Methodology (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary;

(b) be prepared in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared;

(c) be prepared with regard to the final layout plans for the development required under condition C8, including the location of final access routes within each clearing zone and stockpile locations;

(d) include:

(i) detail of the outcomes of surveys undertaken in accordance with condition B28;

(ii) where species are found to be present following the surveys undertaken under condition B28 or that are assumed to be present, identify measures to avoid and / or mitigate the impact to those entities for inclusion in a revised version of the Biodiversity Management Plan required under condition B30;

(e) provide findings and recommendations relating to the matters in (d), including, but not limited to, reducing the relevant credit obligations and calculating credit obligations for unexpected finds.

Any required changes to biodiversity offset or mitigation measures arising from the Biodiversity Assessment Verification Report must be incorporated into an updated version of the Biodiversity Offset Package under condition B26 in consultation with CPHR and BCT and addressed in a revised version of the Biodiversity Management Plan required under condition B30, in consultation with CPHR and FCNSW, to the satisfaction of the Planning Secretary.

The Verification Report will be prepared in accordance with section 5.2 of the BAM. Table 14 below outlines the key elements of Verification Reporting and the version in which they will be included.

Table 14: Verification reporting key elements, deliverables and report stage

Report element	Details included	Key guiding document/s	Deliverable	Verification Report stage		
				BAVR (approved project area)	BAVR REV1 (final layout plans)	BAVR REV2+ (final layout plans)
Survey details & effort-	Person hours, dates, weather conditions, moon phase Location of surveys – traverses; equipment deployment; deployment length, rebaiting etc. Section 5.3 of BAM + TBDC or other guideline.	BAM s5.3 TBDC + other guidelines	Description Data tables Figures GIS	✓	✓	✓
Land Access	Comparison to Revised BDAR land access + surveys conducted; remaining inaccessible land		Description Tables GIS	✓	✓	✓
Species polygons	Generation method; comparison to Revised BDAR; deviations from BAM methodology, description of BMP updates where required.	BAM s5.2	Description Figures Comparison tables GIS	✓	✓	✓
Revised impact area	Species polygons cut to final layout disturbance area		Description Comparison tables GIS		✓	✓*
Revised clearing limits – PCT, flora, fauna	Comparison of approved clearing limit to revised clearing limit. Updated clearing limits based on reduction in assumed presence or PCT reallocation		Description Comparison tables GIS		✓	✓
Additional and Appropriate Measures	Update to A&A's required following Supplementary Survey Results and CPHR SAII conclusion (A&AM's to be delivered through the BMP)	BAM s9.1 Guidance to help a decision-maker to determine a serious and irreversible impact.	Description	✓		
Findings and recommendations for reducing credit obligations	Description of method for updating BAMC & BOP for updated impact areas including changes to any indirect/prescribed impacts.		Description	✓	✓*	✓*
Measures to avoid and/or mitigate impacts	Recommended additional avoidance and mitigation measures to be added to BMP (this may include additional monitoring)	BAM s8.4, s8.5		✓	✓*	✓*

Findings and recommendations for calculating credit obligations for unexpected finds	Description of method for updating BAMC & BOP & BMP (if required)	BAM s10.1.3	Description	✓		
BAMC credit reports + comparison to approved project credit report	Provision of revised BAMC credit reports		BAMC credit report		✓	✓
Credit liability reduction	Comparison of approved and revised credit liability including unexpected finds Details of amendments proposed to the BOP		Description Comparison tables		✓	✓
BAM section 5.2 checklist			Checklist	✓	✓	✓

*Additional information will be provided where the BAVR (approved project area) requires updating following additional survey results. In some instances, the information in the UMM's, BMP or BAVR (approved project area) will sufficiently address the requirement and no further update will be required.

Appendix A Relevant Infrastructure Approval Conditions addressed by this Strategy

CoA	Condition Requirement	Interaction with Strategy	Document Reference
B25	**Restrictions on Clearing and Habitat** Unless otherwise agreed with the Planning Secretary, the Proponent must: (a) ensure that the vegetation and habitat clearing limits specified in Table 2-1, Table 2-2 and Table 2-3 of Appendix 2 are not exceeded; and (b) minimise: (i) the impacts of the development on hollow-bearing trees; (ii) the impacts of the development on threatened species; and (iii) the clearing of native vegetation and key habitat; and **(c)** not undertake any works that result in ground disturbance within a minimum setback distance of 50 metres from PCT 637 – Alpine and sub-alpine peatlands, damp herbfields and fens, South Eastern Highlands Bioregion and Australian Alps Bioregion and 30 metres from known locations of *Prasophyllum bagoense*, *Prasophyllum keltonni* and *Pterostylis oreophila* as mapped in the BDAR.	Not directly relevant to the scope of this Strategy. The supplementary biodiversity surveys described in this Strategy will update the extent of the relevant biodiversity values that are referred to in Table 2-1, Table 2-2 and Table 2-3 of Appendix D against which the clearing limits will be measured. Not applicable.	Section 2.2
B26	**Biodiversity Offset Package** Prior to carrying out any development that would impact on biodiversity values requiring offset or within 3 months of the date of the Project Approval whichever is sooner, the Proponent must update the Biodiversity Offset Package (Package) that is consistent with the EIS, in consultation with CPHR and BCT and to the satisfaction of the Planning Secretary in writing. The Package must include, but not necessarily be limited to: (a) details of the specific biodiversity offset measures to be implemented and delivered in accordance with the EIS;	Not directly relevant to the scope of this Strategy. The **Biodiversity Offset Package** will be updated in accordance with Condition B29.	Section 4.11

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	(b) the cost for each specific biodiversity offset measure, as determined in accordance with a BCF Charge Statement indexed on a monthly basis in accordance with the Biodiversity Offsets Payment Calculator Order 2022; (c) the timing and responsibilities for the implementation and delivery of the measures required in the Package; (d) a report to be provided every 6 months from the approval of the updated Package to the Planning Secretary, CPHR and the BCT setting out the progress towards delivering each specific biodiversity offset measure; and (e) confirmation that the biodiversity offset measures will have been implemented and delivered no later than 13 November 2026, unless otherwise agreed with the Planning Secretary. Following the Planning Secretary's approval, the Proponent must implement and deliver the Biodiversity Offset Package.		
B27	Prior to carrying out any development that could impact the biodiversity values requiring offset, the Proponent must lodge bank guarantee(s) with a total value of $502,332,107, in accordance with the Deed of Agreement with the Planning Secretary (or delegate) executed on 10 October 2024. The Proponent must comply with the terms of the Deed.	Not directly relevant to the scope of this Strategy.	
B28	**Supplementary Biodiversity Strategy** Prior to carrying out any development that would impact on the relevant biodiversity values (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64), the Proponent must prepare a Supplementary Biodiversity Strategy as committed to in the EIS, in consultation with CPHR and to the satisfaction of the Planning Secretary. Unless otherwise agreed by the Planning Secretary, the Strategy must:	This strategy has been prepared to address this condition. The **Enabling Works Management Plan** has included mitigation measures to ensure the relevant requirements of this condition are adequately addressed during the enabling works. No credit reductions will be sought for biodiversity values impacted by enabling works.	Section 2.7

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	(a) be peer reviewed by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning;	This Strategy was peer reviewed by Adam Cavallaro and a copy of review was submitted to the Planning Secretary with the submission of the Strategy. Adam Cavallaro from Umwelt was endorsed by the Planning Secretary on the 20/11/2024 as the independent biodiversity consultant for the peer review.	Section 1.10
	(b) detail survey methods for all entities to be targeted by the Strategy, in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared, including but not limited to:	The supplementary survey methods will reflect the method that was applied in the Revised BDAR in most instances. Appendix E & F outlines the adopted survey methods.	Section 3
	(i) surveys within unsurveyed areas of the development area identified in the EIS where a reduction in credit liability for the relevant biodiversity value assumed present is being sought;	Tables 8 and 9 summarise the maximum extent of proposed supplementary surveys for the candidate species to inform presence / absence including the listed SAII Species.	
	(ii) surveys for the following serious and irreversible impact (SAII) entities: *Prasophyllum bagoense* *Pterostylis oreophila* *Caladenia concolor* *Genoplesium superburn* *Pomaderris delicatat* *Litoria castanea* *Prasophyllum innubum* *Solanum armourense* *Calotis glandulosa* *Grevillea iaspicula* *Pomaderris pallida* *Mixophyes balbus* *Prasophyllum keltonii* *Bossiae fragrans*	Tables 8 and 9 summarise the maximum extent of proposed supplementary surveys for the candidate species to inform presence / absence including the listed SAII Species.	Section 3

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	Eucalyptus robertsonii subsp, hemisphaerica *Grevillea wilkinsonii* *Chalinolobus dwyeri* *Pseudomy fumeus* *Pimelea bracteate* *Tyto tenebricosa*		
B29	**Biodiversity Assessment Verification Report** Unless otherwise agreed by the Planning Secretary, prior to carrying out any development that would impact on the relevant biodiversity values subject to survey in the Supplementary Biodiversity Strategy in condition B28 (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64), the Proponent must prepare a Biodiversity Assessment Verification Report in consultation with CPHR and to the satisfaction of the Planning Secretary. The Report must: (a) be prepared by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary; (b) be prepared in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared; (c) be prepared with regard to the final layout plans for the development required under condition C8, including the location of final access routes within each clearing zone and stockpile locations; (d) include: (i) detail of the outcomes of surveys undertaken in accordance with condition B28;	Not directly relevant to the scope of this Strategy. Thie Verification Report will report the outcomes of the supplementary biodiversity surveys outlined in this Strategy.	

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	(ii) where species are found to be present following the surveys undertaken under condition B28 or that are assumed to be present, identify measures to avoid and / or mitigate the impact to those entities for inclusion in a revised version of the Biodiversity Management Plan required under condition B30 (e) provide findings and recommendations relating to the matters in (d), including, but not limited to, reducing the relevant credit obligations and calculating credit obligations for unexpected finds. Any required changes to biodiversity offset or mitigation measures arising from the Biodiversity Assessment Verification Report must be incorporated into an updated version of the Biodiversity Offset Package under condition B26 in consultation with CPHR and BCT and addressed in a revised version of the Biodiversity Management Plan required under condition B30, in consultation with CPHR and FCNSW, to the satisfaction of the Planning Secretary.		
B30	**Biodiversity Management Plan** Prior to carrying out any development (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64) that could impact biodiversity values that require offsetting, the Proponent must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must: (f) be prepared by a suitably qualified and experienced biodiversity expert/s; (g) be prepared in consultation with CPHR and FCNSW; (h) be prepared generally in accordance with the Revised Biodiversity Development Assessment Report (Revision 0, dated 21 June 2024); (i) include a description of the measures that would be implemented for: (i) meeting the biodiversity mitigation requirements in condition B25 and as required by condition B29;	Not directly relevant to the scope of this Strategy. In accordance with Condition B29 (d)(2), a revised version the Biodiversity Management Plan will be prepared to incorporate the relevant findings and recommendations of the Biodiversity Assessment Verification Report(s).	Section 10

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	(ii) minimising: the amount of vegetation clearing on site; the loss of key fauna habitat (including tree hollows); the impacts of fauna on site, including undertaking pre-clearance surveys; and potential indirect impacts on threatened flora and fauna species; (iii) ensuring the development does not adversely affect the native vegetation and habitat outside the disturbance footprint; (iv) protocols for unexpected finds of threatened species and threatened ecological communities within the disturbance footprint including the requirements for: all work in the associated location to stop to prevent further impact, and notification to the Planning Secretary and CPHR (and AG DCCEEW where relevant) in writing on any additional mitigation measures to be implemented; and relevant agencies to be consulted and the Planning Secretary to endorse recommencement of work; (v) connectivity strategy for the potentially impacted species identified in the Revised Biodiversity Development Assessment Report (Revision 0, dated 21 June 2024) and a Supplementary Hollow and Nest Strategy; (vi) protecting the conservation values of McPhersons Plain and avoiding impacts to *Prasophyllum bagoensis, Prasophyllum keltonni* and *Pterostylis oreophila*; (vii) rehabilitating temporary disturbance areas to facilitate natural regeneration of suitable native species; (viii) progressively monitoring the areas of partial clearance following the commencement of construction and provision of a verification report every three months during construction to confirm the assumptions made in the		

CoA	Condition Requirement	Interaction with Strategy	Document Reference
	BDAR regarding partial clearance within the Easement Clearing Zone and whether any changes are required to this plan; (ix) maximising the salvage of resources within the approved disturbance area – including vegetative and soil resources – for beneficial reuse (such as fauna habitat enhancement) during the rehabilitation and revegetation of the site; (x) collecting and propagating seed (where relevant); (xi) controlling erosion, weeds and feral pests; (xii) bushfire management; (xiii) minimising impacts on entities at risk of a serious and irreversible impact (SAII), including for Box Gum Woodland, Rice Flower (*Pimelea bracteata*) and Sooty Owl (*Tyto tenebricosa*) and other entities that are identified as requiring mitigation measures in the Biodiversity Assessment Verification Report required by condition B29 and the additional mitigation measures outlined in the additional information (Transgrid proposal dated 2 September 2024) within three years of the date of the Project Approval (over and above the relevant credit obligations); and (e) include a program to monitor, evaluate and publicly report on the effectiveness of these measures. Following the Planning Secretary's approval, the Proponent must implement the Biodiversity Management Plan. Note: The Biodiversity Management Plan must incorporate all relevant aspects of the development, including Enabling Works consistent with the requirements of condition B67.		

Appendix B Relevant Updated Mitigation Measures (UMM's) addressed by this Strategy

UMM	Requirement	How Addressed	Document Reference
B1	**Biodiversity conservation significance** Impacts to matters of biodiversity conservation significance will be avoided to the greatest extent practicable during finalisation of the design and construction methodology for the project. Biodiversity constraints mapping will be used to guide prioritisation of areas of high biodiversity conservation significance (particularly serious and irreversible impacts (SAIIs), and critically endangered ecological communities (CEECs)) to avoid, where practicable. Spatial data, threatened species locations and constraints mapping will be provided to the design and construction teams and considered in detailed design. Associated mapping will be included on sensitive area plans and provided to the construction workforce. Micro-siting of the transmission line infrastructure and associated work sites and other areas of disturbance (eg controlled blasting and rock crushing sites) will occur to avoid or minimise impacts wherever practicable. Site features with the highest biodiversity conservation significance, in particular recorded threatened species, and their habitat, will be given the highest priority for impact avoidance. This will also include micro-siting to avoid or minimise prescribed impacts (as described in Technical Report 1 – Revised Biodiversity Development Assessment Report (the BDAR)) where possible (ie avoiding impact to rocky habitats or caves and waterways). Micro-siting of infrastructure requiring sub-surface work, such as transmission line structure footings, will be undertaken as part of the detailed design stage of the project, to minimise prescribed impacts where possible (i.e. avoiding impact to breeding habitat features, groundwater dependent ecosystems (GDEs), aquatic habitats and supporting aquifers). Clearing will be undertaken in accordance with the Vegetation Clearing Memo and where practicable will conserve mid and ground story vegetation in the ECZ and HTZ. Vegetation clearing methods in areas of threatened groundcovers (eg orchids) may require a bespoke approach.	Not directly relevant to the scope of this Strategy The results of the supplementary biodiversity surveys however will be used to avoid impacts to matters of biodiversity conservation significance. Primarily, the results of the supplementary surveys will be used to update the biodiversity constraints mapping used by design and construction teams to identify the features with the highest biodiversity conservation significance.	Section 7
B3	**Biodiversity Management Plan** A Biodiversity Management Plan (BMP) will be prepared in consultation with BCD NSW DCCEEW Environment and Heritage and approved by DPHI DPE prior to construction. The BMP will be prepared by a qualified ecologist and	Not directly relevant to the scope of this Strategy In accordance with Condition B29 (d)(2), a revised version the	Section 4.10

	include a plan for implementing, evaluating and reporting on the effectiveness of all mitigation measures outlined in Technical Report 1 – Revised Biodiversity Development Assessment Report (the BDAR), including:	Biodiversity Management Plan will be prepared to incorporate the relevant findings and recommendations of the Biodiversity Assessment Verification Report(s).	
	Measures to minimise impacts to biodiversity, including measures to reduce disturbance to sensitive flora and fauna procedures for clearing of vegetation, including pre-clearing inspections and procedures for the relocation of flora and fauna.		
	Preparation of a fauna handling and rescue procedure to be implemented during construction and operation for the ethical handling of injured or displaced fauna. Further, the fauna handling and rescue procedure would include an incident reporting protocol for fauna relocations, rescue and rehabilitation, euthanasia and/or fatality.		
	Procedures for the demarcation and protection of retained vegetation, including vegetation adjacent to construction areas and during weed management.		
	Vegetation clearing procedures for a two staged habitat removal process required for removal of key habitat features (hollow-bearing trees, habitat trees, and bushrock) identified in Technical Report 1 – Revised Biodiversity Development Assessment Report (the BDAR) and/or pre-clearing inspection, including procedures to record the effort and outcomes of the habitat removal process.		
	Retention of habitat features such as rocky outcrops, surface rock, dead wood, logs, wherever practicable.		
	Proposed rehabilitation of temporary disturbance areas including management and maintenance measures.		
	Unexpected species finds protocol to be implemented if threatened ecological communities, flora and fauna species, not assessed in Technical Report 1 – Revised Biodiversity Development Assessment Report (the BDAR), are encountered during pre-clearing inspections.		
	A description of biosecurity protocols for plant and equipment movement between sites, including species specific measures.		
	Education of construction teams regarding the presence of native fauna and risks of vehicle collision, particularly early in the morning and late in the afternoon/at night; implementation of speed limits on sealed and unsealed tracks and roads.		
	Outline monitoring and compliance management requirements.		
	Approach to relocation of nests by suitably qualified ecologist where found within construction work sites (ie nests found in hazardous areas will be translocated to nearby safe areas, direct handling of eggs and chicks will be avoided where possible). This could include potentially new poles/nest platforms.		
	Details on the pre-clearing and clearing supervision process.		

	Procedures for consultation with DPI Fisheries and pre-construction survey (where required) for threatened aquatic species should be established (and Commonwealth DCCEEW for Riek's Crayfish, as required), along with processes for reporting and consideration of recommendations into design and construction methods, as relevant. Procedures for reporting the outcomes of pre-construction aquatic biodiversity surveys (where required under mitigation measure B33) at CLASS 1 crossing locations (new and upgraded tracks) potentially supporting threatened aquatic species and any management measures to be implemented (eg timing construction outside of breeding seasons, crossing type, micro siting). Procedures for the stockpiling and supply of felled trees for KFH rehabilitation or improvement works, including procedures for consultation with DPI Fisheries. The BMP will include adaptive management measures for uncertain/ indirect/ prescribed impacts and a biodiversity monitoring program. The adaptive management measures would detail procedures for uncertain impacts, risk associated with potential failure of mitigation, circumstances where avoidance may not be achievable and prescribed impacts. The adaptive management measures would be underpinned by monitoring programs, to provide early warning of ineffective measures and/or uncertain impacts occurring. The adaptive management measures would include: - performance criteria to guide monitoring - measurable thresholds to identify when remedial action is triggered - adaptive management response/actions - a trigger for additional credit obligations and/or conservation measures for uncertain, indirect or prescribed impacts, where these impacts cannot be adaptively managed - reporting requirements. The adaptive management measures and monitoring program will be developed to target specific species considered to be most at risk of significant impacts, as determined during the detailed design phase. The BMP will stipulate objectives for monitoring, reporting and evaluation, and how baseline data will be captured and represented.		
B4	**Supplementary biodiversity survey**		
	Where construction activities are required in areas of native vegetation that have not been previously subject to biodiversity survey, supplementary biodiversity survey will, where possible, be carried out prior to disturbance to inform detailed design and micro-siting opportunities, adherence to clearing limits and biodiversity offsetting requirements. Areas subject to additional survey may include but are not limited to previously inaccessible lands, tracks to access isolated clearing areas and any areas requiring direct impacts outside the project footprint.	This Strategy has been prepared in accordance to Condition B28 to detail the supplementary biodiversity survey methods to confirm presence of all listed SAII species potentially impacted by the Project in accordance with the BAM and other guidance documents that are relevant and applicable.	Section 1.2 Section 2.4
	The surveys will be carried out by a suitably qualified person would incorporate the following at a minimum:	The surveys would be completed by suitably qualified ecologists that are BAM accredited assessors, or competent with the	Section 3

		BAM survey methods and requirements. Ecologists with expertise in specific species will also be engaged for the supplementary biodiversity survey where relevant (e.g. orchids).	
	survey of the area of vegetation to be cleared to determine clearing extent	The supplementary surveys will focus on the Project Easement plus a 30m buffer for flora & suitable habitat for fauna. The extent of the surveys will be reported in the Biodiversity Assessment Verification Report(s)	Section 3
	vegetation surveys to determine PCTs/TECs and Vegetation Integrity of the areas to be impacted	The post-BDAR survey will clarify PCTs through a series of rapid data collection points in as many locations as possible, however will not cover all areas where surrogate plots have been utilised due to land access & survey time frames.	Section 2.1
	survey and map habitat constraints for candidate threatened species to inform presence/ absence additional targeted surveys to confirm presence/ absence of candidate flora and fauna species conservatively assumed present.	Tables 10 and 11 summarise the extent of proposed supplementary surveys for the candidate species to inform presence / absence.	Section 3
	adaptive management measures in the BMP will outline appropriate response actions to be implemented in the event that additional biodiversity constraints are identified.	In accordance with Condition B29 (d)(2), a revised version the Biodiversity Management Plan will be prepared to incorporate the relevant findings and recommendations of the Biodiversity Assessment Verification Report(s).	Section 4.10
	an assessment of the likelihood of additional indirect and prescribed impacts as a result of additional clearing and disturbance to be undertaken prior to clearing.	This would be addressed in the BVAR.	Section 4
	Future survey requirements and processes for reporting and consideration of recommendations into design and construction methods, as relevant, will be included in the BMP (mitigation measure B3).	This would be addressed in the BMP.	Section 4.10
B5	**Supplementary Biodiversity Assessment Strategy**		

	A Supplementary Biodiversity Assessment Strategy (SBAS) will be prepared and implemented by Transgrid with the primary purpose of credit liability reduction. The SBAS will be prepared in consultation with NSW DCCEEW Environment and Heritage and will include but is not limited to:	This Strategy has been prepared to address Condition B28 and UMM B5. The Strategy has been prepared in consultation with the Biodiversity Conservation Science (CPHR) Division of the NSW DCCEEW Environment and Heritage.	Section 1.2 Section 1.11
	Target species, approach and timing of post Technical Report 1 – Revised Biodiversity Development Assessment Report biodiversity surveys. Results will be used for design and construction avoidance (where possible) plus validation of assumed presence where a credit liability reduction is proposed.	The target species and survey approach are outlined in Tables 11 & 12 and Appendix E & F	Section 3
	Method for validation of PCTs/TECs assumed present on previously inaccessible land where surrogate, duplicate or benchmark plots were used and low confidence of PCT allocation or condition.	The post-BDAR survey will clarify PCT's through a series of rapid data collection points in as many locations as possible, however will not cover all areas where surrogate plots have been utilised due to land access & survey time frames.	Section 2.1 Section 3.1
	Monitoring, and periodic reporting of final areas of impact and application for credit liability reduction.	Monitoring and periodic reporting of the final areas of impacts will be completed through the BMP in accordance with Condition B30 (d)(ii) and (viii).	BMP
	Approach for any newly identified PCTs/candidate species	Newly identified PCTs and candidate species will be reported to CPHR to confirm the species polygon development and if impacts cannot be avoided, would be reported in BAVR and thereby incorporated into the BOP for offsetting.	Section 4.4
	A trigger for additional credit obligations and/or conservation measures for uncertain, indirect or prescribed impacts, where these impacts cannot be adaptively managed.	Any updates to indirect or prescribed (these cover 'uncertain' elements of the BAM) triggered through BAVR or DP required reporting will be discussed with CPHR. Any updates will be through the BOP.	Section 4.4 Section 4.10

B6	**SAIIs** The design and construction methodology for the project must identify additional avoidance and minimisation measures to further reduce impacts to entities which are likely to have a serious and irreversible impact to the greatest extent practicable. Opportunities for intact and/ or higher condition remnants should be prioritised for avoidance incorporating consideration of connectivity between retained remnants within and adjacent to the project footprint must be considered in the connectivity strategy.	Not directly relevant to the scope of this Strategy The results of the supplementary biodiversity surveys will be used to avoid impacts to matters of biodiversity conservation significance including the SAII species. Primarily, the results of the supplementary surveys will be used to update the biodiversity constraints mapping used by design and construction teams to identify the features with the highest biodiversity conservation significance.	Section 4.7
B7	**SAIIs** Additional and Appropriate Measures (compensatory measures) are to be implemented by Transgrid where impacts to likely SAIIs cannot be further reduced and/ or where likely SAII risks remain. Compensatory measures will be developed and delivered in consultation with the NSW DCCEEW Environment and Heritage and incorporate and/or support the long-term augmentation, enhancement and protection of native vegetation and/or habitat of the target entity within landscapes local to the impact.	Not directly relevant to the scope of this Strategy This will be addressed through the BAVR.	BAVR Section 4

Appendix C Peer review letter report and incorporation table

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Our Ref: 31908_Transgrid_IndReview_Letter_V1

29th January 2025

Tuesday Heather
Senior Biodiversity Advisor -Delivery
Transgrid

Peer Review of the HumeLink Transmission Project Supplementary Biodiversity Strategy

Umwelt was engaged by Transgrid to undertake a peer review of the HumeLink Transmission Project Supplementary Biodiversity Strategy (SBS). Transgrid received NSW Infrastructure Approval (SSI 36656827) (November 2024) for the HumeLink Transmission Project (the Project) under Part 5 Division 5.2 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) (CSSI approval).

1.0 Conditions of Approval

The Project Infrastructure Approval, Condition B28, includes a requirement to develop a Supplementary Biodiversity Strategy (SBS).

The Condition states:

Prior to carrying out any development that would impact on the relevant biodiversity values (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B66), the Proponent must prepare a Supplementary Biodiversity Strategy as committed to in the EIS, in consultation with BCS and to the satisfaction of the Planning Secretary. Unless otherwise agreed by the Planning Secretary, the Strategy must:

a. *be peer reviewed by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary;*

b. *detail survey methods for all entities to be targeted by the Strategy, in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared, including but not limited to:*

   i. surveys within unsurveyed areas of the development area identified in the EIS where a reduction in credit liability for the relevant biodiversity value assumed present is being sought;

Umwelt (Australia) Pty Limited
ABN 18 059 519 041
T| 1300 793 267
E| info@umwelt.com.au
www.umwelt.com.au

ii. surveys for the following serious and irreversible impact (SAII) entities:

Prasophyllum bagoense	*Mixophyes balbus*
Pterostylis oreophila	*Prasophyllum keltonii*
Caladenia concolor	*Bossiaea fragrans*
Genoplesium superburn	*Eucalyptus robertsonii subsp, hemisphaerica*
Pomaderris delicata	*Grevillea wilkinsonii*
Litoria castanea	*Chalinolobus dwyeri*
Prasophyllum innubum	*Pseudomys fumeus*
Solanum armourense	*Pimelea bracteata*
Calotis glandulosa	*Tyto tenebricosa*
Grevillea iaspicula	*Pomaderris pallida*

2.0 Scope of Works

Umwelt were requested to provide a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning Secretary, to undertake the peer review of the SBS in accordance with Condition B28(a).

2.1 Independent Assessor Approval

The independent assessor endorsed for this peer review was Umwelt Principal Ecologist Adam Cavallaro. Adam holds a Bachelor of Environmental Science (Conservation Ecology), is a Biodiversity Assessment method (BAM) Accredited Assessor under the Biodiversity Conservation Act (BAAS18056) and has over 20 years' experience in the environmental industry. Adam was approved as the independent assessor by the Director of Energy Assessment as the nominee of the Planning secretary on the 20th November 2024 (Refer to Attachment A).

3.0 Peer Review

The SBS was provided for review in early December 2024. A preliminary peer review of the SBS document was carried out and preliminary peer review findings were provided to Transgrid, with a follow up meeting to discuss the findings on the 18th December 2024. The preliminary peer review focused on addressing Condition B28 whilst also providing review of the additional information included in the document, as the SBS was prepared to include context on Condition B29 and how the SBS would feed into other working documents such as the Biodiversity Management Plan (BMP).

The preliminary peer review findings included the following:

- A request for additional information to support survey methods

- A request for additional information relating to survey methods which had been approved by The NSW Department of Climate Change environment Energy and Water (DCCEEW) South-east Biodiversity Conservation Science (BCS) and survey methods that were still in discussion.
- Critical review commentary on the survey methods and how they were to be implemented.
- General feedback on the document, to ensure consistency throughout the document.
- High-level recommendations to address review requests for further information.

Transgrid addressed the requests and recommendations from the preliminary peer review, and a final version of the SBS (V9) was supplied on the 17th January 2025 for final peer review.

The final peer review has been undertaken and has determined that the survey methods proposed for the relevant biodiversity values are generally consistent with the BAM (2020) and relevant guidelines.

Table 3.1 provides a summary of SBS compliance with Condition B28, including a summary of the sections in the SBS where the relevant matters have been addressed and identification of whether further information is required.

In **Attachment A** and **Attachment B**, a set of recommendations has been provided as part of the final review that should be considered and adopted for inclusion in the SBS, to ensure further compliance with the BAM (2020) and relevant guidelines. The attachments show where survey methods have met or in part met the survey requirements and the recommendation is provided to address any variation to the relevant survey and requirements.

Table 3.1 Supplementary Biodiversity Strategy compliance with Condition B28

Condition B28 Items	Addressed in Supplementary Biodiversity Strategy	Further Information Recommended
(a) be peer reviewed by a suitably qualified, experienced and independent biodiversity consultant with Biodiversity Assessment Method (2020) (BAM) Accreditation whose appointment has been endorsed by the Planning;	Addressed. Refer to **Section 2.1** of this peer review letter for details.	No
(b) detail survey methods for all entities to be targeted by the Strategy, in accordance with the Biodiversity Assessment Method (2020) and any other guidance document that is relevant and applicable at the time surveys were undertaken or the BDAR was prepared, including but not limited to: (i) surveys within unsurveyed areas of the development area identified in the EIS where a reduction in credit liability for the relevant	This peer review has determined the survey methodology proposed for threatened flora species outlined in Section 5 and Appendix C is in accordance • The Biodiversity Assessment Methodology (BAM 2020) • *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method* (NSW DPIE, 2020) • The BioNet Atlas Threatened Biodiversity Data Collection (TBDC), to ensure any new information relating to survey methods and general habitat attributes will be considered for targeted surveys.	No

Condition B28 Items	Addressed in Supplementary Biodiversity Strategy	Further Information Recommended
biodiversity value assumed present is being sought	This peer review has determined the survey methodology proposed for threatened fauna species outlined in Section 5 and Appendix D is generally in accordance with the Bam and relevant guidelines. As part of the final review recommendation have been provided in **Attachment A** and **B** of this peer review letter outlines recommendations to ensure further consistency with the BAM and relevant guidelines Where recommendations are not considered to be appropriate, further justification of the proposed survey method should be included with approval from relevant government agencies.	Yes
	This peer review has determined the survey method for other relevant biodiversity values such as plant community types (PCTs) is generally in accordance with the BAM and would benefit from additional detail to ensure any future changes to PCTs and associated threatened species habitat is supported by qualitative and quantitative data. As part of the final review recommendation have been provided in **Attachment A** of this peer review letter outlines recommendations to ensure further consistency with the BAM	Yes
(ii) surveys for the following serious and irreversible impact (SAII) entities:	This peer review has determined the survey methods proposed for all SAII flora species are in accordance with: • The Biodiversity Assessment Methodology (BAM 2020) • *Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method* (NSW DPIE, 2020) • The TBDC, to ensure any new information relating to survey methods and general habitat attributes will be considered for targeted surveys.	No
	The peer review has determined the proposed survey methods for the following SAII fauna species to be satisfactory as the survey requirements are generally in accordance with relevant guidelines • Smoky mouse (*Pseudomys fumeus*)	No

Condition B28 Items	Addressed in Supplementary Biodiversity Strategy	Further Information Recommended
	It is recommended that additional information outlined in **Attachment A and B**, is to be included for the survey methodology relating to: • Yellow-spotted tree frog (*Litoria castanea*) • Stuttering Frog (*Mixophyes balbus*) • Sooty owl (*Tyto tenebricosa*)	Yes

If you require any further information relating to this peer review, please do not hesitate to contact the author

Kind regards

Adam Cavallaro
Principal Ecologist (BAAS 18056)
E | acavallaror@umwelt.com.au
M | 0490 674 802

Attachment A: General Recommendations

Item	Supplementary Biodiversity Strategy Section	Further Information Recommendation
Plant Community Type: Vegetation Assessment	**Section 5.2**	It is understood that vegetation in areas where land access was limited or restricted at the time survey for the BDAR, has been assigned to a Plant Community Type (PCT) and vegetation zone through a desktop assessment and use of surrogate plot data, duplicate plot data or the use of benchmark data. It is proposed that these areas will be assessed using rapid assessments to determine the PCT and where differences are observed compared to the originally assigned PCT, the areas will be reassigned to more appropriate PCTs and vegetation zone. To ensure changes to PCTs and condition classes (vegetation zones) are appropriate, it is recommended that additional information be included in the SBS detailing what floristic and general biodiversity value attributes will be collected at rapid assessment points to ensure that any person reviewing the PCT assignment is confident in the allocation based on the rapid data collected. It is recommended that, where appropriate, additional BAM plots should be collected to provide a complete data set. This will provide further justification where it is intended to reduce suitable habitat for threatened species as well as provide field data to inform the actual condition class for the vegetation. The collection of plot data should be a priority where there has been a short fall in plots for any vegetation zone to meet the minimum requirements for BAM plots.
All Threatened Fauna	**Section 5.2 or Appendix D Fauna survey Approach**	The SBS has been structured to allow for multiply or staged survey efforts for a threatened entity across the Project prior to the commencement of construction within a specific area. To address any potential risk to the proposed survey methodology not complying with the BAM, it is recommended that the survey methods (specifically threatened fauna species) include the opportunity to scale the survey effort according to the size of the proposed survey area. For example, where only small patches of suitable habitat remain to be surveyed across the Project, a modified survey method based on the initial survey methodology should be refined to ensure adequate survey coverage at the specific location. This recommendation could be included as a general survey method outlined in the relevant section (5.2) of the SBS as it addresses all fauna species. In addition, a statement should be included that outlines how vegetation or suitable habitat will be stratified to ensure survey coverage across IBRA sub-regions, different vegetation types (for example vegetation formation or vegetation class) or condition classes.

Attachment A: General Recommendations

Item	Supplementary Biodiversity Strategy Section	Further Information Recommendation	How addressed in revised Strategy
Plant Community Type: Vegetation Assessment	Section 5.2	It is understood that vegetation in areas where land access was limited or restricted at the time survey for the BDAR, has been assigned to a Plant Community Type (PCT) and vegetation zone through a desktop assessment and use of surrogate plot data, duplicate plot data or the use of benchmark data. It is proposed that these areas will be assessed using rapid assessments to determine the PCT and where differences are observed compared to the originally assigned PCT, the areas will be reassigned to more appropriate PCTs and vegetation zone. To ensure changes to PCTs and condition classes (vegetation zones) are appropriate, it is recommended that additional information be included in the SBS detailing what floristic and general biodiversity value attributes will be collected at rapid assessment points to ensure that any person reviewing the PCT assignment is confident in the allocation based on the rapid data collected. It is recommended that, where appropriate, additional BAM plots should be collected to provide a complete data set. This will provide further justification where it is intended to reduce suitable habitat for threatened species as well as provide field data to inform the actual condition class for the vegetation. The collection of plot data should be a priority where there has been a short fall in plots for any vegetation zone to meet the minimum requirements for BAM plots.	Rapid Data Points include collection of: - Mini BAM Plot & is the tool used to validate vegetation. - Characteristics of each stratum height; cover, dominant canopy sub-dominant and present species in each stratum; IBRA region; Landform pattern; Landscape position; soil; structure – woodland, wetland etc. Attributes in relation to the originally mapped polygon are listed as one of the following 4 categories to guide post field work updates: 1. Veg polygon correct & attributes correct 2. Veg polygon geometry correct but update attributes- 3. Attributes correct but geometry needs updating 4. No attributes correct, create whole new polygon. Additional BAM plots are proposed to be collected where the PCT assignment requires further justification, or a change is proposed. Section 3.2.1 (formerly 5.2) of the

			Strategy has been updated to include this information.
All Threatened Fauna	Section 5.2 or Appendix F Fauna survey Approach	The SBS has been structured to allow for multiply or staged survey efforts for a threatened entity across the Project prior to the commencement of construction within a specific area. To address any potential risk to the proposed survey methodology not complying with the BAM, it is recommended that the survey methods (specifically threatened fauna species) include the opportunity to scale the survey effort according to the size of the proposed survey area. For example, where only small patches of suitable habitat remain to be surveyed across the Project, a modified survey method based on the initial survey methodology should be refined to ensure adequate survey coverage at the specific location. This recommendation could be included as a general survey method outlined in the relevant section (5.2) of the SBS as it addresses all fauna species. In addition, a statement should be included that outlines how vegetation or suitable habitat will be stratified to ensure survey coverage across IBRA sub-regions, different vegetation types (for example vegetation formation or vegetation class) or condition classes.	A statement outlining where modified scaled survey methods may be required has been added to the introduction of section 3. CPHR will be consulted on any proposed changes to survey effort to that outlined in Appendix F.

Attachment B: Threatened Fauna Species - Recommendations

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Aprasia parapulchella	Pink-tailed Legless Lizard	No	120 mins (or >2000 rocks rolled) over at least 4 days per 50 ha of suitable habitat – as per approved Threatened Reptile BAM survey guide (DPE 2022) & TBDC	No - Proposed survey method varies from the *Threatened reptiles – Biodiversity Assessment Method survey guide* for the Pink-tailed legless lizard	No - The TBDC states the survey methods: The department recommends that this species is assessed by expert report due to difficulty in detecting with confidence via survey.	N/A	It is recommended that BCS is consulted to ensure rock rolling in accordance with the reptile guidelines is still considered appropriate as the current TBDC states that only an expert report is to be used. The survey method should be revised to reflect the Reptile guidelines which states for 50ha of suitable habitat ≥2000 rocks are to be rolled per survey with four survey replicates to be completed (or the equivalent for a small site 200 rocks/5ha).	TBDC updated following completion of BDAR and proposal for supplementary survey. Consultation undertaken with CPHR on 21/10/24 & 4/11/24 with proposed method outlined in shared survey method spreadsheet. Survey method proposed as per Threatened reptiles – Biodiversity Assessment Method survey guide recommendation where the area of suitable habitat is less than 50h - 200 rocks for every 5ha.
Burhinus grallarius	Bush Stone-curlew	No	At least 5 sites per 200 ha as per the TBDC. Site stratification as per the Draft Threatened biodiversity survey and assessment guidelines for developments and activities (DEC 2004) utilised for the Revised BDAR	Not Available	No - survey method included in the TBDC	Yes - Generally in accordance with Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	There is no survey requirements outlined in the TBDC, remove this reference.	Removed reference to TBDC in Appendix F
Callocephalon fimbriatum	Gang-gang Cockatoo	No	Total 12 hours over at least four days per 50 ha. Single species (one species at a time) survey approach to be adopted.	Not Available	No - The TBDC outlines a four-step process to determine the presences of	No-Currently in accordance with the recommended survey for the Superb Parrot	It is recommended to include suitable hollow bearing tree survey to method as per the proposed method for	Hollow mapping is included in 'survey method' column in Appendix F, Added use of LiDAR as surrogate HBT assessment for

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
			Surveys to be undertaken within 4 hours of sunrise within habitats supporting suitable hollows as per the TBDC		breeding Gang-gang cockatoo. Currently the proposed survey only outlines the species survey and doesn't include the survey for potential nest trees.	from Survey guidelines for Australia's threatened birds (DEWHA 2010)	Glossy black-cockatoo. In addition, the targeted searches for signs of breeding should be consistent with the Glossy black cockatoo targeted searches of 20 hrs over 4 days as outlined in the DEWHA survey guidelines for the Glossy black-cockatoo or provide further information to support the current survey effort.	inaccessible land. Survey method approved by Damon Oliver 23/10/24.
Calyptorhynchus lathami	Glossy Black-Cockatoo	No	Hollow mapping + seasonal survey where survey is possible during breeding season Survey in accordance with the TBDC 10m Lidar utilised for inaccessible land	Not Available		No -not currently in accordance with the recommended survey for the Glossy black Cockatoo (Kangaroo Island) from Survey guidelines for Australia's threatened birds (DEWHA 2010)	No bird survey method is proposed to identify signs of breeding (survey effort to identify species). It is recommended to include the Glossy black-cockatoo survey method from the DEWHA guidelines which states 20hrs over 4 days while searching for signs of feeding or nests (50ha). This survey effort should consider stratification and spatial spread of suitable habitat to ensure sufficient survey has been carried out across all areas of assumed presence.	Survey method includes 'seasonal survey where survey possible during breeding season'. Further detail from TBDC added to survey method in Appendix F including reference to TBDC. Hollow mapping added to survey method in Appendix F as well as utilisation of LiDAR for inaccessible land. Survey method approved by Damon Oliver 23/10/24.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Cercartetus nanus	Eastern Pygmy-possum	No	100 trap nights per 50 ha = 2 trap nights per ha	Not Available	No survey method included in the TBDC	Yes - number of trap nights for Elliot traps or cameras is generally in accordance with Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	Include the trap type in the proposed survey effort (i.e. cameras)	Camera trap method added to Appendix F
Chalinolobus dwyeri	Large- eared Pied Bat	Yes	Where potential roosts confirmed: harp trapping for at least 4 nights	No - Proposed survey method varies from the 'Species credit' threatened bats and their habitats – NSW guide for the Biodiversity Assessment Method (DPE 2021)	Refer to the Species credit' threatened bats and their habitats – NSW guide for the Biodiversity Assessment Method (DPE 2021)	Not Applicable	Recommend including survey of potential habitat (not just roosting habitat) surveys i.e. All areas with the PCTs associated with the species (as per the TBDC) on the subject land where the subject land is within 2 kilometres of caves, scarps, cliffs, rock overhangs and disused mines. Recommend including detailed survey for potential breeding habitat i.e. Harp trap 16 trap nights (min of four nights) per 50ha of habitat. *All potential*	Potential habitat assessment completed during the BDAR, supplementary survey will further target mapped potential habitat.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
							habitat on the subject land where the subject land is within 100 metres of caves, scarps, cliffs,rock overhangs and disused mines	
Cyclodomorphus praealtus	Alpine She- oak Skink	No	120 mins over at least four days (replicates) per 50 ha of suitable habitat	No - Proposed survey method varies from the Threatened reptiles – Biodiversity Assessment Method survey guide for the Alpine She-oak Skink	Refer to the Threatened reptiles - Biodiversity Assessment Method survey guide for information on targeted survey requirements	Not Applicable	Update the proposed survey method to ensure compliance with the Threatened Reptiles Biodiversity Assessment Method survey guide (DPE 2022). The guidelines state 120 minutes per survey with four survey replicates undertaken per 50 ha.	Survey is in accordance with the Threatened reptile guidelines. Updated survey method to include reference to the guideline.
Hieraaetus morphnoides	Little Eagle	No	Diurnal bird surveys: Total 12 hours over at least four days per 50 ha. Stick nest observation.	Not Available	Yes - Breeding habitat requirements	Not Applicable	Recommend including approximate survey time and replicates proposed where a potential nest tree is recorded and survey to confirm target species is present.	Added TBDC reference to Appendix F. Supplementary survey is not targeting occupation of stick nests, only presence of the nest. If present, occupation is assumed. This detail has been added to Appendix F.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Litoria castanea	Yellow- spotted Tree Frog	Yes	Total 480 mins over at least 4 days- targeting streams with suitable pools and PCTs	Yes, generally in accordance with the *NSW Survey Guide for Threatened Frogs* (2022). Survey method is missing the survey type.	Refer to the 'NSW Survey Guide for Threatened Frogs' for information on targeted survey requirements	N/A	The survey type should be included in the proposed survey method (e.g. aural visual) to determine if the proposed survey effort is in accordance with the survey guidelines. In addition, where aural - visual surveys are proposed an additional 4 minutes of survey is required at each call playback location (every 50m).	Aural visual survey details provided in Appendix F in 'survey approach' column. Added reference to frog survey guidelines.
Lophoictinia isura	Square- tailed Kite	No	Total 12 hours over at least four days per 50 ha	Not Available	No - Breeding habitat requirements	Not Applicable	Recommend including stick nest (breeding habitat) survey and approximate survey length and replicates proposed where a potential nest tree is recorded and survey to confirm target species is present.	Added TBDC reference to Appendix F. Added the following to the table at Appendix F: 'Supplementary survey is not targeting occupation of stick nests, only presence of the nest. If present, occupation is assumed'.
Mixophyes balbus	Stuttering Frog	Yes	Total 480 mins over at least 4 days- all streams within suitable PCTs in accordance with Frog survey guidelines.	Yes - generally in accordance with the NSW Survey Guide for Threatened Frogs (2022). Minor amendment required Survey method is missing the survey type.	Refer to the 'NSW Survey Guide for Threatened Frogs' for information on targeted survey requirements	N/A	The survey type should be included in the proposed survey method (e.g. aural visual) to determine if the proposed survey effort is in accordance with the survey guidelines. In addition, where aural - visual surveys are proposed an additional 4 minutes of survey is required at each call	Aural visual survey details are provided in Appendix F in 'survey approach' column. Added reference to frog survey guidelines.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
							playback location (every 50m).	
Ninox connivens	Barking Owl	No	At least 5 surveys per 200 ha	Not Available	No-The proposed survey does not conform with the TBDC survey method	No - Survey varies from the Forest Owl survey method in Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	It is recommended that the current survey method in the SBS include in detail the TBDC survey guidelines. For these two species the requirements should include at least one (1) call playback station for a patch of suitable habitat <100ha (centrally located), or where >100ha evenly spread (1 station /100ha up to 1000ha) separated	Survey methods reflect those in the TBDC at the time of preparation of the supplementary survey proposal. Consultation with CPHR has also been undertaken – ongoing from 21/10/24 with no objection provided to the proposed method, and support provided for the 300m buffer to suitable HBT's.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Ninox strenua	Powerful Owl	No	At least 5 surveys per 200 ha			No - Survey varies from the Forest Owl survey method in Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	by 1000m. Each call playback station should be surveyed until an Owl responds or for at least six (6) nights. The current survey method is five (5) surveys per 200ha which is not consistent with the current guidelines or the *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft)* (NSW DEC 2004) for these species. The survey method from the DEC guidelines is five 5 surveys (visits) per site with sites separated by 800- 1000m, equivalent to one (1) station per ≤100ha. There is no further information provided to suggest why the current guidelines have not been addressed or if approval has been sort from BCS to modify the survey methodology of the current or older guidelines.	

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Petroica rodinogaster	Pink Robin	No	Total 12 hours over at least four days per 50 ha	Not Available	No - additional survey information not included	Not Applicable	No survey effort is available for this species. the current survey effort appears reasonable and should consider how stratification and spatial spread of the surveys will be included in the survey method. Recommend including TBDC information: Breeding survey in spring-autumn months (when most likely present as in some locations may be altitudinal/seasonal migrant) BUT non-breeding locations survey between May and August when likely to be an altitudinal or seasonal migrant to the area.	Stratification of suitable habitat was undertaken in accordance with the BAM for the revised BDAR. Section 3.2 of this Strategy outlines predicted habitat refinement. The spatial spread of surveys will be reported in the Verification Report. Breeding is not proposed to be surveyed. This detail has been added to the table at Appendix F. Any degraded habitats noted during field survey will be removed. This detail has also been added to Appendix F.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Phascogale tapoatafa	Brush- tailed Phascogale	No	Approximately 141 cameras will be distributed evenly across the 88 hectares of targeted habitat with each camera deployed for a minimum period of 21 to 49 days and rebaiting of cameras occurring at least every 14 days. A total survey effort of 4977 trap nights is estimated. A meeting was held with BCS on 18 December 2024 to discuss the proposed survey and a draft survey plan has been issued – pending BCS approval.	Not Available	No-The proposed survey does not conform with the TBDC survey method	N/A	The proposed survey effort and methods for Brush-tailed Phascogale is not in accordance with the requirements of the TBDC. It is understood that a draft survey plan is currently with BCS for review. It is recommended that at least the current guidelines (for contiguous suitable habitat) should be used as the 88 hectares of habitat would require 178 cameras, which would equate to 4,984 traps night when cameras are present for the minimum four (4) weeks (28 days). Utilising 178 cameras at the minimum duration of 28 trap nights per camera would see a small increase of camera nights (7 nights) compared to the proposed draft survey plan but would give the addition spatial spread of cameras across an area, instead of a concentration of traps nights (49) at some locations and below the minimum requirements at others (21). The method also identifies	Consultation has been undertaken to clarify survey requirements with CPHR(21/10/24, 17/2/25 with further advice provided 24/2/25). Dry Sclerophyll Forests have been targeted (88ha) of the overall species polygon (130.59 ha) within the Bungonia subregion only to maximise survey time/likelihood of detection. Discussions with CPHR staff indicated camera placement with DSF PCTs 'appeared sufficient' however formal advice pending.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
							only 88ha of suitable habitat which this species has been assumed present compared to 130.59 ha in Table 3 of the SBS. It is not understood if suitable habitat has been revised based on additional survey work. Further information should be included to address the change in assumed presence area/suitable habitat.	

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Phascolarctos cinereus	Koala	No	In accordance with the Koala survey guidelines (using 250m grid for continuous habitats or 150ha for suitable habitat <50ha): At least 8 SATs per 50 ha AND 2 SM4 units for first 100ha (or 1 unit/25ha for habitats less than 50 ha) plus additional unit for every additional 200 ha.	Yes - generally in accordance with the Koala (Phascolarctos cinereus): Biodiversity Assessment Method Survey Guide.	Refer to the Koala (Phascolarctos cinereus): Biodiversity Assessment Method Survey Guide for information on targeted survey requirements	Not Applicable	It is considered likely that that suitable habitat for the Koala will include scattered patches across the Project that will be smaller than 50ha. The two grid scenarios for Spot SAT surveys should be included in the survey methodology. I.e the proposed survey method should include the 150m grid-based survey for areas smaller than 50ha to ensure compliance with the Koala (Phascolarctos cinereus) Biodiversity Assessment Method Survey Guide (DPE 2022). Also, where small discrete patches <5 ha are considered suitable habitat at least three (3) SATs should be completed.	The scattered trees throughout the alignment are all situated within 500m of adjacent remnants therefore the extent of these zones are not required to be calculated separately. All Koala habitat within the HumeLink Project footprint meets the definition of continuous habitat according to Page 3 of the Koala survey guideline. Additional detail added to Appendix F to note the continuous habitat.
Polytelis swainsonii	Superb Parrot	No	Total 12 hours over at least four days per 50 ha. Single species survey approach to be adopted. Surveys to be undertaken within 4 hours of sunrise within habitats supporting suitable hollows.	Not Available	Yes - The TBDC states In the interim, assessors must undertake a species survey using best practice methods that can be replicated for repeat surveys	Yes - in accordance with the recommended survey for the Superb Parrot from *Survey guidelines for Australia's threatened birds (DEWHA* 2010	It is recommended that where suitable hollow bearing habit is spread across the Project, additional survey effort is included to ensure sufficient survey has been carried covering each area.	Survey method includes all accessible habitats including hollows. Additional detail provided in Appendix F addresses where access constraints are present then LiDAR mapping is utilised and presence remains assumed.

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
Pseudomys fumeus	Smoky Mouse	Yes	100 Elliot trap nights per 50 ha = 2 trap nights per ha . – 25 traps per line. Additional opportunistic cameras upon BCS recommendation 15 Nov 2023 were utilised.	Not Available	Yes - recommends IR white-light cameras for survey	Yes - number of trap nights for Elliot traps or cameras is generally in accordance with Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working *Draft)* (NSW DEC 2004)	No Recommendations	No required amendments.
Tyto novaehollandiae	Masked Owl	No	At least 8 surveys per 200 ha	Not Available	No-The proposed survey does not conform with the TBDC survey method	No - Survey varies from the Forest Owl survey method in Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	It is recommended that the current survey method in the SBS include in detail the Threatened Biodiversity Data Collection (TBDC) survey guidelines. For these two species the requirements should include at least one (1) call playback station for a patch of suitable habitat <100ha that is centrally located, or where >100ha evenly spread (1 station /100ha up to 1000ha) separated by 1000m. Each Call playback station should be surveyed until an Owl responds or for at least 6 nights.The current survey method is six (6) (Masked) and eight (8) (Sooty) surveys per 200ha	Survey methods reflect those in the TBDC at the time of preparation of the supplementary survey proposal. Consultation with CPHR has also been undertaken – ongoing from 21/10/24 with no objection provided to the proposed method, and support provided for the 300m buffer to suitable HBT's.
Tyto tenebricosa	Sooty Owl	Yes	As per BDAR survey effort. At least 6 call playback stations per 200 ha in accordance with working draft survey guideline. This survey effort would also address updated TBDC requirement of 10 call playback stations per 1000ha of suitable habitat.	Not Available				

Scientific Name	Common Name	SAII	Proposed Survey Method	BAM Survey Guidelines	BioNet Threatened Biodiversity Data Collection (TBDC)	Other Relevant Guidelines	Further Information Recommendations	Transgrid response
							which is similar to the Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004) for these species. The survey method from the DEC guidelines is six (6) or eight (8) surveys (visits) per site with sites separated by 800-1000m, equivalent to one (1) station per ≤100ha.There is no further information provided to suggest why the current guidelines have not been addressed or if approval has been sort from BCS to modify the survey methodology of the current or older guidelines.	

Appendix D Clearing Limits for native vegetation

APPENDIX 2 BIODIVERSITY

Table 2-1: Clearing limits for native vegetation

Plant Community Type (PCT)	Conservation significance		Full Impact (hectares)	Partial Impact (hectares)	Impact (hectares)
	BC Act	EPBC Act			
5	-	-	0.53	2.11	2.64
266	CE		48.29	6.55	54.85
		CE	13.38	4.35	
268*	CE		24.11	2.49	26.61
		CE	8.34	2.22	
277*	CE		115.34	12.60	127.94
		CE	3.23	6.19	
278*	CE		6.40	3.28	9.68
		CE	0.23	1.20	
280*	CE		61.07	11.22	72.30
		CE	18.14	10.03	
283*	CE		4.47	1.63	6.10
		CE	1.59	1.49	
285	-	-	2.85	8.31	11.16
287	-	-	4.08	3.61	7.70
290	-	-	9.56	1.99	11.55
294	-	-	0.14	0.00	0.14
295	-	-	1.79	2.47	4.26
297	-	-	1.54	0.66	2.20
299	-	-	5.30	13.35	18.65
300	-	-	6.43	16.15	22.57
301	E	-	3.37	0.00	3.38
306	-	-	3.70	0.22	3.93
314	-	-	6.83	1.43	8.26
316	-	-	8.65	10.32	18.96
319	-	-	1.40	0.08	1.48
322	-	-	0.82	0.09	0.91
335	-	-	0.36	0.01	0.37
343	-	-	5.16	1.07	6.22
349	-	-	3.14	1.32	4.46
351	-	-	5.22	1.46	6.67
352*	CE		14.52	0.79	15.31
		CE	1.24	0.39	
637**	E	E	0.02	0.00	0.02
638	-	-	21.87	50.04	71.91

Plant Community Type (PCT)	Conservation significance		Full Impact (hectares)	Partial Impact (hectares)	Impact (hectares)
	BC Act	EPBC Act			
679	CE		0.85	0.36	5.54
	-	-	1.82	2.50	
727	-	-	3.55	0.49	4.04
731	-	-	5.95	4.32	10.27
870	-	-	1.10	0.83	1.93
939**	E	E	0.07	0.58	0.65
952	E	-	5.17	0.71	5.88
953	E		0.12	0.50	101.45
	-	-	39.45	61.37	
1093	-	-	28.05	18.30	46.35
1097	E	-	0.30	0.08	0.38
1107	E	-	0.01	0.02	0.03
1150	-	-	9.03	8.69	17.71
1151	-	-	5.44	7.40	12.85
1191	CE		0.82	0.00	1.32
	-	-	0.18	0.32	
1196	-	-	7.09	26.16	33.25
1224	-	-	0.02	0.00	0.02
1256	-	-	0.32	0.02	0.34
1330*	CE		137.20	26.99	164.20
		CE	33.66	24.21	

**129.89 ha aligns to White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (critically endangered under the EPBC Act)*

***0.68 ha aligns to Alpine Sphagnum Bogs and Associated Fens (endangered under the EPBC Act)*

Table 2-2: Clearing limits for threatened flora species

Species	Common name	Conservation significance		Impact (hectares)
		BC Act	EPBC Act	
Acacia ausfeldii	Ausfeld's Wattle	V	-	17.67*
Acacia bynoeana	Bynoe's Wattle	E	V	4.17*
Acacia flocktoniae	Flockton Wattle	V	V	11.25*
Ammobium craspedioides	Yass Daisy	V	V	297.74
Baloskion longipes	Dense Cord-rush	V	V	1.31*
Bossiaea fragrans	Bossiaea fragrans	CE	CE	6.31*
Bossiaea oligosperma	Few-seeded Bossiaea	V	V	2.42*
Caesia parviflora var. minor	Small Pale Grass-lily	E	-	1.71*
Caladenia concolor	Crimson Spider Orchid	E	V	34.66*
Caladenia montana	Caladenia montana	V	-	233.51*

Species	Common name	Conservation significance		Impact (hectares)
		BC Act	EPBC Act	
Commersonia prostrata	Dwarf Kerrawang	E	E	0.82*
Cullen parvum	Small Scurf-pea	E	-	19.05*
Dillwynia glaucula	Michelago Parrot-pea	E	-	1.31*
Diuris aequalis	Buttercup Doubletail	E	E	46.05*
Diuris tricolor	Pine Donkey Orchid	V	-	1.61*
Eucalyptus aggregata	Black Gum	V	V	0.79*
Eucalyptus macarthurii	Paddys River Box, Camden Woollybutt	E	E	2.64*
Eucalyptus robertsonii subsp. hemisphaerica	Robertson's Peppermint	V	V	0.77*
Genoplesium superbum	Superb Midge Orchid	E	-	10.89*
Grevillea iaspicula	Wee Jasper Grevillea	CE	E	5.19*
Grevillea wilkinsonii	Tumut Grevillea	CE	CE	22.51*
Kunzea cambagei	Cambage Kunzea	V	V	8.27*
Lepidium hyssopifolium	Aromatic Peppercress	E	E	67.53*
Leucochrysum albicans subsp. tricolor	Hoary Sunray	E	E	186.8
Persoonia marginata	Clandulla Geebung	V	V	5.03*
Persoonia mollis subsp. revoluta	Persoonia mollis subsp. revoluta	V	-	1.37*
Phyllota humifusa	Dwarf Phyllota	V	V	11.35*
Pimelea bracteata	Pimelea bracteata	CE	CE	4.76
Pomaderris cotoneaster	Cotoneaster Pomaderris	E	E	8.96*
Pomaderris delicata	Delicate Pomaderris	CE	CE	1.37*
Pomaderris pallida	Pale Pomaderris	V	V	1.17*
Prasophyllum bagoense	Bago Leek Orchid	CE	CE	0.04
Prasophyllum innubum	Brandy Marys Leek Orchid	CE	CE	0.02*
Prasophyllum keltonii	Kelton's Leek-orchid	CE	CE	0.03
Prasophyllum petilum	Tarengo Leek-orchid	E	E	49.67*
Pterostylis alpina	Alpine Greenhood	V	-	2.76*
Pterostylis foliata	Slender Greenhood	V	-	54.06*
Pterostylis oreophila	Blue-tongued Greenhood	CE	CE	0.65*
Pultenaea humilis	Dwarf Bush-pea	V	-	20.21*
Senecio garlandii	Woolly Ragwort	V	-	11.56*
Solanum armourense	Solanum armourense	E	-	0.40*
Swainsona recta	Small Purple-pea	E	E	69.45*
Swainsona sericea	Silky Swainson-pea	V	-	116.45*
Thelymitra alpicola	Alpine Sun-orchid	V	-	0.63
Thesium australe	Austral Toadflax	V	V	149.12*
Xerochrysum palustre	Swamp Everlasting	-	V	0.77

** Assumed present*

Table 2-3: Clearing limits for threatened fauna species

Species	Common name	Conservation significance		Impact (hectares)
		BC Act	EPBC Act	
Aprasia parapulchella	Pink-tailed Legless Lizard	V	V	37.29
Burhinus grallarius	Bush Stone-curlew	E	-	60.87*
Callocephalon fimbriatum	Gang-gang Cockatoo	V	E	475.87
Calyptorhynchus lathami lathami	Glossy Black-Cockatoo	V	V	45.09
Cercartetus nanus	Eastern Pygmy-possum			253.39
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	3.08*
Crinia sloanei	Sloane's Froglet	E	E	0.75*
Cyclodomorphus praealtus	Alpine She-oak Skink	E	E	35.15*
Delma impar	Striped Legless Lizard	V	V	92.81*
Haliaeetus leucoaster	White-bellied Sea-Eagle	V	-	3.05
Hieraaetus morphnoides	Little Eagle	V	-	95.89
Keyacris scurra	Key's Matchstick Grasshopper	E	-	173.91
Litoria booroolongensis	Booroolong Frog	E	E	0.06*
Litoria castanea	Yellow-spotted Tree Frog	CE	CE	1.26*
Lophoictinia isura	Square-tailed Kite	V	-	39.66*
Mastacomys fuscus	Broad-toothed Rat			0.03*
Mixophyes balbus	Stuttering Frog	E	V	15.56
Myotis macropus	Southern Myotis	V	-	73.68
Ninox connivens	Barking Owl	V	-	265.06
Ninox strenua	Powerful Owl	V	-	252.04
Petauroides volans	Greater Glider	E	E	158.42
Petaurus norfolcensis	Squirrel Glider	V	-	66.93
Petroica rodinogaster	Pink Robin	V	-	38.77*
Phascogale tapoatafa	Brush-tailed Phascogale	V	-	179.20*
Phascolarctos cinereus	Koala	E	E	487.37*
Polytelis swainsonii	Superb Parrot	V	V	127.01
Pseudomys fumeus	Smoky Mouse	CE	E	5.79*
Synemon plana	Golden Sun Moth	V	V	28.48*
Tyto novaehollandiae	Masked Owl	V	-	196.57
Tyto tenebricosa	Sooty Owl	V	-	68.81*
Petaurus australis – endangered population	Yellow-bellied Glider population on the Bago Plateau	EP	-	134.78*
Petaurus norfolcensis – endangered population	Squirrel Glider	EP	-	11.52*

** Assumed present*

Appendix E Flora Survey Approach

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
Acacia ausfeldii	Ausfeld's Wattle	Vulnerable	Not Listed	No	No	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Aug;Sep;Oct
Acacia bynoeana	Bynoe's Wattle	Endangered	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Acacia flocktoniae	Flockton Wattle	Vulnerable	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jul;Aug;Sep
Ammobium craspedioides	Yass Daisy	Vulnerable	Vulnerable	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Sep;Oct;Nov
Baloskion longipes	Dense Cord-rush	Vulnerable	Vulnerable	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Bossiaea fragrans	-	Critically Endangered	Critically Endangered	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the iodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Bossiaea oligosperma	Few-seeded Bossiaea	Vulnerable	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Caesia parviflora var. minor	Small Pale Grass-lily	Endangered		No	No	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Oct;Nov;Dec
Caladenia concolor	Crimson Spider Orchid	Endangered	Vulnerable	Yes	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey	Sep

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
							requirements. Transect spacing of 10m adopted in open habitats; 5m for closed habitats. Survey would be staged, targeting lower-lying elevations initially.	
Caladenia montana	-	Vulnerable	Not listed	No	No	Orchids	Survey to commence mid to late October regardless of outcome of reference site checks. Survey would be staged with two separate sweeps through habitats: one early October and the second two weeks later as per Orchid specialist advice. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements Transect spacing of 10m adopted in open habitats; 5m for closed habitats.	Oct;Nov
Commersonia prostrata	Dwarf Kerrawang	Endangered	Endangered	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Cullen parvum	Small Scurf-pea	Endangered	Not listed	No	No	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Dec
Dillwynia glaucula	Michelago Parrot-pea	Vulnerable	Not Listed	No	No	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TB& TBDC survey requirements DC survey requirements	Sep;Oct;Nov;Dec
Diuris aequalis	Buttercup Doubletail	Endangered	Vulnerable	No	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Oct;Nov
Diuris tricolor	Pine Donkey Orchid	Vulnerable	Not Listed	No	No	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Sep;Oct

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
Eucalyptus aggregata	Black Gum	Vulnerable	Vulnerable	No	Yes	Trees	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Eucalyptus macarthurii	Paddys River Box, Camden Woollybutt	Endangered	Endangered	No	Yes	Trees	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Eucalyptus robertsonii subsp. hemisphaerica	Robertson's Peppermint	Vulnerable	Vulnerable	Yes	Yes	Trees	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Genoplesium superbum	Superb Midge Orchid	Endangered	Not Listed	Yes	No	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Feb;Mar
Grevillea iaspicula	Wee Jasper Grevillea	Critically Endangered	Endangered	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec;N/A
Grevillea wilkinsonii	Tumut Grevillea	Critically Endangered	Endangered	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Oct
Kunzea cambagei	Cambage Kunzea	Vulnerable	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Oct;Nov
Lepidium hyssopifolium	Aromatic Peppercress	Endangered	Endangered	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Oct;Nov;Dec
Leucochrysum albicans subsp. tricolor	Hoary Sunray	Not listed	Endangered	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;Sep;Oct;Nov;Dec

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
Persoonia marginata	Clandulla Geebung	Vulnerable	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar
Persoonia mollis subsp. revoluta	-	Vulnerable	Vulnerable	No	No	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Phyllota humifusa	Dwarf Phyllota	Vulnerable	Vulnerable	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Nov;Dec
Pimelea bracteata		Critically Endangered	Critically Endangered	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Pomaderris cotoneaster	Cotoneaster Pomaderris	Endangered	Endangered	No	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Oct;Nov
Pomaderris delicata	Delicate Pomaderris	Critically Endangered	Critically Endangered	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Pomaderris pallida	Pale Pomaderris	Vulnerable	Vulnerable	Yes	Yes	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec
Prasophyllum bagoense	Bago Leek-orchid	Critically Endangered	Critically Endangered	Yes	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Dec
Prasophyllum innubum	Brandy Marys Leek-orchid	Critically Endangered	Critically Endangered	Yes	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey	Feb;Mar

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
							requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	
Prasophyllum petilum	Tarengo Leek Orchid	Endangered	Endangered	No	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Sep;Oct;Nov;Dec
Pterostylis alpina	Alpine Greenhood	Vulnerable	Not Listed	No	No	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Nov in montane areas
Pterostylis foliata	Slender Greenhood	Vulnerable	Not listed	No	No	Orchids	No reliable reference site. Survey would be staged with two separate sweeps through habitats: one late october and the second two weeks later. ID based on flowers and rosettes where present. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Oct;Nov
Pterostylis oreophila	Blue-tongued Greenhood	Critically Endangered	Critically Endangered	Yes	Yes	Orchids	Survey to commence when flowering on reference sites detected. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Jan;Dec
Pultenaea humilis	Dwarf Bush-pea	Vulnerable	Not listed	No	No	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Oct;Nov;Dec
Senecio garlandii	Woolly Ragwort	Vulnerable	Not listed	No	No	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Jun;Jul;Aug;Sep;Oct;Nov;Dec

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES	BAM growth form	Survey effort requirements	BAM Survey months
Solanum armourense	-	Endangered	Not listed	Yes	No	Shrubs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements. The fire history for the site is unknown. Consultation undertaken with CPHR during BDAR assessment regarding proposed survey effort. Species confirmed absent with majority of potential habitat. Supplementary survey proposed on remaining assumed present habitat.	Jan;Feb;Mar;Apr;May;Aug;Sep;Oct;Nov;Dec
Swainsona recta	Small Purple-pea	Endangered	Endangered	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Sep;Oct;Nov
Swainsona sericea	Silky Swainson-pea	Vulnerable	Not listed	No	No	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Sep;Oct;Nov
Thelymitra alpicola	Alpine Sun-orchid	Vulnerable	Not listed	No	No	Orchids	Survey to commence late December regardless of outcome of reference site checks. Parallel traverses through potential habitats in accordance with the NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements Buffer width of 10m adopted in open habitats; 5m for closed habitats.	Nov;Dec;Jan
Thesium australe	Austral Toadflax	Vulnerable	Vulnerable	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Nov;Dec
Xerochrysum palustre	Swamp Everlasting	Not Listed	Vulnerable	No	Yes	Herbs and forbs	Parallel transects within potential habitat, as per Table 1 of the Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method & TBDC survey requirements	Jan;Feb;Mar;Apr;May;Sep;Oct;Nov;Dec

Appendix F Fauna Survey Approach

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
Aprasia parapulchella	Pink-tailed Legless Lizard	Vulnerable	Not Listed	No	Yes	Habitat mapping and rock rolling	120 mins (or >2000 rocks rolled) over at least 4 days per 50 ha of suitable habitat	120 mins (or >2000 rocks rolled) over at least 4 days per 50 ha of suitable habitat – as per approved Threatened Reptile BAM survey guide (DPE 2022) & TBDC	September;October;November	PCTs that lack suitable surface rock (or are within 50m of rocky areas) or are considered degraded would be excluded. TBDC updated to recommended expert repot following preparation of the Revised BDAR.
Burhinus grallarius	Bush Stone-curlew	Endangered	Endangered	No	No	Call playback survey	At least 5 surveys per 200 ha	At least 5 sites per 200 ha andsite stratification as per the Draft Threatened biodiversity survey and assessment guidelines for developments and activities (DEC 2004) utilised for the Revised BDAR	January;February;March;April;May;June;July;August;September;October;November;December	Additional survey to reduce area of assumed presence.
Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Not Listed	No	No	Hollow mapping + seasonal survey where survey is possible during breeding season 10m Lidar utilised for inaccessible land	Total 12 hours over at least four days per 50 ha	Total 12 hours over at least four days per 50 ha. Single species (one species at a time) survey approach to be adopted. Surveys to be undertaken within 4 hours of sunrise within habitats supporting suitable hollows as per the TBDC.	January;October;November;December	PCTs that lack suitable HBTs would be excluded (using 200m buffer to potential nest trees). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data). Survey method approved by Damon Oliver 23/10/24.

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
						Method to identify breeding as per the TBDC should surveys be undertaken during breeding season.				
Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable	Not Listed	No	No	Hollow mapping + seasonal survey where survey is possible during breeding season Survey in accordance with the TBDC 10m Lidar utilised for inaccessible land Method to identify breeding as per the TBDC should surveys be undertaken during	Total 12 hours over at least four days per 50 ha	Hollow mapping + seasonal survey where survey is possible during breeding season Survey in accordance with the TBDC 10m Lidar utilised for inaccessible land	April;May;June;July;August	PCTs that lack suitable HBTs would be excluded (using 200m buffer to potential nest trees). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data). Survey method approved by Damon Oliver 23/10/24.

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
						breeding season.				
Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Endangered	No	No	Camera trap survey in accordancewith the Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft) (NSW DEC 2004)	100 trap nights per 50 ha = 2 trap nights per ha	100 trap nights per 50 ha = 2 trap nights per ha	January;February;March;October;November;December	PCT assessments being undertaken which may result in a review of habitat. For all other species polygons where PCTs remain unchanged, supplementary survey results will be used to revise species polygons. Areas may remain assumed present where surveys unable to be conducted or species ID unable to be confirmed.
Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Listed	No	No	Roost searches as per Species credit' threatened bats and their habitats – NSW guide for the Biodiversity Assessment Method (DPE 2021)	Where potential roosts confirmed: harp trapping for at least 4 nights	Where potential roosts confirmed: harp trapping for at least 4 nights	January;November;December	Potential roost mapping updated following roost searches and harp trapping survey (where required). Potential habitat assessment completed during the BDAR, supplementary survey will further target mapped potential habitat.

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
						Survey in accordance with the TBDC				
Crinia sloanei	Sloane's Froglet	Endangered	Vulnerable	No	No	No survey proposed	N/A	N/A	July;August	
Cyclodomorphus praealtus	Alpine She-oak Skink	Endangered	Endangered	No	No	Habitat mapping and active searches / tussock searches Survey in accordancewith the Threatened reptiles – Biodiversity Assessment Method survey guide for the Alpine She-oak Skink	N/A	120 mins over at least four days (replicates) per 50 ha of suitable habitat	January;February;March;April;October;November;December	Additional survey to reduce area of assumed presence.
Delma impar	Striped Legless Lizard	Endangered	Not Listed	No	No	No survey proposed	N/A	N/A	Species expert report - no further survey	
Haliaeetus leucogaster	White-bellied Sea-eagle	Vulnerable	Not Listed	No	No	No survey proposed	N/A	N/A	January;February;March;April;May;June;July;August;September;October;November;December	

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Listed	No	No	Habitat mapping & stick nest presence, opportunistic diurnal bird surveys targeting preliminary habitat extents in accordance with the TBDC, including if surveys are targeting presence.	Total 12 hours over at least four days per 50 ha	Diurnal bird surveys :Total 12 hours over at least four days per 50 ha. Stick nest observation.	August;September;October	Habitats excluded where stick nests confirmed absent. Where gaps in constraint mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for stick nest data). Supplementary survey is not targeting occupation of stick nests, only presence of the nest. If present, occupation is assumed.
Keyacris scurra	Key's Matchstick Grasshopper	Vulnerable	Not Listed	No	No	No survey proposed	N/A	N/A	Species expert report - no further survey	
Litoria booroolongensis	Booroolong Frog	Vulnerable	Not Listed	No	No	No survey proposed	N/A	N/A	CPHR advice to utilise existing habitat mapping as lack of presence may not equal absence	
Litoria castanea	Yellow-spotted Tree Frog	Not Listed	Vulnerable	Yes	No	Aural visual all habitats, including breeding habitat mapping. Survey in accordance	Total 480 mins over at least 4 days-addressing streams with suitable pools and PCTs	Total 480 mins over at least 4 days-targeting streams with suitable pools and PCTs	November;December	Streams removed where absence of suitable breeding habitat observed

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
						with NSW Survey Guide for Threatened Frogs (2022).				
Lophoictinia isura	Square-tailed Kite	Vulnerable	Not Listed	No	No	Habitat mapping and opportunistic diurnal bird surveys targeting preliminary habitat extents (i.e. before species expert reductions)	Total 12 hours over at least four days per 50 ha	Total 12 hours over at least four days per 50 ha	January;September;October; November;December	Habitats excluded where stick nests confirmed absent. Where gaps in constraint mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for stick nest data). Supplementary survey is not targeting occupation of stick nests, only presence of the nest. If present, occupation is assumed.
Mastacomys fuscus	Broad toothed Rat	Vulnerable	Not Listed	No	No	No survey proposed	N/A	N/A	October;November;December;January;February;March;April;May	
Mixophyes balbus	Stuttering Frog	Endangered	Not Listed	Yes	No	Aural visual survey across all mapped habitats, including breeding habitat mapping	Total 480 mins over at least 4 days- all streams with suitable PCTs	Total 480 mins over at least 4 days- all streams within suitable PCTs in accordance with Frog survey guidelines.	January;February;March;September; October;November;December	Streams removed where absence of suitable breeding habitats

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						Survey in accordance with NSW Survey Guide for Threatened Frogs (2022).				
Myotis macropus	Southern Myotis	Vulnerable	Vulnerable	No	No	No survey proposed	N/A	N/A	October;November;December;January;February;March	
Ninox connivens	Barking Owl	Vulnerable	Not Listed	No	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 5 surveys per 200 ha	At least 5 surveys per 200 ha	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBTS). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).
Ninox strenua	Powerful Owl	Vulnerable	Not Listed	No	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 5 surveys per 200 ha	At least 5 surveys per 200 ha	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBTS). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).

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Petauroides volans	Southern Greater Glider	Vulnerable	Vulnerable	No	No	No survey proposed	N/A	N/A	Severely burnt lands – no survey	
Petaurus australis (Bago)	Yellow-bellied Glider population on the Bago Plateau	Vulnerable	Not Listed	No	No	No survey proposed	N/A	N/A	Severely burnt lands – no survey	
Petaurus norfolcensis	Squirrel Glider	Critically Endangered	Endangered	No	No	No survey proposed	N/A	N/A	Severely burnt lands – no survey	
Petaurus norfolcensis	Squirrel Glider in the Wagga Wagga City Local Government Area	Endangered	Critically Endangered	No	No	No survey proposed	N/A	N/A	Severely burnt lands – no survey	
Petroica rodinogaster	Pink Robin	Critically Endangered	Endangered	No	No	Diurnal survey - Bird 2 ha search	Total 12 hours over at least four days per 50 ha	Total 12 hours over at least four days per 50 ha	January;February;March;April;May;June;July;August;September;October;November;December	Additional survey to reduce area of assumed presence. Breeding is not proposed to be surveyed. Stratification of suitable habitats was undertaken for the Revised BDAR. Where degraded habitats are noted

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
										during supplementary field verification, these habitats will be removed. Spatial spread of surveys will be reported in the Verification Report.
Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Listed	No	No	Camera trap survey	N/A	Approximately 141 cameras will be distributed evenly across the 88 hectares of targeted habitat (Dry Sclerophyll Forest PCTs only) with each camera deployed for a minimum period of 21 to 49 days and rebaiting of cameras occurring at least every 14 days. A total survey effort of 4977 trap nights is estimated. Consultation has occurred with CPHR on this method, last correspondence 26/3/25.	January;February;March;April;May;June;December	Additional survey to reduce area of assumed presence.
Phascolarctos cinereus	Koala	Vulnerable	Not Listed	No	Yes	Review Koala habitats to identify unlikely habitats based on review of NSW Koala Baseline Likelihood Map 2016, connectivity assessment as per the Koala survey guidelines and	At least 8 SAT surveys AND 20 x 200m spotlighting transects per 50 ha of suitable habitat	In accordance with the Koala survey guidelines (using 250m grid for continuous habitats): At least 8 SATs per 50 ha AND 2 SM4 units for first 100ha (or 1 unit/25ha for habitats less than 50 ha) plus additional unit for every additional 200 ha.	January;February;March;April;May;June;July;August;September;October;November;December	Koala habitat suitability analysis underway incorporating consideration of NSW Koala Baseline Likelihood Map 2016, connectivity assessment as per the Koala survey guidelines and presence/ absence of Koala use/ food trees. Regarding scattered trees - The scattered trees throughout the alignment are all situated within 500m of adjacent remnants therefore the extent of these zones and application of the 250m/150m grid and small

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
						presence/ absence of Koala use/ food trees. Survey of all likely koala habitats in accordance with the Koala survey guidelines using SAT surveys AND Acoustic recorders (SM4s)				discrete patches assessment is not required. All Koala habitat within the HumeLink Project footprint meets the definition of continuous habitat according to Page 3 of the Koala guidelines.
Polytelis swainsonii	Superb Parrot	Vulnerable	Vulnerable	No	No	Hollow mapping and diurnal survey-Bird 2 ha search.	Total 12 hours over at least four days per 50 ha	Total 12 hours over at least four days per 50 ha. Single species survey approach to be adopted. Surveys to be undertaken within 4 hours of sunrise within habitats supporting suitable hollows.	September;October;November	PCTs that lack suitable HBTs would be excluded (using 100m buffer to suitable HBTS). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).
Pseudomys fumeus	Smoky Mouse	*Vulnerable*	*Vulnerable*	*Yes*	*No*	*Elliot trap lines with supplementary white-light cameras*	*100 trap nights per 50 ha = 2 trap nights per ha*	*100 Elliot trap nights per 50 ha = 2 trap nights per ha . – 25 traps per line.* *Additional opportunistic cameras upon CPHR*	*February;March;April;September;October;November;December*	*Additional survey to reduce area of assumed presence.*

Scientific Name	Common Name	BC Act - Conservation Status	EPBC Act - Conservation Status	SAII	MNES Likely SIA	Survey approach	Revised BDAR adopted survey effort	Survey effort proposed	BAM Survey months	Details
								recommendation 15 Nove 2023 were utilised.		
Synemon plana	Golden Sun Moth	Vulnerable	Endangered	No	No	No survey proposed	N/A	N/A	Species expert report - no further survey	
Tyto novaehollandiae	Masked Owl	Vulnerable	Not Listed	No	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 8 surveys per 200 ha	At least 8 surveys per 200 ha	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBTS). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).
Tyto tenebricosa	Sooty Owl	Vulnerable	Not Listed	Yes	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 6 call playback stations per 200 ha	As per Revised BDAR survey effort. At least 6 call playback stations per 200 ha in accordance with working draft survey guideline. This survey effort would also address updated TBDC requirement of 10 call playback stations per 1000ha of suitable habitat.	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBT's – pers comm Damon Oliver 18 December 24). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).

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Phascolarctos cinereus	Koala	Vulnerable	Not Listed	No	Yes	Review Koala habitats to identify unlikely habitats based on review of NSW Koala Baseline Likelihood Map 2016, connectivity assessment as per the Koala survey guidelines and presence/ absence of Koala use/ food trees. Survey of all likely koala habitats in accordance with the Koala survey guidelines using SAT surveys AND Acoustic recorders (SM4s)	At least 8 SAT surveys AND 20 x 200m spotlighting transects per 50 ha of suitable habitat	In accordance with the Koala survey guidelines (using 250m grid for continuous habitats): At least 8 SATs per 50 ha AND 2 SM4 units for first 100ha (or 1 unit/25ha for habitats less than 50 ha) plus additional unit for every additional 200 ha.	January;February;March;April;May;June;July;August;September;October;November;December	Koala habitat suitability analysis underway incorporating consideration of NSW Koala Baseline Likelihood Map 2016, connectivity assessment as per the Koala survey guidelines and presence/ absence of Koala use/ food trees. Unlikely habitats identified and issued to CPHR to confirm these can be excluded from consideration.

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Polytelis swainsonii	Superb Parrot	Vulnerable	Vulnerable	No	No	Hollow mapping and diurnal survey- Bird 2 ha search.	Total 12 hours over at least four days per 50 ha	Total 12 hours over at least four days per 50 ha. Single species survey approach to be adopted. Surveys to be undertaken within 4 hours of sunrise within habitats supporting suitable hollows.	September;October;November	PCTs that lack suitable HBTs would be excluded (using 100m buffer to suitable HBTS). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).
Pseudomys fumeus	Smoky Mouse	Vulnerable	Vulnerable	Yes	No	Elliot trap lines with supplementary white-light cameras	100 trap nights per 50 ha = 2 trap nights per ha	100 Elliot trap nights per 50 ha = 2 trap nights per ha . – 25 traps per line. Additional opportunistic cameras upon CPHR (15 Nov 2023 – Linda Broome) recommendation were utilised.	February;March;April;September;October;November;December	Additional survey to reduce level of assumed presence only.
Synemon plana	Golden Sun Moth	Vulnerable	Endangered	No	No	No survey proposed	N/A	N/A	Species expert report - no further survey	
Tyto novaehollandiae	Masked Owl	Vulnerable	Not Listed	No	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 8 surveys per 200 ha	At least 8 surveys per 200 ha	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBTS - pers comm Damon Oliver 18 Dec 2024). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).

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Tyto tenebricosa	Sooty Owl	Vulnerable	Not Listed	Yes	No	Constraint mapping and call playback survey targeting preliminary habitat extents (i.e. before species expert reductions)	At least 6 call playback stations per 200 ha	As per Revised BDAR survey effort. At least 6 call playback stations per 200 ha in accordance with working draft survey guideline. This survey effort would also address updated TBDC requirement of 10 call playback stations per 1000ha of suitable habitat.	January;February;March;April;May;June;July;August;September;October;November;December	PCTs that lack suitable HBTs would be excluded (using 300m buffer to suitable HBTS pers comm Damon Oliver 18 Dec 2024). Where gaps in HBT mapping cannot be addressed due to land access constraints, no changes to the species polygon are proposed (i.e. LiDAR mapping still to be used as surrogate for HBT data).