

Appendix A

Correspondence with BCS

Our ref: 146088

Unit 2A, 45 Fitzroy Street
Carrington NSW 2294
T +61 2 4940 4200

Date: 06 April 2022

To whom it may concern,

Angus Place West Project

This letter concerns an upcoming application for a new SSD consent (SSD-26254212) to enable Angus Place to extract coal from the western portion of its existing Mining Lease and allow for continuance of mining beyond 18 August 2024, which is the current expiry for the existing approval. The new approval will involve first-workings mining adjacent to existing approved mining areas and continued use of Angus Place's pit-top (**Figure 1**). A Biodiversity Development Assessment Report (BDAR) is currently being prepared by RPS to accompany the application.

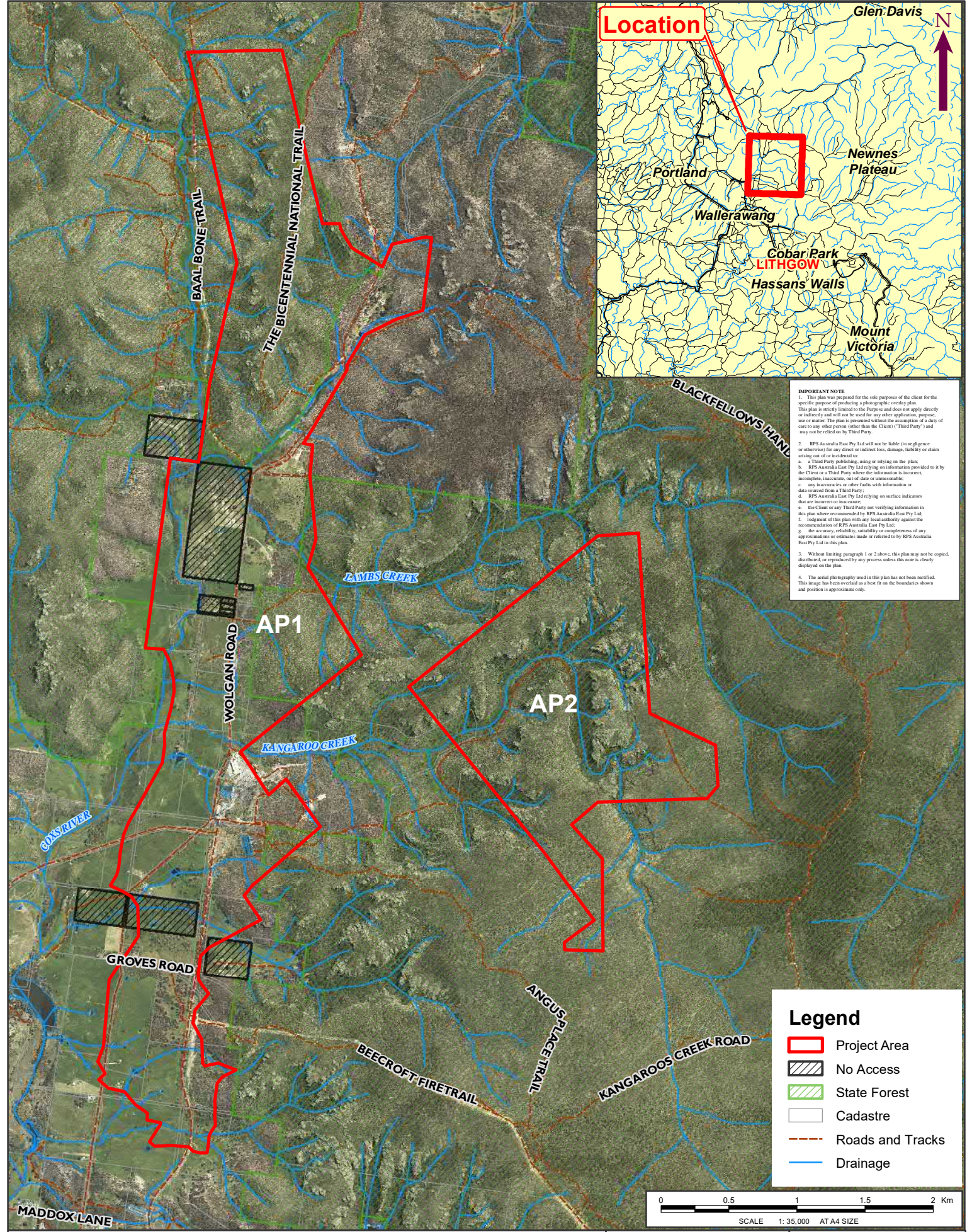
There are two matters we are seeking resolution from Biodiversity Conservation Division (BCD). Firstly, the applicability of threatened flora and fauna surveys undertaken in areas recovered from the 2019/2020 bushfires. Secondly, some plant community types (PCTs) that apply to the Project Area and hence were selected within the BAM Case in the BAM Calculator in June 2021 are now showing an error. We are enquiring about this error, as it is our understanding that since a BAM case commenced well before the introduction of the recent revision of the east coast PCTs, they should be still current for our assessment.

Matter 1: Threatened flora and fauna surveys

As the majority of the Project Area was severely burnt during the 2019-2020 bushfires, the *Guideline for applying the Biodiversity Assessment Method at severely burnt sites: Biodiversity Development Assessment Report/Biodiversity Certification Assessment Report* was applied (State of NSW and DPIE 2020; hereafter referred to as the Guideline). That is, much of the eastern portion of the Project Area, which is located entirely within the Newnes State Forest (APW2) was subject to bushfire, with fire severity typically increasing toward the ridgetops. The western portion of the Project Area (APW1) primarily experienced intense fire within Ben Bullen State Forest and the eastern boundary where it coincides with Newnes State Forest. There were patches of bushland on the valley flats in APW1 that did not burn, which were primarily located on private properties.

Since the commencement of the biodiversity assessment (June 2020), considerable rehabilitation has occurred to the extent that some vegetation zones may no longer be considered severely burnt. This letter is seeking agreement with BCD to recognise that recently undertaken surveys in swamp meadow habitat, which had largely recovered from the recent bushfire, are considered acceptable for testing for presence/absence of Candidate species and measuring vegetation integrity within the respective vegetation zone. In particular, this letter concerns PCT 1256 Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands Bioregion (Zone 12 within the BDAR), which was largely unimpacted by the 2019/2020 fire. As over two years has passed since the fire, considerable rehabilitation has occurred, so that in our professional judgement, we believe that recent surveys in this vegetation zone should be considered representative. Surveys recently undertaken were BAM plots and select targeted threatened flora and fauna surveys, which are detailed below.

Below we provide evidence of the condition of vegetation in PCT 1256 within the Project Area, as documented in December 2021. We then present the threatened flora and fauna surveys that have been undertaken in that vegetation community to date, requesting that this survey effort is considered sufficient for testing for presence/ absence of candidate species within the BDAR. The extent of PCT 1256 is displayed in **Figure 2**.



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Legend

- Project Area
- No Access
- State Forest
- Cadastre
- Roads and Tracks
- Drainage

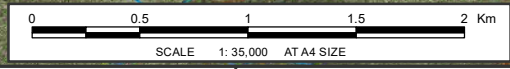
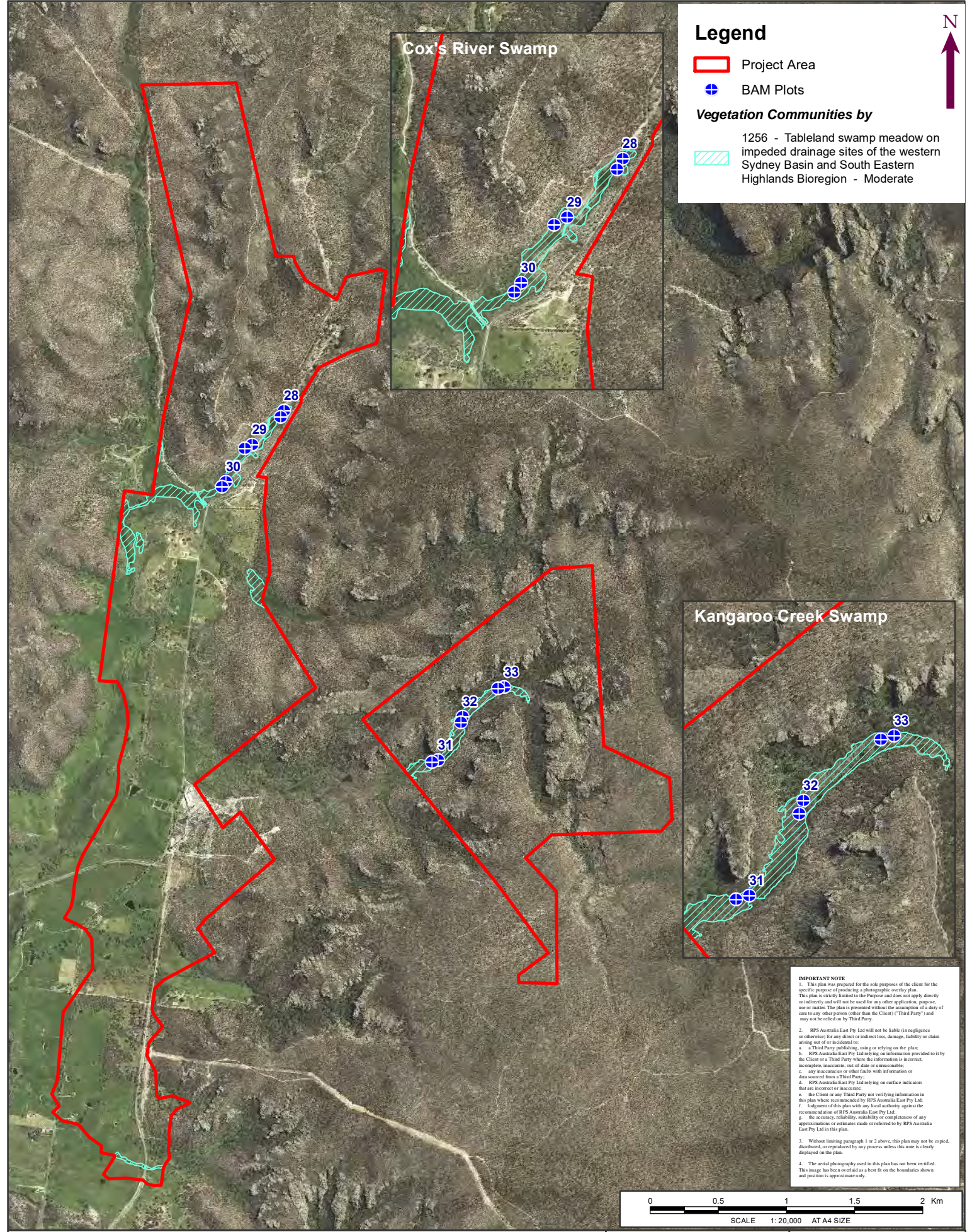


FIGURE 1: PROJECT AREA LOCATION

LOCATION: ANGUS PLACE	DATUM: GDA2020 PROJECTION: GDA2020 MGA Zone 56
JOB NO.: 146088	Data Sources: RPS, Client Land and Property 2020 Aerial Flown Nov2020
PURPOSE: LETTER TO BCD	
Technician: Natalie Wood	Date: 6/04/2022

Path: S:\Centennial\All Jobs\146088 Angus Place West Eco Assess\10 - Drafting\Arcgis Map Documents\Eco\Letter to BCD\146088 Figure 1.1 PA Location_AA4P_20220406.mxd



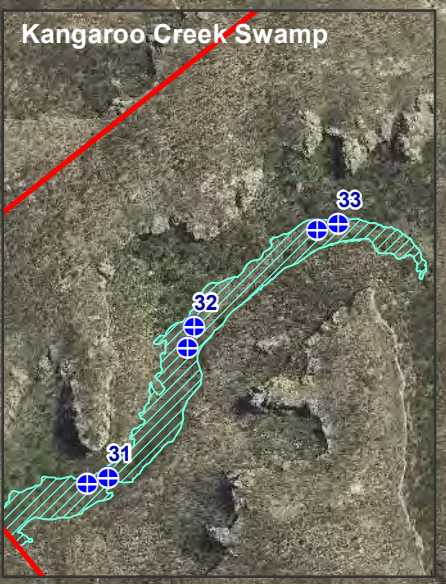
Legend

Project Area

⊕ BAM Plots

Vegetation Communities by

1256 - Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands Bioregion - Moderate



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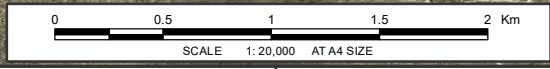


FIGURE 2: PCT 1256 WITHIN PROJECT AREA	LOCATION:	DATUM: GDA2020	
		ANGUS PLACE	PROJECTION: GDA2020 MGA Zone 56
	JOB NO.: 146088	Data Sources:	RPS, Client
	PURPOSE: LETTER TO BCD	Land and Property 2020	Aerial Flown Nov2020
	Technician: Natalie Wood	Date: 6/04/2022	

Condition of Zone 12: PCT 1256 Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands Bioregion

As per the Guideline, the extent of native vegetation burn severity within PCT 1256 was assessed according to **Table 1**. This assessment revealed that Zone 12: PCT 1256 was generally inconsistent with the description in **Table 1**, and so is no longer considered to be severely burnt.

Table 1 Decision support criteria to help evaluate if native vegetation is severely burnt (modified from Keeley 2009)

Feature	Descriptive characteristics for severely burnt vegetation	PCT 1256
Species richness	The range of species present before the fire are burnt and/or cannot be identified. Dominant species cannot be easily identified until regeneration occurs.	No. Groundcover (i.e. grasses/graminoids, forbs and shorter shrubs) were largely unburnt, particularly away from edges and in portions of the swamp that were saturated by water. Fire impacts primarily occurred to taller shrubs (mostly <i>Leptospermum obovatum</i> and <i>Leptospermum morrisonii</i>). Nevertheless, through the course of the assessment, much recovery allowed even these burnt shrubs to be identifiable.
Growth form: Canopy trees	Canopy trees are killed and/or canopy is consumed or largely consumed with most leaf material charred/scorched. Epicormic growth, if present, is not well developed (<1m long).	NA. There were some <i>Eucalyptus aggregata</i> in Cox's River Swamp and <i>Acacia melanoxyton</i> in Kangaroo creek that were killed/largely consumed. However, trees do not typically occur in this vegetation community, with 0% tree cover assigned within the benchmarks for this community, so loss of some trees is considered negligible on the habitat use by swamp-associated threatened species.
Growth form: All understory shrubs, forbs, ferns and other	All understory plants are consumed or largely consumed (some charred). Re-growth, if present, is immature (very few species have attained full height).	No. Much of the understory vegetation (sedges and forbs) were either not severely burnt or had mostly recovered over the assessment period. Only the tall shrub layer was typically impacted by fire, however regrowth occurred over the period to the extent that these species were identifiable. That is, much of the burnt shrubs were <i>Leptospermum sp.</i> (mostly <i>Leptospermum obovatum</i> and <i>Leptospermum morrisonii</i>). Regrowth of these shrubs has progressed over the assessment period. Nevertheless, where burnt, much of the <i>Leptospermum sp.</i> still stand, allowing pre-burn cover/abundance to be assessed.
Growth form: Ground cover	Ground cover is consumed, or grasses and largely consumed. Evidence of grass-like ground scorch is present. Re-growth, if present, consists predominately of new re-sprouting growth (native vegetation).	Partial. Grasses and grass-like vegetation were primarily burnt to varying degrees toward the edges and retained in water-saturated areas of the swamps. Since the fire however, regrowth of native ground cover has substantially occurred where it was burnt, so that no scorch is now evident, and regrowth is well established (i.e. no longer considered new growth).
Logs	Logs (if expected to have been previously on site) are absent or largely consumed.	Partial. Most logs within PCT 1256 were burnt to varying degrees, with many absent or consumed. However, fallen logs were also contributed from the fire, particularly toward the edge of the swamps. However, logs are not considered within benchmarks for this community.

Feature	Descriptive characteristics for severely burnt vegetation	PCT 1256
Litter cover	<p>Pre-fire surface litter (if expected) is consumed. Soil organic layer is consumed or largely consumed. New leaf may be occurring where the canopy was burnt but not scorched.</p>	<p>Partial. Surface litter was patchily impacted for PCT 1256. Surface litter and peat typically burnt more toward swamp margins. However, much of the leaf litter has recovered over the course of the assessment.</p>
Ash	<p>White ash deposition and charred organic matter is present to several centimetres depth.</p>	<p>No. This vegetation type was largely exempt from ash deposits, apart from the very edge of the swamps immediately following the fire. Nevertheless, ash is no longer present as regeneration has progressed through the assessment phase.</p>

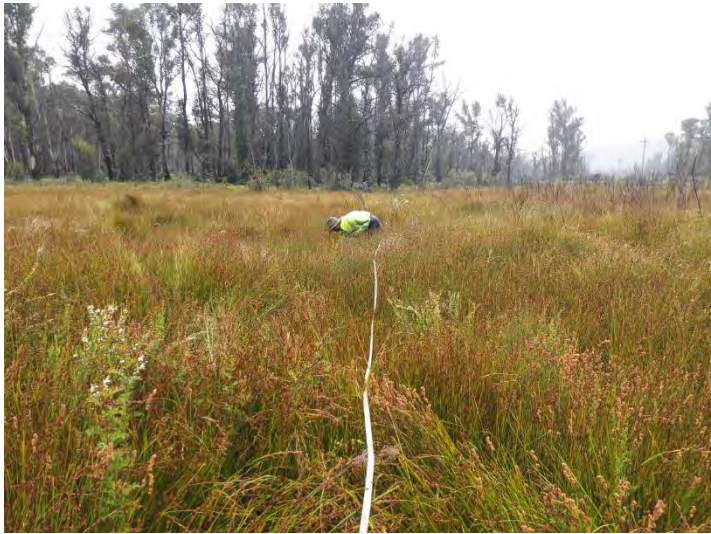
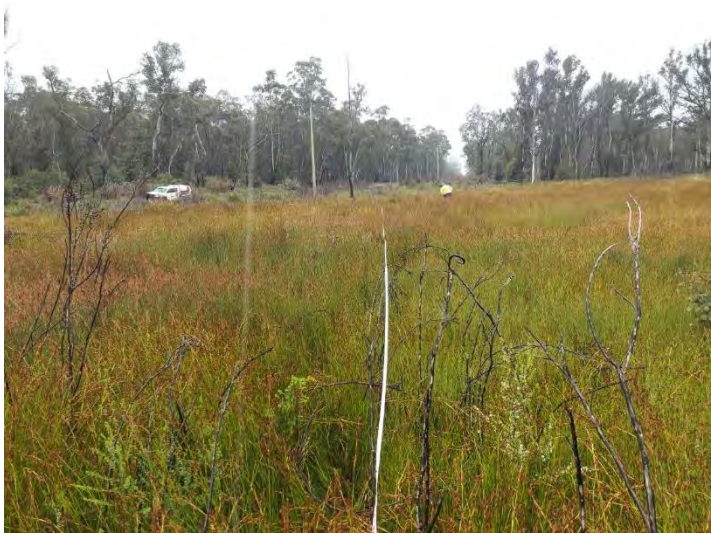
Photographic evidence to show the recent condition state of PCT 1256 are provided in **Table 2**. These photos were taken at the start and end points throughout this vegetation zone in December 2021. Locations of BAM plots are shown in **Figure 2**.

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Table 2 Photographs of Start and End points of BAM plots undertaken in PCT 1256 in December 2021

Plot	Bearing	PCT	Start	Photograph	End
28	4.35	1256			



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Plot	Bearing	PCT	Start	Photograph	End
29	179.54	1256			
30	43.46	1256			

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Plot	Bearing	PCT	Start	Photograph	End
31	270.19	1256			
32	150.12	1256			

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Plot	Bearing	PCT	Start	Photograph	End
33	39.11	1256			

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Threatened species surveys

Due to the uncertain impacts of the Project on PCT 1256, and recovery of this community over approximately two years since the 2019/2020 bushfire, it was considered important to undertake surveys for a select range of swamp-associated threatened species. **Tables 3 and 4** summarise the species surveyed for and the timing of these surveys since the fire.

Table 3 Targeted surveys for threatened flora within PCT 1256

Species	Timing	Time since 2019/2020 bushfire
<i>Eucalyptus aggregata</i> (Black Gum)	November 2021 December 2021	22 Months
<i>Boronia deanei</i>	November 2021 December 2021	22 Months
<i>Carex klaphakei</i>	December 2021	23 Months
<i>Veronica blakelyi</i>	November 2021 December 2021	22/ 23 Months
<i>Xerochrysum palustre</i> (Swamp Everlasting)	November 2021 December 2021	22/ 23 Months

Table 4 Targeted surveys for threatened fauna species within PCT 1256

Species	Timing	Time since 2019/2020 bushfire
Giant Burrowing Frog (<i>Heleioporus australiacus</i>)	November 2021 March 2022	22/ 26 Months
Littlejohn's Tree Frog (<i>Litoria littlejohni</i>)	November 2021 March 2022	22/ 26 Months
Stuttering Frog (<i>Mixophes balbus</i>)	November 2021 March 2022	22/ 26 Months
Blue Mountains Water Skink (<i>Eulamprus leuraensis</i>)	February 2022	25 Months
Giant Dragonfly (<i>Petalura gigantea</i>)	December 2021	23 Months

Matter 1: Query for BCD

Centennial seeks to gain agreement from BCD for the survey efforts undertaken for swamp-associated flora and fauna undertaken recently (November 2021 to March 2022) in PCT 1256. Through an assessment of the state of vegetation condition undertaken at the time of these surveys, we believe this vegetation zone is no longer considered severely burnt based on the definition in the *Biodiversity Assessment Method at severely burnt sites: Biodiversity Development Assessment Report/Biodiversity Certification Assessment Report*. As such, it is our opinion that the targeted surveys for threatened species are representative and valid means for testing for species presence/absence within the respective BDAR.

Matter 2: Plant community types within Project Area

The biodiversity assessment for Angus Place West commenced in June 2020. At this time, PCTs were selected according to searches within BCD's BioNet Vegetation Classification tool. The Western Blue Mountains Vegetation Mapping (DEC 2006¹) was used as a base map to inform selection of PCTs and extents of vegetation zones.

Following ground-truthing of vegetation mapping through June 2020 to May 2021 (with minor adjustments following progression of recovery from the 2019/2020 bushfire), the BDAR was drafted based on the best-fit PCTs at that time. As such, these selected PCTs were entered into the BAM Calculator (BAM-C), with the first case commencing in March 2021. Two more recent cases created in June 2021, following advice from BCD to create one for each of the two IBRA subregions within the Project Area (i.e. Wollombi and Capertee Uplands IBRA subregions).

The PCTs selected for the Project Area were:

- 335 - Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion;
- 677 - Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands;
- 708 - Blue Mountains Mallee Ash - Dwarf Casuarina heath of the upper Blue Mountains, Sydney Basin;
- 797 - Derived grassland of the South Eastern Highlands Bioregion and South East Corner Bioregion;
- 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands;
- 1100 - Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands;
- 1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion;
- 1197 - Snow Gum - Mountain Gum tussock grass-herb forest of the South Eastern Highlands;
- 1247 - Sydney Peppermint - Narrow-leaved Peppermint shrubby open forest on sheltered slopes of the Newnes Plateau, Sydney Basin;
- 1248 - Sydney Peppermint - Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin; and
- 1256 - Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands Bioregion.

In March 2022, the BAM cases created for the Project were re-opened to check for recent updates. Upon re-opening these BAM cases, the following PCTs were marked as invalid:

- 677 - Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands; and
- 1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion.

¹ Department of Environment and Conservation NSW [DEC] (2006). The Vegetation of the Western Blue Mountains including the Capertee, Coxs, Jenolan and Gurnang Areas. Volume 1: Technical report.

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Screenshots of these errors in BAM-C provided below:

Plant community type *	Plant community type *
677 - Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands Bioregion	1191 - Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion
Invalid PCT! Please update.	Invalid PCT! Please update.

Matter 2: Query for BCD

It is understood that a major review of PCTs in eastern NSW was recently undertaken by BCD. Does this explain the errors raised in the BAM-C associated with PCTs 677 and 1191 (as per above)? As per Questions and Answers for BAM Support Webinar 24, transitional arrangements should allow for in-progress cases to apply legacy data. Moreover, within the BioNet Vegetation Classification System, the status of PCTs 677 and 1191 is Approved and Tool ready (as of 29 March 2022; screenshots below).

PCTID : 677	VCAID : 0	PCT Name : Black Gum grassy woodland of damp flats and drainage lines of the eastern Southern Tablelands, South Eastern Highlands Bioregion	
Classification Type : Qualitative			
PCT Definition Status : Approved	PCT Benchmark Calculation level : Class/IBRA Status : 1 out of 1 IBRA regions Approved		
PCT % Cleared Status : Approved	PCT Threatened Ecological Communities Association Status : 15/04/2020		Tool Ready : Yes
Classification confidence level : 5 Very Low		Authority : PADACS - archive	

PCTID : 1191	VCAID : 0	PCT Name : Snow Gum - Candle Bark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion	
Classification Type : Qualitative			
PCT Definition Status : Approved	PCT Benchmark Calculation level : Class/IBRA Status : 5 out of 5 IBRA regions Approved		
PCT % Cleared Status : Approved	PCT Threatened Ecological Communities Association Status : 15/04/2020		Tool Ready : Yes
Classification confidence level : 5 Very Low		Authority : PADACS - archive	

We request BCD to advise us if we should continue with these PCTs in BAM-C under the transitional arrangement, even though an error is showing? If so, can the case still be lodged even with an error showing?

We look forward to your response and in the meantime, please do not hesitate to contact me.

Yours sincerely,
for RPS Australia East Pty Ltd



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Dear Hayden

Angus Place West Project – Threatened Species Surveys

Thank you for your e-mail dated 7 April 2022 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning and Environment (DPE) seeking comment and agreement that RPS's recent survey undertaken at the proposed Angus Place West site, in previously burnt habitat, is acceptable for the purpose of:

- Assessing vegetation integrity of PCT 1256 *Tableland swamp meadow on impeded drainage sites of the western Sydney Basin and South Eastern Highlands Bioregion* (Cox's River and Kangaroo Creek Swamps); and
- Determining the presence/absence of threatened species via targeted survey within PCT 1256

Based on the information provided, BCS agree that the swamp meadow habitat is no longer severely burnt. As such, BAM plot surveys undertaken within this area could be considered representative of vegetation condition. BCS also agree that, for the candidate species identified, targeted survey in the swamp meadow habitat can also be considered a relevant step for determining presence/absence.

RPS's memo outlining their request for BCS also states the following:

"We then present the threatened flora and fauna surveys that have been undertaken in that vegetation community to date, requesting that this survey effort is considered sufficient for testing for presence/ absence of candidate species within the BDAR".

The accredited assessor should note that this response does not include comment or agreement on the adequacy of targeted survey effort or methods undertaken by RPS, as limited detail has been provided in the memo regarding the targeted survey undertaken.

Habitat suitability assessments will require conformance with the steps outlined in Section 5 of the *Biodiversity Assessment Method 2020* (BAM 2020) and with the minimum requirements detailed within relevant survey guidelines and species databases. This information will be reviewed by BCS during the submission of the BDAR for the proposed Angus Place West project.

It is noted that both that the Cox's River and Kangaroo Creek swamps contain a high number and diversity of threatened species records. In accordance with Section 4 of the BAM Operational Manual Stage 1, if there are existing records of a species on the subject land, and the current survey does not detect the species (or the population has changed), then comprehensive evidence to justify the change should be provided in the BDAR.

It is understood from a phone conversation held between Ben Ellis of BCS and Hayden Beck of RPS on 4 May 2022 that the additional matter referenced in RPS's memo regarding errors showing within the BAM-C have since been resolved.

From review of RPSs memo, it is understood that prescribed impacts to aquatic habitat that sustains threatened entities may result from the proposed development, in accordance with Section 8.3.4 of the BAM 2020. As such, advice has been provided below for the convenience of the accredited assessor when assessing the prescribed impacts of the proposal.

Residual Prescribed Impacts within the BAM 2020

Prescribed impacts can be difficult to quantify as they may result in discrete impacts, spatially undefined impacts, ecological regime shifts and/or impact cascades over time. Consequently, avoiding or minimising such impacts is critical and will likely be a key consideration for the consent authority in determining conditions of approval for relevant proposals.

If avoidance and mitigation measures are not applicable or will not result in the complete reduction of prescribed impacts occurring, the assessor and proponent will need to consider options to compensate for unavoidable residual prescribed impacts.

The BAM-C does not calculate biodiversity credits to offset a prescribed impact. However, the consent authority has the discretion to increase the number of biodiversity credits to be retired (or other conservation measures to be undertaken), under a planning approval.

In accordance with Section 8.3.4.1 of the BAM 2020, where a proposed impact is in relation to longwall mining, an accredited assessor must calculate the maximum predicted offset liability as per the *Addendum to NSW Biodiversity Offsets Policy for Major Projects: upland swamps impacted by longwall mining subsidence*, using predictions of impacts on water-dependant plant communities and the threatened species they support

The assessment and calculation of the predicted offset obligation for any prescribed impacts must be presented prior to project determination and any impact occurring, in accordance with Section 7.14 of the *Biodiversity Conservation Act 2016*. The purpose of this requirement is to ensure:

- Commitments to proposed mitigation measures are described and can be captured in the projects consent conditions; and
- The total offset obligation can be embedded in the project approval

It is recommended that the proponent and assessor consult with BCS during the assessment process on prescribed impact assessment and calculation, when required.

If you require any further information regarding this matter, please contact Ben Ellis, Principal Project Officer, via ben.ellis@environment.nsw.gov.au or (02) 8275 1838.

Yours sincerely



Samantha Wynn
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

9 May 2022

Appendix B Staff Qualifications



Dr Hayden Beck

Senior Ecologist

Role at RPS

Senior Ecologist

Location

Newcastle, NSW, Australia

Qualifications

BSc (Mar Sc); BEnvSc (Hons); MSc (Res); PhD

BAM Accredited Assessor (BAAS19000)

AUSRIVAS Macroinvertebrate Bioassessment Training

Contaminated Site Assessment, Remediation and Management (CSARM) short course, UTS4X4 driving Certificate

White Card

Rail Industry Safety Induction – RISI

Memberships

Ecological Consultants Association of NSW (Practicing Member)

Why Hayden for this role

Hayden specialises in terrestrial, aquatic and marine ecology. As an Ecologist at RPS, Hayden undertakes fieldwork and prepares reports for diverse projects, including the mining and housing sectors.

Being a Biodiversity Assessment Method (BAM) Accredited Assessor, Hayden has considerable experience preparing Biodiversity Assessment Reports under the NSW *Biodiversity Conservation Act 2016*.

Relevant projects

Addition of LW34 (MOD 10), Mandalong Coal Mine, Centennial Coal, 2021

Hayden prepared a Biodiversity Development Assessment Report (BDAR) to determine the offset liability for modification to this State Significant Development (SSD). This project involved assessing potential impacts associated with the extraction of an additional longwall in response to a mine redesign. Preparation of this report involved collating multiple years of field data and specialist reports to assess impacts on biodiversity values.

Upgrade of water treatment system (MOD 4), Western Coal Services, Centennial Coal, 2021

Hayden prepared a BDAR to determine the offset liability for modification to this SSD. This project involved assessing potential impacts associated with the clearing of native vegetation required to upgrade water treatment and transfer pipeline for mine water associated with nearby collieries. Preparation of this report involved managing and assisting collection field data over a two year period.

33kV Power Easement for Mandalong Coal Mine, Centennial Coal, 2019

Hayden prepared a BDAR to determine the offset liability for this modification to this SSD. This project extended 7.6km easement will extent through multiple Plant Communities. Preparation of this report involved collating multiple years of field data and specialist reports to assess impacts on biodiversity values. As part of this project, Hayden supported the lodgement an EPBC Act referral due to uncertain impacts on threatened flora.

LW22-24a and LW 25-31 Mandalong Coal Mine, Centennial Coal, 2019 - 2022

Hayden organises annual monitoring of sensitive ecological communities, as well as frogs, to detect impacts of longwall mining. As a project manager, he coordinates teams of up to six ecologists to undertake surveys across a vast area.

Relevant projects

Woolooga Solar Farm, Lightsource BP, 2020 - 2021

Hayden prepared Preliminary Documentation to assist with Commonwealth assessment for a proposed solar farm in Woolooga, QLD. Preparation of this report involved collating several specialist reports to assess impacts on biodiversity values. As part of this project, Hayden also prepared a Biodiversity Management Plan (BMP) and Offset Management Plan (OMP).

Fernleigh Track Extension REF and EIS, Lake Macquarie City Council, 2021

RPS was engaged for a Review of Environmental Factors (REF) and Environmental Impact Statement (EIS) for the Fernleigh Awabakal Shared Track (FAST) Extension from Belmont to Blacksmiths. Hayden provided ecological advice including Fauna trapping and aquatic ecology.

Jemalong Solar Farm, Genex Power Pty Ltd, 2019

Hayden prepared an EPBC Act referral document for a proposed Solar Farm (SSD) in Jemalong, NSW. This Project involved assessing impacts of removing hollow-bearing trees on Swift Parrot and Corben's Long-eared Bat.

Basalt Quarry, Boral, 2019

Hayden undertook a feasibility assessment for a proposed basalt mine at North Star, NSW. This project involved undertaking flora surveys across Semi-evergreen Vine Thicket EEC to determine the offset liability to develop the site. Three extraction options were assessed. Involvement included fieldwork, preparation of a report and presentation to the client.

NBN tower Installation, Vision Stream, 2019

Hayden prepared a BDAR to determine the offset liability for an infrastructure Project at Tallong, NSW. Impacts to ecosystems and threatened species were assessed for the installation of an access track, NBN tower and associated facilities.

Newcastle Light Rail (NLR) Project, Downer, 2019

Hayden prepared the ecological sections of an Infrastructure sustainability rating (ISCA) application for the 'As Built' stage of the NLR Project

Tikitere Quarry, SMK Consultants, 2017

Hayden assisted the ecological assessment of a basalt quarry at North Star, NSW. Tasks included fieldwork and assistance with reporting.

Concrete Batch Plant at Bushells Ridge, Advision, 2017

Hayden prepared a Flora and Fauna impact assessment for the proposed establishment of a concrete batch plant. This facility is currently being used to facilitate widening of the M1. This project involved several survey efforts targeting multiple threatened flora and fauna species, including a critically endangered orchid that was found on site.

Roads and Maritime Services, Road Upgrade Projects, 2016 to 2018

Hayden undertook Biodiversity Assessments for 15 road projects. Examples include:

- Widening of Golden Highway, Castlereagh Junction to Dunedoo;
- Shoulder Widening, Golden Highway (Segments 240 to 260), Denman;
- Culvert rehabilitation (23 sites): Old Pacific Highway, Kariong to Mooney;
- Manns Road Upgrade, West Gosford; and
- Drainage Upgrades to M1, Mt Pleasant, Roads and Maritime Services.

Dungog Council, Road Upgrade Projects, 2016

Hayden undertook Biodiversity Assessments and preclearance surveys for two road projects in Dungog Shire Council LGA.



Mark Aitkens

Principal Ecologist

Role at RPS

Principal Ecologist

Location

Newcastle, NSW, Australia

Qualifications

Bachelor of Science
(Environmental Biology),
University of Technology
Sydney (UTS)

Accredited Biodiversity
Assessment Method
Assessor under Section
6.10 of the *Biodiversity
Conservation Act 2016*

Rail Industry Safety
Induction - RISI

Memberships

Ecological Society of
Australia

Why Mark for this role

Mark is a Principal Ecologist with 25 years' experience in the delivery of terrestrial and aquatic ecology services to the private and public sectors. Mark is accredited to perform assessments in accordance with the Biodiversity Assessment Methodology (BAM) and has conducted a range of BBAM and BAM assessments for State Significant Infrastructure and State Significant Developments. He is also experienced in the application of the EPBC Act preparation of EPBC Act offset calculations.

Mark is experienced in all aspects of project delivery including design and implementation of seasonally based flora and fauna surveys, identification of terrestrial and aquatic species and ecological communities, impact assessments, and design and implementation of monitoring programs.

Relevant projects

Fernleigh Awabakal Track Extension REF and EIS, Lake Macquarie City Council, 2020 - 2021

RPS was engaged for a Review of Environmental Factors (REF) and Environmental Impact Statement (EIS) for the Fernleigh Awabakal Shared Track (FAST) Extension from Belmont to Blacksmiths. Mark oversaw ecological field work requirements and preparation of biodiversity assessment documentation for the project including the preparation of a Biodiversity Development Assessment Report. This report informed an overarching Review of Environmental Factors, which aimed to avoid, minimise and mitigate impacts upon local biodiversity in the Lake Macquarie Local Government Area.

Medlow Bath upgrade, Transport for NSW (TfNSW), 2020 – 2021

As part of the Great Western Highway Upgrade Program, the Medlow Bath section will be upgraded to allow dual lanes and safety improvements. Mark prepared a biodiversity assessment report as part of the REF for the Medlow Bath upgrade project.

The Horsley Drive, Transport for NSW (TfNSW), 2021 – present

Mark is the project ecologist engaged for the preparation of an addendum biodiversity assessment to support an REF for the Horsley Drive upgrade between the M7 Motorway and Cowpasture Road to a four-lane divided road. Mark is actively working with the project team to identify impact avoidance, minimisation and mitigation measures suitable for the management of impacts on locally occurring threatened ecological communities including Cumberland Plain Woodland and River-flat Eucalypt Forest.

Relevant projects

NSW Telco Authority (Visionstream), 2018 - 2021

Preparation of biodiversity assessments for multiple existing and proposed telecommunication sites scattered throughout NSW involving a range of impacts including green field development (e.g. installation of lattice towers) to brownfield works (e.g. bush fire mitigation works). Assessments were performed in accordance with Part 5 of the EP&A Act (i.e. preparation of Test of Significance under Section 7.3 of the BC Act) to determine if the works are likely to have a significant impact on threatened species and ecological communities. Important measures for avoiding and minimising impacts on affected threatened species and ecological communities are provided to manage impacts.

Garfield Road West Upgrade, TfNSW, 2019 -2020

Mark prepared a specialist biodiversity assessment report prepared under Part 5 of the EP&A Act for inclusion in a REF for the reconstruction of Garfield West Road, Riverstone along a new alignment. Challenges successfully encountered included the management of roadside impacts on critically endangered ecological communities, threatened species habitat and key fish habitat (Eastern Creek).

Transport Access Program upgrades (TAP3) project, TfNSW, 2017 - 2020

The Transport Access Program (TAP) proposes accessibility upgrades to railway stations. Mark is the project ecologist involved in the preparation of biodiversity assessment documentation for rail station upgrade for inclusion in the REF. Assessments have included the identification and assessment of threatened species and ecological communities found within the rail corridor for multiple rail stations located within the greater Sydney metropolitan area.

Kings Hill Concept Plan, Kings Hill Developments, 2015 - present

Mark prepared a Species Impact Statement for a 500 ha development site located within the Newcastle drinking water supply (Grahamstown Dam). Key affected species included the Koala, Brush-tailed Phascogale, woodland birds and threatened orchids. Impacts on coastal wetlands and swamp sclerophyll forest situated in mapped coastal wetlands were also prepared. Assessments were based on comprehensive seasonal surveys involving the project management of eight ecologists. Mark utilised innovative techniques to assess the projects impacts on the Koala (i.e. use of detection dogs and foliage nutrient analysis). Other commissions included the preparation of Biodiversity Management Plan for a dedicated Conservation Area, Vegetation Management Plan and Aquatic Impact Assessment.

Woolooga Solar Farm, lightsourceBP, 2020 - 2021

Mark provided high level support to the RPS environment team assisting with Commonwealth assessment for a proposed solar farm in Woolooga, QLD. He also reviewed the RPS Biodiversity Management Plan (BMP) and Offset Management Plan (OMP) for this project.

Chaffey Dam, WaterNSW, 2020

Mark was involved in the reconfiguration of the approved Biodiversity Offset Strategy for the endangered Booroolong Frog. Involvement includes the reconsideration of offset mechanisms and locations in light of implementation challenges associated with land tenure, impacts of drought and broader conservation needs for the species. Mark is working with a team of specialists to achieve an improved offsetting outcome for the species.

Holsworthy Base Training Facility Project, 2020

A new training facility proposed on Commonwealth land within the Holsworthy Military Base required detailed biodiversity investigations and assessment against the Significant impact guidelines 1.2 - Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies. Matters of National Environmental Significance identified (i.e. threatened species and ecological communities) were mapped and used to identify an impact footprint with the least impact on these matters (i.e. avoid, minimise). Assessments were performed for the Koala, a range of threatened flora and two critically endangered ecological communities. Mitigation measures were recommended.

Bulga to Broke Water Pipeline, Singleton Council, 2019

Biodiversity assessment for the installation of a water pipeline to supply potable water from Broke to Bulga. Works initially involved a routes selection process to determine the option with the least environmental impact. Detailed assessments were then performed for the preferred pipeline option, which included the mapping of site scale habitat to vegetation mapping including condition classes for critically endangered vegetation. Impact avoidance, minimisation and mitigation measures were provided within a Review of Environmental Factors assessment framework. State and Commonwealth assessments were performed for affected threatened species and ecological communities.

NBN Build, Visionstream, 2018 - 2019

Preparation of biodiversity assessments for multiple greenfield NBN Towers from Mullumbimby to Tallong (five sites). Biodiversity constraints were identified and managed within tight assessment timeframes to meet NBN delivery objectives.

NBN Build, Tata Consulting, 2016 - 2018

Preparation of biodiversity assessments for multiple greenfield NBN cabling installations from Tweed Heads to Merimbula and west to Braidwood (27 sites). Biodiversity constraints were identified and managed within tight assessment timeframes to meet NBN delivery objectives.

Waterloo Road Upgrade, RMS, 2017

Mark prepared a specialist biodiversity assessment report as part of a Review of Environmental Factors for the Upgrade of Waterloo Road, North Ryde. Challenges successfully encountered included the management of roadside impacts on critically endangered ecological communities and threatened species habitat.

Wyong Hospital Enabling Works, Health Infrastructure NSW, 2016

Mark prepared a Flora and Fauna Assessment for the Wyong Hospital Enabling Works to inform a Review of Environmental Factors (REF). The approach adopted for field surveys for the Flora and Fauna Assessment was in accordance with the BioBanking Methodology (OEH 2014), enabling the surveys and results of the assessment to be transferrable to any BioBanking Assessments that may be required if the project became considered a Major Project (i.e. State Significant Infrastructure (SSI) or a State Significant Development (SSD)).

Bells Line of Road Upgrade, RMS, 2016 - 2017

Mark prepared a specialist biodiversity assessment report as part of a Review of Environmental Factors for the Upgrade of Bells Line of Road from Lithgow to Bell. Challenges successfully encountered included the management of roadside impacts on endangered ecological communities and threatened species habitat. Investigations included assessments for terrestrial and aquatic matters.

Finley Solar Farm EIS, ESCO, 2017

Mark was involved in RPS' preparation of an Environmental Impact Statement (EIS) for the Finley Solar Farm Project. The Finley Solar Farm would produce 170MW over 500 hectares of land. Numerous RPS service lines worked together to prepare the document. To date RPS have successfully liaised with the NSW Department of Planning and Environment, as well as the client, to progress the project smoothly in line with the desired outcomes.

Western Region Biodiversity Offset Strategy, Centennial Coal, 2018

Preparation of a biodiversity offset strategy for multiple approved coal mining operations in the NSW 'Western Coal Fields' near Lithgow. Involved a post hoc assessment of Project impacts and comparable offsets using the repealed Framework for Biodiversity Offsets (Major Projects) and Part 7A

of the *Threatened Species Conservation Act 1995*. Demonstrated a suitable offset strategy for approved projects by gaining approval through the NSW Department of Planning and Environment and Office of Environment and Heritage.

Springvale Coal, Centennial Coal, 2018

Preparation and implementation of Biodiversity Management Plans (BMP) and Swamp Monitoring Programs (SMP) as subplans of Longwall Extractions Plans for the Springvale Coal Extension Project. BMPs and SMPs are reviewed by the Independent Monitoring Panel and State/Commonwealth regulators prior to the approval of secondary coal extraction. Works involved the synthesis of a growing knowledge base on best practice monitoring and management of endangered upland peat swamps listed on State and Commonwealth legislation.

Albion Park, Tower Holdings, 2015 - 2016

Prepared Biodiversity Management Plans for the protection of State and Commonwealth listed endangered and critically endangered plant species (*Zieria granulata* and *Cynanchum elegans*) and ecological communities (Illawarra and South Coast Lowland Forest and Woodland). Management prescriptions centred on weed and fire management, with the latter linked to asset protection zones for the adjoining approved residential subdivision.

Rosewood Estate Tamworth, 2014 - 2015

Project managed and prepared Preliminary Documentation for a 'controlled action' declared under the EPBC Act. Assessment involved a detailed consideration of White Box Yellow Box Blakely's Redgum Grassy Woodland and Derived Native Grasslands, a critically endangered ecological community.

Mary's Mount Blue Metal Quarry, Gunnedah Quarry Products, 2013 - 2014

Project managed and prepared Preliminary Documentation for a 'controlled action' declared under the EPBC Act for a quarry project linked to the delivery of ballast needed for the inland rail project. Assessment involved the consideration of MNES impacted by the quarry including, but not restricted to Semi-evergreen Vine Thicket EEC and the Koala. Calculated and report biodiversity offset requirements in accordance with Commonwealth Offsets Policy and incorporated into a Biodiversity Offset Strategy.

Pacific Highway Upgrade: Oxley Highway to Kempsey, RMS, 2012 - 2014

Assisted in the procurement of approvals under State and Commonwealth legislation including participation in risk assessments, field surveys, reporting, project design and impact assessments (i.e. EPBC Act Preliminary Documentation). Performed monitoring surveys for the State listed

Maundia triglochinoidea and the State and Commonwealth listed Giant Barred Frog (*Mixophyes iteratus*) in accordance with a Before Impact Control After monitoring design. Analysed results and reported findings including an evaluation of Project impacts and performance of mitigation measures.

Water Quality Monitoring Program, Orchard Hills Defence Facility, 2012

Prepared a Water Quality Monitoring Program for a defence facility in western Sydney. Monitoring works included measures of abiotic and biotic indicators for a catchment containing defence activities imbedded within a highly sensitive natural setting containing the critically endangered Cumberland Plain Woodland and nationally listed threatened species. The program included the monitoring of groundwater dependant ecosystems.

Midal Cabling Project, Midal Cabling, 2011 - 2012

The approved Midal aluminium cabling plant is a heavy industrial development located adjacent to the Tomago aluminium smelter. Mark's role in the approvals process involved the preparation of State and Commonwealth assessments for impacts on lands adjacent to the Tomago sands beds (Newcastle water supply). Considered impacts on the threatened New Holland Mouse and Ramsar Wetlands. The EPBC Act Referral adequately demonstrated that Project was not a controlled action.

Maitland to Minimbah Third Track Project, 2011 - 2012

As part of the Hunter8 Alliance, Mark performed integral part of the approvals, post approvals and biodiversity offsetting components of a 30 km section of new rail track constructed adjacent to the existing rail corridor between Maitland and Minimbah, NSW. Prepared and, implemented management plans for microbat exclusion from culverts, pre-clearance surveys and reporting, vegetation clearing audits, biodiversity offset site identification, evaluation and assessment.

Reconstruction of the Limbri to Weabonga Road, Tamworth Regional Council, 2011

Performed biodiversity surveys and assessment for the reconstruction of the Limbri to Weabonga Road following flood damage from the adjacent Swamp Oak Creek. The endangered Booroolong Tree Frog (*Litoria booroolongensis*) and Eel-tailed Catfish (*Tandanus tandanus*) were detected adjacent to the construction area. Impact minimisation involving the establishment of exclusion zones and frog hygiene (Chytrid control) was successfully used to avoid a significant impact on the species. Works could proceed in accordance with an EPBC Act 'Particular Manner' decision notice.

ELF Stage 2 Construction Biodiversity Assessment, Singleton Military Area, 2010

Prepared a Biodiversity Assessments for multiple defence training installations associated with the ELF program located within the Singleton Military Area. Included the assessment of development and operational impacts such as 'ballistic pruning' on threatened flora and fauna species including the Slaty Redgum (*Eucalyptus glaucina*) and habitat occupied by threatened woodland birds. Assessments adopted the 'good neighbour policy' (i.e. consideration of impacts on State listed threatened species and ecological communities).

EPBC Act Protected Matters Search

Protected Matters Search Tool

Report Generated - 11:23AM - 03 March 2022

Matters of National Environment Significance	Count
World Heritage Properties	1
National Heritage Places	1
Wetlands of International Importance (Ramsar Wetlands)	4
Great Barrier Reef Marine Park	0
Commonwealth Marine Area	0
Listed Threatened Ecological Communities	4
Listed Threatened Species	62
Listed Migratory Species	12

Extra Information	Count
State and Territory Reserves	5
Regional Forest Agreements	0
Nationally Important Wetlands	0
EPBC Act Referrals	24
Key Ecological Features	0
Biologically Important Areas	0
Bioregional Assessments	1
Geological and Bioregional Assessments	0

Other Matters Protected by the EPBC Act	Count
Commonwealth Lands	15
Commonwealth Heritage Places	0
Listed Marine Species	19
Whales and Other Cetaceans	0
Critical Habitats	0
Commonwealth Reserves Terrestrial	0
Australian Marine Parks	0
Habitat Critical to the Survival of Marine Turtles	0

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected and is accurate at the time of generation. Please see the caveat for interpretation of information provided here. Consider carefully the age of information for decision making.

Report Metadata	Caveat
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Wetlands of International Importance (Ramsar Wetlands)

Ramsar Site No.	Ramsar Site Name	Proximity	Website	Buffer Status
28	THE MACQUARIE	300 - 400km upstream	Australian Wetlands	In buffer area only
63	BANROCK STATION	800 - 900km upstream	Australian Wetlands	In buffer area only
25	THE COORONG, AND	900 - 1000km upstream	Australian Wetlands	In buffer area only
29	RIVERLAND	800 - 900km upstream	Australian Wetlands	In buffer area only

Listed Threatened Ecological Communities

				Presence		
Community ID	Community Name	Threatened Category	Website	Rank	Text	Buffer Status
60	Upland Basalt Eucalypt	Endangered	Species Profile and	May	Community may occur	In feature area
32	Temperate Highland Peat	Endangered	Species Profile and	May	Community may occur	In buffer area only
152	Natural Temperate	Critically Endangered	Species Profile and	May	Community may occur	In feature area
43	White Box-Yellow Box-	Critically Endangered	Species Profile and	Likely	Community likely to	In feature area

Listed Threatened Species

Species ID	Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Website	Buffer Status
8575	<i>Acacia bynoeana</i>	Bynoe's Wattle, Tiny Wattle	Plant	May	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
82338	<i>Anthochaera phrygia</i>	Regent Honeyeater	Bird	Known	Species or species habitat	Critically Endangered					Species Profile and Threat	In feature area
1665	<i>Aprasia parapulchella</i>	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard	Reptile	Likely	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
8397	<i>Boronia deanei</i>	Deane's Boronia	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
1001	<i>Botaurus poiciloptilus</i>	Australasian Bittern	Bird	Likely	Species or species habitat	Endangered					Species Profile and Threat	In feature area
856	<i>Calidris ferruginea</i>	Curlew Sandpiper	Bird	May	Species or species habitat	Critically Endangered	Migratory	Migratory Wetlands	Listed - overfly marine		Species Profile and Threat	In feature area
768	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	Bird	Known	Species or species habitat	Endangered					Species Profile and Threat	In feature area
183	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	Mammal	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
19533	<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid	Plant	May	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
12533	<i>Cynanchum elegans</i>	White-flowered Wax Plant	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
75184	<i>Dasyurus maculatus maculatus (SE mainland population)</i>	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Mammal	Known	Species or species habitat	Endangered					Species Profile and Threat	In feature area
1649	<i>Delma impar</i>	Striped Legless Lizard, Striped Snake-lizard	Reptile	May	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
20890	<i>Eucalyptus aggregata</i>	Black Gum	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
21537	<i>Eucalyptus pulverulenta</i>	Silver-leaved Mountain Gum, Silver-leaved Gum	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
56223	<i>Eucalyptus robertsonii subsp. hemisphaerica</i>	Robertson's Peppermint	Plant	May	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
59199	<i>Eulamprus leuraensis</i>	Blue Mountains Water Skink	Reptile	Known	Species or species habitat	Endangered					Species Profile and Threat	In feature area
4325	<i>Euphrasia arguta</i>	null	Plant	May	Species or species habitat	Critically Endangered					Species Profile and Threat	In feature area
929	<i>Falco hypoleucos</i>	Grey Falcon	Bird	Likely	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
470	<i>Grantiella picta</i>	Painted Honeyeater	Bird	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
23811	<i>Grevillea obtusiflora</i>	Grey Grevillea	Plant	Known	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
6480	<i>Haloragodendron lucasii</i>	Hal	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In feature area
1973	<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Frog	May	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
682	<i>Hirundapus caudacutus</i>	White-throated Needletail	Bird	Known	Species or species habitat	Vulnerable	Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and Threat	In feature area
12974	<i>Homoranthus darwinioides</i>	null	Plant	Likely	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
1182	<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	Reptile	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
68050	<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)	Mammal	May	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
11420	<i>Kunzea cambagei</i>	null	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
744	<i>Lathamus discolor</i>	Swift Parrot	Bird	Likely	Species or species habitat	Critically Endangered			Listed - overfly marine		Species Profile and Threat	In feature area
16542	<i>Lepidium hyssopifolium</i>	Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
89104	<i>Leucochrysum albicans subsp. tricolor</i>	Hoary Sunray, Grassland Paper-daisy	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In feature area
1844	<i>Litoria booroolongensis</i>	Booroolong Frog	Frog	Likely	Species or species habitat	Endangered					Species Profile and Threat	In feature area
64733	<i>Litoria littlejohni</i>	Littlejohn's Tree Frog, Heath Frog	Frog	Known	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
1942	<i>Mixophyes balbus</i>	Stuttering Frog, Southern Barred Frog (in Victoria)	Frog	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
847	<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew	Bird	May	Species or species habitat	Critically Endangered	Migratory	Migratory Wetlands	Listed		Species Profile and Threat	In feature area
83395	<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat, South-eastern Long-eared Bat	Mammal	May	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
26335	<i>Paralucia spinifera</i>	Bathurst Copper Butterfly, Purple Copper Butterfly, Bathurst Copper, Bathurst Copper Wing, Bathurst-Lithgow Copper, Purple Copper	Insect	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
7232	<i>Persoonia acerata</i>	Needle Geebung	Plant	May	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
10852	<i>Persoonia marginata</i>	Clandulla Geebung	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
254	<i>Petauroides volans</i>	Greater Glider	Mammal	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
87600	<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	Mammal	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
225	<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Mammal	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
85104	<i>Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)</i>	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Mammal	Known	Species or species habitat	Endangered					Species Profile and Threat	In feature area
738	<i>Polytelis swainsonii</i>	Superb Parrot	Bird	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
16845	<i>Pomaderris brunnea</i>	Rufous Pomaderris, Brown Pomaderris	Plant	Likely	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
2043	<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In feature area
55144	<i>Prasophyllum petilum</i>	Tarengo Leek Orchid	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In feature area
81964	<i>Prasophyllum sp. Wybong (C.Phelps ORG 5269)</i>	a leek-orchid	Plant	May	Species or species habitat	Critically Endangered					Species Profile and Threat	In feature area
68496	<i>Prostanthera cryptandroides subsp. cryptandroides</i>	Wollemi Mint-bush	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
96	<i>Pseudomys novaehollandiae</i>	New Holland Mouse, Pookila	Mammal	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
186	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Mammal	May	Foraging, feeding or	Vulnerable					Species Profile and Threat	In feature area
11887	<i>Pultenaea glabra</i>	Smooth Bush-pea, Swamp Bush-pea	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
56699	<i>Pultenaea parrisiae</i>	null	Plant	May	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
525	<i>Pycnoptilus floccosus</i>	Pilotbird	Bird	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
11768	<i>Rhizanthella slateri</i>	Eastern Underground Orchid	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In feature area
77037	<i>Rostratula australis</i>	Australian Painted Snipe	Bird	Likely	Species or species habitat	Endangered			Listed - overfly marine		Species Profile and Threat	In feature area
7580	<i>Swainsona recta</i>	Small Purple-pea, Mountain Swainson-pea, Small Purple Pea	Plant	May	Species or species habitat	Endangered					Species Profile and Threat	In buffer area only
15202	<i>Thesium australe</i>	Austral Toadflax, Toadflax	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area
17190	<i>Velleia perfoliata</i>	null	Plant	Known	Species or species habitat	Vulnerable					Species Profile and Threat	In buffer area only
64545	<i>Wollemia nobilis</i>	Wollemi Pine	Plant	Likely	Species or species habitat	Critically Endangered					Species Profile and Threat	In buffer area only
76215	<i>Xerochrysum palustre</i>	Swamp Everlasting, Swamp Paper Daisy	Plant	Likely	Species or species habitat	Vulnerable					Species Profile and Threat	In feature area

Listed Migratory Species

				Presence								
Species ID	Scientific Name	Common Name	Class	Rank	Text	Threatened Category	Migratory Status	Migratory Category	Marine Status	Cetacean Status	Website	Buffer Status
678	<i>Apus pacificus</i>	Fork-tailed Swift	Bird	Likely	Species or species habitat		Migratory	Migratory Marine Birds	Listed - overfly marine		Species Profile and	In feature area
612	<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Bird	Known	Species or species habitat		Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and	In feature area
874	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Bird	May	Species or species habitat		Migratory	Migratory Wetlands	Listed		Species Profile and	In feature area
858	<i>Calidris melanotos</i>	Pectoral Sandpiper	Bird	May	Species or species habitat		Migratory	Migratory Wetlands	Listed - overfly marine		Species Profile and	In feature area
592	<i>Rhipidura rufifrons</i>	Rufous Fantail	Bird	Known	Species or species habitat		Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and	In feature area
609	<i>Monarcha melanopsis</i>	Black-faced Monarch	Bird	Known	Species or species habitat		Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and	In feature area
856	<i>Calidris ferruginea</i>	Curlew Sandpiper	Bird	May	Species or species habitat	Critically Endangered	Migratory	Migratory Wetlands	Listed - overfly marine		Species Profile and	In feature area
644	<i>Motacilla flava</i>	Yellow Wagtail	Bird	May	Species or species habitat		Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and	In feature area
682	<i>Hirundapus caudacutus</i>	White-throated	Bird	Known	Species or species habitat	Vulnerable	Migratory	Migratory Terrestrial	Listed - overfly marine		Species Profile and	In feature area
847	<i>Numenius</i>	Eastern Curlew, Far	Bird	May	Species or species habitat	Critically Endangered	Migratory	Migratory Wetlands	Listed		Species Profile and	In feature area
863	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese	Bird	Likely	Species or species habitat		Migratory	Migratory Wetlands	Listed - overfly marine		Species Profile and	In feature area
59309	<i>Actitis hypoleucos</i>	Common Sandpiper	Bird	May	Species or species habitat		Migratory	Migratory Wetlands	Listed		Species Profile and	In feature area

Critical Habitats

Critical Habitat ID	Critical Habitat Name	Presence	Website
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Likelihood of Occurrence

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Acacia baueri</i> subsp. <i>aspera</i>	V	-	Occurs in low, damp heathlands, often on exposed rocky outcrops over a wide range of climatic and topographical conditions. Appears to prefer open conditions; rarely observed where there is any shrub or tree canopy development; and many of the observations of this species have been made following fire, suggesting the species prefers early successional habitats. Restricted to the Sydney region, occurring on the Kings Tableland in the central Blue Mountains and with sporadic occurrences on the Woronora Plateau in the Royal National Park, Mt. Keira district and at Wedderburn. May also occur on the escarpment-Woronora Plateau in the Flat Rock Junction and Stanwell Tops area of the Illawarra.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Acacia bynoeana</i> (Bynoe's Wattle)	E	V	Grows mainly in heath and dry sclerophyll forest in sandy soils. Mainly south of Dora Creek-Morriset area to Berrima and the Illawarra region, west to the Blue Mountains, also recorded from near Kurri Kurri in the Hunter Valley and from Morton National Park.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Acacia flocktoniae</i> (Flockton Wattle)	V	V	Grows in dry sclerophyll forest on sandstone.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Acacia gordonii</i>	E	E	Restricted to the north-west of Sydney, with a disjunct distribution occurring in the lower Blue Mountains in the west, and in the Maroota-Glenorie area in the east. Grows in dry sclerophyll forest and heathlands amongst or within rock platforms on sandstone outcrops.	0	capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Acacia meiantha</i>	E	E	The Clarence population occurs in open eucalypt forest in association with <i>E. dives</i> and <i>E. sieberi</i> and in an adjacent area of mostly shrubs where the tree overstorey was cleared for powerlines; it is found on sandy soil over sandstone at approx. 1000 m elevation.	2	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Anthochaera phrygia</i> (Regent Honeyeater)	CE	CE,M	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of	15	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e.

REPORT

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.		PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Aprasia parapulchella</i> (Pink-tailed Legless Lizard)	V	V	Inhabits sloping, open woodland areas with predominantly native grassy groundlayers, particularly those dominated by kangaroo grass. Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Artamus cyanopterus cyanopterus</i> (Dusky Woodswallow)	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and	96	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.		occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Astrotricha crassifolia</i>	V	V	Occurs near Patonga (Gosford LGA), and in Royal NP and on the Woronora Plateau (Sutherland and Campbelltown LGAs). There is also a record from near Glen Davis (Lithgow LGA). Also in Victoria. Occurs in dry sclerophyll woodland on sandstone.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Boronia deanei</i>	V	V	Scattered populations occur between the far south-east of NSW and the Blue Mountains (including the upper Kangaroo River near Carrington Falls, the Endrick River near Nerriga and Nalbaugh Plateau), mainly in conservation reserves. Grows in wet heath, often at the margins of open forest adjoining swamps or along streams.	1776	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	E	E	The Australasian Bittern is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	0	with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Caesia parviflora var. minor</i> (Small Pale Grass-lily)	E	-	Found in damp places in open forest on sandstone.	161	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Calidris ferruginea</i> (Curlew Sandpiper)	E	-	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland		may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	V	E	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine snow gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.	427	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Calyptorhynchus lathamii</i> (Glossy Black-Cockatoo)	V	-	Inhabits forest with low nutrients, characteristically with key Allocasuarina spp. Tends to prefer drier forest types with a middle stratum of Allocasuarina below Eucalyptus or Angophora. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	42	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Carex klapheckei</i>	E	-	Found in only three locations, from the Blue Mountains (at Blackheath and Mt Werong) to the Southern Highlands (at Penrose). Grows with other native sedges and rushes in swamps on sandstone at altitudes of greater than 600 metres.	11	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Cercartetus nanus</i> (Eastern Pygmy-possum)	V	-	Inhabits rainforest through to sclerophyll forest and tree heath. Banksias and myrtaceous shrubs and trees are a favoured food source. Will often nest in tree hollows, but can also construct its own nest. Because of its small size it is able to utilise a range of hollow sizes including very small hollows. Individuals will use a number of different hollows and an individual has been recorded using up to 9 nest sites within a 0.5ha area over a 5 month period.	64	incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records). High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	V	V	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests and in wet sclerophyll forests. This species roosts in caves and mines in groups of between 3 and 37 individuals.	98	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Chthonicola sagittata</i> (Speckled Warbler)	V	-	The Speckled Warbler lives in a wide range of eucalypt dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy.	15	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Circus assimilis</i> (Spotted Harrier)	V	-	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the Local Area (NSW BioNet records).
<i>Climacteris picumnus victoriae</i> (Brown Treecreeper (eastern subspecies))	V	-	Found in eucalypt woodlands (including box-gum woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and river red gum forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.	88	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Cryptostylis hunteriana</i> (Leafless Tongue-orchid)	V	V	Does not appear to have well defined habitat preferences and is known from a range of communities, including swamp-heath and woodland. The larger populations typically occur in woodland dominated by Scribbly Gum (<i>Eucalyptus sclerophylla</i>), Silvertop Ash (<i>E. sieberi</i>), Red Bloodwood (<i>Corymbia gummifera</i>) and Black Sheoak (<i>Allocasuarina littoralis</i>); appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (<i>C. subulata</i>) and the Tartan Tongue Orchid (<i>C. erecta</i>).	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement

REPORT

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
					between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Cynanchum elegans</i> (White-flowered Wax Plant)	E	E	Recorded from rainforest gullies scrub and scree slopes from the Gloucester district to the Wollongong area and inland to Mt Dangar.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby under storey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or ironbarks, but also in paperbarks or mature Eucalypts with hollows.	84	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Darwinia peduncularis</i>	V	-	Occurs as local disjunct populations in coastal NSW with a couple of isolated populations in the Blue Mountains. It has been recorded from Brooklyn, Berowra, Galston Gorge, Hornsby, Bargo River, Glen Davis, Mount Boonbourwa and Kings Tableland. Usually grows on or near rocky outcrops on sandy, well drained, low nutrient soil over sandstone.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of

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<i>Dasyurus maculatus maculatus</i> (Spotted-tailed Quoll)	V	E	Spotted-tailed Quoll are found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Queensland. Only in Tasmania is it still considered common. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	7	supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records). High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Delma impar</i> (Striped Legless Lizard)	V	V	Found mainly in natural temperate grassland but has also been captured in grasslands that have a high exotic component. Also found in secondary grassland near natural temperate grassland and occasionally in open box-gum woodland. Sometimes found in grasslands with significant amounts of surface rocks, which are used for shelter.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Dillwynia tenuifolia</i>	V	-	The core distribution is the Cumberland Plain from Windsor to Penrith east to Deans Park. Other populations in western Sydney are recorded from Voyager Point and Kemps Creek in the Liverpool LGA, Luddenham in the Penrith LGA and South Maroota in the Baulkham Hills Shire. Disjunct localities include: the Bulga Mountains at Yengo in the north, Kurrajong Heights and Woodford in the Lower Blue Mountains. In western Sydney, may be locally abundant particularly within scrubby-dry heath areas within Castlereagh Ironbark forest and Shale Gravel Transition forest on tertiary alluvium or laterised clays. May also be common in transitional areas where these	2	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			communities adjoin Castlereagh Scribbly Gum woodland. At Yengo, is reported to occur in disturbed escarpment woodland on Narrabeen sandstone.		
<i>Epacris hamiltonii</i>	E	E	Occurs in the Blue Mountains, west of Sydney. Found at 72 sites within three creek catchments. The creeks occur in an altitude range of 810-940 metres a.s.l. and are all located on the northern side of the escarpment and flow into the Grose Valley. All known sites occur within a radius of approximately 5 km. Has a very specific habitat, being found on or adjacent to Narrabeen sandstone cliffs alongside perennial creeks, often below plateau hanging swamps. The soil generally has a spongy-peat-like consistency, with a very high moisture content. Sites are found at the sheltered base of cliffs adjacent to wet gully or swamp vegetation, usually where a perennial or virtually perennial source of water, such as cliff seepages, is present.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Ephippiorhynchus asiaticus</i> (Black-necked Stork)	E	-	Mainly found on shallow, permanent, freshwater terrestrial wetlands, and surrounding marginal vegetation, including swamps, floodplains, watercourses and billabongs, freshwater meadows, wet heathland, farm dams and shallow floodwaters, as well as extending into adjacent grasslands, paddocks and open savannah woodlands. They also forage within or around estuaries and along intertidal shorelines, such as saltmarshes, mudflats and sandflats, and mangrove vegetation.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Epthianura albigrons</i> (White-fronted Chat)	V	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with

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<i>Eucalyptus aggregata</i> (Black Gum)	V	V	Found in the NSW Central and Southern Tablelands, with small isolated populations in Victoria and the ACT. Has a moderately narrow distribution, occurring mainly in the wetter, cooler and higher parts of the tablelands in the lowest parts of the landscape, on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Also occurs as isolated paddock trees in modified native or exotic pastures.	641	transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes. Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Eucalyptus cannonii</i>	V	-	Restricted to an area of about 100 by 60 km in the central tablelands of NSW. The western border is approximately marked by a line between Bathurst and Mudgee, while the eastern locations occur approximately on a line between Lithgow and the town of Bylong. Within this area the species is often locally frequent. Recorded from Tablelands Grassy woodland Complex communities and Talus Slope woodland, and in Winburndale Nature Reserve within woodland dominated by <i>Eucalyptus macrorhyncha</i> and <i>Eucalyptus goniocalyx</i> .	265	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Eucalyptus copulans</i>	E	E	Only one individual tree is currently known, on Council Reserve along Jamison Creek at Wentworth Falls in the Blue Mountains, NSW. A second tree nearby may also be <i>E. copulans</i> although it has not been formally identified as such. A larger population is thought to have occurred historically in the Local Area.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of

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<i>Eucalyptus pulverulenta</i> (Silver-leaved Mountain Gum)	V	V	Found in two quite separate areas, the Lithgow to Bathurst area and the Monaro (Bredbo to Bombala). Grows in shallow soils as an understorey plant in open forest, typically dominated by brittle gum, red stringybark, broad-leaved peppermint, silvertop ash and apple box.	5	active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records). Known. Species planted as roadside vegetation. Natural occurrence ranked as Moderate based on: Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Eucalyptus robertsonii</i> subsp. <i>hemisphaerica</i> (Robertson's Peppermint)	V	V	Locally frequent in grassy or dry sclerophyll woodland or forest, on lighter soils and often on granite. Usually found in closed grassy woodlands in locally sheltered sites. Habitats include quartzite ridges, upper slopes and a slight rise of shallow clay over volcanics.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Eulamprus leuraensis</i> (Water skink)	E	E	The species is restricted to isolated and naturally fragmented habitats of permanent sedge and hanging swamps (these develop at moderate to high altitudes on sloping rock faces composed of Narrabeen sandstone which are subject to a constant supply of water), in open forest and open scrub or heath.	363	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be

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<i>Euphrasia arguta</i>	CE	CE	Occur in eucalypt forest with a mixed grass and shrub understorey within Nundle State forest. Sites have either been logged in the last few decades, or appear to have regrown from past clearing.	0	within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Euphrasia bowdeniae</i>	V	V	This species is known to occur at 750 m asl but is likely to occur up to 1000-1100 m asl. It is found on vertical sandstone cliffs, in very shallow soil on rocky ledges, or trailing over steep exposed rocks.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
					Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Falco hypoleucos</i> (Grey Falcon)	E	-	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Falco subniger</i> (Black Falcon)	V	-	The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas. It roosts in trees at night and often on power poles by day.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Falsistrellus tasmaniensis</i> (Eastern False Pipistrelle)	V	-	Inhabit sclerophyll forests, preferring wet habitats where trees are more than 20 m high. Two observations have been made of roosts in stem holes of living eucalypts. There is debate about whether or not this species moves to lower altitudes during winter, or whether they remain sedentary but enter torpor .	139	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to

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			This species also appears to be highly mobile and records showing movements of up to 12 km between roosting and foraging sites .		adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Genoplesium superbum</i> (Superb Midge Orchid)	E	-	The Superb Midge Orchid occurs predominantly in wet heathland on shallow soils above a sandstone cap but has also been found in open woodland interspersed with heath and dry open shrubby woodland.	5	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Glossopsitta pusilla</i> (Little Lorikeet)	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.	18	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Grammitis stenophylla</i> (Narrow-leaf Finger Fern)	E	-	Moist places, usually near streams, on rocks or in trees, in rainforest and moist eucalypt forest.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be

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<i>Grantiella picta</i> (Painted Honeyeater)	V	-	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits boree, brigalow and box-gum woodlands and box-ironbark forests.	1	negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Grevillea evansiana</i> (Evans Grevillea)	V	V	Grows in dry sclerophyll forest or woodland, occasionally in swampy heath, in sandy soils, usually over Hawkesbury sandstone.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Grevillea obtusiflora</i>	E	E	Occurs as scattered groups in the understorey of low open eucalypt forest at an altitude of 730 metres above sea level. Subspecies <i>fecunda</i> occurs in	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			clusters within low, open scrub beneath open, dry sclerophyll forest, on orange, sandy loam soils with sandstone boulders, at an altitude of 570 metres.		Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)	V	M	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	12	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Haloragodendron lucasii</i>	E	E	Occurs on Hawkesbury Sandstone in moist sandy loam soil. The species prefers sheltered aspects and inhabits gentle slopes below cliff lines near creeks in low open woodland or open forest. Its distribution is correlated with high soil moisture and phosphorus levels.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Heleioporus australiacus</i>	V	V	The Giant Burrowing Frog has been recorded breeding in a range of water bodies associated with more sandy	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however,

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(Giant Burrowing Frog)			environments of the coast and adjacent ranges from the Sydney Basin south the eastern Victoria. It breeds in hanging swamps, perennial non-flooding creeks and occasionally permanent pools, but permanent water must be present to allow its large tadpoles time to reach metamorphosis.		species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Hieraaetus morphnoides</i> (Little Eagle)	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	14	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Hirundapus caudacutus</i> (White-throated Needletail)	-	M	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	28	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Homoranthus darwinioides</i>	V	V	Grows in various woodland habitats with shrubby understoreys, usually in gravely sandy soils.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however,

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			Landforms the species has been recorded growing on include flat sunny ridge tops with scrubby woodland, sloping ridges, gentle south-facing slopes, and a slight depression on a roadside with loamy sand.		species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Hoplocephalus bungaroides</i> (Broad-headed Snake)	E	V	Occurs almost exclusively in association with communities occurring on Triassic sandstone within the Sydney Basin. Typically found among exposed sandstone outcrops with vegetation types ranging from woodland to heath. Within these habitats they spend most of the year sheltering in and under rock crevices and exfoliating rock. However, some individuals will migrate to tree hollows to find shelter during hotter parts of summer.	5	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Hygrocybe anomala</i> <i>var. ianthinomarginata</i>	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Hygrocybe aurantipes</i>	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Hygrocybe reesiaie</i>	V	-	Occurs in gallery warm temperate forests dominated by lilly pilly, grey myrtle, cheese tree and sweet pittosporum. Associated with alluvial sandy soils of the Hawkesbury Soil Landscapes with naturally low fertility and erodible. Occur as individuals or in groups, terrestrial rarely on wood and only if extremely rotten; substrates include soil, humus, or moss.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Isoodon obesulus</i> <i>obesulus</i> [Southern Brown Bandicoot (eastern)]	E	-	Prefers sandy soils with scrubby vegetation and-or areas with low ground cover that are burn from time to time. A mosaic of post fire vegetation is important for this species.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).

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<i>Isopogon fletcheri</i>	V	V	Grows in dry sclerophyll forest and heath on sandstone; confined to sheltered moist positions on the escarpment in the Blackheath district of the Blue Mtns, rare.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Isotoma fluviatilis</i> <i>subsp. Fluviatilis</i> (<i>Hypsela sessiliflora</i>)	E	Ext	Known to grow in damp places, on the Cumberland Plain, including freshwater wetland, grassland-alluvial woodland and an alluvial woodland-shale plains woodland ecotones. May be an early successional species that benefits from some disturbance.	2	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Kunzea cabbagei</i>	V	V	Occurs in wet heath and woodland on coarse sandy soil on sandstone and quartzite.	19	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes;

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
					however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Lastreopsis hispida</i> (Bristly Shield Fern)	E	-	Grows in moist humus-rich soils in wet forest and rainforest gullies.	1	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Lathamus discolor</i> (Swift Parrot)	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects . The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW . This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the Local Area (NSW BioNet records).
<i>Leionema lachnaeoides</i>	E	E	Occurs at 10 sites in the upper Blue Mountains, within a 12 km range between Katoomba and Blackheath. Potential habitat occurs in the Megalong and Jamison Valleys. Populations occur on exposed sandstone cliff tops and terraces, at 960 - 1000m altitude and with aspects from south-east to south-west. Habitat	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be

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			vegetation is montane heath and commonly includes <i>Eucalyptus stricta</i> , <i>Allocasuarina nana</i> , <i>Dillwynia retorta</i> , <i>Epacris microphylla</i> and <i>Caustis flexuosa</i> . Fire is likely to be an important factor in the life cycle of this species. Fire probably kills all plants, but may produce a flush of germination from seed stored in the soil. The number of plants then declines as the surrounding vegetation develops.		within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Leionema sympetalum</i> (Rylstone Bell)	V	V	Restricted to exposed rocky sandstone formations known as pagodas. The species occurs in dry sclerophyll forest and probably also occurs in open or closed heathland communities.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Lepidium hyssopifolium</i>	E	E	The species occurs in a variety of habitats including woodland with a grassy understorey and grassland. In NSW, there is a small population consisting near Bathurst, two populations near Bungendore, and one near Crookwell. Historical records also exist from near Armidale and possibly Cooma.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).

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<i>Leucochrysum albicans var. tricolor</i> (Hoary Sunray)	Not listed	V	Hoary Sunray occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Plants can be found in natural or semi-natural vegetation and grazed or ungrazed habitat. Bare ground is required for germination. In NSW, the species is often found in association with yellow box, Blakely's red gum and red box.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Leucopogon exolasius</i> (Woronora Beard- heath)	V	V	Grows in woodland on sandstone. Restricted to the Woronora and Grose Rivers and Stokes Creek, Royal National Park.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Litoria aurea</i> (Green and Golden Bell Frog)	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be

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			bodies that are un-shaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.		within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Litoria booroolongensis</i> (Booroolong Frog)	E	E	The Booroolong Frog is found along permanent western flowing streams of the Great Dividing Range through most of NSW and down into northern Victoria. Streams range from small slow-flowing creeks to large rivers and the adults are found on or near cobble banks and other rock structures within stream margins and shelter under rocks or amongst vegetation near the ground on the stream edge. The species occurs along streams in both forested areas and open pasture, but has been affected by the presence of the introduced willow tree. Booroolong Frogs sometimes basks in the sun on exposed rocks near flowing water during summer.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Litoria littlejohni</i> (Littlejohn's Tree Frog)	V	E	Occurs in wet and dry sclerophyll forests and heathland associated with sandstone outcrops between 280 and 1000 m on the eastern slopes of the Great Dividing Range from the Central Coast down into Victoria. Individuals have been collected from a wide range of water bodies that includes semi-permanent dams, permanent ponds, temporary pools and permanent streams, with calling occurring from fringing vegetation or on the banks. Individuals have been observed sheltering under rocks on high exposed ridges during summer and within deep leaf litter adjacent to the breeding site. Calling occurs in all	1	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).

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			months of the year, often in association with heavy rains. The tadpoles are distinctive, being large and very dark in colouration.		
<i>Lophoictinia isura</i> (Square-tailed Kite)	V	-	Typically inhabits coastal forested and wooded lands of tropical and temperate Australia. In NSW it is often associated with ridge and gully forests dominated by <i>Eucalyptus longifolia</i> , <i>Corymbia maculata</i> , <i>E. elata</i> or <i>E. smithii</i> . Individuals appear to occupy large hunting ranges of more than 100km ² . They require large living trees for breeding, particularly near water with surrounding woodland -forest close by for foraging habitat. Nest sites are generally located along or near watercourses, in a tree fork or on large horizontal limbs.	3	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Melaleuca biconvexa</i> (Biconvex Paperbark)	V	V	Grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects. Scattered and dispersed populations found in the Jervis Bay area in the south and the Gosford-Wyong area in the north.	1	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Melanodryas cucullata</i> [Hooded Robin (south-eastern form)]	V	-	Occupy a wide range of eucalypt woodlands, Acacia shrublands and open forests.	13	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).

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<i>Melithreptus gularis</i> [Black-chinned Honeyeater (eastern subspecies)]	V	-	Eucalypt woodlands within an approximate annual rainfall range of 400-700mm	2	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Micronomus norfolkensis</i> (Eastern Freetail-bat)	V	-	Most records are from dry eucalypt forests and woodlands to the east of the Great Dividing Range. Appears to roost in trees, but little is known of this species' habits.	3	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Miniopterus australis</i> (Little Bentwing-bat)	V	-	Coastal north-eastern NSW and eastern Queensland. Little Bent-wing Bat is an insectivorous bat that roost in caves, in old mines, in tunnels, under bridges, or in similar structures. They breed in large aggregations in a small number of known caves and may travel 100s km from feeding home ranges to breeding sites. Little Bent-wing Bat has a preference for moist eucalypt forest, rainforest or dense coastal banksia scrub where it forages below the canopy for insects.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species

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<i>Miniopterus orianae oceanensis</i> (Large Bent-winged Bat)	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.	163	incidence and/ or habitat occupancy. Not recently observed in the Local Area (NSW BioNet records). Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Mixophyes balbus</i> (Stuttering Frog)	E	V	Associated with streams in dry sclerophyll and wet sclerophyll forests and rainforests of more upland areas of the Great Dividing Range of NSW and down into Victoria. Breeding occurs along forest streams with permanent water where eggs are deposited within nests excavated in riffle zones by the females and the tadpoles swim free into the stream when large enough to do so. Outside of breeding, individuals range widely across the forest floor and can be found hundreds of metres from water	1	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Myotis macropus</i> (Southern Myotis)	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	1	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the

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<i>Neophema pulchella</i> (Turquoise Parrot)	V	-	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.	5	capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records). Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Ninox connivens</i> (Barking Owl)	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	9	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Ninox strenua</i> (Powerful Owl)	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree hollows are particularly important for the Powerful Owl because a large proportion of the diet is made up of hollow-dependent	77	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			arboreal marsupials. Nest trees for this species are usually emergent with a diameter at breast height of at least 100 cm.		occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Numenius madagascariensis</i> (Eastern Curlew)	-	CE	The Eastern curlew spends its breeding season in northeastern Asia, including Siberia to Kamchatka, and Mongolia. Its breeding habitat is composed of marshy and swampy wetlands and lakeshores. Most individuals winter in coastal Australia, with a few heading to South Korea, Thailand, Philippines and New Zealand, where they stay at estuaries, beaches, and salt marshes. It uses its long, decurved bill to probe for invertebrates in the mud. It may feed in solitary but it generally congregates in large flocks to migrate or roost. Its call is a sharp, clear whistle, cuuue-reee, often repeated.	0	None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Nyctophilus corbeni</i> (South-eastern Long-eared Bat)	V	V	The South-eastern Long-eared Bat has a limited distribution that is restricted around the Murray-Darling Basin in south-eastern Australia. Even in this region its distribution is scattered and it is rarely recorded. It occurs in far eastern South Australia, in areas north of the Murray River, east of Canegrass Station and south of the Barrier Highway. These areas include the Riverland Biosphere Reserve, Danggali Conservation Park and the Birds Australia Gluepot Reserve. It is distributed throughout inland NSW except in the north-west area which is dominated by treeless plains. It can be found in the Hunter Valley, extending from central NSW to the eastern Hunter Valley coast. Considered <i>Nyctophilus timorensis</i> south eastern form under TSC Act.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Paralucia spinifera</i> (Bathurst Copper Butterfly)	E	V	The Copper Butterfly is only found in the Central Tablelands of NSW. Its habitat is restricted to elevations above 900 m where it feeds exclusively on a form of blackthorn. The butterfly's life cycle relies on a 'mutualistic' relationship with the ant <i>Anonychomyrma itinerans</i> , and on the presence of blackthorn (<i>Bursaria spinosa subsp. lasiophylla</i>).	85	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid

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<i>Persoonia acerosa</i>	V	V	Occurs in dry sclerophyll forest, scrubby low-woodland and heath on low fertility soils. Recorded only on the central coast and in the Blue Mountains, from Mt Tomah in the north to as far south as Hill Top where it is now believed to be extinct. Mainly in the Katoomba, Wentworth Falls, Springwood area.	1	size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Persoonia hindii</i>	E	-	Occurs in dry sclerophyll forests and woodlands on sandy soils. Stoloniferous (has underground horizontal stems) and is thought to be clonal. Hence, each location may comprise only one to a few individuals.	1099	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Persoonia hirsuta</i> (Hairy Geebung)	E	E	Distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to	0	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Persoonia hirsuta</i> (Hairy Geebung)	E	E	Distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e.

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			the west. A large area of occurrence, but occurs in small populations, increasing the species's fragmentation in the landscape. Found in sandy soils in dry sclerophyll open forest, woodland and heath on sandstone. Usually present as isolated individuals or very small populations. Probably killed by fire (as other <i>Persoonia</i> spp. are) but will regenerate from seed.		PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Persoonia marginata</i>	V	V	Grows in dry sclerophyll forest and woodland communities on sandstone. Appears to respond well to disturbance, with greater densities found along the edges of tracks and in areas disturbed by forestry activities.	173	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Petalura gigantea</i> (Giant Dragonfly)	E	-	The Giant Dragonfly is found along the east coast of NSW from the Victorian border to northern NSW. It is not found west of the Great Dividing Range. There are known occurrences in the Blue Mountains and Southern Highlands, in the Clarence River catchment, and on a few coastal swamps from north of Coffs Harbour to Nadgee in the south. Live in permanent swamps and bogs with some free water and open vegetation. Adults emerge from late October and are short-lived, surviving for one summer after emergence.	86	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Petauroides volans</i> (Greater Glider)	-	V	The Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	1171	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes;

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<i>Petaurus australis</i> (Yellow-bellied Glider)	V	V	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	15	however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records). Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Petaurus norfolcensis</i> (Squirrel Glider)	V	-	Generally occurs in dry sclerophyll forests and woodlands but is absent from dense coastal ranges in the southern part of its range . Requires abundant hollow bearing trees and a mix of eucalypts, banksias and acacias . There is only limited information available on den tree use by Squirrel gliders, but it has been observed using both living and dead trees as well as hollow stumps. Within a suitable vegetation community at least one species should flower heavily in winter and one species of eucalypt should be smooth barked. Endangered population in the Wagga Wagga LGA.	14	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Petrogale penicillata</i> (Brush-tailed Rock-wallaby)	E	V	Found in rocky areas in a wide variety of habitats including rainforest gullies, wet and dry sclerophyll forest, open woodland and rocky outcrops in semi-arid country. Commonly sites have a northerly aspect with numerous ledges, caves and crevices.	2	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species

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<i>Petroica boodang</i> (Scarlet Robin)	V	-	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs.	644	incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records). Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Petroica phoenicea</i> (Flame Robin)	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.	723	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Phascolarctos cinereus</i> (Koala)	V	V	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	13	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Polytelis swainsonii</i> (Superb Parrot)	V	V	The Superb Parrot is found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat

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			in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers. Inhabits box-gum, box-cypress-pine and boree woodlands and river red gum forest.		features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Pomaderris brunnea</i> (Brown Pomaderris)	V	V	The species is expected to live for 10 - 20 years, while the minimum time to produce seed is estimated to be 4 - 6 years. Found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area. It also occurs at Walcha on the New England Tableland and in far eastern Gippsland in Victoria.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Pomaderris cotoneaster</i>	E	E	Cotoneaster Pomaderris has a very disjunct distribution, being known from the Nungatta area, northern Kosciuszko National Park (near Tumut), the Tantawangalo area in South-East Forests National Park and adjoining freehold land, Badgery's Lookout near Tallong, Bungonia State Conservation Area, the Yerranderie area, Kanangra-Boyd National Park, the Canyonleigh area and Ettrema Gorge in Morton National Park. The species has also been recorded	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be

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			along the Genoa River in Victoria. Cotoneaster Pomaderris has been recorded in a range of habitats in predominantly forested country. The habitats include forest with deep, friable soil, amongst rock beside a creek, on rocky forested slopes and in steep gullies between sandstone cliffs. Little is known about the ecology of the species. It is probably killed by fire but plants have been observed to re-sprout from the stem following death of the crown from apparent drought.		negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Pomatostomus temporalis</i> [Grey-crowned Babbler (eastern subspecies)]	V	-	In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. It also occurs in woodlands in the Hunter Valley and in several locations on the north coast of NSW. It may be extinct in the southern, central and New England tablelands. Inhabits open box-gum woodlands on the slopes, and box-cypress-pine and open box woodlands on alluvial plains.	3	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).
<i>Prasophyllum fuscum</i> (Tawny Leek-orchid)	CE	V	<i>Prasophyllum fuscum</i> is endemic to New South Wales where it is currently known only from the upper catchment of the Georges River, south-west of Sydney. The only recent collection of the species is from a roadside in the Wilton district. The species is very similar to <i>Prasophyllum uroglossum</i> but occurs further north and differs by having a much shorter midlobe on the labellum and by having the callus extending well onto the midlobe. <i>Prasophyllum pallens</i> , which has also been confused with <i>Prasophyllum fuscum</i> , is known only from the Blue Mountains and can be distinguished by having paler-coloured flowers with a musty smell.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).

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<i>Prasophyllum pallens</i>	V	-	<i>Prasophyllum pallens</i> is a terrestrial herb of the Leek Orchid genus. Plants are up to 40 cm high and up to 30 flowers are crowded on an inflorescence up to 50 mm tall. Flowers are a pale tawny green to whitish with a 'rather unpleasant musty fragrance' that is very noticeable in warm to hot weather. Flowering is from November to December. <i>P. pallens</i> was first described from a specimen from Mount Banks in Blue Mountains National Park. <i>P. pallens</i> grows in dense low heath, often along seepage lines, in moist to wet shallow sandy soils over sandstone, mostly at altitudes greater than 900 m above sea level. The species is presently known from four distinct populations: Mt Banks and Mt Hay in Blue Mountains National Park, and near the townships of Blackheath and Wentworth Falls. Historical records suggest that it once occurred near Leura, Bell and Mount Victoria.	82	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Prasophyllum petilum</i> (Tarengo Leek Orchid)	E	E	Grows in open sites within Natural Temperate Grassland at the Boorowa and Delegate sites and in grassy woodland in association with River Tussock <i>Poa labillardieri</i> , Black Gum <i>Eucalyptus aggregata</i> and tea-trees <i>Leptospermum</i> spp. near Queanbeyan and within the grassy groundlayer dominated by Kanagroo Grass under Box-Gum Woodland at Ilford (and Hall, ACT)	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Prasophyllum</i> sp. <i>Wybong</i> (A leek orchid)	-	CE	Endemic to NSW. It is known from seven populations in eastern NSW near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell and Tenterfield.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be

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<i>Prostanthera cryptandroides</i> subsp. <i>cryptandroides</i>	V	-	At Glen Davis, occurs in open forest dominated by <i>Eucalyptus fibrosa</i> . Other eucalypt species may be present as sub-dominants. In the Denman-Gungal and Widden-Baerami Valley areas, occurs on rocky ridgelines on Narrabeen Group Sandstones in association with a range of communities.	2	negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Prostanthera stricta</i>	V	V	A locally dominant undershrub in heath or scrub communities along cliff edges, or as an understorey species within a range of open forest or tall open forest types, or in adjacent transitional communities. Grows in areas of both skeletal soil and on deeper, well-drained soil profiles in areas characterised by steep rocky sideslopes, cliff lines, sandstone platforms, or gentle slopes with exposed sandstone outcroppings.	1	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records).

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<i>Pseudomys novaehollandiae</i> (New Holland Mouse)	-	V	The New Holland Mouse currently has a disjunct, fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes.	1	active/ uncontrolled KTPs. Species recently observed in the Local Area (NSW BioNet records). High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Pseudophryne australis</i> (Red-crowned Toadlet)	V	-	Occurs on wetter ridge tops and upper slopes of sandstone formations on which the predominant vegetation is dry open forests and heaths. This species typically breeds within small ephemeral creeks that feed into larger semi-perennial streams. After rain these creeks are characterised by a series of shallow pools lined by dense grasses, ferns and low shrubs and usually contain leaf litter for shelter. Eggs are terrestrial and laid under litter, vegetation or rocks where the tadpoles inside will reach a relatively late stage of development before waiting for flooding waters before hatching will occur.	3	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.	7	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Pultenaea glabra</i>	V	V	Grows in swamp margins, hillslopes, gullies and creekbanks and occurs within dry sclerophyll forest and tall damp heath on sandstone. Restricted to the higher Blue Mountains. All known populations occur within the Blue Mountains Shire Local Government Area (DAWE 2022b).	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Pultenaea parrisiae</i> (Parris' Bush-pea)	V	V	Grows in moist heathlands in loam soils, sometimes at the margins of woodlands. Also in riparian vegetation.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Pultenaea sp. Olinda</i>	E	-	Has been found only in a very limited area of pagoda rock formation east of Rylstone.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
<i>Pycnoptilus floccosus</i> (Pilot Bird)	-	V	The pilotbird is found from the Wollemi National Park and Blue Mountains National Park in New South Wales through to the Dandenong Ranges, near Melbourne in Victoria. Its natural habitat is temperate wet sclerophyll forests and occasionally temperate rainforest, where there is dense undergrowth with abundant debris. It is sedentary and common.	0	detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Rhizanthella slateri</i>	V, EP (Great Lakes)	E	Habitat requirements are poorly understood and no particular vegetation type has been associated with the species, although it is known to occur in sclerophyll forest.	0	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Not recently observed in the Local Area (NSW BioNet records).
<i>Rhodamnia rubescens</i> (Scrub Turpentine)	CE	-	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to	1	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
					None. Species specific habitat types (i.e. important habitat features) and known vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are absent from the Project Area. The Project Area is also likely located outside the species known 'area of occurrence' and

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			infection by Myrtle Rust. Myrtle Rust affects all plant parts.		may also occur outside the species 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Species incidence is not expected and, if detected, would likely represent atypical occurrence (e.g. incidence linked with transient activity). Presence unlikely associated with habitat occupancy involving important lifecycle processes.
<i>Rostratula australis</i> (Australian Painted Snipe)	E	E, M	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Not recently observed in the Local Area (NSW BioNet records).
<i>Saccolaimus flaviventris</i> (Yellow-bellied Sheath-tail-bat)	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	30	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat)	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and	20	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within

REPORT

Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			human-made opening in the forest for flight paths. Creeks and small rivers are favoured foraging habitat. This species roosts in hollow tree trunks and branches.		the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Stagonopleura guttata</i> (Diamond Firetail)	V	-	Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season). Found in grassy eucalypt woodlands, including box-gum woodlands and snow gum woodlands. Also occurs in open forest, mallee, natural temperate grassland, and in secondary grassland derived from other communities.	10	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Swainsona recta</i> (Small Purple-pea)	E	E	Before European settlement, this species occurred in the grassy understorey of woodlands and open-forests dominated by Blakely's red gum, yellow box, candlebark gum and long-leaf box. Grows in association with understorey dominants that include kangaroo grass, poa tussocks and spear-grasses.	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Swainsona sericea</i> (Silky Swainson-pea)	V	-	Recorded from the Northern Tablelands to the Southern Tablelands and further inland on the slopes and plains. There is one isolated record from the far north-west of NSW. Its stronghold is on the Monaro. Found in Natural Temperate Grassland and Snow Gum Woodland on the Monaro. Found in Box-Gum Woodland in the Southern Tablelands and South West	0	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			Slopes. Sometimes found in association with cypresses.		capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the Local Area (NSW BioNet records).
<i>Tetradlea glandulosa</i>	V	V	Associated with shale-sandstone transition habitat where shale-cappings occur over sandstone, with associated soil landscapes such as Lucas Heights, Gympie, Lambert and Faulconbridge. Topographically, the plant occupies ridgetops, upper-slopes and to a lesser extent mid-slope sandstone benches. Soils are generally shallow, consisting of a yellow, clayey-sandy loam. Stony lateritic fragments are also common in the soil profile on many of these ridgetops. Vegetation structure varies from heaths and scrub to woodlands-open woodlands, and open forest.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Thesium australe</i> (Austral Toadflax)	V	V	Grows in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia. Occurs in grassland or grassy woodland. Grows on kangaroo grass tussocks but has also been recorded within the exotic coolatai grass.	4	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Tyto novaehollandiae</i> (Masked Owl)	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest	4	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.		2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Tyto tenebricosa</i> (Sooty Owl)	V	-	Often found in tall old-growth forests, including temperate and subtropical rainforests. In NSW mostly found on escarpments with a mean altitude less than 500 metres. Nests and roosts in hollows of tall emergent trees, mainly eucalypts often located in gullies. Nests have been located in trees 125 to 161 centimetres in diameter.	6	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Varanus rosenbergi</i> (Rosenberg's Goanna)	V	-	This species is a Hawkesbury-Narrabeen sandstone outcrop specialist. Occurs in coastal heaths, humid woodlands and both wet and dry sclerophyll forests.	3	High. Habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is likely to be located within the known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are unlikely to adversely influence the capacity of the species to occupy the habitat. Pre-existing and active KTPs are unlikely to be substantially influencing species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Velleia perfoliata</i>	V	V	The species is only known from the Hawkesbury District and Upper Hunter Valley in the Central Coast botanical subdivision of NSW. <i>Velleia perfoliata</i> grows in heath on shallow sandy soil over Sandstone. It is currently known to exist in 9 populations. Five of these populations are reserved whilst a further population is partly reserved. Four of the reserved sites are situated adjacent to fire trails.	4	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
					incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Veronica blakelyi</i>	V	-	Restricted to the western Blue Mountains, near Clarence, near Mt Horrible, on Nullo Mountain and in the Coricudgy Range. Occurs at fewer than 20 locations, none of which is in a conservation reserve. Occurs in eucalypt forest, often in moist areas.	263	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species recently observed in the Local Area (NSW BioNet records).
<i>Vespadelus troughtoni</i> (Eastern Cave Bat)	V	-	The Eastern Cave Bat is found in a broad band on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. The western limit appears to be the Warrumbungle Range, and there is a single record from southern NSW, east of the ACT. A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals.	11	Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the Project Area. The Project Area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species recently observed in the Local Area (NSW BioNet records).
<i>Wollemia nobilis</i> (Wollemi Pine)	E	E	The Wollemi Pine occurs in the warm temperate rainforest and rainforest margins in a eucalypt forest-woodland complex within the Sydney Sandstone Biome of the eastern coast of NSW. Topography controls vegetation associations where Wollemi Pine occurs. Within the canyons rainforest occurs and the surrounding ridges have dry sclerophyll woodland. Associated species of these communities include <i>Ceratopetalum apetalum</i> , <i>Doryphora sassafras</i> , <i>Acmena smithii</i> , <i>Backhousea myrtifolia</i> , <i>Quintinia sieberi</i> , <i>Angophora floribunda</i> , <i>Dicksonia antarctica</i> , <i>Cyathea australis</i> , <i>Eupomatia laurina</i> , <i>Lepidosperma urophorum</i> , <i>Sticherus flabellatus</i> , <i>Todea barbara</i> ,	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat	Records (DPE 2022a)	Likelihood of Occurrence
			<i>Cissus hypoglauca</i> , <i>Clematis aristata</i> , <i>Pandorea pandorana</i> and <i>Parsonsia straminea</i> .		active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Xanthosia scopulicola</i>	V	-	Known only from scattered locations between Kings Tableland (Wentworth Falls) and Boars Head rock (west of Katoomba) in the Blue Mountains. Grows in cracks and crevices of sandstone cliff faces or on rocky outcrops above the cliffs.	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).
<i>Xerochrysum palustre</i> (Swamp Everlasting)	-	V	Grows in swamps and bogs which are often dominated by heaths. Also grows at the edges of bog margins on peaty soils with a cover of shrubs or grasses. Sometimes grows in bogs with Sphagnum. Re-sprouts after fires.	0	Known. Species observed and habitat values within the Project Area are generally consistent with descriptions provided in the BCD TSPD. Habitat is located within known 'extent of occurrence' and 'area of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Habitat occupancy is likely to be associated with important life cycle processes; however, the reliance on this habitat would depend on additional factors (e.g. size and extent of local population, effect of KTPs). Species not recently observed in the Local Area (NSW BioNet records).
<i>Zieria murphyi</i>	V	V	The species grows in open, dry sclerophyll forest, on sandy soils on sandstone and in sheltered sites, often just below cliffines	0	Low. Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state. The Project Area is likely to be located outside the species known 'area of occurrence' but may be within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality are likely to be negatively influencing the likelihood of habitat occupancy. If

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Scientific Name (Common Name)	BC Act	EPBC Act	Habitat
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Records (DPE 2022a)	Likelihood of Occurrence
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detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs. Species not recently observed in the Local Area (NSW BioNet records).

Note: CE = Critically Endangered; E = Endangered; V = Vulnerable; EP = Endangered Population; M = Migratory; Ext = Extinct

Appendix E

Flora List: RDPs and BAM plots

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Appendix Table D2 RDPs 151 - 185: floristic data

Scientific Name	Common Name	NSW Status	Comm. Status	RDPs																																	
				HTW	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	168	169	170	171	172	173	175	176	177	178	179	180	181	182	183	184	185	
<i>Acacia buxifolia</i>	Box-leaved Wattle	Not Listed	Not Listed		X	X					X																									X	X
<i>Acacia dealbata</i>	Silver Wattle	Not Listed	Not Listed					X				X		X	X		X	X	X	X	X							X									
<i>Acacia dorothea</i>	Dorothy's Wattle	Not Listed	Not Listed																																		
<i>Acacia gunnii</i>	Ploughshare Wattle	Not Listed	Not Listed																																		
<i>Acacia leucoloba</i>		Not Listed	Not Listed																																		
<i>Acacia longifolia</i>		Not Listed	Not Listed		X	X						X	X																								
<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sydney Golden Wattle	Not Listed	Not Listed																																		
<i>Acacia melanoxylon</i>	Blackwood	Not Listed	Not Listed														X																				
<i>Acacia myrtifolia</i>	Red-stemmed Wattle	Not Listed	Not Listed																																		
<i>Acacia obtusifolia</i>		Not Listed	Not Listed																																		
<i>Acacia</i> spp.	Wattle	Not Listed	Not Listed																																		
<i>Acacia terminalis</i>	Sunshine Wattle	Not Listed	Not Listed		X						X																									X	X
<i>Acacia ulicifolia</i>	Prickly Moses	Not Listed	Not Listed																																		
<i>Ajuga australis</i>	Austral Bugle	Not Listed	Not Listed																																		
<i>Allocasuarina littoralis</i>	Black She-Oak	Not Listed	Not Listed																																		
<i>Allocasuarina</i> spp.		Not Listed	Not Listed		X																																
<i>Amperea xiphoclada</i>		Not Listed	Not Listed																																	X	X
Apiaceae indeterminate	Umbellifers	Not Listed	Not Listed																																		X
<i>Banksia spinulosa</i>	Hairpin Banksia	Not Listed	Not Listed								X		X																								
<i>Banksia</i> spp.		Not Listed	Not Listed																																		
<i>Baumea rubiginosa</i>		Not Listed	Not Listed																																		X
<i>Blechnum nudum</i>	Fishbone Water Fern	Not Listed	Not Listed																																		
<i>Boronia microphylla</i>	Small-leaved Boronia	Not Listed	Not Listed								X																										
<i>Brachyscome</i> spp.		Not Listed	Not Listed																																		
<i>Calochlaena dubia</i>	Rainbow Fern	Not Listed	Not Listed																																		
<i>Carex gaudichaudiana</i>		Not Listed	Not Listed																																		X
<i>Cassinia arcuata</i>	Sifton Bush	Not Listed	Not Listed																																		
<i>Cassinia</i> spp.		Not Listed	Not Listed																																		X
<i>Cautis flexuosa</i>	Curly Wig	Not Listed	Not Listed								X																										X
<i>Centella asiatica</i>	Indian Pennywort	Not Listed	Not Listed																																		X
<i>Cheilanthes sieberi</i>	Rock Fern	Not Listed	Not Listed									X		X																							
<i>Cirsium vulgare</i>	Spear Thistle	Not Listed	Not Listed																																		X
<i>Clematis</i> spp.		Not Listed	Not Listed																																		
<i>Conyza bonariensis</i>	Flaxleaf Fleabane	Not Listed	Not Listed																																		X
<i>Coronidium scorpioides</i>	Button Everlasting	Not Listed	Not Listed																																		
<i>Coronidium waddelliae</i>		Not Listed	Not Listed																																		
<i>Cyperus sanguinolentus</i>		Not Listed	Not Listed																																		X
<i>Cyperus</i> spp.		Not Listed	Not Listed																																		X
<i>Dactylis glomerata</i>		Not Listed	Not Listed																																		X
<i>Dampiera stricta</i>		Not Listed	Not Listed																																		
<i>Danthonia</i> spp.		Not Listed	Not Listed																																		
<i>Daviesia latifolia</i>	Bitter-pea	Not Listed	Not Listed																																		X
<i>Dianella porracea</i>		Not Listed	Not Listed																																		
<i>Dianella revoluta</i>	Blueberry Lily	Not Listed	Not Listed		X					X			X	X	X			X																			X
<i>Dianella</i> spp.		Not Listed	Not Listed																																		
<i>Dichealachne</i> spp.		Not Listed	Not Listed																																		
<i>Dichondra repens</i>	Kidney Weed	Not Listed	Not Listed																																		
<i>Dicksonia antarctica</i>	Soft Treefern	Not Listed	Not Listed																																		
<i>Dillwynia phyllicoides</i>	Parrot-pea	Not Listed	Not Listed																																		X
<i>Dillwynia retorta</i>		Not Listed	Not Listed																																		
<i>Dipodium</i> spp.		Not Listed	Not Listed																																		
<i>Dodonaea</i> spp.	A Hopbush	Not Listed	Not Listed																																		
<i>Dodonaea viscosa</i>	Sticky Hop-bush	Not Listed	Not Listed																																		
<i>Drosera binata</i>	Forked Sundew	Not Listed	Not Listed																																		

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Scientific Name	Common Name	NSW Status	Comm. Status	HTW																																				
					151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	168	169	170	171	172	173	175	176	177	178	179	180	181	182	183	184	185				
<i>Einadia hastata</i>	Berry Saltbush	Not Listed	Not Listed																X																					
<i>Eleocharis acuta</i>		Not Listed	Not Listed																																			X		
<i>Empodisma minus</i>		Not Listed	Not Listed																																					
<i>Entolasia stricta</i>	Wiry Panic	Not Listed	Not Listed																																			X	X	
<i>Epacris paludosa</i>	Swamp Heath	Not Listed	Not Listed																																					
<i>Epacris pulchella</i>	Wallum Heath	Not Listed	Not Listed																																					
<i>Eragrostis curvula</i>	African Lovegrass	Not Listed	Not Listed	YES			X																																	
<i>Eucalyptus aggregata</i>	Black Gum	Vulnerable	Vulnerable					X											X		X																X	X		
<i>Eucalyptus blaxlandii</i>	Blaxland's Stringybark	Not Listed	Not Listed							X																												X	X	
<i>Eucalyptus bridgesiana</i>	Apple Box	Not Listed	Not Listed																							X														
<i>Eucalyptus cannonii</i>	Capertee Stringybark	Vulnerable	Not Listed																																					
<i>Eucalyptus dalrympleana</i>	Mountain Gum	Not Listed	Not Listed						X	X		X	X						X		X																X			
<i>Eucalyptus dives</i>	Broad-leaved Peppermint	Not Listed	Not Listed						X	X	X	X	X	X							X	X					X	X	X											
<i>Eucalyptus eugenioides</i>	Thin-leaved Stringybark	Not Listed	Not Listed						X			X																												
<i>Eucalyptus fastigata</i>	Brown Barrel	Not Listed	Not Listed																																					
<i>Eucalyptus macrorhyncha</i>	Red Stringybark	Not Listed	Not Listed									X	X																											
<i>Eucalyptus mannifera</i>	Brittle Gum	Not Listed	Not Listed		X	X				X			X														X			X	X							X		
<i>Eucalyptus oreades</i>	Blue Mountains Ash	Not Listed	Not Listed																																				X	X
<i>Eucalyptus pauciflora</i>	White Sally	Not Listed	Not Listed												X																									
<i>Eucalyptus piperita</i>	Sydney Peppermint	Not Listed	Not Listed		X	X					X																													
<i>Eucalyptus racemosa</i>	Narrow-leaved Scribbly Gum	Not Listed	Not Listed																																				X	
<i>Eucalyptus radiata</i>	Narrow-leaved Peppermint	Not Listed	Not Listed																																					
<i>Eucalyptus rossii</i>	Inland Scribbly Gum	Not Listed	Not Listed																																					
<i>Eucalyptus rubida</i>	Candlebark	Not Listed	Not Listed														X	X	X								X											X	X	
<i>Eucalyptus sclerophylla</i>	Hard-leaved Scribbly Gum	Not Listed	Not Listed																																					
<i>Eucalyptus sieberi</i>	Silvertop Ash	Not Listed	Not Listed		X	X						X																										X	X	
<i>Eucalyptus sparsifolia</i>	Narrow-leaved Stringybark	Not Listed	Not Listed																																				X	
<i>Eucalyptus stellulata</i>	Black Sally	Not Listed	Not Listed																																				X	
<i>Eucalyptus stricta</i>	Blue Mountains Mallee Ash	Not Listed	Not Listed									X																												
<i>Eucalyptus viminalis</i>	Ribbon Gum	Not Listed	Not Listed																								X													
<i>Euchiton sphaericus</i>	Star Cudweed	Not Listed	Not Listed																																					
<i>Exocarpos cupressiformis</i>	Cherry Ballart	Not Listed	Not Listed																																					
<i>Exocarpos strictus</i>	Dwarf Cherry	Not Listed	Not Listed																																					
<i>Galium leiocarpum</i>		Not Listed	Not Listed																																					
<i>Galium spp.</i>		Not Listed	Not Listed																																					
<i>Geranium homeanum</i>		Not Listed	Not Listed																																					
<i>Geranium neglectum</i>		Not Listed	Not Listed																																					
<i>Geranium solanderi</i>	Native Geranium	Not Listed	Not Listed																																					
<i>Geranium spp.</i>		Not Listed	Not Listed																																					
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	Not Listed	Not Listed																																					
<i>Gompholobium spp.</i>		Not Listed	Not Listed																																					
<i>Gonocarpus spp.</i>	Raspwort	Not Listed	Not Listed																																					
<i>Gonocarpus tetragynus</i>	Poverty Raspwort	Not Listed	Not Listed																																					
<i>Goodenia bellidifolia</i>		Not Listed	Not Listed																																				X	
<i>Goodenia ovata</i>	Hop Goodenia	Not Listed	Not Listed																																					
<i>Grevillea acanthifolia</i>		Not Listed	Not Listed																																					
<i>Grevillea laurifolia</i>	Laurel-leaf Grevillea	Not Listed	Not Listed																																					
<i>Haemodorum planifolium</i>		Not Listed	Not Listed																																					
<i>Hakea dactyloides</i>	Finger Hakea	Not Listed	Not Listed																																				X	
<i>Hakea laevipes</i>		Not Listed	Not Listed																																					
<i>Hakea spp.</i>		Not Listed	Not Listed																																					
<i>Hardenbergia violacea</i>	False Sarsaparilla	Not Listed	Not Listed																																				X	
<i>Helichrysum spp.</i>		Not Listed	Not Listed																																					
<i>Hemarthria uncinata</i>	Matgrass	Not Listed	Not Listed																																				X	
<i>Hibbertia spp.</i>		Not Listed	Not Listed																																					

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Scientific Name	Common Name	NSW Status	Comm. Status	HTW	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	168	169	170	171	172	173	175	176	177	178	179	180	181	182	183	184	185									
<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower	Not Listed	Not Listed																																										
<i>Holcus lanatus</i>	Yorkshire Fog	Not Listed	Not Listed																																										
<i>Holcus spp.</i>		Not Listed	Not Listed																																										
<i>Hydrocotyle laxiflora</i>	Stinking Pennywort	Not Listed	Not Listed																																										
<i>Hydrocotyle peduncularis</i>		Not Listed	Not Listed																																										
<i>Hydrocotyle spp.</i>		Not Listed	Not Listed																																										
<i>Hypochoeris radicata</i>	Catsear	Not Listed	Not Listed																																							X			
<i>Isolepis spp.</i>	Club-rush	Not Listed	Not Listed																																										
<i>Isopogon anemonifolius</i>	Broad-leaf Drumsticks	Not Listed	Not Listed																																										
<i>Juncus caespiticus</i>		Not Listed	Not Listed																						X																X				
<i>Juncus continuus</i>		Not Listed	Not Listed																																										
<i>Juncus planifolius</i>		Not Listed	Not Listed																																										
<i>Juncus prismatocarpus</i>		Not Listed	Not Listed																																							X			
<i>Juncus sarophorus</i>		Not Listed	Not Listed																					X	X															X					
<i>Kunzea obovata</i>		Not Listed	Not Listed																																										
<i>Kunzea spp.</i>		Not Listed	Not Listed																																										
<i>Lagenophora stipitata</i>	Common Lagenophora	Not Listed	Not Listed																																										
<i>Lepidosperma laterale</i>	Variable Sword-sedge	Not Listed	Not Listed																																										
<i>Leptospermum arachnoides</i>		Not Listed	Not Listed																																										
<i>Leptospermum continentale</i>	Prickly Teatree	Not Listed	Not Listed							X				X																															
<i>Leptospermum grandifolium</i>	Woolly Teatree	Not Listed	Not Listed																																										
<i>Leptospermum macrocarpum</i>		Not Listed	Not Listed																																										
<i>Leptospermum myrtifolium</i>		Not Listed	Not Listed																																									X	
<i>Leptospermum obovatum</i>		Not Listed	Not Listed																																										
<i>Leptospermum polygalifolium</i>	Tantoon	Not Listed	Not Listed								X																																		
<i>Leptospermum spp.</i>	Tea-tree	Not Listed	Not Listed																																										
<i>Leptospermum trinervium</i>	Slender Tea-tree	Not Listed	Not Listed									X																																	
<i>Leucochrysum spp.</i>		Not Listed	Not Listed																																										
<i>Leucopogon ericoides</i>	Pink Beard-heath	Not Listed	Not Listed																																										
<i>Leucopogon juniperinus</i>	Prickly Beard-heath	Not Listed	Not Listed																																										
<i>Leucopogon lanceolatus</i>		Not Listed	Not Listed																																										
<i>Leucopogon muticus</i>	Blunt Beard-heath	Not Listed	Not Listed								X																																		
<i>Leucopogon spp.</i>	A Beard-heath	Not Listed	Not Listed																																										
A Liverwort		Not Listed	Not Listed																																										
<i>Lobelia dentata</i>		Not Listed	Not Listed																																										
<i>Lomandra filiformis</i>	Wattle Matt-rush	Not Listed	Not Listed																																										
<i>Lomandra glauca</i>	Pale Mat-rush	Not Listed	Not Listed							X				X		X	X				X																						X		
<i>Lomandra longifolia</i>	Spiny-headed Mat-rush	Not Listed	Not Listed							X		X										X																							
<i>Lomandra multiflora</i>	Many-flowered Mat-rush	Not Listed	Not Listed																																										
<i>Lomandra spp.</i>	Mat-rush	Not Listed	Not Listed																																										
<i>Lomatia myricoides</i>	River Lomatia	Not Listed	Not Listed																																										
<i>Lomatia silaifolia</i>	Crinkle Bush	Not Listed	Not Listed																																								X	X	
<i>Lythrum hyssopifolia</i>	Hyssop Loosestrife	Not Listed	Not Listed																							X	X																		
<i>Microlaena stipoides</i>	Weeping Grass	Not Listed	Not Listed																																										
<i>Mitrasacme serpyllifolia</i>		Not Listed	Not Listed																																										
<i>Monotoca scoparia</i>		Not Listed	Not Listed																																									X	X
<i>Orchidaceae indeterminate</i>		Not Listed	Not Listed																																										
<i>Oxalis perennans</i>		Not Listed	Not Listed																																										
<i>Oxalis spp.</i>		Not Listed	Not Listed																																										
<i>Panicum effusum</i>	Hairy Panic	Not Listed	Not Listed																																										
<i>Panicum simile</i>	Two-colour Panic	Not Listed	Not Listed																									X																	
<i>Paspalum dilatatum</i>	Paspalum	Not Listed	Not Listed																																									X	
<i>Patersonia longifolia</i>		Not Listed	Not Listed																																										
<i>Patersonia sericea</i>	Silky Purple-Flag	Not Listed	Not Listed																																										
<i>Patersonia spp.</i>		Not Listed	Not Listed																																										

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Scientific Name	Common Name	NSW Status	Comm. Status	HTW	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	222	290	291	292	293	294			
<i>Gonocarpus micranthus</i>		Not Listed	Not Listed																			X							X				X														
<i>Gonocarpus tetragynus</i>	Poverty Raspwort	Not Listed	Not Listed																			X																									
<i>Goodenia bellidifolia</i>		Not Listed	Not Listed														X	X					X																								
<i>Gratiola</i> spp.		Not Listed	Not Listed																							X	X		X																		
<i>Grevillea acanthifolia</i>		Not Listed	Not Listed																												X																
<i>Hakea dactyloides</i>	Finger Hakea	Not Listed	Not Listed			X					X	X		X	X				X	X			X																	X			X	X			
<i>Hakea microcarpa</i>	Small-fruited Hakea	Not Listed	Not Listed																							X	X	X						X	X	X	X										
<i>Hardenbergia violacea</i>	False Sarsaparilla	Not Listed	Not Listed																					X																							
<i>Helichrysum</i> spp.		Not Listed	Not Listed					X																																							
<i>Hibbertia obtusifolia</i>	Hoary Guinea Flower	Not Listed	Not Listed											X									X																								
<i>Holcus lanatus</i>	Yorkshire Fog	Not Listed	Not Listed																																												
<i>Hydrocotyle peduncularis</i>		Not Listed	Not Listed																							X	X	X	X				X														
<i>Hydrocotyle</i> spp.		Not Listed	Not Listed																											X																	
<i>Hypochoeris radicata</i>	Catsear	Not Listed	Not Listed																																												
<i>Isolepis</i> spp.	Club-rush	Not Listed	Not Listed																							X	X		X	X																	
<i>Juncus planifolius</i>		Not Listed	Not Listed																		X						X	X	X	X	X		X														
<i>Juncus sarophorus</i>		Not Listed	Not Listed																							X	X		X																		
<i>Kunzea cabbagei</i>	Cabbage Kunzea	Not Listed	Not Listed					X	X																																						
<i>Lepidosperma laterale</i>	Variable Sword-sedge	Not Listed	Not Listed		X		X	X	X	X		X				X	X	X	X																								X	X	X	X	X
<i>Leptospermum continentale</i>	Prickly Teatree	Not Listed	Not Listed									X				X	X																														
<i>Leptospermum grandifolium</i>	Woolly Teatree	Not Listed	Not Listed																												X				X												
<i>Leptospermum myrtifolium</i>		Not Listed	Not Listed																																												
<i>Leptospermum obovatum</i>		Not Listed	Not Listed																			X								X	X	X		X	X												
<i>Leptospermum polygalifolium</i>	Tantoon	Not Listed	Not Listed													X																															
<i>Leptospermum</i> spp.	Tea-tree	Not Listed	Not Listed																							X	X		X																		
<i>Leptospermum trinervium</i>	Slender Tea-tree	Not Listed	Not Listed												X																																
<i>Leucochrysum graminifolium</i>		Not Listed	Not Listed						X																																						
<i>Lomandra glauca</i>	Pale Mat-rush	Not Listed	Not Listed		X				X																																						
<i>Lomandra multiflora</i>	Many-flowered Mat-rush	Not Listed	Not Listed																						X																						
<i>Lomatia myricoides</i>	River Lomatia	Not Listed	Not Listed																									X																			
<i>Luzula</i> spp.		Not Listed	Not Listed																							X	X	X								X	X	X	X								
<i>Microlaena stipoides</i>	Weeping Grass	Not Listed	Not Listed																																												
<i>Monotoca elliptica</i>	Tree Broom-heath	Not Listed	Not Listed									X											X																								
<i>Nertera granadensis</i>	Matted Nertera	Not Listed	Not Listed																								X	X	X																		
<i>Patersonia sericea</i>	Silky Purple-Flag	Not Listed	Not Listed											X				X	X	X																											
<i>Phebalium lamprophyllum</i>	Shiny Phebalium	Not Listed	Not Listed														X																														
<i>Pimelea linifolia</i>	Slender Rice Flower	Not Listed	Not Listed								X								X	X																							X		X		
<i>Plantago</i> spp.	Plantain	Not Listed	Not Listed																							X	X	X																			
<i>Platysace lanceolata</i>	Shrubby Platysace	Not Listed	Not Listed		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																												
<i>Poa sieberiana</i>	Snowgrass	Not Listed	Not Listed																																												
<i>Poa</i> spp.		Not Listed	Not Listed																																												
<i>Pomax umbellata</i>	Pomax	Not Listed	Not Listed													X																															
<i>Poranthera microphylla</i>	Small Poranthera	Not Listed	Not Listed																					X																							
<i>Prostanthera granitica</i>		Not Listed	Not Listed						X																																						
<i>Pteridium esculentum</i>	Bracken	Not Listed	Not Listed													X										X			X		X		X														
<i>Pultenaea divaricata</i>		Not Listed	Not Listed																																												

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Appendix Table D3 BAM plot data: flora species, cover and abundance (Plots 1 to 15)

Scientific Name	Exotic	HTW	Plot 1		Plot 2		Plot 3		Plot 4		Plot 5		Plot 6		Plot 7		Plot 8		Plot 9	Plot 10	Plot 11	Plot 12	Plot 13		Plot 14	Plot 15			
			C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A					0.2	1					
<i>Acacia dealbata</i>							3	8											5	10	1.0	5							
<i>Acacia melanoxylon</i>							5	10	0.1	2																			
<i>Alisma plantago-aquatica</i>																						0.5	100						
<i>Anthoxanthum odoratum</i>	*																												
<i>Apiaceae indeterminate</i>	*																				0.2	50							
<i>Aristida ramosa</i>							3	50							2	150													
<i>Aristida vagans</i>			1.0	25	10	250	0.5	10							5	300													
<i>Astroloma humifusum</i>			0.2	5																									
<i>Avena sativa</i>	*											0.5	50												8.0	100			
<i>Baumea rubiginosa</i>																						60.0	1,000						
<i>Bossiaea neo-anglica</i>					0.1	10																							
<i>Brachyscome spp.</i>																			0.2	50									
<i>Briza maxima</i>	*		0.3	15																									
<i>Briza minor</i>	*																		1	50									
<i>Bromus catharticus</i>	*											2	80																
<i>Bromus spp.</i>																													
<i>Callitriche stagnalis</i>	*																												
<i>Calotis spp.</i>							0.5	20																	15.0	500			
<i>Carex gaudichaudiana</i>																													
<i>Carex inversa</i>														0.1	1														
<i>Carex spp.</i>																			1	50				3.0	10				
<i>Cassinia sifton</i>					0.2	1	3	10	0.3	3				0.2	1	4	20							0.2	10				
<i>Cassinia spp.</i>																										30.0	2,000		
<i>Cenchrus clandestinus</i>	*																												
<i>Cenchrus pennisetiformis</i>	*	YES																			2.0	150							
<i>Centaurium tenuiflorum</i>	*				3	150																							
<i>Centella asiatica</i>																						0.5	10						
<i>Cheilanthes sieberi</i>					0.1	2																							
<i>Chrysocephalum apiculatum</i>			0.1	10	0.3	25				0.1	1						1	40			3.0	100	8.0	250		0.8	25		
<i>Cirsium vulgare</i>	*					0.5	5	0.1	5				0.2	8					0.2	10				0.2	20	0.3	50	0.2	30
<i>Conyza bonariensis</i>	*																					0.5	150						
<i>Conyza spp.</i>	*				0.2	10	0.2	10			0.2	5	0.1	5	0.1	2					1.0	100							
<i>Coronidium scorpioides</i>																													
<i>Cotoneaster glaucophyllus</i>	*																												
<i>Crataegus monogyna</i>	*						3	5															0.5	25					
<i>Cynodon dactylon</i>			1.0	50	5	150	3	50				25	500	3	200	20	300				5.0	100							
<i>Cyperus compressus</i>	*																												
<i>Cyperus spp.</i>																													
<i>Cyperus tetraphyllus</i>																						1.0	10						
<i>Cytisus scoparius subsp. scoparius</i>	*						1.5	30																					
<i>Dactylis glomerata</i>	*				5	100			0.5	20	0.5	10	5	50	1	25	4	200											
<i>Desmodium spp.</i>																								0.2	5				
<i>Dianella revoluta</i>			0.2	10																	1.0	20							
<i>Dianella spp.</i>																			1	10									
<i>Dichelachne crinita</i>												0.5	20																
<i>Dichelachne spp.</i>																					0.2	15							

REPORT

Scientific Name	Exotic	HTW	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	Plot 12	Plot 13	Plot 14	Plot 15	
<i>Digitaria</i> spp.							0.3	15							0.1	5		
<i>Dillwynia phyllicoides</i>			0.5	10	0.1	5						0.3	5		0.3	10		
<i>Dillwynia retorta</i>				0.2	1													
<i>Drosera</i> spp.																		
<i>Dysphania pumilio</i>						0.1	10											
<i>Dysphania pumilio</i>				0.1	1													
<i>Dysphania</i> spp.								0.1	5						5.0	100		
<i>Echinopogon caespitosus</i>						10	150					0.5	25					
<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>									2	30					1.0	25		
<i>Echinopogon ovatus</i>				2	40	0.1	15	5	100									
<i>Echinopogon</i> spp.			3.0	80														
<i>Echium vulgare</i>	*							0.2	4			0.3	15	1.5	75			
<i>Eleocharis sphacelata</i>																2.0	50	
<i>Eleusine indica</i>	*																	
<i>Enneapogon nigricans</i>			2.0	50		25	1000											
<i>Epacris microphylla</i>																		
<i>Epilobium billardioreanum</i>																2.0	100	
<i>Eragrostis brownii</i>				3	100											1.0	50	
<i>Eragrostis curvula</i>	*	YES					3	10			8	75	1.0	10	2.0	50		
<i>Eriochilus cucullatus</i>			0.1	1														
<i>Erodium cicutarium</i>	*										0.1	1	0.5	150			30.0	4
<i>Eucalyptus aggregata</i>					8	5					30	11		4.0	15			
<i>Eucalyptus bridgesiana</i>								20	3						8.0	2		
<i>Eucalyptus dalrympleana</i>						10	2	5	1		30	18	10	2	5.0	3		
<i>Eucalyptus dives</i>			10.0	6	0.5	3		3	2						8.0	4		
<i>Eucalyptus pauciflora</i>						4	5	3	2		2	2	2.0	2	35.0	6		
<i>Eucalyptus rubida</i>			20.0	10		15	5	20	4									
<i>Eucalyptus stellulata</i>																		
<i>Eucalyptus viminalis</i>												35.0	25					
<i>Euchiton involucratus</i>								0.1	1									
<i>Euchiton japonicus</i>																0.1	15	
<i>Euchiton sphaericus</i>													2.0	50	0.1	10		
<i>Euchiton</i> spp.			0.1	1	0.3	50	0.2	10	0.4	30		1.0	50	0.2	20			
<i>Galium aparine</i>	*														0.5	50		
<i>Galium</i> spp.										0.1	2	1	100	0.1	15			
<i>Geranium homeanum</i>					0.5	50	0.3	50					3.0	500	0.5	100		
<i>Geranium solanderi</i>						0.2	10		0.2	40								
<i>Geranium solanderi</i> var. <i>solanderi</i>					0.5	50												
<i>Geranium</i> spp.											3	50	0.1	10	1.0	80	0.1	20
<i>Glycine clandestina</i>																0.2	25	
<i>Gnaphalium</i> sp. <i>E</i>																		
<i>Gonocarpus micranthus</i>														3.0	50			
<i>Gonocarpus tetragynus</i>			0.1	25	0.1	5			0.5	20					0.5	200		
<i>Gonocarpus teucrioides</i>											1	50						
<i>Goodenia bellidifolia</i>			0.1	15											0.2	10		
<i>Goodenia hederacea</i>			0.1	15	0.1	5												
<i>Haloragis heterophylla</i>										4	120							
<i>Hemarthria uncinata</i>					1	50				8	300							

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Scientific Name	Exotic	HTW	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	Plot 12	Plot 13	Plot 14	Plot 15								
<i>Hibbertia obtusifolia</i>			0.5	5								0.8	10												
<i>Hibbertia spp.</i>						0.1	1								2.0	100	5.0	500							
<i>Holcus lanatus</i>	*					2	50				10	150	0.5	25	3.0	100									
<i>Holcus mollis</i>	*								1	25				1.0	20										
<i>Hydrocotyle laxiflora</i>						1	100					0.5	100												
<i>Hydrocotyle ranunculoides</i>	*																								
<i>Hydrocotyle sibthorpioides</i>														0.3	100	0.1	30	0.3	25						
<i>Hypericum gramineum</i>			0.3	30	0.1	20	0.2	10		0.1	1														
<i>Hypericum perforatum</i>	*	YES				0.5	10						0.8	40		0.2	30		0.5	200					
<i>Hypochaeris radicata</i>	*		0.1	15	1	100	0.3	15	0.5	80	0.5	100	2	80	0.2	10	8	150	3	250	0.5	75	3.0	300	
<i>Isolepis inundata</i>																									
<i>Juncus bufonius</i>	*										0.5	40												2.0	75
<i>Juncus continuus</i>														2.0	25										
<i>Juncus planifolius</i>														3.0	30										
<i>Juncus prismatocarpus</i>											0.5	40		0.2	25										
<i>Juncus sarophorus</i>										1	40														
<i>Juncus spp.</i>															0.1	3									
<i>Juncus usitatus</i>																									
<i>Laxmannia gracilis</i>			0.1	20																				0.1	2
<i>Lepidium spp.</i>					0.5	2			0.2	5															
<i>Leptospermum myrtifolium</i>			1.5	10	1.0	10						4.0	60											5.0	20
<i>Leptospermum obovatum</i>														15.0	30										
<i>Lepyrodia anarthria</i>														3.0	100										
<i>Leucochrysum albicans</i>			0.1	3	0.1	5																			
<i>Leucopogon ericoides</i>			0.2	10	0.1	3																			
<i>Leucopogon spp.</i>									0.1	1															
<i>Lilaeopsis polyantha</i>																									
<i>Liliaceae indeterminate</i>	*																								
<i>Lomandra filiformis</i>					0.2	2									20.0	500									
<i>Lomandra glauca</i>			20.0	500	2.0	50		0.5	30		4.0	100		1.0	50										
<i>Lomandra multiflora subsp. multiflora</i>			1.0	50			0.2	1					0.8	3											
<i>Lysimachia arvensis</i>	*								0.1	5															
<i>Lythrum hyssopifolia</i>										0.1	20													0.1	1
<i>Malva neglecta</i>	*						0.5	25						0.1	5										
<i>Marchantiophyta spp.</i>																									
<i>Medicago spp.</i>	*															1.0	20								
<i>Mentha spp.</i>																									
<i>Microlaena stipoides</i>					3.0	100	10.0	500	10.0	250	5.0	250	10.0	1,000											
<i>Microtis spp.</i>			0.1	60																					
<i>Mitrasacme serpyllifolia</i>														3.0	1,000										
<i>Monotoca elliptica</i>			0.8	5																					
<i>Myriophyllum spp.</i>																									
<i>Opercularia aspera</i>			0.1	20			0.1	10								0.8	50								
<i>Opercularia diphylla</i>												0.2	25		0.1	25									
<i>Orchidaceae indeterminate</i>	*																								
<i>Orchidaceae indeterminate</i>	*																								
<i>Oxalis corniculata</i>	*							0.5	40		0.5	30		1.0	500		0.1	10					0.1	10	
<i>Oxalis perennans</i>			0.2	100	0.2	50	0.1	25	0.2	50	0.1	10	0.1	10	0.5	50									

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Scientific Name	Exotic	HTW	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	Plot 12	Plot 13	Plot 14	Plot 15											
<i>Oxalis</i> spp.												0.5	200															
<i>Ozothamnus</i> spp.																												
<i>Panicum effusum</i>			0.1	10			10.0	500																				
<i>Panicum simile</i>			3.0	100			15.0	500	0.5	20	0.5	25		2.0	150	30.0	2,000			5.0	250							
<i>Paspalum dilatatum</i>	*	YES			5.0	50		10.0	250			10.0	300	5.0	200	1.0	50	20.0	1,000			3.0	75					
<i>Paspalum urvillei</i>	*																					0.1	1					
<i>Persoonia chamaepitys</i>																						0.1	1					
<i>Persoonia mollis</i>																												
<i>Phalaris aquatica</i>	*				0.1	2	0.5	25					3.1	150														
<i>Plantago debilis</i>														1.5	50							1.0	100	1.0	500			
<i>Plantago lanceolata</i>	*		0.5	100	0.5	20	0.2	20	1.0	150	4.0	100		10.0	200	2.0	100	3.0	250	5.0	500		0.1	10				
<i>Plantago major</i>	*																					0.3	50		5.0	150	10.0	750
<i>Poa labillardierei</i> var. <i>labillardierei</i>			2.0	50	5.0	50	0.5	25	60.0	3,000	50.0	1,000	3.0	100				3.0	100	10.0	500	2.0	50					
<i>Poa sieberiana</i>			8.0	250	0.5	10							75.0	1,000								3.0	100					
<i>Poa sieberiana</i> var. <i>sieberiana</i>																												
<i>Poa</i> spp.											0.5	25																
<i>Podolobium</i> spp.																								0.1	10			
<i>Polygonum aviculare</i>	*																						0.1	30				
<i>Poranthera microphylla</i>			0.1	20	0.1	1		0.1	10			0.5	50					0.1	25									
<i>Prunella vulgaris</i>	*																											
<i>Pultenaea paleacea</i>					0.1	2																	0.2	3				
<i>Pultenaea</i> spp.																												
<i>Pultenaea tuberculata</i>			0.3	20																								
<i>Ranunculus inundatus</i>																							0.1	1				
<i>Rosa</i> spp.	*									0.2	1													10.0	80			
<i>Rubus fruticosus</i> sp. agg.	*		4.0	5	2.0	10	0.5	5	0.5	1	2.0	8		1.0	2	20.0	150	0.5	10	0.5	5	0.3	5					
<i>Rubus moluccanus</i>																							0.1	10	0.5	100		
<i>Rumex acetosella</i>	*		0.1	20	0.1	40	0.5	50	0.2	10	0.5	80	0.1	5	1.0	50		1.0	50	0.5	20							
<i>Rumex brownii</i>					0.1	5																	10.0	50				
<i>Rytidosperma pallidum</i>			10.0	50	5.0	60		1.0	25				1.0	15								3.0	75					
<i>Rytidosperma racemosum</i>														1.0	20	0.2	10						0.5	25				
<i>Rytidosperma tenuius</i>																												
<i>Schoenus</i> spp.											0.5	80	0.5	50	0.5	250	3.0	500	3.0	250								
<i>Selliera radicans</i>																												
<i>Senecio madagascariensis</i>	*				0.3	25							1.0	50	0.5	15	0.5	200	0.3	25	0.2	10						
<i>Senecio prenanthoides</i>																												
<i>Senecio</i> spp.					0.2	10																						
<i>Setaria pumila</i>	*						10.0	250						0.8	50	30.0	200											
<i>Solanum nigrum</i>	*				0.5	5	0.2	2		0.1	10	0.1	1															
<i>Sonchus oleraceus</i>	*				0.3	15																						
<i>Sonchus</i> spp.						0.1	2							1.0	100													
<i>Stellaria flaccida</i>																												
<i>Stellaria graminea</i>	*																											
<i>Stellaria media</i>	*													1.0	100	0.1	25	0.1	10									
<i>Stellaria pungens</i>															0.8	50						0.1	2					
<i>Stylidium</i> spp.																												
<i>Taraxacum officinale</i>	*				0.2	20					0.2	10											1.5	75				
<i>Themeda triandra</i>			5.0	100	70.0	1,000		5.0	150				2.0	25	5.0	250												

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Scientific Name	Exotic	HTW	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	Plot 12	Plot 13	Plot 14	Plot 15	
<i>Tricoryne elatior</i>			0.1	2													0.8	200
<i>Trifolium repens</i>	*											1.0	250	0.5	300			
<i>Trifolium spp.</i>	*											1.0	100			95.0	5,000	
<i>Typha orientalis</i>																		
<i>Verbascum virgatum</i>	*												0.2	5				
<i>Verbena spp.</i>							0.1	2										
<i>Veronica plebeia</i>			0.1	1		0.4	10			0.1	1							
<i>Viola betonicifolia</i>												0.2	25					
<i>Viola sieberiana</i>																		
<i>Wahlenbergia gracilis</i>			0.1	5														
<i>Wahlenbergia spp.</i>																		
<i>Xanthosia dissecta</i>														0.5	75			
<i>Xerochrysum bracteatum</i>																		
<i>Xyris gracilis</i>															0.2	1		

Appendix Table D4 BAM plot data: flora species, cover and abundance (Plots 16 to 27)

Scientific Name	Exotic	HTW	Plot 16		Plot 17		Plot 18		Plot 19		Plot 20		Plot 21		Plot 22		Plot 23		Plot 24		Plot 25		Plot 26		Plot 27	
			C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A
<i>Acacia dealbata</i>							10.0	30																		
<i>Acacia melanoxylon</i>																										
<i>Alisma plantago-aquatica</i>																										
<i>Anthoxanthum odoratum</i>	*								5.0	250	20.0	999	2.0	200	3.0	200										
<i>Apiaceae indeterminate</i>	*																									
<i>Aristida ramosa</i>									0.1	10																
<i>Aristida vagans</i>															0.1	10										
<i>Astroloma humifusum</i>																										
<i>Avena sativa</i>	*																									
<i>Baumea rubiginosa</i>							2.0	80									70.0	10,000								
<i>Bossiaea neo-anglica</i>																										
<i>Brachycome spp.</i>															0.2	30										
<i>Briza maxima</i>	*																									
<i>Briza minor</i>	*																									
<i>Bromus catharticus</i>	*																						3.0	150		
<i>Bromus spp.</i>				3.0	100	0.5	25			0.3	25						0.5	50	0.1	30						
<i>Callitriche stagnalis</i>	*					0.2	50																			
<i>Calotis spp.</i>																										
<i>Carex gaudichaudiana</i>					40.0	750	20.0	800									15.0	500	60.0	500						
<i>Carex inversa</i>																										
<i>Carex spp.</i>																										
<i>Cassinia sifton</i>									0.1	3																
<i>Cassinia spp.</i>																										
<i>Cenchrus clandestinus</i>	*			5.0	250	5.0	200	10.0	1,000	45.0	2,000									5.0	500	40.0	1,500			
<i>Cenchrus pennisetiformis</i>	*	YES																								
<i>Centaurium tenuiflorum</i>	*												0.2	10	0.2	50							0.5	20		
<i>Centella asiatica</i>					1.0	250											0.2	150	0.2	50	0.1	10				
<i>Cheilanthes sieberi</i>																										
<i>Chrysocephalum apiculatum</i>								0.5	25											0.5	50					

REPORT

Scientific Name	Exotic	HTW	Plot 16	Plot 17	Plot 18	Plot 19	Plot 20	Plot 21	Plot 22	Plot 23	Plot 24	Plot 25	Plot 26	Plot 27				
<i>Cirsium vulgare</i>	*		0.1	5	0.5	10	0.3	5	0.1	1			1.0	20	0.5	5	0.1	5
<i>Conyza bonariensis</i>	*			1.0	50	0.5	50						1.0	30	0.4	150		
<i>Conyza spp.</i>	*							0.1	15	0.2	25	0.1	5				0.1	5
<i>Coronidium scorpioides</i>			0.1	10		1.0	50	0.4	25	0.2	25		0.2	10				
<i>Cotoneaster glaucophyllus</i>	*							0.1	2									
<i>Crataegus monogyna</i>	*																	
<i>Cynodon dactylon</i>			45.0	1,500	2.0	250	2.0	75		5.0	500		20.0	1,000	20.0	1,500	20.0	500
<i>Cyperus compressus</i>	*												1.0	50				
<i>Cyperus spp.</i>				3.0	150													
<i>Cyperus tetraphyllus</i>				3.0	1,000	0.5	200						0.5	20				
<i>Cytisus scoparius subsp. scoparius</i>	*																	
<i>Dactylis glomerata</i>	*												8.0	500				
<i>Desmodium spp.</i>								0.1	1									
<i>Dianella revoluta</i>																		
<i>Dianella spp.</i>																		
<i>Dichelachne crinita</i>																		
<i>Dichelachne spp.</i>										0.1	10	3.0	150		2.0	100		
<i>Digitaria spp.</i>																		
<i>Dillwynia phyllicoides</i>																		
<i>Dillwynia retorta</i>																		
<i>Drosera spp.</i>										0.1	2							
<i>Dysphania pumilio</i>																		
<i>Dysphania pumilio</i>																		
<i>Dysphania spp.</i>																		
<i>Echinopogon caespitosus</i>								2.0	100	2.0	50							
<i>Echinopogon caespitosus var. caespitosus</i>																		
<i>Echinopogon ovatus</i>								1.0	50									
<i>Echinopogon spp.</i>																		
<i>Echium vulgare</i>	*																0.1	5
<i>Eleocharis sphacelata</i>										2.0	25	15.0	200					
<i>Eleusine indica</i>	*														5.0	250		
<i>Enneapogon nigricans</i>																		
<i>Epacris microphylla</i>												0.5	8					
<i>Epilobium billardiereanum</i>				0.5	30	1.0	30					0.5	30					
<i>Eragrostis brownii</i>									1.0	100								
<i>Eragrostis curvula</i>	*	YES				3.0	30											
<i>Eriochilus cucullatus</i>																		
<i>Erodium cicutarium</i>	*																	
<i>Eucalyptus aggregata</i>								30.0	12			20.0	5	15.0	1			
<i>Eucalyptus bridgesiana</i>																		
<i>Eucalyptus dalrympleana</i>							20.0	5										
<i>Eucalyptus dives</i>																		
<i>Eucalyptus pauciflora</i>							4.0	5										
<i>Eucalyptus rubida</i>							5.0	3										
<i>Eucalyptus stellulata</i>												8.0	10					
<i>Eucalyptus viminalis</i>																		
<i>Euchiton involucratus</i>			0.2	20														
<i>Euchiton japonicus</i>							0.5	50		0.1	5		0.5	30				

REPORT

Scientific Name	Exotic	HTW	Plot 16	Plot 17	Plot 18	Plot 19	Plot 20	Plot 21	Plot 22	Plot 23	Plot 24	Plot 25	Plot 26	Plot 27					
<i>Euchiton sphaericus</i>					0.1	1	0.1	5	0.2	15			0.5	100	0.2	30	0.1	2	
<i>Euchiton spp.</i>									0.2	50									
<i>Galium aparine</i>	*																		
<i>Galium spp.</i>						0.1	1												
<i>Geranium homeanum</i>																			
<i>Geranium solanderi</i>			0.1	25		0.2	50			2.0	1,000	0.2	30			1.0	100		
<i>Geranium solanderi var. solanderi</i>																			
<i>Geranium spp.</i>												0.1	25						
<i>Glycine clandestina</i>																			
<i>Gnaphalium sp. E</i>			0.1	5					0.1	20			0.2	25	0.1	2			
<i>Gonocarpus micranthus</i>																			
<i>Gonocarpus tetragynus</i>									0.1	5									
<i>Gonocarpus teucrioides</i>																			
<i>Goodenia bellidifolia</i>																			
<i>Goodenia hederacea</i>																			
<i>Haloragis heterophylla</i>			0.1	5	0.3	50	0.2	100	0.2	30	0.1	5	0.5	50	0.1	5			
<i>Hemarthria uncinata</i>				5.0	200														
<i>Hibbertia obtusifolia</i>																			
<i>Hibbertia spp.</i>																			
<i>Holcus lanatus</i>	*			5.0	200								3.0	250					
<i>Holcus mollis</i>	*		2.0	50		3.0	150	3.0	100		5.0	250	3.0	80	3.0	100		1.0	20
<i>Hydrocotyle laxiflora</i>																			
<i>Hydrocotyle ranunculoides</i>	*									0.2	80	0.5	30						
<i>Hydrocotyle sibthorpioides</i>				0.2	100					1.5	500	0.1	50						
<i>Hypericum gramineum</i>						0.1	10												
<i>Hypericum perforatum</i>	*	YES					0.1	2											
<i>Hypochaeris radicata</i>	*		0.8	100		0.2	25	0.3	100	3.0	500	0.2	50	0.2	50	0.2	50	3.0	100
<i>Isolepis inundata</i>			0.5	250	0.5	200													
<i>Juncus bufonius</i>	*								0.5	40									
<i>Juncus continuus</i>			3.0	50	5.0	100													
<i>Juncus planifolius</i>			3.0	100	8.0	75				20.0	1,000	3.0	50						
<i>Juncus prismatocarpus</i>					3.0	250				5.0	500	5.0	200						
<i>Juncus sarophorus</i>				10.0	150	5.0	100			0.2	20						1.0	30	
<i>Juncus spp.</i>			20.0	50											10.0	50			
<i>Juncus usitatus</i>								0.5	3										
<i>Laxmannia gracilis</i>																			
<i>Lepidium spp.</i>								0.1	3										
<i>Leptospermum myrtifolium</i>																			
<i>Leptospermum obovatum</i>																			
<i>Lepyrodia anarthria</i>																			
<i>Leucochrysum albicans</i>																			
<i>Leucopogon ericoides</i>																			
<i>Leucopogon spp.</i>						0.1	5												
<i>Lilaeopsis polyantha</i>				2.0	500					0.1	10								
<i>Liliaceae indeterminate</i>	*							0.1	1										
<i>Lomandra filiformis</i>																			
<i>Lomandra glauca</i>						0.1	10	0.1	10	0.1	10		0.8	30					
<i>Lomandra multiflora subsp. multiflora</i>						0.2	1												

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Scientific Name	Exotic	HTW	Plot 16	Plot 17	Plot 18	Plot 19	Plot 20	Plot 21	Plot 22	Plot 23	Plot 24	Plot 25	Plot 26	Plot 27					
<i>Lysimachia arvensis</i>	*																		
<i>Lythrum hyssopifolia</i>				0.1	25														
<i>Malva neglecta</i>	*																		
<i>Marchantiophyta spp.</i>				0.5	50														
<i>Medicago spp.</i>	*			0.1	50														
<i>Mentha spp.</i>																			
<i>Microlaena stipoides</i>						2.0	500	2.0	150			50.0	2,000	8.0	500				
<i>Microtis spp.</i>																			
<i>Mitrasacme serpyllifolia</i>				5.0	1,000	5.0	1,000			0.2	250	0.2	20						
<i>Monotoca elliptica</i>																			
<i>Myriophyllum spp.</i>											0.1	5							
<i>Opercularia aspera</i>						0.1	25												
<i>Opercularia diphylla</i>																			
<i>Orchidaceae indeterminate</i>	*								0.1	8									
<i>Orchidaceae indeterminate</i>	*								0.1	10									
<i>Oxalis corniculata</i>	*											0.2	30						
<i>Oxalis perennans</i>						0.1	5		0.1	5									
<i>Oxalis spp.</i>																			
<i>Ozothamnus spp.</i>								0.1	2										
<i>Panicum effusum</i>			5.0	150	3.0	200				0.2	50		2.0	75	1.0	30			
<i>Panicum simile</i>			3.0	200			0.5	50		2.0	200		5.0	250					
<i>Paspalum dilatatum</i>	*	YES		0.5	30			0.5	25	0.1	20		5.0	100	5.0	200			
<i>Paspalum urvillei</i>	*																		
<i>Persoonia chamaepitys</i>																			
<i>Persoonia mollis</i>																			
<i>Phalaris aquatica</i>	*																		
<i>Plantago debilis</i>																			
<i>Plantago lanceolata</i>	*			0.5	50	0.2	25	0.2	50	0.5	50	3.0	500	0.2	30	1.0	250	5.0	1,000
<i>Plantago major</i>	*																		
<i>Poa labillardierei</i> var. <i>labillardierei</i>				15.0	1,000	5.0	100	0.5	15	15.0	500	10.0	500	5.0	100		60.0	1,000	
<i>Poa sieberiana</i>																			
<i>Poa sieberiana</i> var. <i>sieberiana</i>						0.3	25												
<i>Poa spp.</i>																			
<i>Podolobium spp.</i>						0.1	1												
<i>Polygonum aviculare</i>	*																		
<i>Poranthera microphylla</i>																			
<i>Prunella vulgaris</i>	*											1.0	50						
<i>Pultenaea paleacea</i>																			
<i>Pultenaea spp.</i>																			
<i>Pultenaea tuberculata</i>																			
<i>Ranunculus inundatus</i>												0.5	50						
<i>Rosa spp.</i>	*							0.2	1	1.0	3								
<i>Rubus fruticosus</i> sp. agg.	*			0.5	3	5.0	25	0.5	3	0.5	2		0.1	2					
<i>Rubus moluccanus</i>						0.1	1												
<i>Rumex acetosella</i>	*			0.8	100	0.2	5		0.5	50			0.2	30	0.2	20	0.2	20	
<i>Rumex brownii</i>					0.2	5					2.0	15	0.1	5		0.2	20		
<i>Rytidosperma pallidum</i>																			
<i>Rytidosperma racemosum</i>												0.2	15						

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Scientific Name	Exotic	HTW	Plot 16	Plot 17	Plot 18	Plot 19	Plot 20	Plot 21	Plot 22	Plot 23	Plot 24	Plot 25	Plot 26	Plot 27
<i>Rytidosperma tenuius</i>						0.2	25							
<i>Schoenus spp.</i>			1.5	250	0.2	150	0.5	50	0.3	50	2.0	500	1.0	50
<i>Selliera radicans</i>					0.2	15								
<i>Senecio madagascariensis</i>	*		0.1	10	0.5	75	0.2	15	0.1	1				
<i>Senecio prenanthoides</i>														
<i>Senecio spp.</i>														
<i>Setaria pumila</i>	*											3.0	150	
<i>Solanum nigrum</i>	*													
<i>Sonchus oleraceus</i>	*													
<i>Sonchus spp.</i>														
<i>Stellaria flaccida</i>										0.2	50			
<i>Stellaria graminea</i>	*				1.5	250				1.0	50	0.2	30	
<i>Stellaria media</i>	*						0.1	10		0.1	15	0.1	10	0.1
<i>Stellaria pungens</i>												0.1	20	
<i>Stylidium spp.</i>														
<i>Taraxacum officinale</i>	*													
<i>Themeda triandra</i>						20.0	1,500	10.0	500	85.0	5,000	95.0	1,000	
<i>Tricoryne elatior</i>														
<i>Trifolium repens</i>	*		0.2	100	0.3	50			0.3	100		0.3	200	0.3
<i>Trifolium spp.</i>	*													
<i>Typha orientalis</i>					1.0	4								
<i>Verbascum virgatum</i>	*													
<i>Verbena spp.</i>														
<i>Veronica plebeia</i>														
<i>Viola betonicifolia</i>														
<i>Viola sieberiana</i>												0.2	50	
<i>Wahlenbergia gracilis</i>														
<i>Wahlenbergia spp.</i>							0.2	10						
<i>Xanthosia dissecta</i>														
<i>Xerochrysum bracteatum</i>									1.0	60				
<i>Xyris gracilis</i>										0.2	25			

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Appendix Table D4 BAM plot data: flora species, cover and abundance (Plots 28 to 33)

Scientific Name	Exotic	HTW	Plot 28		Plot 29		Plot 30		Plot 31		Plot 32		Plot 33	
			C	A	C	A	C	A	C	A	C	A	C	A
<i>Acacia melanoxylon</i>									2	20	1	3	1	5
<i>Arthropodium milleflorum</i>					1	5								
<i>Baeckea linifolia</i>									1	3				
<i>Baeckea utilis</i>			4	25			2	20						
<i>Baloskion australe</i>			10	200	10	250								
<i>Baumea rubiginosa</i>			70	10000	70	5000	70	10000	65	10000	8	50		
<i>Blechnum indicum</i>													5	50
<i>Breutelia pseudophilonotis</i>											1	50		
<i>Carex gaudichaudiana</i>					10	500	15	1000	2	100	2	100	3	50
<i>Cassinia uncatata</i>											2	5	1	5
<i>Centella asiatica</i>			1	250	1	50			1	50				
<i>Cirsium vulgare</i>	*												0	1
<i>Comesperma ericinum</i>									1	10				
<i>Conyza spp.</i>	*										1	20		
<i>Deyeuxia spp.</i>									3	100	1	5	1	10
<i>Dillwynia spp.</i>													1	1
<i>Dodonaea multijuga</i>													1	1
<i>Doodia aspera</i>									1	20	1	50		
<i>Drosera binata</i>									1	5				
<i>Eleocharis pusilla</i>			1	50			1	100	20	10000	3	1000	2	1000
<i>Empodisma minus</i>					30	10000	8	5000						
<i>Epacris microphylla</i>							1	50						
<i>Epacris paludosa</i>									1	20				
<i>Epilobium billardioreanum</i>							1	1						
<i>Eucalyptus dives</i>									1	1	2	5	2	5
<i>Eucalyptus pauciflora</i>							3	3			2	3		
<i>Eucalyptus radiata</i>													1	1
<i>Euchiton gymnocephalus</i>			1	5	1	10	1	100						
<i>Euchiton involucreatus</i>													1	10
<i>Euchiton sphaericus</i>											1	20		
<i>Gahnia sieberiana</i>							2	1			1	1		
<i>Galium leiocarpum</i>			10	5000	20	5000	5	1000	2	500	5	1000		
<i>Geranium neglectum</i>					2	50			8	500	2	300	2	500
<i>Geranium solanderi</i>			1	20									1	100
<i>Gleichenia dicarpa</i>									1	75				
<i>Glyceria australis</i>									10	1000				
<i>Gonocarpus micranthus</i>			3	200			1	100			1	150		
<i>Gratiola peruviana</i>					1	5			1	2				
<i>Grevillea acanthifolia</i>			2	3	20	50	5	30	3	20				
<i>Hakea pachyphylla</i>							3	20						
<i>Holcus lanatus</i>	*		3	15	2	20	1	10						
<i>Hydrocotyle laxiflora</i>											2	250	25	10000
<i>Hydrocotyle sibthorpioides</i>							2	1000	1	500	1	250		

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Scientific Name	Exotic	HTW	Plot 28	Plot 29	Plot 30	Plot 31	Plot 32	Plot 33						
<i>Hypericum gramineum</i>				1	50	2	500	1	10					
<i>Hypochaeris radicata</i>	*		1	5				1	15	1	10			
<i>Isachne globosa</i>						2	100							
<i>Isolepis inundata</i>			3	500		1	100	2	250	2	1000	2	2000	
<i>Juncus continuus</i>			1	20	2	20	1	10	1	10	1	10	3	25
<i>Juncus planifolius</i>					2	100	1	1	5	200	4	150	10	100
<i>Juncus prismatocarpus</i>			1	5	2	25	1	10	2	100			3	10
<i>Lachnagrostis filiformis</i>			3	100	3	50	1	10					1	25
<i>Leptospermum grandifolium</i>								1	5	12	100	20	75	
<i>Leptospermum myrtifolium</i>						3	20							
<i>Leptospermum obovatum</i>			5	10	25	100	10	25	2	25	25	500		
<i>Lilaeopsis polyantha</i>			1	25										
<i>Lobelia surrepens</i>					1	10	1	15						
<i>Luzula ovata</i>								1	10	1	5			
<i>Marchantia berteroana</i>										15	10000			
<i>Microlaena stipoides</i>						3	250							
<i>Myriophyllum pedunculatum</i>			1	25	3	1000	2	100						
<i>Oxalis spp.</i>			1	5										
<i>Poa labillardierei</i> var. <i>labillardierei</i>			2	50	3	100								
<i>Pseudognaphalium luteoalbum</i>										1	1			
<i>Pteridium esculentum</i>										2	20	1	2	
<i>Rubus fruticosus</i>	*					1	1							
<i>Schoenus apogon</i>								1	100					
<i>Schoenus spp.</i>										1	100			
<i>Senecio diaschides</i>			1	3									1	1
<i>Senecio minimus</i>													1	2
<i>Senecio velleioides</i>													1	3
<i>Stellaria angustifolia</i>					1	20	1	2						
<i>Stellaria pungens</i>													1	1
<i>Stylidium graminifolium</i>							1	1						
<i>Trifolium repens</i>	*		1	100										
<i>Utricularia dichotoma</i>			1	5	1	5								
<i>Viola sieberiana</i>													1	10

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Appendix Table D4 BAM plot functional data

BAM plot	# trees 0-5 DBH	# trees 5-9	# trees 10-19	# trees 20-29	# trees 30-49	# trees 50-79	# trees 80+	Mean Leaf litter	Hollows	Total Logs (m)
1	Y	Y	Y	Y	Y	1	0	55.8	1	0
2	Y	Y	Y	N	N	0	0	2.4	0	0
3	Y	Y	Y	Y	Y	3	0	70	0	31
4	Y	Y	Y	Y	Y	4	2	93.2	0	67
5	N	N	N	N	N	0	0	97.8	0	0
6	Y	N	N	N	N	1	3	98.4	0	9
7	Y	Y	Y	Y	Y	5	2	85.6	0	6
8	N	N	N	N	N	0	0	94	0	0
9	Y	N	N	N	Y	0	0	4.4	0	0.0
10	N	N	N	N	N	0	0	1.2	0	0.0
11	N	N	N	N	N	0	0	2.8	0	0.0
12	N	N	N	N	N	0	0	2.8	0	0.0
13	Y	Y	Y	Y	Y	2	1	85.4	3	21.0
14	Y	Y	Y	Y	Y	1	0	55.8	1	0.0
15	Y	Y	Y	N	N	0	0	2.4	0	0.0
16	Y	Y	Y	Y	Y	0	0	70.0	0	31.0
17	Y	Y	Y	Y	Y	0	2	93.2	1	67.0
18	N	N	N	N	N	0	0	8.2	0	0.0
19	Y	N	Y	Y	Y	0	0	67.4	0	33.0
20	Y	Y	Y	Y	Y	0	0	58.0	0	10.0
21	N	N	N	N	N	0	0	5.2	0	0.0
22	N	N	N	N	N	0	0	3.0	0	0.0
23	N	N	N	N	N	0	0	19.2	0	0.0
24	Y	N	N	N	N	0	0	2.8	0	0.0
25	N	N	N	N	N	0	0	97.8	0	0.0
26	N	N	N	N	Y	0	3	98.4	6	9.0
27	Y	Y	Y	Y	N	1	2	85.6	3	6.0
28	N	N	N	N	N	0	0	2.8	0	0
29	N	N	N	Y	N	0	0	3.0	0	10
30	Y	Y	Y	Y	N	0	0	2.2	0	21
31	Y	N	N	N	N	0	0	8.0	0	1
32	Y	N	N	N	N	0	0	10.0	0	26
33	N	N	N	N	N	0	0	30.0	0	64