

Sutton Forest Quarries Pty Ltd

ABN 66 158 999 994



Biodiversity Assessment of the Quarry Access Road

Specialist Consultant Studies Compendium

Volume 2, Part 5B

Prepared by

Biosis Pty Ltd

February 2018

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Sutton Forest Quarries Pty Ltd

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Part 5B: Biodiversity Assessment of the Quarry Access Road

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7 March 2018

Mr Nick Warren
Senior Environmental Consultant
RW Corkery & Co Pty Ltd
Level 1, 12 Dangar Road
Brooklyn NSW 2083

Dear Nick

Re: Biodiversity assessment for the proposed quarry access road at Sutton Forest Quarry, Sutton Forest NSW

Project no. 26632, 27019

Biosis Pty Ltd was commissioned by RW Corkery & Co Pty Ltd to provide a biodiversity assessment including vegetation offset data and threatened fauna habitat values within the proposed quarry access roads for the Sutton Quarry development.

The purpose of the biodiversity assessment is to provide biodiversity data and mapping to inform the calculation of biodiversity offsets in accordance with the BioBanking Assessment Methodology 2014 (BBAM 2014). The biodiversity data will be used by the client to quantify the offset burden attributable to the development of the Quarry Access Road under the Framework for Biodiversity Assessment (FBA).

These investigations supplement previous biodiversity impact assessment for the project and the following data has been provided within this report:

- Vegetation condition assessment and plot transect data (supplied by map, ArcGIS file and plot/transect data) (17 January 2018).
- Vegetation descriptions.
- Detailed fauna habitat assessment to identify targeted survey requirements for BioBanking credit species.

This assessment has provided vegetation condition data to inform ecosystem offset credit requirements and provides recommendations for targeted survey that will be required to assess impacts to biodiversity values in accordance with the FBA.

Background

The study area covers an area of approximately 2.5 hectares and includes the proposed access roads to the development. This study area includes the proposed on ramps and off ramps from the Hume Highway, including the access way to the proposed processing/load out areas of the Quarry (Figure 1).

The study area is within Wingecarribee Shire Council Local Government Area (LGA) and is zoned E3 – Environmental Management, RU3 – Forestry and SP2 – Infrastructure under the Wingecarribee Local Environmental Plan 2010.

The surrounding land use is agricultural/horticultural farmland, with pockets of low density residential; the surrounding native vegetation is heavily fragmented particularly to the north and east of the study area.

The study area within the Hume Highway easement contains mostly planted trees and exotic weeds, with the road easement through private land supporting native vegetation assessed as being in moderate to good condition.

Method

Database and literature review

Prior to completing the field investigation, information provided by RW Corkery & Co Pty Ltd as well as other key information was reviewed, including:

- Commonwealth Department of the Environment and Energy (DEE) Protected Matters Search Tool for matters protected by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- NSW Office of Environment and Heritage (OEH) BioNet Atlas of NSW Wildlife, for items listed under the BC Act.
- Potential species credit species list provided by RW Corkery as extracted from the BioBanking Credit Calculator for vegetation and habitat characteristics of the assessment locality.
- *Flora and fauna survey and assessment: Sutton Forest Sand Quarry Proposal* (Kevin Mills & Associates 2018).
- Vegetation mapping including:
 - *Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands* (SCIVI) (Tozer et al. 2010)
 - *Biometric vegetation types within the study area*, Figure 5 (Sutton Forrest Quarry Biodiversity Offsets Assessment, Niche, 2013).

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- *Environment Protection and Biodiversity Conservation Act 1999*.
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *Biodiversity Conservation Act 2016*.
- *Local Land Services Act 2016*.
- *Biosecurity Act 2015* (Biosecurity Act).

Field investigation

Field investigations of the study area including vegetation mapping, condition assessment and threatened flora habitat assessment, was completed by Mathew Misdale (Botanist) on 9 January 2018. The vegetation survey was completed over six person hours and included two plot/transects completed in accordance with BBAM (2014). Targeted survey for potentially occurring threatened flora was undertaken using a straight line transect with a 10 metre spacing, and detailed survey of high potential habitat areas.

The habitat-based assessment for fauna was completed on 27 February 2018 by Kayla Asplet (Zoologist) and Sam McCann (Zoologist) over six person hours. The assessment took into account the BioBanking calculator data (21 species), as well as recording the presence of suitable habitat for threatened species previously recorded (OEH 2018) or predicted to occur (Commonwealth of Australia 2018) within 5 kilometres of the study area. This list was filtered according to species descriptions, life history, habitat preference and soil preference to determine those species most likely to be present within the study area.

Results

The study area runs adjacent to the Hume Highway on the eastern portion of the site (Kingsbury VC Rest Area), then crosses the Hume Highway and runs directly west (Figure 1). The surrounding land uses include a rest area to the east, the Hume Highway (major infrastructure), and farmland. The current surrounding land uses have led to extensive fragmentation of vegetation corridors throughout the landscape.

Regional soil landscape mapping indicates that the study area occurs on the *Wingecaribee* soil landscape (Chapman and Murphy, 1989). The Wingecaribee soils landscape topography can be characterised by low lying alluvial plains and closed depressions (i.e. swamps) and has a local relief of <10 metres. The composition of the soil is highly influential on the vegetation communities observed. The soil contains Silty Clayey Loam material, acidic peats, particularly in closed depressions; the limitations derived from this soil landscape include waterlogging, permanently high water tables, high in organic matter and low erodibility.

The vegetation connectivity of the study area was generally intact, however when you compare the study area with the surroundings; the landscape is moderately to highly fragmented with little habitat connectivity.

Vegetation communities

Prior to the field investigation, Biosis confirmed that two native vegetation communities have been mapped in the broader landscape (Tozer 2010, Niche 2013), these include:

- HN565 Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin
- HN568 Red Bloodwood - Sydney Peppermint - Blue-leaved Stringybark heathy forest of the southern Blue Mountains, Sydney Basin.

The vegetation of the study area comprised three vegetation types that are not listed as Threatened under state or Commonwealth legislation. The structure, floristic composition and condition of these communities are described in Table 1 and shown in Appendix 1: Figure 1.

Table 1 Vegetation communities within the study area

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| Community | Description | Legislative Status |
|---|--|--------------------|
| HN565 Red Bloodwood - Hard-leaved Scribbly Gum - Silvertop Ash heathy open forest on sandstone plateaux of the lower Shoalhaven Valley, Sydney Basin (moderate – good condition- Plot Plot/transect 1) | <p>This vegetation occurred in a small area within the eastern side of the Hume motorway reserve, and within the private road easement west on low rises and undulations to the previous mapping extent in 2013.</p> <p>Approximately 2.96 hectares occurred within the study area.</p> <p>The soils were mostly sandy clays with small sandstone pebbles, cobbles and at times small boulders. The soils present are likely derived of deeply weathered sandstone.</p> <p>The main canopy species included Silvertop Ash <i>Eucalyptus sieberi</i>, Sydney Peppermint <i>Eucalyptus piperita</i>, with Thin-leaved Stringybark <i>Eucalyptus eugenioides</i> and occasional Blue-leaved Stringybark <i>Eucalyptus agglomerata</i> on rises at the western extent.</p> <p>The midstorey was open and commonly Prickly Shaggy Pea <i>Podolobium ilicifolia</i>, Blunt Leaf Wattle <i>Acacia obtusifolia</i> and <i>Leucopogon lanceolatus</i>. Common groundcover included Bracken <i>Pteridium esculentum</i>, Spiny Bossiaea <i>Bossiaea obcordata</i>, Ivy Goodenia <i>Goodenia hederacea</i> subsp. <i>hederacea</i>, <i>Austrostipa pubescens</i>, Wallaby Grass <i>Rytidosperma fulvum</i>, <i>Gonocarpus tetragynus</i>, Blue-flax Lily <i>Dianella caerulea</i>, <i>Platysace linearifolia</i> Slender Rice Flower <i>Pimelea linifolia</i>, Kangaroo Grass <i>Themeda triandra</i>, <i>Lomandra filiformis</i> subsp. <i>filiformis</i>, <i>Phyllanthus hirtellus</i> and <i>Amperea xiphoclada</i>.</p> | Not listed. |
| Modified vegetation (Low condition HN565 –Plot/transect 2) | <p>This vegetation occurred within the eastern side of the Hume motorway reserve. Approximately 0.77 hectares was recorded within and adjacent to the study area.</p> <p>This area included a canopy of Radiata Pine <i>Pinus radiata</i>, with occasional midstorey occurrence of Silvertop Ash and Thin-leaved Stringybark. Occasional native midstorey included Prickly Shaggy Pea, Blunt Leaf Wattle, Dogwood <i>Ozothamnus diosmifolius</i>, <i>Persoonia mollis</i> subsp. <i>leptophylla</i> and <i>Leucopogon lanceolatus</i>. Common groundcover included Bracken, <i>Austrostipa pubescens</i>, Wallaby Grass, Blue-flax Lily <i>Dianella revoluta</i> subsp. <i>revoluta</i>, Spiny-headed Mat-rush <i>Lomandra longifolia</i>.</p> | Not listed. |
| Roadside vegetation | <p>Roadside vegetation included areas planted with Radiata Pine with slashed groundcovers, areas of vegetation dominated by exotic species, planted native trees and shrubs in exotic groundcover and occasional large remnant River Peppermint <i>Eucalyptus elata</i>.</p> <p>Planted roadside trees included River peppermint, Brown Barrel <i>Eucalyptus fastigata</i>, Ribbon Gum <i>Eucalyptus viminalis</i>, Yellow Box <i>Eucalyptus melliodora</i>, Argyle Apple <i>Eucalyptus cinerea</i>, Prickly-leaved Paperbark <i>Melaleuca styphelioides</i> and Black Wattle <i>Acacia decurrens</i>. Other planted native shrubs included Acacias, Callistemon and native cultivars that do not occur locally.</p> | Not listed. |

Flora species recorded within the plot/transects are shown in Appendix 2.

Threatened species

Background searches identified 18 threatened flora species and 26 threatened fauna species recorded (OEH 2018) or predicted to occur (DEE 2018) within 5 kilometres of the study area.

Those species considered most likely to have habitat within the study area based on the background research are discussed below. Table 2 and Table 3 provides an assessment of habitat values found within the study area.

Flora

Flora species recorded during plot/transects are shown in Appendix 2.

- Based on background searches and habitat recorded, threatened flora with potential to occur included:
 - Bynoe's Wattle *Acacia bynoeana* (Vulnerable, EPBC Act and Endangered, BC Act).
 - Dwarf Phyllota *Phyllota humifusa* (Vulnerable, EPBC Act and BC Act).
 - Velvet Zieria *Zieria murphyi* (Vulnerable, EPBC Act and BC Act).

Table 2 Assessment of habitat for threatened flora species

| Species | Local distribution and habitat requirements | Likelihood of occurrence or impact |
|-----------------------|---|---|
| Bynoe's Wattle | Has been recorded approximately 2.3 kilometres from the study area. Usually recorded in a range of sandstone derived soils with ironstone inclusions. It is also frequently recorded within managed easements, where soil disturbance has occurred. | Habitat features which form a requirement for this species were present, targeted survey did not record the species at a time of year when it was known to be flowering and most conspicuous. |
| Dwarf Phyllota | This species has been recorded 1.1 kilometres from the study area. It is a prostrate shrub which grows in gravelly loams on sandstone substrates. | Habitat features which form a requirement for this species were present, targeted survey did not record the species. |
| Velvet Zieria | This species has been recorded 5.4 kilometres from the study area. It is a medium spreading shrub which grows in sandy soils. | Habitat features which form a requirement for this species were present, targeted survey did not record the species. |

Fauna

Fauna species recorded during detailed survey are shown in Appendix 3.

- Threatened fauna with potential to occur include:
 - Glossy Black-Cockatoo *Calyptorhynchus lathami* (Vulnerable, BC Act and Species Credit Species).
 - Koala *Phascolarctos cinereus* (Vulnerable, EPBC Act and BC Act).
 - Diamond Firetail *Stagonopleura guttata* (Vulnerable, BC Act and Species Credit Species).

- Brown Treecreeper *Climacteris picumnus* subsp. *victoriae* (Vulnerable, BC Act and Species Credit Species).
- Flame Robin *Petroica phoenicea* (Vulnerable, BC Act and Species Credit Species).
- Scarlet Robin *Petroica boodang* (Vulnerable, BC Act and Species Credit Species).
- Little Eagle *Hieraaetus morphnoides* (Vulnerable, BC Act and Species Credit Species).
- Little Lorikeet *Glossopsitta pusilla* (Vulnerable, BC Act).
- Varied Sittella *Daphoenositta chrysoptera* (Vulnerable, BC Act).
- Gang-gang Cockatoo *Callocephalon fimbriatum* (Vulnerable, BC Act and Species Credit Species).
- Dusky Woodswallow *Artamus cyanopterus cyanopterus* (Vulnerable, BC Act).

Table 3 Assessment of habitat for threatened fauna species

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| Habitat feature | Threatened fauna association and habitat suitability | Likelihood of species credit species quality habitat |
|-------------------|---|---|
| Feed trees | <p>Eucalypts and recorded in the study area may provide nectar resources suitable for a range of arboreal and flying fauna (such as gliders, Grey-headed Flying-fox and nectivorous bird species) whilst in flower.</p> <p>A small cluster of Grey Gum <i>Eucalyptus punctata</i> are supported within the study area. This species provides potential foraging source for the Koala. There is a concentration of records approximately 5 kilometres to the west of the study area. Other isolated records are spread over 3.5 kilometres radius around the study area. The feed trees occur isolated within the study area and the field survey did not identify signs of koala presence (scats or scratches) associated with Koala presence. There is a potential that the corridor could be used, however the study area is mainly fenced by barbed wire which is likely to be restricting Koala from the study area.</p> <p>Areas containing fruiting <i>Allocasuarina littoralis</i> within the study area may provide foraging resources for the Glossy Black Cockatoo and other Cockatoo species including the Yellow-tailed Black-Cockatoo <i>Calyptorhynchus funereus</i>.</p> | <p>The foraging habitat located within the study area may be used on occasion by dispersing arboreal mammals and birds, and flying fox, however is not considered limiting as larger areas of better condition habitat is located west of the study area.</p> <p>Koala may use the study area as occasional dispersal habitat, however the habitat is considered highly marginal and no recent or historic presence were recorded during site investigations.</p> |

Table 3 Assessment of habitat for threatened fauna species (Cont'd)

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| Habitat feature | Threatened fauna association and habitat suitability | Likelihood of species credit species quality habitat |
|--|--|--|
| Hollow-bearing trees and breeding habitat | <p>Hollow-bearing trees were recorded in the study area (Appendix 1; Figure 1) containing small to medium sized hollows.</p> <p>Small pipe hollows within the eastern private alignment provided nesting habitat for Duskywood Swallow.</p> <p>The tree hollows observed, provide potential roosting habitat for microbats, including Eastern False Pipistrelle <i>Falsistrellus tasmiensis</i> and Eastern-Bentwing-bat <i>Miniopterus schreibersii oceanensis</i>. The hollows are located within a thin strip of vegetation isolated within pastoral land. These areas are subject to high levels of edge effect and competition with edge dominant birds. It was considered unlikely that the hollows present provide breeding habitat for either species.</p> <p>The size of the hollows are smaller than breeding habitat utilised by Barking Owl, Sooty Owl and Powerful Owl.</p> <p>The hollows are of a size that have the potential to be used by hollow dwelling cockatoos, however the hollows recorded were mainly upright branch pipes that do not provide habitat for breeding.</p> <p>While small forest birds, Flame Robin, Scarlet Robin, and Varied Sittella, have the potential to forage, nesting opportunities were absent and competition from Noisy Miner are likely to exclude these species from breeding in the study area.</p> | <p>Based on the size, condition and location of hollows within highly edge impacted linear strip of vegetation, we consider it unlikely that the habitat provides breeding habitat for species credit species listed in Appendix 3.</p> |
| Ephemeral habitat features | <p>Various twig nests and loosened bark were identified throughout the study area. These features are indicative of former habitat usage or features that could be used as habitat but are ephemeral in nature.</p> | <p>Based on inspections of these features, there was an absence of fauna observed. Based on observations, we consider these ephemeral habitat features are unlikely to provide essential habitat for species credit species listed in Table 3.</p> |

Based on the size of the study area, the survey effort is considered comprehensive to assess habitat presence for the species outlined in above. Taking all of these factors into consideration, there is a low likelihood of impact for the above listed species.

Conclusion and recommendations

The site investigations have mapped and provided plot/transect data for moderate-good and low condition vegetation recorded onsite. This data has been provided to RW Corkery and will be utilised in calculating the required offset burden for impacts to vegetation in accordance with the FBA. Survey effort is considered adequate and further targeted survey for threatened flora is not required.

The habitat based fauna survey recorded mainly foraging and dispersal habitat for threatened species, including hollow bearing trees that are likely to provide roosting habitat for threatened microbats. Based on the linear arrangement, edge effects and high proportion of edge dwelling birds, the study area was not considered optimal breeding habitat fauna species. However, this survey does not provide certainty in excluding a number of species that have a low likelihood of utilising the study area for breeding habitat.

As a result, to adequately complete impact assessment in accordance with the FBA, we have provided recommendations for further targeted survey to be undertaken for species credit species that have the potential to utilise the fauna habitat in Appendix 3, Table 6. Similarly, in lieu of targeted survey to exclude these species utilising the study areas as foraging and dispersal habitat, we would recommend that ecosystem multipliers be utilised during BBAM calculations for impact credit burden.

We would also recommend, based on the occurrence of a significant number of Koala records within the locality, systematic survey of the study area to quantify the potential for the study area to be utilised by Koala.

I trust that this advice is of assistance to you however please contact me if you would like to discuss any elements of this ecological advice further.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Kayla Asplet'.

Kayla Asplet

Zoologist

References

Chapman, GA and Murphy CL 1989. *Soil Landscapes of the Sydney 1:100 000 Sheet*. Soil Conservation Service of NSW, Sydney.

Commonwealth of Australia 2018. Protected Matters Search Tool. Australian Government Department of the Environment, Water, Heritage & the Arts, Canberra. Accessed 01/03/2018 at <https://www.environment.gov.au/epbc/protected-matters-search-tool>

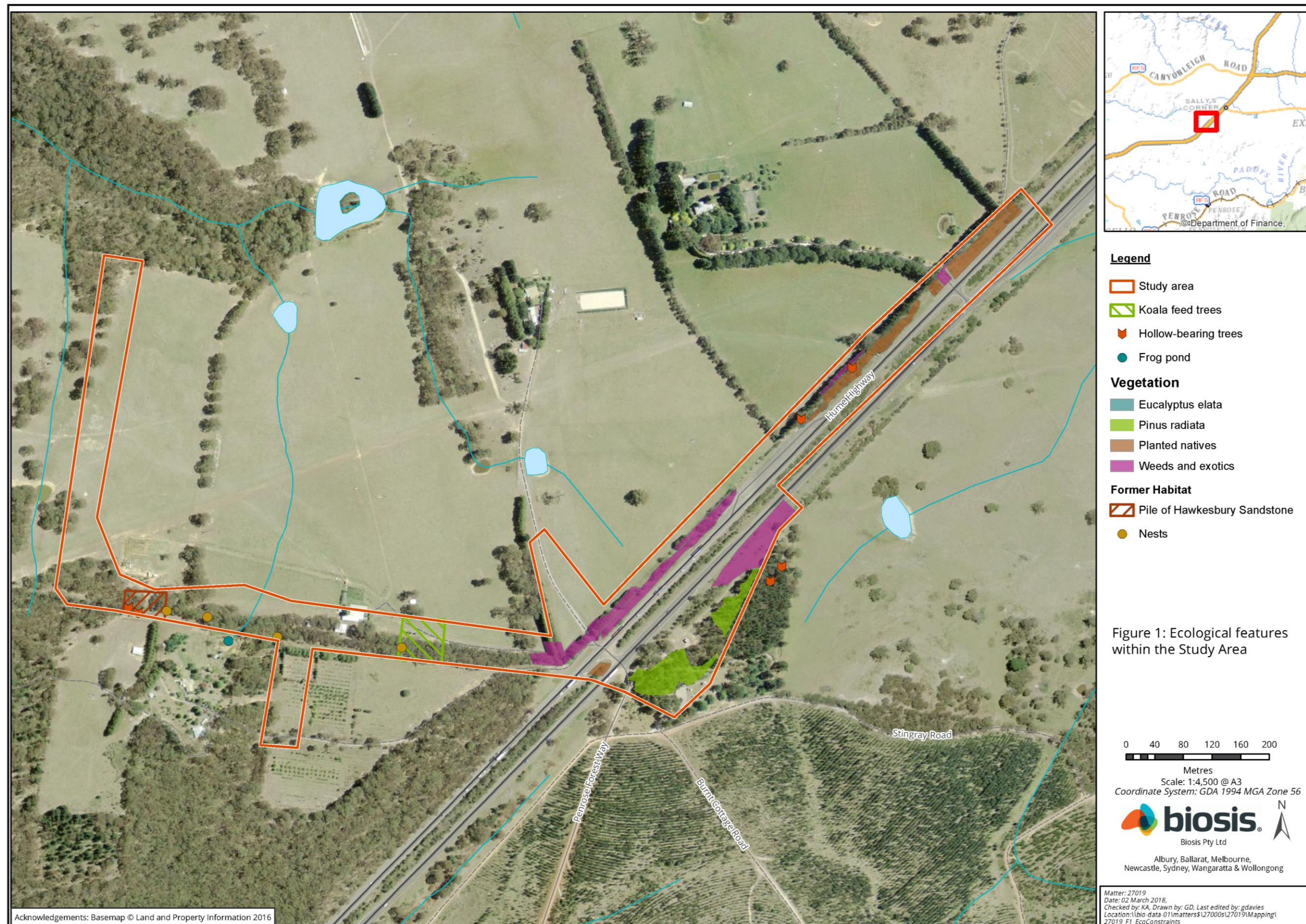
DEE 2018. Protected Matters Search Tool.

DPI 2018. NSW WeedWise database by Local Land Services area for the Greater Sydney region.

OEH 2018. BioNet the website for the Atlas of NSW Wildlife.

Appendices

Appendix 1 Figure 1



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Appendix 2 Flora

Flora species recorded from the study area

Table 4 Flora species recorded by Biosis, 09/01/2018*

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| Status | Scientific name | Common name |
|----------------|--|------------------------|
| Native species | | |
| | <i>Acacia mearnsii</i> | Black Wattle |
| | <i>Acacia obtusifolia</i> | Blunt-leaf Wattle |
| | <i>Acacia terminalis</i> | Sunshine Wattle |
| | <i>Amperea xiphoclada</i> | Broom Spurge |
| | <i>Austrostipa pubescens</i> | |
| | <i>Billardiera scandens</i> | Hairy Apple Berry |
| | <i>Bossiaea obcordata</i> | Spiny Bossiaea |
| | <i>Clematis glycinoides</i> | Headache Vine |
| | <i>Cooperhooia barbata</i> | Purple goodenia |
| | <i>Dampiera purpurea</i> | |
| | <i>Daviesia mimosoides</i> subsp. <i>mimosoides</i> | |
| | <i>Dianella caerulea</i> | Blue Flax Lily |
| | <i>Dianella revoluta</i> var. <i>revoluta</i> | Blue Flax Lily |
| | <i>Entolasia stricta</i> | Wiry Panic |
| | <i>Eucalyptus eugenioides</i> | Thin-leaved Stingybark |
| | <i>Eucalyptus piperita</i> | Sydney Peppermint |
| | <i>Eucalyptus sieberi</i> | Silvertop Ash |
| | <i>Exocarpos cupressiformis</i> | Cherry Ballart |
| | <i>Gonocarpus tetragynus</i> | |
| | <i>Goodenia hederacea</i> subsp. <i>hederacea</i> | Ivy-leaved Goodenia |
| | <i>Hardenbergia violacea</i> | False Sarsaparilla |
| | <i>Hibbertia empetrifolia</i> subsp. <i>empetrifolia</i> | |
| | <i>Leucopogon lanceolatus</i> var. <i>lanceolatus</i> | |
| | <i>Lomandra filiformis</i> subsp. <i>filiformis</i> | Wattle Mat-rush |
| | <i>Lomandra glauca</i> | Pale Mat-rush |
| | <i>Lomandra longifolia</i> | Spiny-headed Mat-rush |
| | <i>Lomandra obliqua</i> | |

Table 4 Flora species recorded by Biosis, 09/01/2018* (Cont'd)

Page 2 of 2

| Status | Scientific name | Common name |
|--------------------------------|--|----------------------------|
| Native species (Cont'd) | | |
| | <i>Lomatia ilicifolia</i> | Holly Lomatia |
| | <i>Ozothamnus diosmifolius</i> | White Dogwood |
| | <i>Patersonia glabrata</i> | Leafy Purple-flag |
| | <i>Persoonia mollis</i> subsp. <i>leptophylla</i> | |
| | <i>Petrophile pedunculata</i> | Conesticks |
| | <i>Phyllanthus hirtellus</i> | |
| | <i>Pimelea linifolia</i> | Slender Rice Flower |
| | <i>Platysace linearifolia</i> | |
| | <i>Poa labillardierei</i> var. <i>labillardierei</i> | Native Tussock |
| | <i>Podolobium ilicifolium</i> | Prickly Shaggy Pea |
| | <i>Podolobium scandens</i> | Netted Shaggy Pea |
| | <i>Polyscias sambucifolia</i> | Elderberry Panax |
| | <i>Pomaderris andromedifolia</i> | |
| | <i>Pomaderris imtermedia</i> | |
| | <i>Poranthera microphylla</i> | |
| | <i>Pteridium esculentum</i> | Bracken |
| | <i>Pultenaea retusa</i> | Notched Bush-pea |
| | <i>Rytidosperma fulvum</i> | Wallaby Grass |
| | <i>Themeda triandra</i> | Kangaroo Grass |
| Exotic species* | | |
| | <i>Axonopus fissifolius</i> | Narrow-leafed Carpet Grass |
| | <i>Hypochaeris radicata</i> | Flatweed |
| | <i>Bidens pilosa</i> | Cobbler's Pegs |
| | <i>Pennisetum clandestinum</i> | Kikuyu |
| | <i>Plantago lanceolata</i> | Plantain |
| | <i>Pinus radiata</i> | Radiata Pine |
| | <i>Rubus fruticosus</i> spp. aggregate | Blackberry |
| | <i>Sonchus oleraceus</i> | Common Sowthistle |
| | <i>Trifolium repens</i> | White Clover |
| | <i>Veronica persica</i> | Creeping Speedwell |

Appendix 3 Fauna

Fauna species recorded from the study area

Table 5 Fauna species recorded by Biosis, 27/02/2018*

| Class | Order | Family | Common Name | Scientific Name | EPBC | BC |
|-----------------|----------------|-----------------|------------------------------|-----------------------------------|------|----|
| Amphibia | | | | | | |
| Amphibia | ANURA | Hylidae | Eastern Sedge Frog | <i>Litoria fallax</i> | - | - |
| Amphibia | ANURA | Hylidae | Peron's Tree Frog | <i>Litoria peronii</i> | - | - |
| Amphibia | ANURA | Myobatrachidae | Common Eastern Froglet | <i>Crinia signifera</i> | - | - |
| Amphibia | ANURA | Myobatrachidae | Spotted Marsh Frog | <i>Limnodynastes tasmaniensis</i> | - | - |
| Reptilia | | | | | | |
| Reptilia | SQUAMATA | Scincidae | Grass Sun-skink | <i>Lampropholis guichenoti</i> | - | - |
| Aves | | | | | | |
| Aves | PSITTACIFORMES | Cacatuidae | Yellow-tailed Black-Cockatoo | <i>Calyptrorhynchus funereus</i> | - | - |
| Aves | PSITTACIFORMES | Cacatuidae | Sulphur-crested Cockatoo | <i>Cacatua galerita</i> | - | - |
| Aves | PSITTACIFORMES | Psittacidae | Australian King-Parrot | <i>Alisterus scapularis</i> | - | - |
| Aves | PSITTACIFORMES | Psittacidae | Crimson Rosella | <i>Platycercus elegans</i> | - | - |
| Aves | CORACIIFORMES | Halcyonidae | Sacred Kingfisher | <i>Todiramphus sanctus</i> | - | - |
| Aves | PASSERIFORMES | Climacteridae | White-throated Treecreeper | <i>Cormobates leucophaea</i> | - | - |
| Aves | PASSERIFORMES | Maluridae | Superb Fairy-wren | <i>Malurus cyaneus</i> | - | - |
| Aves | PASSERIFORMES | Acanthizidae | White-browed Scrubwren | <i>Sericornis frontalis</i> | - | - |
| Aves | PASSERIFORMES | Acanthizidae | Brown Thornbill | <i>Acanthiza pusilla</i> | - | - |
| Aves | PASSERIFORMES | Meliphagidae | Yellow-faced Honeyeater | <i>Lichenostomus chrysops</i> | - | - |
| Aves | PASSERIFORMES | Meliphagidae | Noisy Miner | <i>Manorina melanocephala</i> | - | - |
| Aves | PASSERIFORMES | Pachycephalidae | Golden Whistler | <i>Pachycephala pectoralis</i> | - | - |
| Aves | PASSERIFORMES | Pachycephalidae | Grey Shrike-thrush | <i>Colluricincla harmonica</i> | - | - |
| Aves | PASSERIFORMES | Artamidae | Grey Butcherbird | <i>Cracticus torquatus</i> | - | - |
| Aves | PASSERIFORMES | Artamidae | Australian Magpie | <i>Cracticus tibicen</i> | - | - |
| Aves | PASSERIFORMES | Artamidae | Pied Currawong | <i>Strepera graculina</i> | - | - |
| Aves | PASSERIFORMES | Rhipiduridae | Rufous Fantail | <i>Rhipidura rufifrons</i> | Mig | - |
| Aves | PASSERIFORMES | Rhipiduridae | Grey Fantail | <i>Rhipidura albiscapa</i> | - | - |
| Aves | PASSERIFORMES | Corvidae | Australian Raven | <i>Corvus coronoides</i> | - | - |
| Aves | PASSERIFORMES | Monarchidae | Magpie-lark | <i>Grallina cyanoleuca</i> | - | - |
| Aves | PASSERIFORMES | Timaliidae | Silvereye | <i>Zosterops lateralis</i> | - | - |
| Mammalia | | | | | | |
| Mammalia | MARSUPIALA | Vombatidae | Common Wombat | <i>Vombatus ursinus</i> | - | - |
| Mammalia | MARSUPIALA | Macropodidae | Eastern Grey Kangaroo | <i>Macropus giganteus</i> | - | - |

Table 6 Threatened fauna (Species credit species fauna list) predicted to occur within the study area (Biobanking calculator output from client)

| Common name | Species | BC Act | EPBC Act | Predicted to occur | Credit requirement | Targeted Survey |
|----------------------------------|---|--------|----------|--------------------|-----------------------------|-----------------|
| Barking Owl | <i>Ninox connivens</i> | V | - | No | - | N/A |
| Brown Treecreeper | <i>Climacteris picumnus subsp. victoriae</i> | V | - | No | - | N/A |
| Diamond Firetail | <i>Stagonopleura guttata</i> | V | - | No | - | N/A |
| Eastern False Pipistrelle | <i>Falsistrellus Tasmienensis</i> | V | - | Yes | Ecosystem multiplier | Yes |
| Eastern Freetail-bat | <i>Mormopterus norkfolkensis</i> | V | - | No | - | N/A |
| Flame Robin | <i>Petroica phoenicea</i> | V | - | No | - | N/A |
| Gang-gang Cockatoo | <i>Callocephalon fimbriatum</i> | V | - | Yes | Ecosystem multiplier | Yes |
| Glossy Black-cockatoo | <i>Calyptorhynchus lathami</i> | V | - | Yes | Ecosystem multiplier | Yes |
| Hooded Robin | <i>Melanodryas cucullata subsp. cucullata</i> | V | - | No | - | N/A |
| Little Eagle | <i>Hieraaetus morphnoides</i> | V | - | No | - | N/A |
| Masked Owl | <i>Tyto novaehollandiae</i> | V | - | No | - | N/A |
| New Holland Mouse | <i>Pseudomys novaehollandiae</i> | V | V | No | - | N/A |
| Powerful Owl | <i>Ninox stenua</i> | V | - | Yes | Ecosystem multiplier | No |
| Scarlet Robin | <i>Petroica boodang</i> | V | - | Yes | Ecosystem multiplier | Yes |
| Sooty Owl | <i>Tyto tenebricosa</i> | V | - | No | - | N/A |
| Spotted-tail Quoll | <i>Dasyurus maculatus</i> | V | E | No | - | N/A |
| Swift Parrot | <i>Lathamus discolor</i> | E | CE | No | - | N/A |
| Turquoise Parrot | <i>Neophema pulchella</i> | V | - | No | 1.8 | N/A |
| Varied Sittella | <i>Daphoenositta chrysoptera</i> | V | - | Yes | Ecosystem multiplier | Yes |
| Yellow-bellied Glider | <i>Petaurus australis</i> | V | - | No | - | N/A |