Mr Andrew Brady
Program Manager
Royal Institute for Deaf and Blind Children
361-365 North Rocks Road
North Rocks NSW 2151

4 March 2020

Dear Andrew,

Request to waive the requirement of a Biodiversity Development Assessment Report, Macquarie University, Macquarie Park, NSW

I write in regards to a proposed building development that is to be established on a portion of the Macquarie University (MQU) campus ground, this being present adjacent to the MQU Sport and Aquatic Centre on Culloden Road, Macquarie Park, NSW. Details on the proposed development are presented in Table 1.

Lesryk Environmental Pty Ltd was engaged by Royal Institute for Deaf and Blind Children (RIDBC), on behalf of Macquarie University, to undertake a flora and fauna investigation and assessment of the proposed development area (refer to Attachment 1). In undertaking the ecological investigation, this carried out in July 2019, the potential impacts the proposed development may have on the biodiversity of the area was considered and assessed with regard to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and NSW *Biodiversity Conservation Act 2016* (BC Act).

As documented in our report:

- no threatened species, populations, or communities listed under the EPBC Act were recorded, nor were any likely to occur, or rely upon the resources present, within the proposed development area
- the vegetation present is not considered to conform to either of the two threatened ecological communities known to occur within the locality, these being:
    - Sydney Turpentine Ironbark Forest (STIF) - critically endangered ecological community (EPBC and BC Acts)
    - Blue Gum High Forest - critically endangered ecological community (EPBC and BC Acts)
- no threatened species, populations, or communities listed under the BC Act were recorded
- 10 hollow-bearing trees were observed, these having the potential to provide habitat for those threatened hollow-dependent microchiropterans (BC Act listed) that have been previously recorded within the study region
- of the hollow-bearing trees observed three may require removal as part of the development; though with adequate site planning all could be retained

TABLE 1: BDAR waiver request Information requirements		
Admin	**Proponent name and contact details.**	Mr Andrew Brady Program Manager – Macquarie Readiness Royal Institute for Deaf and Blind Children (RIDBC) 361-365 North Rocks Road North Rocks NSW 2151 Tel: 9872 0804 Mobile: 0477 368 460 Andrew.Brady@ridbc.org.au
	Project ID.	N/A. Project at SEARS request stage
	Name and ecological qualifications of person who completed *Table 2: Impacts of the proposed development on biodiversity values* (Attachment 2).	Mr Deryk Conrad Engel B.Env.Sc [Hons] Director Lesryk Environmental Pty Ltd
Site details	**Street address, Lot and DP, local government area (LGA).**	Gymnasium Road, Macquarie University (near Culloden Road) Part Lot 191 DP 1157041 and part Lot 8 DP 1047085 City of Ryde LGA
	Description of existing development site.	The development will be located within an area that is predominantly cleared, however, numerous planted trees, predominantly eucalypts, are present at the edge of the indicative development area
	Location map showing the development site in the context of surrounding areas and landscape features.	Refer to Figure 1 (page 1) in the accompanying ecological report prepared by Lesryk Environmental Pty Ltd in August 2019 (Attachment 1).
	Site Map.	Refer to Figures 2 and 3 (pages 4 and 7 respectively) in the accompanying ecological report prepared by Lesryk Environmental Pty Ltd in August 2019.
Proposed development	**Project Description**	A 1-3 storey specialist school and health, treatment, research and diagnostics development in a single building of approximately 11,770m2 GFA and 78 basement and at-grade car parking spaces.
	Proposed Site Plan	Refer to Attachment 3
Impacts on biodiversity values	**Complete Table 2**.	Refer to Attachment 2

- an assessment referring to the criteria provided under Section 7.3 of the BC Act (i.e. the assessment of significance or as it is commonly known, the five-part test) found that the proposed development is unlikely to have a significant effect on these species, or their habitat
- referral of the matter to the Federal Minister for the Environment for further consideration or approval and/or the preparation of a Biodiversity Development Assessment Report (BDAR) were not required.

Furthermore:

- Based on a review of the Biodiversity Value Map, no areas of high biodiversity value, as defined by the NSW Biodiversity Conservation Regulation 2017 (the Regulation), occur within the subject site; however, an area of Biodiversity Value is present approximately 70 metres to the south-east this reflecting the presence of STIF as mapped by OEH 2016 (Attachment A). Whilst this is the case, this area will not be adversely affected (either directly or indirectly) by the proposed development.
- No Areas of Outstanding Biodiversity Value listed under Part 3 of the Regulation are present within, or close to, the proposed development.

Based on the outcomes of the flora and fauna report, a consideration of the BC Act and a review of the Biodiversity Value Map, it was deemed unnecessary that the proposed development be assessed in accordance with Part 6 (the Biodiversity Offsets Scheme) of the BC Act, as the establishment of a new building within a cleared grassland with planted trees is not expected to:

- impact on any land that has been mapped as having biodiversity value (as per the NSW Government's biodiversity value map), or
- result in the loss of more than 0.5 ha of native vegetation, or
- have a significant effect on any threatened ecological community or species listed under the BC Act.

Application of the Biodiversity Assessment Method (as per Division 2, Part 6 of the BC Act) is not considered necessary.

Whilst this is the case, a consideration of the potential impact of the proposal on biodiversity has been undertaken in accordance with clause 1.5 of the BC Act and clauses 1.4 and 6.1 of the Regulation. Attachment 2 provides a summary of these considerations.

The biodiversity report prepared by Lesryk Environmental Pty Ltd (2019) concluded that the proposed development could proceed as planned without requiring the referral of the matter to the Federal Minister for the Environment or the preparation of a BDAR.

At the request of RIDBC I am therefore requesting that the Department of Planning and Environment considers the information provided in this letter, as well as the flora and fauna report prepared by Lesryk Environmental Pty Ltd (Attachment A), and waive the requirement to prepare a BDAR as part of the Environmental Impact Statement that is to be submitted in regard to the proposed building development at Macquarie University.

If you require any further information on this matter, please do not hesitate to contact the undersigned on either (02) 9523 2016 or 0408 258 129.

Yours sincerely,

Mr Deryk Engel
Director

Attachment 1

Flora and fauna survey and assessment

Mr Andrew Brady
Program Manager
Royal Institute for Deaf and Blind Children
361-365 North Rocks Road
North Rocks NSW 2151

5 August 2019

Dear Andrew,

Flora and fauna investigation and assessment, proposed development, Macquarie University, Culloden Road, NSW

1. Introduction and background

At the request of Royal Institute for Deaf and Blind Children (RIDBC), on behalf of Macquarie University (MQU), a brief ecological statement has been prepared in relation to a development proposal that will be established within the campus of MQU, in proximity to the MQU Sport and Aquatic Centre, Culloden Road, Macquarie Park, NSW (Figure 1).

Figure 1. Proposed development area (red line) and locality

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The indicative limits of the development area have been identified on Figure 1, this covering an area that is approximately 1.5 ha in size. Within this area, about 0.43 ha of (predominantly) planted native vegetation is present. Therefore, the proposal has the potential to result in the disturbance of no more than 0.43 ha of native vegetation.

Immediately adjacent to the development 0.8 ha of planted vegetation is present (Figure 1), none of which is expected to be directly affected by the scope of work proposed. Indirect impacts may arise but recommendations to mitigate these have been provided.

The assessment of possible impacts associated with the proposal is based on a field investigation of the proposed development area, a literature review of previous studies undertaken in both the region and this portion of the Ryde Local Government Area (LGA), the consultation of standard databases and a consideration of the objectives of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), NSW *Environmental Planning and Assessment Act 1979* (EPA Act), NSW *Biodiversity Conservation Act 2016* (BC Act), and any relevant State Environmental Planning Policy (SEPP).

This flora and fauna study is to accompany a 'request to waive a Biodiversity Development Assessment Report (BDAR)' letter (also referred to as a BDAR waiver).

2. Site investigation

An ecological investigation of the proposed development area was undertaken by Deryk Engel (B.Env.Sc.HONS) [Director] and Stephen Bloomfield (B.App.Sc.) [Senior Ecologist] on Tuesday 30 July 2019.

When undertaking the field inspection, the investigation was generally confined to the proposed development area highlighted in Figure 1.

Given the land use history of the site, the majority of the area investigated has been previously cleared and is highly modified.

For reference, the weather conditions experienced during the site investigation were overcast skies, cold temperatures (15 °C) and strong winds. The site investigation commenced at 1115 hours and lasted for approximately one hour.

During the site investigation, no limitations to achieving the objectives of the study were encountered. No adverse weather conditions or relevant seasonal variables were encountered.

3. Results

3.1. Literature review

3.1.1. Threatened ecological communities

A review of the Department of Environment and Energy (DEE) and Office of Environment and Heritage (OEH) databases (DEE 2019, OEH 2019a) identified 27 threatened ecological communities (TEC[s]) listed under the EPBC Act and/or the Schedules of the BC Act that have been previously recorded, or are considered to have habitat, in the study region (Attachment 1). Based on the outcomes of the literature review and the authors' knowledge of this portion of the Ryde LGA, the following two TECs are considered most likely to occur within, or in proximity to, the area investigated:

- Blue Gum High Forest in the Sydney Basin Bioregion
- Sydney Turpentine-Ironbark Forest.

Both these communities are listed as critically endangered under the Schedules to the EPBC and BC Acts.

A review of the vegetation mapping of the Sydney Metropolitan Area (OEH 2016) (this encompassing the proposed development area) has been undertaken. With reference to this mapping the proposed development area has been mapped as supporting 'Urban Exotic/Native' vegetation (Figure 2).

Urban Exotic/Native is not considered to be a part of any TEC listed, or currently being considered for listing, under the EPBC or BC Acts.

Sydney Turpentine-Ironbark Forest has been mapped as occurring approximately 70 metres (m) south-east of the proposed development area (Figure 2).

3.1.2. Threatened species

A review of the DEE and OEH databases (DEE 2019, OEH 2019a) identified numerous threatened plants and animals listed under the EPBC Act and/or the Schedules of the BC Act that have been previously recorded, or are considered to have habitat, in the study region (Attachment 1).

Based on the consultation of standard texts, a consideration of these species' habitat needs and vegetation mapping, there is the possibility that the study area may provide potential habitat for some of these species. Therefore, during the course of the field investigation, efforts were made to target these plants and animals, their populations or occurrences of their necessary vegetation/habitat associations.

3.2. Flora species recorded

By the completion of the field survey a number of native and exotic plants had been recorded within the area investigated (Attachment 2). It is noted that Attachment 2 is not intended to be a comprehensive list of all the species present within the proposed development area, and only represents those plants that were recorded while undertaking searches for:

- those native species and ecological communities of State and/or national conservation concern that are known, or expected to occur, in the locality
- priority weeds that would require treatment.

In regards to those terrestrial plants recorded; it is noted that none are:

- listed, or currently being considered for listing, on the Schedules to the EPBC or BC Acts
- identified as a Rare or Threatened Australian Plant (Briggs and Leigh 1996).

While targeted searches for those threatened plants known to occur in the study region were conducted, none were recorded. Given the physical size, and open and highly modified nature, of the area investigated, it is considered unlikely that any of those listed threatened species that have been previously recorded in the study region would be present within the proposed development area (e.g. in the soil seed bank) such that the undertaking of the proposal would have a significant effect on the viability of their local population.

As no threatened plants are considered to be adversely impacted on by the proposal, the conducting of assessments referring to the EPBC Act's Significant Impact Guidelines and/or Section 7.3 of the BC Act is not required.

Figure 2. Vegetation communities mapped within, and near to, the study area

3.2.1. Weeds

Under the *Biosecurity Act 2015* 'all plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.'

Of those introduced plant species recorded three are listed:

- under Schedule 3 of the NSW Biosecurity Regulation 2017, and/or
- as 'priority weeds' in the South East region (this incorporating the Ryde LGA) (Department of Primary Industries [DPI] 2019), and/or
- as a Weed of National Significance (WONS) (Australian Government 2019)[1].

For reference, these species, their measure and relevant legal requirement are provided in Table 1.

Table 1. Weeds of significance recorded on site

Species	Listed	Measure	Legal Requirement
Fireweed *Senecio madagascariensis*	NSW *Biosecurity Regulation 2017* / DPI (2019) / WoNS	Prohibition on dealings	Must not be imported into the State or sold.
African olive *Olea europaea* subsp. *cuspidata*	DPI (2019)	Regional Recommended Measure	An exclusion zone is established for all lands in Blue Mountains City Council and Central Coast LGAs. The remainder of the region is classified as the core infestation area. Whole region: The plant or parts of the plant are not traded, carried, grown or released into the environment. Exclusion zone: The plant is eradicated from the land and the land kept free of the plant. Core infestation area: Land managers prevent spread from their land where feasible. Land managers reduce impacts from the plant on priority assets.
Asparagus Fern *Asparagus aethiopicus*	NSW *Biosecurity Regulation 2017* / DPI (2019) / WoNS	Prohibition on dealings Regional	Must not be imported into the State or sold Exclusion zone: whole region excluding the core infestation area of Eurobodalla, Kiama, Shellharbour, Wollongong and the Shoalhaven local government area north of the Lantana Containment Line at 35'11"42 S. Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core area: Land managers reduce impacts from the plant on priority assets.

Where any of the weeds listed in Table 1 occur on site, they must be controlled to result in their suppression. This should be done prior to the commencement of works to avoid the further spread of these plants.

[1] The list of WoNS is part of a combined State and Commonwealth initiative to combat invasive species.

3.3. Fauna species recorded

As would be expected for highly disturbed open 'woodland' that is the result of planting, few native species were recorded. Those that were detected within, or in close proximity to, the area investigated were one native mammal and 11 native birds (Attachment 3), none of which are listed, or currently being considered for listing, under the Schedules to the EPBC and/or BC Acts.

The native species recorded are protected, as defined by the BC Act, but considered to be urban tolerant animals that would be common to abundant throughout the surrounding region, where these species have been recorded in association with a range of woodland and forest habitats as well as urban environments. The species recorded would not be solely reliant upon those habitats present within, or in close proximity to, the proposed development area, such that the removal or further disturbance of these would threaten the 'local' occurrence of these animals. The species recorded are all expected to be present within both the proposed development area, other portions of the MQU campus and surrounding locality post-development.

3.4. Vegetation communities and fauna habitat present

The area investigated consists of:

- exotic grassland
- planted native trees.

A brief description of each of these has been provided below whilst their indicative boundaries have been illustrated on Figure 3. The following descriptions should be read in conjunction with reference to the photographic record provided (Attachment 4).

3.4.1. Exotic grassland

The exotic grassland dominates the proposed development area and consists of a high-density cover of introduced grasses, herbs and forbs that reach five centimetres in height. This area is regularly maintained and, within this, a 0.5 m wide formalised pedestrian pathway with lighting (underground serviced) is present.

Common species present include Kikuyu Grass (*Cenchrus clandestinus*), Panic Veldt Grass (*Ehrharta erecta*), Winter Grass (*Poa annua*), White Clover (*Trifolium repens*), *Medicago sp.*, Carolina Mallow (*Modiola caroliniana*) and Lamb's Tongue (*Plantago lanceolata*). The native Common Cotula (*Cotula australis*) also occurs.

3.4.2. Planted native trees

This area consists of planted trees that reach a height of 20 m.

The canopy consists predominantly of Tallowwood (*Eucalyptus microcorys*) and Sydney Blue Gum (*Eucalyptus saligna*). Spotted Gum (*Corymbia maculata*), Brushbox (*Lophostemon confertus*) and Southern Blue Gum (*Eucalyptus saligna x Eucalyptus botryoides*) are also present. Smaller trees to 4 m such as Weeping Bottlebrush (*Callistemon viminalis*) also occur.

Three of the trees observed within the development area were noted to be hollow-bearing. Two of these are dead stags that appear to be regularly maintained (#681 and 682[2]). The third tree (#2084) is alive and, given its location and the error in GPS accuracy [+/- 5m], may be located outside of the development limit.

It is noted that these three plants are not unique, additional hollow-bearing trees being observed north and south of the area investigated (Figure 3).

[2] A uniquely numbered tag was observed on all of the trees present, this presumably part of MQU's on-going site management. To permit ease of cross-referencing and relocation, this number was used when identifying those hollow-bearing trees observed.

Figure 3. Vegetation communities and habitats identified within, and near to, the study area

There is no middlestorey or understorey layer present.

A percentage of the trees present exhibit evidence of regular maintenance, with presumably dead, dying or damaged limbs that present a public safety risk being removed.

The groundcover consists predominantly of introduced species. In addition to a number of the species identified within the exotic grassland, Sowthistle (*Sonchus oleraceus*), Paddy's Lucerne (*Sida rhombifolia*) and *Solanum spp.* are also present.

3.4.3. Conservation significance of the vegetation and importance of the habitat

Based on the outcome of the site inspection, the mapping prepared by OEH (2016) is considered to be correct, the vegetation present within the proposed development area conforming to the description for Urban Exotic/Native.

Neither the exotic grassland nor planted native trees communities identified within the proposed development area are considered to conform to a TEC listed under the Schedules of the EPBC and/or BC Acts. As such, no assessments referring to the criteria provided under the EPBC Act's Significant Impact Guidelines and/or Section 7.3 of the BC Act have been undertaken.

The habitat value of the development area is considered to be low; however, 10 hollow-bearing trees[3] were recorded. For reference, their details and coordinates are provided in Table 2, whilst the location of each plant has been mapped on Figure 3.

Table 2. Hollow-bearing tree locations and details

ID	Easting	Northing	No. of hollows	Diameter (cm)	Alive	Notes
681	324956	6261574	1	20	Dead	Tree maintained, dead wood removed
682	324959	6261576	2	1 x 10 1 x 20	Dead	Tree maintained, dead wood removed
1301	324899	6261537	1	10	Alive	
1370	324856	6261553	1	10	Alive	
2084	324814	6261478	1	5	Alive	
2115	324824	6261454	1	5	Alive	
2137	324845	6261440	2	5	Alive	
2204	324910	6261428	1	10	Alive	
2202	324894	6261447	2	5	Alive	
2168	324881	6261438	1	10	Alive	Indicative scratchings around entrance to hollow, likely to be that of the Common Brushtail Possum

The hollows may be used by birds, arboreal mammals (one of the hollows present [#2168] was considered to be utilised/occupied by a Common Brushtail Possum [*Trichosurus vulpecula*]) and microchiropterans.

[3] Some of the 'hollow' limbs/cavities observed were noted to be oriented vertically. As these couldn't be inspected from the ground, a precautionary approach has been adopted in regards to the sheltering/breeding resources they offer.

In regards to threatened fauna that have been previously recorded in the study region (Attachment 1), these hollows may provide suitable habitat for one or more hollow-dependent microchiropterans listed under the BC Act, these being the:

- Yellow-bellied Sheathtail-bat (*Saccolaimus flaviventris*) - vulnerable
- Eastern Freetail-bat (*Mormopterus norfolkensis*) – vulnerable
- Eastern False Pipistrelle (*Falsistrellus tasmaniensis*) - vulnerable
- Southern Myotis (*Myotis macropus*) - vulnerable
- Greater Broad-nosed Bat (*Scoteanax rueppellii*) – vulnerable.

Given that three hollow-bearing trees occur within the proposed development area, and therefore may require removal, an assessment giving consideration to the criteria provided under section 7.3 of the BC Act has been undertaken on hollow-dependent microchiropterans (s.4.2 of this report).

No other significant habitat features important for native threatened fauna are present (i.e. intact remnant woodland, rock outcropping, caves/cave substitutes, etc).

4. Legislative considerations

4.1. Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

By the completion of the field investigation no ecological communities, flora or fauna species, or their populations, listed under this Act were recorded within, or in close proximity to, the proposed development area. Similarly, no species listed under this Act are considered likely to rely upon the site for their necessary habitat requirements.

The proposed development will not have a significant impact on any ecological communities, flora or fauna species of national conservation significance. Therefore, it is considered that the proposed action does not require referral to the Federal Minister for the Environment and Energy for further consideration or approval.

4.2. NSW *Environmental Planning and Assessment Act 1979*

By the completion of the field investigation no ecological communities, flora or fauna species, or their populations, listed under this Act were recorded within, or in close proximity to, the proposed development area.

Though not recorded during the current investigation, as they have been previously recorded in the region and given the presence of suitable habitat (i.e. hollow-bearing trees), it is considered necessary to adopt a precautionary approach in regards to the presence of the following threatened hollow-dependent microchiropterans:

- Yellow-bellied Sheathtail-bat - vulnerable
- Eastern Freetail-bat - vulnerable
- Eastern False Pipistrelle - vulnerable
- Southern Myotis - vulnerable
- Greater Broad-nosed Bat - vulnerable.

An assessment drawing on the criteria provided under Section 7.3 of the BC Act has been undertaken on these threatened species. The assessments concluded that the proposal would not have a significant effect on these species, or any areas of their habitats. As such, the preparation of a BDAR is not considered necessary.

None of the other species listed in Attachment 1 and under this Act are considered likely to rely upon the site for their necessary habitat requirements.

4.2. (a) The five-part test – Hollow-dependent microchiropterans

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The Yellow-bellied Sheathtail-bat, Eastern Freetail-bat, Eastern False Pipistrelle, Southern Myotis and Greater Broad-nosed Bat have been previously detected in the study region.

Ten hollow-bearing trees were recorded within, and close to, the proposed development area. The proposed work will remove about 0.43 ha of native vegetation, this including insect attracting plants and three hollow-bearing trees. Given the extent of suitable habitat being retained within both the study area and surrounding bushland, it is not considered that the proposal would have an adverse effect on the lifecycle of these species such that viable local populations of these animals are likely to be placed at risk of extinction.

(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

- *(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
- *(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction*

Not applicable to threatened species.

(c) in relation to the habitat of a threatened species, population or ecological community:

- *(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity,*

The proposal will require the removal of about 0.43 ha of native vegetation, this including insect attracting plants and three hollow-bearing trees; however, similar habitat will be retained adjacent to, and beyond, the development limits.

- *(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity,*

Hollow-dependent microchiropteran can easily negotiate open areas and have been recorded flying over open spaces (author's field notes); as such, the loss of some native vegetation, this including three hollow-bearing trees and 0.43 ha of insect attracting plants, is not expected to result in the disturbance to the Yellow-bellied Sheathtail-bat, Eastern Freetail-bat, Eastern False Pipistrelle, Southern Myotis and Greater Broad-nosed Bat's dispersal or movement patterns; these species being able to easily negotiate/traverse the proposed development area post disturbance. Suitable habitat for these species would be retained (and managed) within the surrounding area; as such, the proposal would not cause any further fragmentation of, or isolation to, any areas of habitat used by hollow-dependent microchiropterans.

- *(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long term survival of the species, population or ecological community in the locality,*

The proposal is not considered to remove, modify, fragment or isolate a significant amount of vegetation such that the long-term survival of hollow-dependent microchiropterans would be jeopardised. While three hollow-bearing trees do require removal, the habitats within the study area extend well beyond the limits of the proposal, including within the adjacent conservation reserves and other protected lands, where similar resources are present. Given that no major components of these species' habitat are to be further isolated or fragmented, it is not considered that the proposal would have an impact on the Yellow-bellied Sheathtail-bat,

Eastern Freetail-bat, Eastern False Pipistrelle, Southern Myotis or Greater Broad-nosed Bat such that the long-term survival of these species in the locality would be adversely affected.

(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

No declared areas of outstanding biodiversity value would be directly or indirectly affected by the proposal. The proposed development area is not listed as a declared area of outstanding biodiversity value under Part 3 of the BC Regulation 2017.

(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process

Currently 35 Key Threatening Process (KTP) for mainland NSW are listed under Schedule 4 of the BC Act. Of these, the 'clearing of native vegetation' and 'loss of hollow-bearing trees' would be applicable to the proposal. While it is acknowledged that the proposed work will result in the removal of some native vegetation, this including insect attracting plants and three hollow-bearing trees, it is not considered that this clearance would significantly contribute to this KTP such that the lifecycle requirements of the Yellow-bellied Sheathtail-bat, Eastern Freetail-bat, Eastern False Pipistrelle, Southern Myotis and Greater Broad-nosed Bat would be compromised.

4.2. (b) Outcome of the five-part test on hollow-dependent microchiropterans

The undertaking of the proposal would not disturb, remove, modify or fragment any habitats critical to the lifecycle requirements of any species of hollow-dependent microchiropteran. Given the extent of suitable habitat being retained within both the study area and the surrounding area, the removal of some vegetation, this including insect attracting plants and three hollow-bearing trees, is not considered to have a significant impact on the Yellow-bellied Sheathtail-bat, Eastern Freetail-bat, Eastern False Pipistrelle, Southern Myotis or Greater Broad-nosed Bat or their habitat.

4.3. NSW *Biodiversity Conservation Act 2016*

The BC Act provides robust tools to avoid, minimise and offset biodiversity impacts from development and clearing through the Biodiversity Offset Scheme (BOS) (Part 6 of the Act).

The BOS applies to developments and clearing when:

- the thresholds under s.7.1 of the Regulation are exceeded, these being:
    - the clearing of native vegetation of an area declared by Clause 7.2
    - the clearing of native vegetation on land included on the Biodiversity Values Map
- a proposed development is likely to significantly affect threatened species based on the test of significance in section 7.3 of the Act.

These triggers have been discussed below. It is concluded that the proposal does not trigger the BOS. As such, the preparation of a BDAR is not considered necessary.

4.3. (a) Area of clearing

The minimum lot size is used to determine the clearing threshold. The minimum lot size is usually prescribed by the Local Environmental Plan. Where that does not exist the actual lot size is used.

With reference to the Biodiversity Values Map and Threshold Report (Attachment 5), the minimum lot size for the proposed development area is 7.02 ha. As such, with reference to the clearing thresholds provided under s.7.1 of the Regulation the clearing threshold is 0.5 ha.

Therefore, given that the proposed development is to result in the removal/disturbance of less than 0.5 ha of native vegetation, this threshold is not exceeded and the BOS does not apply.

4.3. (b) Biodiversity Values Map and Threshold Tool

With reference to the Biodiversity Values Map and Threshold Tool prepared by OEH (DP&E 2019), the proposed development area has not been mapped as containing area of biodiversity value. As such, this threshold is not exceeded and the BOS does not apply.

4.3. (c) Test of significance

Based on the findings of this study, the proposed development is considered unlikely to have a significant impact on any TEC, fauna or flora species, or their habitat, listed under the EPBC or BC Acts. As such, this threshold is not exceeded and the BOS does not apply.

5. Conclusion

By the completion of the field investigation, no ecological communities, flora or fauna species, or their populations, listed under the EPBC or BC Acts were recorded within, or in close proximity to, the proposed development area. Whilst this is the case, as they have been previously recorded in the region and given the presence of suitable habitat, there is the potential for the following threatened hollow-dependent microchiropterans to occur:

- Yellow-bellied Sheathtail-bat - vulnerable
- Eastern Freetail-bat - vulnerable
- Eastern False Pipistrelle - vulnerable
- Southern Myotis - vulnerable
- Greater Broad-nosed Bat - vulnerable.

As such a precautionary approach was adopted and an assessment drawing on the criteria provided under Section 7.3 of the BC Act conducted. The assessment concluded that the proposal would not have a significant effect on these species, or any significant areas of their habitats.

With regard to the other TECs and threatened species previously recorded within the study region, the habitats to be disturbed are not considered suitable for their lifecycle requirements. As such, the proposed development would not have a significant impact on any TEC or threatened species. As such, the preparation of a BDAR is not considered necessary.

As per s.7.1 of the Regulation, none of the thresholds for the application of the BOS were triggered.

Referral of the matter to the Federal Minister for the Environment and Energy for further consideration or approval in relation to the proposed work would not be necessary.

The adoption of those mitigation measures provided would ensure that the work proposed is undertaken in an ecologically sustainable manner.

6. Recommendations

Based on the principles of Ecologically Sustainable Development, as identified in Schedule 2 of the Environmental Planning and Assessment Regulation, the following recommendations are provided:

- Vegetation clearing should be limited to the minimum required to successfully complete the proposal.

- Those hollow-bearing trees present on site should be retained where possible giving preference to those plants that contain the larger hollows, and should be identified and clearly marked by a qualified independent ecologist prior to the undertaking of any clearing work.

- Locations of the hollow-bearing trees to be retained should be included on any plans provided to the construction contractor. These plants will require protection during the construction activities, including barriers to avoid root damage within the drip line of any retained tree.

- If retention is not possible, when removing any hollow-bearing tree an ecologist should be present.

- Prior to the undertaking of site clearing work, the hollow-bearing trees present within, and near to, the proposed development area, should be checked for sheltering animals by a qualified independent ecologist. These trees should be removed in a two-stage process under the guidance of a qualified ecologist, and should involve:

    - Stage 1: All surrounding vegetation to be cleared and grubbed.
    - Stage 2: 24 to 48 hours later the hollow-bearing trees that are to be removed to be inspected by an ecologist. If resident fauna is observed, the hollow section is to be lowered to the ground and the animal allowed to move on of its own volition. If injured, the animal is to be taken to a WIRES carer or appropriate veterinarian for care.

- If removed, to offset the loss of the three hollow-bearing trees either:

    - The cavities/limbs should be collected and re-established locally to provide habitat for native species
    - Purpose built habitat boxes [at a ratio of 1:1 and specific to the needs of likely hollow-occupying native animals] erected within the 'woodland' area that is present adjacent to the development site.

- Where possible, sections of the felled trees should be collected and placed locally within or adjacent to the proposed development area to provide habitat for native species and their prey (as per Department of Environment and Conservation 2004, Roads and Traffic Authority 2011).

- In accordance with the NSW *Biosecurity Act 2015*, presence of Fireweed, African Olive and Asparagus Fern must be controlled to result in their suppression.

- Newly exposed surfaces should be stabilised as soon as possible in order to reduce the potential for soil erosion. This should be done through the planting of native species endemic to the study area or non-invasive grass species.

If you require any further information on this matter, please do not hesitate to contact the undersigned on either (02) 9523 2016 or (0408) 258 129.

Yours sincerely,

Deryk Engel
Director

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Attachment 1. Database searches

NSW Department of Planning, Industry and Environment

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1Â°; ^^ rounded to 0.01Â°). Copyright the State of NSW through the Office of Environment and Heritage. Search criteria : Public Report of all Valid Records of Threatened (listed on TSC Act 1995) or Commonwealth listed Entities in selected area [North: -33.72 West: 151.06 East: 151.16 South: -33.82] returned a total of 1,617 records of 70 species.

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Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Community				*Agnes Banks Woodland in the Sydney Basin Bioregion*	Agnes Banks Woodland in the Sydney Basin Bioregion	E	E4B	K
Community				*Blue Gum High Forest in the Sydney Basin Bioregion*	Blue Gum High Forest in the Sydney Basin Bioregion	CE	E4B	K
Community				*Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion*	Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion	CE	E3	K
Community				*Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion*	Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion	E	V2	K
Community				*Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	V	E3	K
Community				*Coastal Upland Swamp in the Sydney Basin Bioregion*	Coastal Upland Swamp in the Sydney Basin Bioregion	E	E3	K
Community				*Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion*	Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion	CE	E3	K
Community				*Cumberland Plain Woodland in the Sydney Basin Bioregion*	Cumberland Plain Woodland in the Sydney Basin Bioregion	CE	E4B	K
Community				*Duffys Forest Ecological Community in the Sydney Basin Bioregion*	Duffys Forest Ecological Community in the Sydney Basin Bioregion		E3	K
Community				*Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion*	Eastern Suburbs Banksia Scrub in the Sydney Basin Bioregion	E	E4B	K

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Community				*Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions		E3	K
Community				*Hygrocybeae Community of Lane Cove Bushland Park in the Sydney Basin Bioregion*	Hygrocybeae Community of Lane Cove Bushland Park in the Sydney Basin Bioregion		E4B	K
Community				*Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	CE	E3	K
Community				*Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions*	Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	CE	E3	K
Community				*Moist Shale Woodland in the Sydney Basin Bioregion*	Moist Shale Woodland in the Sydney Basin Bioregion	CE	E3	K
Community				*Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion*	Pittwater and Wagstaffe Spotted Gum Forest in the Sydney Basin Bioregion		E3	K
Community				*River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions		E3	K
Community				*Shale Gravel Transition Forest in the Sydney Basin Bioregion*	Shale Gravel Transition Forest in the Sydney Basin Bioregion	CE	E3	K
Community				*Shale Sandstone Transition Forest in the Sydney Basin Bioregion*	Shale Sandstone Transition Forest in the Sydney Basin Bioregion	CE	E4B	K
Community				*Southern Sydney sheltered forest on transitional sandstone soils in the Sydney Basin Bioregion*	Southern Sydney sheltered forest on transitional sandstone soils in the Sydney Basin Bioregion		E3	K
Community				*Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	E	E3	K

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Community				*Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions		E3	K
Community				*Sydney Freshwater Wetlands in the Sydney Basin Bioregion*	Sydney Freshwater Wetlands in the Sydney Basin Bioregion		E3	K
Community				*Sydney Turpentine-Ironbark Forest*	Sydney Turpentine-Ironbark Forest	CE	E4B	K
Community				*Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions*	Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions		E3	K
Community				*Western Sydney Dry Rainforest in the Sydney Basin Bioregion*	Western Sydney Dry Rainforest in the Sydney Basin Bioregion	CE	E3	K
Community				*Agnes Banks Woodland in the Sydney Basin Bioregion*	Agnes Banks Woodland in the Sydney Basin Bioregion	E	E4B	K
Community				*Blue Gum High Forest in the Sydney Basin Bioregion*	Blue Gum High Forest in the Sydney Basin Bioregion	CE	E4B	K
Community				*Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion*	Blue Mountains Shale Cap Forest in the Sydney Basin Bioregion	CE	E3	K
Community				*Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion*	Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion	E	V2	K
Community				*Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*	Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	V	E3	K
Community				*Coastal Upland Swamp in the Sydney Basin Bioregion*	Coastal Upland Swamp in the Sydney Basin Bioregion	E	E3	K
Community				*Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion*	Cooks River/Castlereagh Ironbark Forest in the Sydney Basin Bioregion	CE	E3	K
Community				*Cumberland Plain Woodland in the Sydney Basin Bioregion*	Cumberland Plain Woodland in the Sydney Basin Bioregion	CE	E4B	K

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Animalia	Amphibia	Myobatrachidae	3042	*Heleioporus australiacus*	Giant Burrowing Frog	V	V,P	2
Animalia	Amphibia	Myobatrachidae	3116	*Pseudophryne australis*	Red-crowned Toadlet		V,P	41
Animalia	Amphibia	Hylidae	3166	*Litoria aurea*	Green and Golden Bell Frog	V	E1,P	6
Animalia	Aves	Anatidae	0200	*Nettapus coromandelianus*	Cotton Pygmy-Goose		E1,P	4
Animalia	Aves	Columbidae	0023	*Ptilinopus superbus*	Superb Fruit-Dove		V,P	6
Animalia	Aves	Ciconiidae	0183	*Ephippiorhynchus asiaticus*	Black-necked Stork		E1,P	1
Animalia	Aves	Ardeidae	0197	*Botaurus poiciloptilus*	Australasian Bittern	E	E1,P	2
Animalia	Aves	Ardeidae	0196	*Ixobrychus flavicollis*	Black Bittern		V,P	3
Animalia	Aves	Accipitridae	0226	*Haliaeetus leucogaster*	White-bellied Sea-Eagle	C	V,P	5
Animalia	Aves	Accipitridae	0225	*Hieraaetus morphnoides*	Little Eagle		V,P	6
Animalia	Aves	Accipitridae	0230	*^^Lophoictinia isura*	Square-tailed Kite		V,P,3	7
Animalia	Aves	Accipitridae	8739	*^^Pandion cristatus*	Eastern Osprey		V,P,3	7
Animalia	Aves	Falconidae	0236	*^Falco hypoleucos*	Grey Falcon		E1,P,2	1
Animalia	Aves	Cacatuidae	0268	*^^Callocephalon fimbriatum*	Gang-gang Cockatoo		V,P,3	57
Animalia	Aves	Cacatuidae	0268	*^^Callocephalon fimbriatum*	Gang-gang Cockatoo population in the Hornsby and Ku-ring-gai LGAs		E2,V,P,3	56
Animalia	Aves	Cacatuidae	0265	*^Calyptorhynchus lathami*	Glossy Black-Cockatoo		V,P,2	2
Animalia	Aves	Psittacidae	0260	*Glossopsitta pusilla*	Little Lorikeet		V,P	11
Animalia	Aves	Psittacidae	0309	*^^Lathamus discolor*	Swift Parrot	CE	E1,P,3	8
Animalia	Aves	Psittacidae	0302	*^^Neophema pulchella*	Turquoise Parrot		V,P,3	1
Animalia	Aves	Psittacidae	0277	*^^Polytelis swainsonii*	Superb Parrot	V	V,P,3	1
Animalia	Aves	Strigidae	0246	*^^Ninox connivens*	Barking Owl		V,P,3	7
Animalia	Aves	Strigidae	0248	*^^Ninox strenua*	Powerful Owl		V,P,3	362
Animalia	Aves	Tytonidae	0250	*^^Tyto novaehollandiae*	Masked Owl		V,P,3	1
Animalia	Aves	Meliphagidae	0603	*Anthochaera phrygia*	Regent Honeyeater	CE	E4A,P	4
Animalia	Aves	Neosittidae	0549	*Daphoenositta chrysoptera*	Varied Sittella		V,P	1
Animalia	Aves	Artamidae	8519	*Artamus cyanopterus cyanopterus*	Dusky Woodswallow		V,P	11

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Animalia	Aves	Petroicidae	0380	*Petroica boodang*	Scarlet Robin		V,P	4
Animalia	Mammalia	Dasyuridae	1008	*Dasyurus maculatus*	Spotted-tailed Quoll	E	V,P	3
Animalia	Mammalia	Phascolarctidae	1162	*Phascolarctos cinereus*	Koala	V	V,P	2
Animalia	Mammalia	Burramyidae	1150	*Cercartetus nanus*	Eastern Pygmy-possum		V,P	2
Animalia	Mammalia	Petauridae	1136	*Petaurus australis*	Yellow-bellied Glider		V,P	1
Animalia	Mammalia	Petauridae	1137	*Petaurus norfolcensis*	Squirrel Glider		V,P	1
Animalia	Mammalia	Pseudocheiridae	1133	*Petauroides volans*	Greater Glider	V	P	2
Animalia	Mammalia	Pteropodidae	1280	*Pteropus poliocephalus*	Grey-headed Flying-fox	V	V,P	355
Animalia	Mammalia	Emballonuridae	1321	*Saccolaimus flaviventris*	Yellow-bellied Sheathtail-bat		V,P	13
Animalia	Mammalia	Molossidae	1329	*Micronomus norfolkensis*	Eastern Coastal Free-tailed Bat		V,P	16
Animalia	Mammalia	Vespertilionidae	1353	*Chalinolobus dwyeri*	Large-eared Pied Bat	V	V,P	1
Animalia	Mammalia	Vespertilionidae	1372	*Falsistrellus tasmaniensis*	Eastern False Pipistrelle		V,P	8
Animalia	Mammalia	Vespertilionidae	1357	*Myotis macropus*	Southern Myotis		V,P	8
Animalia	Mammalia	Vespertilionidae	1361	*Scoteanax rueppellii*	Greater Broad-nosed Bat		V,P	6
Animalia	Gastropoda	Camaenidae	I130	*Pommerhelix duralensis*	Dural Land Snail	E	E1	2
Plantae	Flora	Campanulaceae	7963	*Isotoma fluviatilis subsp. fluviatilis*		X		1
Plantae	Flora	Convolvulaceae	2234	*Wilsonia backhousei*	Narrow-leafed Wilsonia		V	1
Plantae	Flora	Dilleniaceae	14733	*^Hibbertia spanantha*	Julian's Hibbertia	CE	E4A,2	3
Plantae	Flora	Elaeocarpaceae	6205	*Tetratheca glandulosa*			V	72
Plantae	Flora	Ericaceae	7752	*Epacris purpurascens var. purpurascens*			V	34
Plantae	Flora	Fabaceae (Mimosoideae)	3728	*Acacia bynoeana*	Bynoe's Wattle	V	E1	1
Plantae	Flora	Fabaceae (Mimosoideae)	3741	*Acacia clunies-rossiae*	Kanangra Wattle		V	1
Plantae	Flora	Fabaceae (Mimosoideae)	3860	*Acacia pubescens*	Downy Wattle	V	V	2
Plantae	Flora	Grammitidaceae	9471	*^^Grammitis stenophylla*	Narrow-leaf Finger Fern		E1,3	1
Plantae	Flora	Haloragaceae	3257	*Haloragodendron lucasii*		E	E1	3
Plantae	Flora	Lamiaceae	3418	*^^Prostanthera marifolia*	Seaforth Mintbush	CE	E4A,3	2

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	Comm. status	NSW status	Records
Plantae	Flora	Myrtaceae	4007	^^*Callistemon linearifolius*	Netted Bottle Brush		V,3	10
Plantae	Flora	Myrtaceae	4024	*Darwinia biflora*		V	V	231
Plantae	Flora	Myrtaceae	4031	*Darwinia peduncularis*			V	1
Plantae	Flora	Myrtaceae	4067	*Eucalyptus camfieldii*	Camfield's Stringybark	V	V	2
Plantae	Flora	Myrtaceae	4134	*Eucalyptus nicholii*	Narrow-leaved Black Peppermint	V	V	3
Plantae	Flora	Myrtaceae	8314	*Leptospermum deanei*		V	V	13
Plantae	Flora	Myrtaceae	6809	*Melaleuca biconvexa*	Biconvex Paperbark	V	V	1
Plantae	Flora	Myrtaceae	4248	*Melaleuca deanei*	Deane's Paperbark	V	V	21
Plantae	Flora	Myrtaceae	4283	*Rhodamnia rubescens*	Scrub Turpentine		E4A	9
Plantae	Flora	Myrtaceae	4293	*Syzygium paniculatum*	Magenta Lilly Pilly	V	E1	20
Plantae	Flora	Orchidaceae	4464	^*Genoplesium baueri*	Bauer's Midge Orchid	E	E1,P,2	6
Plantae	Flora	Orchidaceae	7324	^*Pterostylis nigricans*	Dark Greenhood		V,P,2	1
Plantae	Flora	Poaceae	4875	*Deyeuxia appressa*		E	E1	1
Plantae	Flora	Proteaceae	10917	*Grevillea juniperina subsp. juniperina*	Juniper-leaved Grevillea		V	1
Plantae	Flora	Proteaceae	5458	^^*Persoonia hirsuta*	Hairy Geebung	E	E1,P,3	3
Plantae	Flora	Thymelaeaceae	6965	*Pimelea curviflora var. curviflora*		V	V	11
Animalia	Mammalia	Miniopteridae	1346	*Miniopterus australis*	Little Bent-winged Bat		V,P	13
Animalia	Mammalia	Miniopteridae	3330	*Miniopterus orianae oceanensis*	Large Bent-winged Bat		V	112

Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

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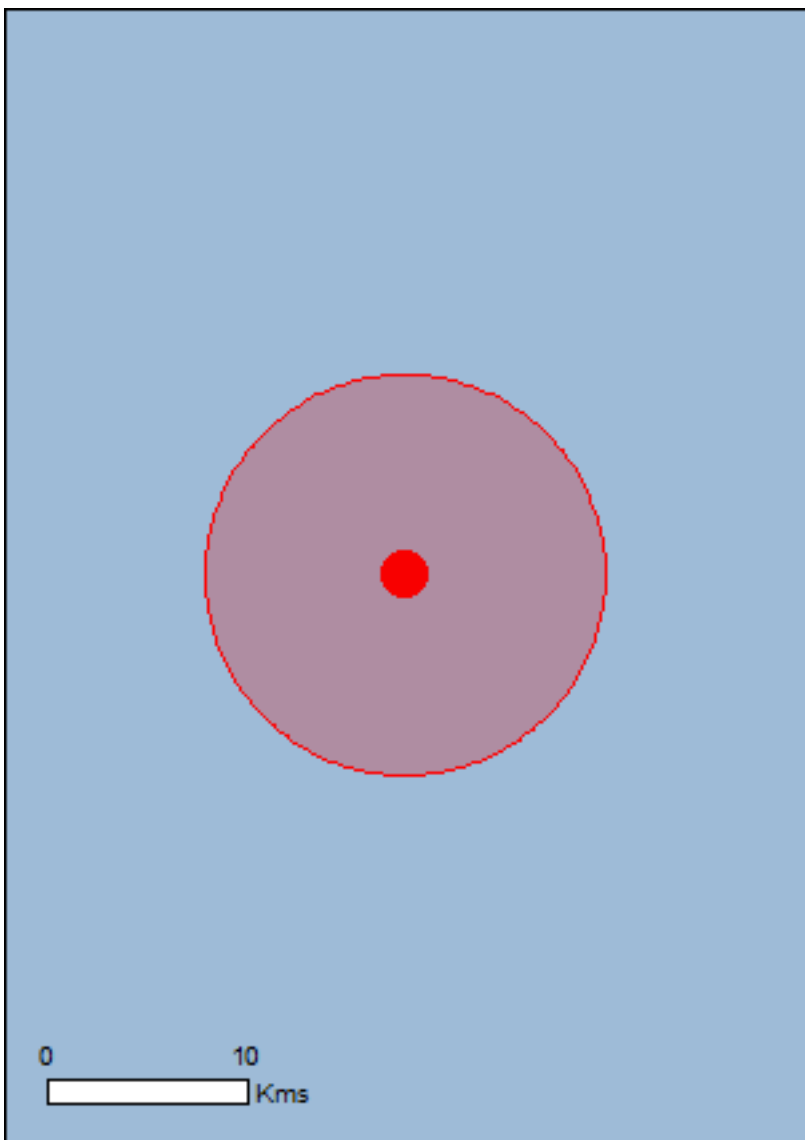

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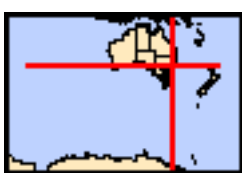

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	9
Listed Threatened Species:	86
Listed Migratory Species:	63

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	18
Commonwealth Heritage Places:	None
Listed Marine Species:	66
Whales and Other Cetaceans:	4
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	10
Regional Forest Agreements:	None
Invasive Species:	49
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties [Resource Information]

Name	State	Status
Natural		
Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves	NSW	Listed place

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Blue Gum High Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community may occur within area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Foraging, feeding or

Name	Status	Type of Presence
		related behaviour known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area

Name	Status	Type of Presence
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Fish		
Epinephelus daemelii Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area
Frogs		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat known to occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area
Litoria littlejohni Littlejohn's Tree Frog, Heath Frog [64733]	Vulnerable	Species or species habitat may occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat known to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Isoodon obesulus obesulus		
Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat known to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat known to occur within area
Petrogale penicillata		
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Other		
Pommerhelix duralensis		
Dural Land Snail [85268]	Endangered	Species or species habitat known to occur within area
Plants		
Acacia bynoeana		
Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area
Acacia pubescens		
Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat known to occur within area
Acacia terminalis subsp. terminalis MS		
Sunshine Wattle (Sydney region) [88882]	Endangered	Species or species habitat likely to occur within area
Allocasuarina glareicola		
[21932]	Endangered	Species or species habitat may occur within area
Asterolasia elegans		
[56780]	Endangered	Species or species habitat may occur within area
Caladenia tessellata		
Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat known to occur within area
Cryptostylis hunteriana		
Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Cynanchum elegans		
White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Darwinia biflora		
[14619]	Vulnerable	Species or species habitat known to occur within area
Deyeuxia appressa		
[7438]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area
Genoplesium baueri Yellow Gnat-orchid [7528]	Endangered	Species or species habitat known to occur within area
Grevillea caleyi Caley's Grevillea [9683]	Critically Endangered	Species or species habitat likely to occur within area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat may occur within area
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat likely to occur within area
Hibbertia spanantha Julian's Hibbertia [88475]	Critically Endangered	Species or species habitat known to occur within area
Lasiopetalum joyceae [20311]	Vulnerable	Species or species habitat likely to occur within area
Leptospermum deanei Deane's Tea-tree [21777]	Vulnerable	Species or species habitat known to occur within area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat likely to occur within area
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat likely to occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat known to occur within area
Persoonia mollis subsp. maxima [56075]	Endangered	Species or species habitat known to occur within area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat known to occur within area
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat likely to occur within area
Prostanthera junonis Somersby Mintbush [64960]	Endangered	Species or species habitat may occur within area
Prostanthera marifolia Seaforth Mintbush [7555]	Critically Endangered	Species or species habitat may occur within area
Pterostylis saxicola Sydney Plains Greenhood [64537]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
[Syzygium paniculatum](#) Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area
[Thesium australe](#) Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
[Hoplocephalus bungaroides](#) Broad-headed Snake [1182]	Vulnerable	Species or species habitat likely to occur within area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Sharks		
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
[Anous stolidus](#) Common Noddy [825]		Species or species habitat likely to occur within area
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area
[Calonectris leucomelas](#) Streaked Shearwater [1077]		Species or species habitat known to occur within area
[Diomedea antipodensis](#) Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Diomedea epomophora](#) Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Diomedea exulans](#) Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Diomedea sanfordi](#) Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat known to occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Foraging, feeding or related behaviour known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Foraging, feeding or related behaviour known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur

Name	Threatened	Type of Presence
		within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Foraging, feeding or related behaviour known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Foraging, feeding or related behaviour known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Foraging, feeding or related behaviour known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Foraging, feeding or related behaviour known to occur within area

Name	Threatened	Type of Presence
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Foraging, feeding or related behaviour known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -
Commonwealth Land - Australian & Overseas Telecommunications Corporation
Commonwealth Land - Australian Broadcasting Commission
Commonwealth Land - Australian Broadcasting Corporation
Commonwealth Land - Australian Postal Commission
Commonwealth Land - Australian Postal Corporation
Commonwealth Land - Australian Telecommunications Commission
Commonwealth Land - Commonwealth Bank of Australia
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation
Commonwealth Land - Commonwealth Trading Bank of Australia
Commonwealth Land - Defence Housing Authority
Commonwealth Land - Defence Service Homes Corporation
Commonwealth Land - Director of War Service Homes
Commonwealth Land - Telstra Corporation Limited
Defence - GLADESVILLE TRAINING DEPOT
Defence - NEWINGTON
Defence - PYMBLE MULTI-USER DEPOT
Defence - TIMOR BARRACKS - DUNDAS

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus		
Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]		Foraging, feeding or related behaviour known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Foraging, feeding or related behaviour known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Foraging, feeding or related behaviour known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Foraging, feeding or related behaviour known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Foraging, feeding or related behaviour known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Foraging, feeding or related behaviour known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Foraging, feeding or related behaviour known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Foraging, feeding or related behaviour known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Foraging, feeding or related behaviour known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Foraging, feeding or related behaviour known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Foraging, feeding or related behaviour known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species

Name	Threatened	Type of Presence
		habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area
Numenius phaeopus Whimbrel [849]		Foraging, feeding or related behaviour known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Foraging, feeding or related behaviour known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Foraging, feeding or related behaviour known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Foraging, feeding or related behaviour known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche sp. nov. Pacific Albatross [66511]	Vulnerable*	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely

Name	Threatened	Type of Presence
		to occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Foraging, feeding or related behaviour known to occur within area
Reptiles		
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat may occur within area
Caperea marginata		
Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat may occur within area
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
102 Rosedale Road	NSW
Berowra Valley	NSW
Berowra Valley	NSW
Dalrymple-Hay	NSW
Garigal	NSW
Ku-ring-gai Chase	NSW
Lane Cove	NSW
Newington	NSW
Parramatta River	NSW
Wallumatta	NSW

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris European Greenfinch [404]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Nationally Important Wetlands	[Resource Information]
Name	State
Bicentennial Park	NSW
Newington Wetlands	NSW

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-33.77212 151.10879

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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Attachment 2. Flora species recorded within, or in close proximity to, the study area

Key
* - introduced species
S - weed of significance

FAMILY	Scientific Name	Common Name
MAGNOLIOPSIDA - DICOTYLEDONS		
Asteraceae	*Cirsium vulgare* *	Scotch Thistle
	Conyza bonariensis *	Fleabane
	Cotula australis	Common Cotula
	Gamochaeta coarctata *	Spiked Cudweed
	Hypochaeris radicata *	Catsear
	Senecio madagascariensis * S	Fireweed
	Sonchus oleraceus *	Sowthistle
	Taraxacum officinale *	Dandelion
Brassicaceae	*Brassica sp.* *	
Euphorbiaceae	*Euphorbia peplus* *	Petty Spurge
Fabaceae: Faboideae	*Medicago sp.* *	A Medic
	Trifolium repens *	White Clover
	Vicia sativa *	Common Vetch
Lamiaceae	*Stachys arvensis* *	Stagger Weed
Lauraceae	*Cinnamomum camphora* *	Camphor Laurel
Malvaceae	*Modiola caroliniana* *	Carolina Mallow
	Sida rhombifolia *	Paddy's Lucerne
	Malva sp. *	
Myrtaceae	*Callistemon viminalis*	Weeping Bottlebrush
	Corymbia maculata	Spotted Gum
	Eucalyptus microcorys	Tallowwood
	Eucalyptus saligna	Sydney Blue Gum
	Eucalyptus saligna x Eucalyptus botryoides	Southern Blue Gum
	Lophostemon confertus *	Brushbox
Oleaceae	*Olea europaea* subsp. *cuspidata* * S	African Olive
Plantaginaceae	*Plantago lanceolata* *	Lamb's Tongue
Solanaceae	*Solanum nigrum* *	Blackberry Nightshade
	Solanum sp. *	
MAGNOLIOPSIDA - MONOCOTYLEDONS		
Asparagaceae	*Asparagus aethiopicus* * S	Asparagus Fern
Poaceae	*Cenchrus clandestinus* *	Kikuyu Grass
	Ehrharta erecta *	Panic Veldt Grass
	Poa annua *	Winter Grass

Attachment 3. Fauna species recorded within, or in close proximity to, the study area

Key
* - introduced species

Common Name	Family and Scientific Name	Method of Detection
MAMMALS		
Common Brushtail Possum	*Trichosurus vulpecula*	Characteristic scratchings observed
* Rabbit	*Oryctolagus cuniculus*	Characteristic scats observed
BIRDS		
Masked Lapwing	*Vanellus miles*	Observed
Australian Wood Duck	*Chenonetta jubata*	Observed
Little Corella	*Cacatua sanguinea*	Observed
Sulphur-crested Cockatoo	*Cacatua galerita*	Heard calling
Rainbow Lorikeet	*Trichoglossus haematodus*	Observed
Laughing Kookaburra	*Dacelo novaeguineae*	Heard calling
Noisy Miner	*Manorina melanocephala*	Observed
Grey Butcherbird	*Cracticus torquatus*	Heard calling
Australian Magpie	*Cracticus tibicen*	Heard calling
Australian Raven	*Corvus coronoides*	Heard calling
Welcome Swallow	*Hirundo neoxena*	Observed

Attachment 4. Photographic record of the study area

Plate 1. The character of the cleared and exotic grassland. Photograph taken looking north-east.

Plate 2. The character of the planted native trees.

Plate 3. The character of the development area. Photograph taken looking south-west.

Plate 4. A stand of planted native trees that will likely require removal. Photograph taken looking south-east.

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Biodiversity Offset Scheme (BOS) Entry Threshold Map

0.7 0 0.36 0.7 Kilometers

GCS_GDA_1994

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days

Notes

Biodiversity Values Map and Threshold Report

Results Summary

Date of Calculation	31/07/2019 11:27 AM		**BDAR Required***
Total Digitised Area	1.21	ha	
Minimum Lot Size Method	Lot size		
Minimum Lot Size	7.02	ha	
Area Clearing Threshold	0.5	ha	
Area clearing trigger Area of native vegetation cleared	Unknown #		Unknown #
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no		no
Date of the 90 day Expiry	N/A		

*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is '"likely to significantly affect threatened species' as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BOSET user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Office of Environment and Heritage and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies will all aspects of the *Biodiversity Conservation Act 2016.*

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature S.Bloomfield Date: 31/07/2019 11:27 AM

Stephen Bloomfield , Senior Ecologist
Accredited assessor (BAAS18054)
Lesryk Environmental Pty Ltd

Attachment 2

Completed Table 2: Impacts of the proposed development on biodiversity values

Biodiversity value	Meaning	Relevant (✓or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Vegetation abundance - 1.4(b) BC Regulation	Occurrence and abundance of vegetation at a particular site	NA	The majority of the site is vegetated by exotic grassland. Planted native trees are present along the southern and north-western perimeter of the indicative development area. These trees are primarily composed of non-locally occurring eucalypts that have been planted more than three to four decades ago. To achieve the proposal approximately 0.43 ha of (predominantly) planted native vegetation is likely to be removed. Tree species present include Tallowwood (*Eucalyptus microcorys*), Sydney Blue Gum (*Eucalyptus saligna*), Spotted Gum (*Corymbia maculata*), Brushbox (*Lophostemon confertus*) and Southern Blue Gum (*Eucalyptus saligna x Eucalyptus botryoides*). Refer to Section 3.4 of the ecological report prepared by Lesryk Environmental Pty Ltd in August 2019 (Attachment 1).
Vegetation integrity 1.5(2)(a) BC Act	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state	NA	The subject site is highly modified and disturbed. With reference to vegetation mapping of the study area, no native vegetation is indicated as occurring at the subject site. The vegetation at the site is primarily composed of non-locally occurring eucalypts that have been planted no native vegetation being present. The site and the majority of the Macquarie University campus, bar a few isolated native woodland stands, has been completely modified and does not resemble a natural, or near natural, state. Refer to Section 3.4 of the ecological report prepared by Lesryk Environmental Pty Ltd in August 2019 (Attachment 1).
Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at a particular site	NA	No habitats or vegetation communities for threatened species are present within the limits of the proposed development area. Refer to Section 3.4 of the ecological report prepared by Lesryk Environmental Pty Ltd in August 2019 (Attachment 1). Hollow-bearing trees occur within the adjacent planted woodland, these potentially providing habitat for a number of threatened microbats. The development of the site will not require the removal or disturbance of any of these trees. If present, an assessment referring to the criteria provided under Section 7.3 of the BC Act found that the proposed development is unlikely to have a significant effect on any hollow-dependent microchiropteran, or their habitat.
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	NA	Though targeted, no ecological communities, flora or fauna species listed under the Schedules of the EPBC or BC Acts were recorded within, or in close proximity to, the development area. Refer to Section 3.4 of the ecological report prepared by Lesryk Environmental Pty Ltd in August 2019 (Attachment 1). State listed threatened microchiropterans may occupy those hollow-bearing trees that were recorded in the adjacent woodland, none of which will be directly or indirectly affected by the scope of works proposed.

Biodiversity value	Meaning	Relevant (✓or NA)	Explain and document potential impacts including additional impacts prescribed under the BC Regulation Attach additional supporting documentation where appropriate
Habitat connectivity 1.4(c) BC Regulation	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	NA	The proposed development site is not considered to be part of any important local or regional wildlife corridor or vegetation link. Whilst the trees present would provide foraging resources for a range of bird species and common arboreal ground traversing or flying mammals, the site is not expected to be important for connectivity between different areas of habitat for native species, particularly those listed under the EPBC and BC Acts. The site does not facilitate the movement of any threatened species across their range.
Threatened species movement 1.4(d) BC Regulation	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	NA	The subject site is not considered to be part of any important local or regional wildlife corridor or vegetation link. Whilst the trees present would provide foraging resources for a range of bird species and common arboreal ground traversing or flying mammals, the site is not expected to be important for connectivity between different areas of habitat for native species, particularly those listed under the EPBC and BC Acts. The site does not facilitate the movement of any threatened species across their range.
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over a particular site are free from interference	NA	The proposal would not interfere with the flight paths of any native birds, particularly those listed under the BC Act.
Water sustainability 1.4(f) BC Regulation	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	NA	No ecological communities, flora or fauna species listed under the Schedules of the EPBC or BC Acts were recorded within, or in close proximity to, the development area. Therefore, the water sustainability that relates to any such entities is not applicable. The proposed development would not substantially affect water sustainability at the site such that any potentially occurring threatened species that may utilise the subject site and its habitat would be adversely impacted.

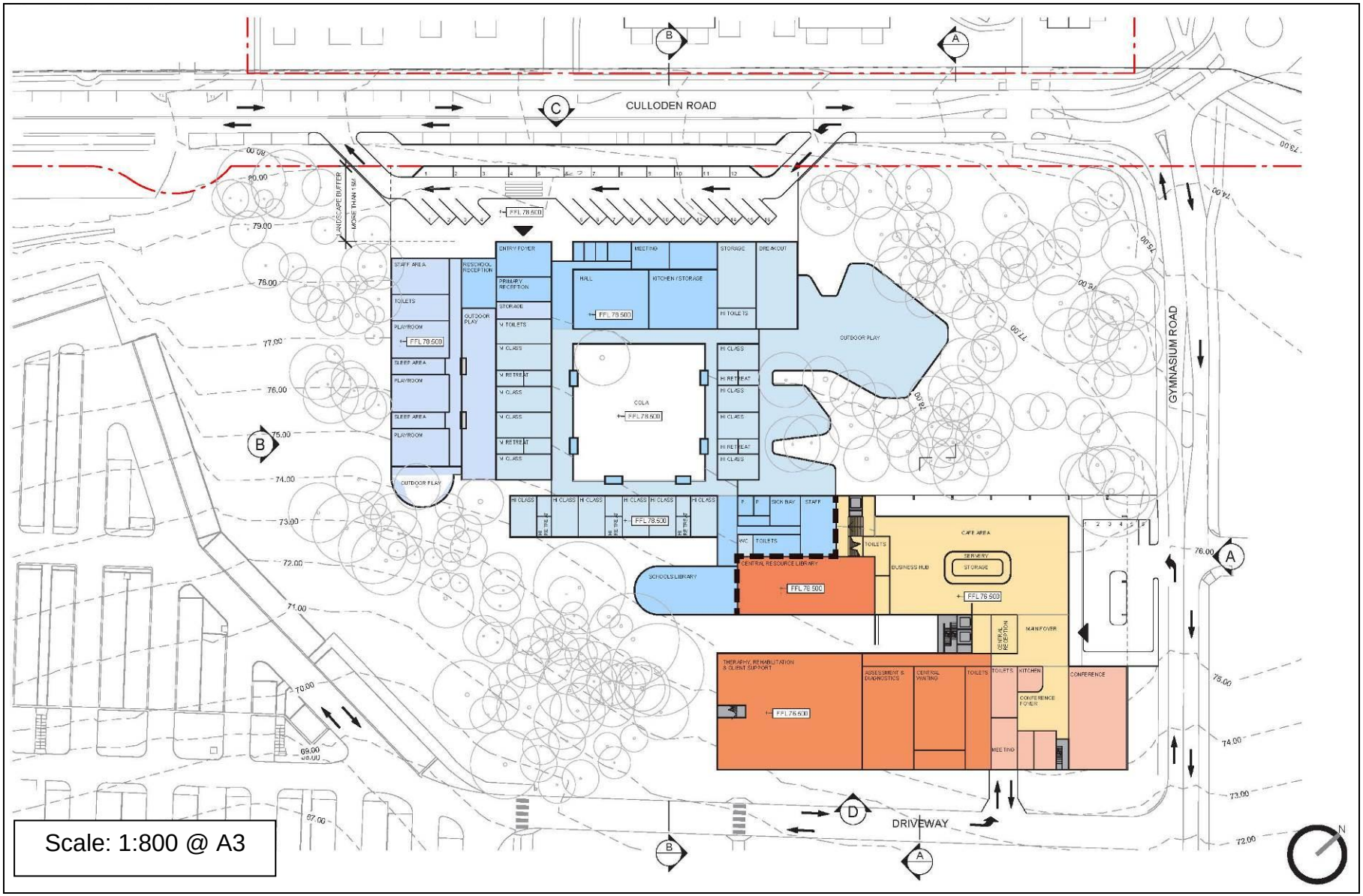
6.1 Additional biodiversity impacts to which scheme applies (sections 6.3 and 6.6 (2)) (1) The impacts on biodiversity values of the following actions are prescribed (subject to subclause (2)) as biodiversity impacts to be assessed under the biodiversity offsets scheme:	
(a) the impacts of development on the following habitat of threatened species or ecological communities: *(i) karst, caves, crevices, cliffs and other geological features of significance,* *(ii) rocks,* *(iii) human made structures,* *(iv) non-native vegetation,*	The proposal would not have an impact on karst, caves, crevices, cliffs and other geological features of significance, rocks or human made structures. Whilst the proposal will result in the disturbance of non-native vegetation, none of these areas are considered to provide important habitat for native species, particularly those listed under the BC Act.
(b) the impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range,	The subject site is not considered to be part of any important local or regional wildlife corridor or vegetation link. Whilst the trees present would provide foraging resources for a range of bird species and common arboreal ground traversing or flying mammals, the site is not expected to be important for connectivity between different areas of habitat for native species, particularly those listed under the EPBC and BC Acts. In addition, given the existing character of the study locality, and the limited vegetation present, it is considered that the proposal would not present any further barriers to the movement patterns of any native animals or plant propagules such that their local populations would be adversely affected. The site does not facilitate the movement of any ground traversing threatened species across their range.
(c) the impacts of development on movement of threatened species that maintains their lifecycle,	As above.
(d) the impacts of development on water quality, water bodies and hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development),	No threatened ecological communities, flora or fauna species listed under the Schedules of the EPBC or BC Acts were recorded within, or in close proximity to, the development area. Therefore, the water sustainability that relates to any such entities is not applicable. The proposed development would not substantially affect water sustainability at the site such that any potentially occurring threatened species that may utilise the subject site and its habitat would be adversely impacted.

(e) the impacts of wind turbine strikes on protected animals,	The proposal does not involve any wind turbine(s), nor does it occur within the vicinity of one. As such, this potential impact is not relevant.
(f) the impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community.	No fauna species listed under the Schedules of the EPBC or BC Acts were recorded within, or in close proximity to, the proposed development area. Similarly, none would be reliant upon the subject site for any of their necessary lifecycle requirements. As such, the impact of vehicle strikes on any such entity, as none are considered likely to occur, is not relevant. In any case, the proposal is not expected to increase the number of vehicles in the area nor is it likely to put any species, particularly those listed under the BC Act, at further risk of vehicle strike.

Attachment 3

Proposed site plan.

Source WMK Architecture 2020 *RIDBC Centre of Excellence: Sears Report [Issue 3].* Document prepared on behalf of RIDBC by WMK Architecture, Sydney, NSW


CULLODEN ROAD
GYMNASIUM ROAD
DRIVEWAY
Scale: 1:800 @ A3