

gunninah



John Colet School
Wyatt Avenue, Belrose

New Classroom Building and Landscaping

Ecological Issues & Assessment Report

F Dominic Fanning

November 2019



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This document and the intellectual material it contains have been prepared by the principal author (Mr F Dominic Fanning) for the specific purposes described herein.

It has been prepared in cognition of Division 2 Part 31 of the *Uniform Civil Procedures Rules* (UCPRs) and the *Expert Witness Code of Conduct* contained in Schedule 7 to the UCPRs – as practised *inter alia* in the NSW Land & Environment Court.

Any interpretation of this *Report* or any extraction from it are subject to the approval of the author.

**JOHN COLET SCHOOL - WYATT AVENUE, BELROSE
NEW CLASSROOM BUILDING and LANDSCAPING**

ECOLOGICAL ISSUES & ASSESSMENT REPORT

November 2019

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PART A	INTRODUCTION & INFORMATION BASE
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1 INTRODUCTION

1.1 The Subject Site

The “*subject site*” for the purposes of this *Ecological Issues & Assessment Report* (EIAR) is the John Colet School (known formally as Lot 1 in DP 601101 and Lot 101 in DP 874509) - located at Nos. 6-8 Wyatt Avenue, Belrose (Appendix A). The John Colet School is located on the northern fringes of the Belrose urban area - with Wyatt Avenue along the southern boundary of the site and the residential areas of Belrose to the south and bushland to the north.

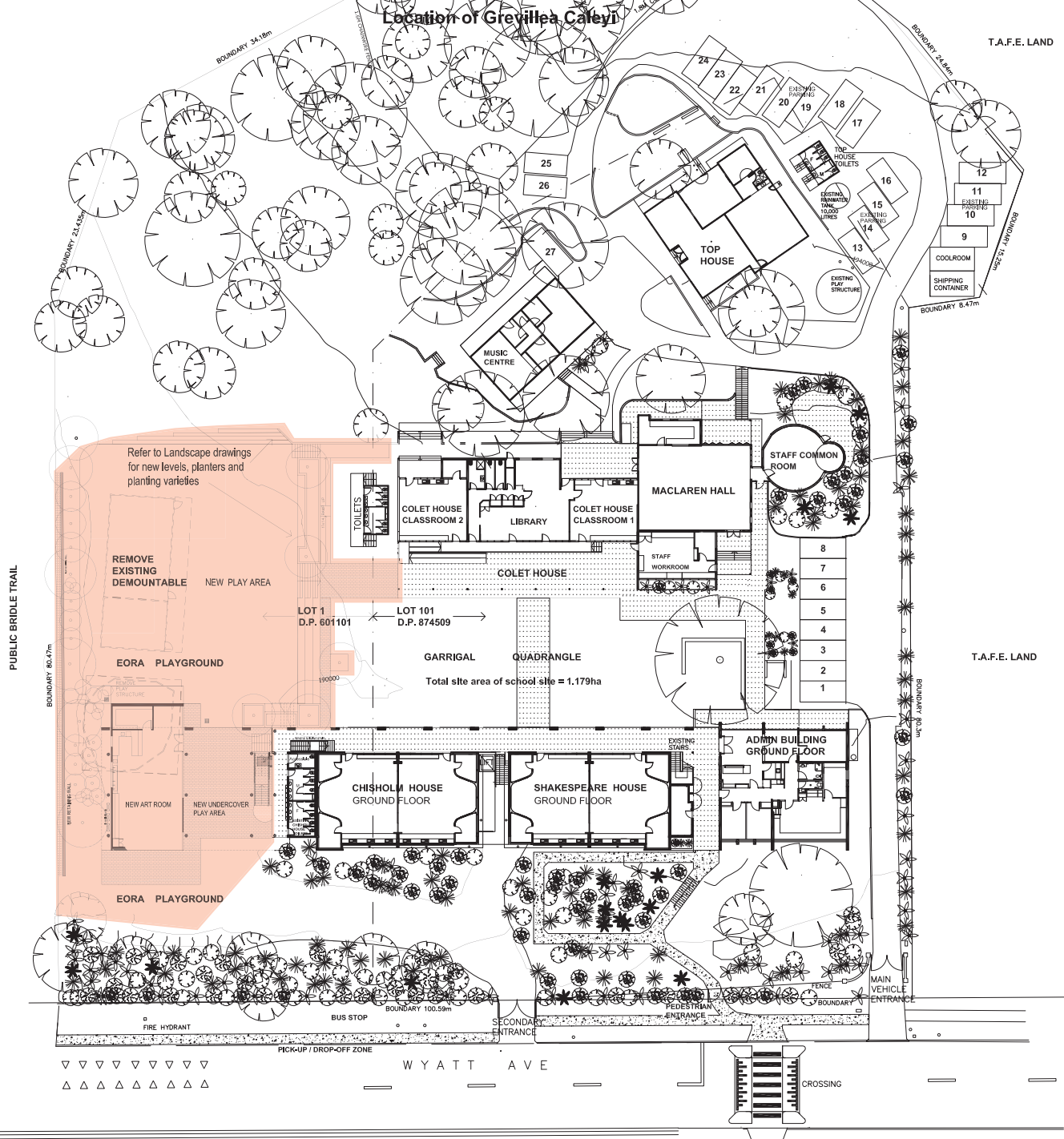
The site is located within the Northern Beaches¹ Council Local Government Area (LGA), approximately 15 kilometres to the north of the Sydney CBD. The School property (Appendix A) occupies approximately 1.18 hectares. As detailed below, most of the subject site has long been cleared and is the site of the existing John Colet School and facilities (Appendix A); with patches of trees in the northern parts of the land and a small reserve (also in the northern part of the land) for the protection of the threatened plant Caley’s *Grevillea Grevillea caleyi*.

1.2 The Proposed Development

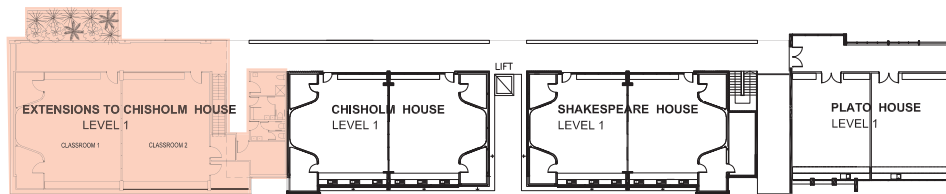
The proposed development on the John Colet School site which is the subject of this EIAR involves the following elements (Appendix B).

- The construction of an extension to the existing school building fronting Wyatt Avenue – providing two new classrooms and an art classroom; with an undercroft.
- The construction of a retaining wall on the western side of the site (which will require the removal of a few native and introduced planted trees and shrubs).
- Excavation of a small area and filling – to provide an essentially level lawn area plus seating and landscaping (the ‘Eora Playground’).
- The proposed development will require the removal of only a very few native trees (as discussed below) and no relevant “*native vegetation*” – noting that all relevant parts of the site have previously been cleared or disturbed and used for buildings or recreation.

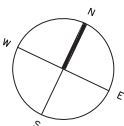
¹ Belrose is located in that part of the Northern Beaches LGA that was formerly the Warringah LGA



GROUND FLOOR PLAN



LEVEL 1 PLAN



1.3 Scope of This Report

This EIAR has been prepared specifically to consider the potential environmental impacts of the proposed development of that part of the John Colet School documented above (Appendix B).

The EIAR addresses the relevant statutes and planning instruments, including the following.

- *Environmental Planning & Assessment Act 1979* (EP&A Act); as amended by the BCon Act.
- *Biodiversity Conservation Act 2016* (BCon Act).
- *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act).
- *Warringah Local Environmental Plan 2010* (WLEP 2011) and *Warringah Development Control Plan 2010* (WDCP 2011).

It is noted that there are no specific matters contained in WLEP 2011 or DCP 2011 that are not otherwise addressed within this EIAR.

2 INFORMATION BASE

The undersigned has previously visited the subject site on five occasions for the purposes of a previous EIAR for partial development of the site (Gunninah 2015, 2016) – in May and August 2013, in May 2014, and in February and May 2015. These visits involved inspections of the subject site generally (including the Grevillea Reserve in the north and the vegetation in the northwest of the site); and have facilitated a detailed understanding of the nature and context of the subject site, and of the likely or potential relevance of the site for threatened biota.

Specific flora and fauna investigations of the subject site have been conducted by Actinotus (in 2006), EcoHort (in 2007) and SLR Consulting (in 2013). The SLR Consulting investigation (directed by the undersigned) involved *inter alia* a dedicated traverse of lands to the north – to validate the Council mapping of vegetation in this area particularly with respect to the extent of the Duffys Forest community.

The undersigned undertook a supplementary site inspection on 10 October 2019 for the purposes of obtaining information and photographs for this EIAR (see Photographic Essay in Appendix C).

Existing information regarding relevant threatened and other native biota was also obtained from the following sources.

- The EES Group² Atlas of NSW Wildlife records for the locality (Appendix D).
- The 'Protected Matters' database pursuant to the EPBC Act (Appendix D).
- Information regarding threatened biota and communities contained on the OEH website.
- The general published literature on threatened biota.

² The EES Group (Environment, Energy & Science) incorporates most of the OEH (Office of Environment & Heritage) and is part of the Department of Planning, Environment & Industry (DPEI).

3 GENERAL DESCRIPTION

The John Colet School at Belrose is located on a moderate south-facing slope to the immediate north of Wyatt Avenue at Belrose. It is located at the interface between existing urban development and bushland (Figure 1); with the following characteristics.

- ☐ There is an extensive area of variously disturbed, and in places highly degraded, native open forest and woodland to the immediate north.
- ☐ Existing urban development (residences and other buildings) is located to the east and west of the School.
- ☐ Existing urban development and a sports field are located across Wyatt Avenue to the immediate south.

Most of the John Colet School site has been cleared of native vegetation (other than a few scattered trees); and is now predominantly occupied by the school buildings and facilities, as well as parking areas, lawns and landscaped gardens (Appendix A; Photographic Essay in Appendix C). Introduced plants dominate most of the horticultural gardens, although there are a number of remnant native trees and tall shrubs, as well as some native groundcover species at scattered locations throughout the site.

The northern portion of the School land contains the southernmost part of a much larger stand of Duffys Forest vegetation - which is an “*endangered ecological community*” (EEC) listed in the TSC Act. This area also contains specimens of Caley’s Grevillea *Grevillea caleyi* (Appendix A) - which is a threatened plant listed as “*endangered*” in the NSW BCon Act and also in the Commonwealth EPBC Act.

A ‘triangular area’ (approximately 400m² in area) in the north of the School site (known as ‘Caley’s Grevillea Reserve’) has been fenced off from the remaining school lands (Appendix A) - to avoid the potential for adverse impacts upon either the Duffys Forest vegetation or Caley’s Grevillea. This area is distant from and will not be affected by the current proposal.

The small patch of modified open woodland in the northwestern part of the John Colet School site (approximately 800m² in area) has been under-scrubbed for bushfire protection purposes (Appendix A; Photographic Essay in Appendix C) and has been used in part for passive recreation purposes. This area is also Duffys Forest vegetation; albeit highly modified and disturbed.

The southern edge of this modified stand of Duffys Forest is adjacent to an area to be excavated and re-worked to provide a ‘level’ grass area and seating (see detailed plans in Appendix B and Photographic Essay in Appendix C). However, **no** Duffys Forest nor any trees or other native plants of that EEC are to be removed for that purpose.

4 FLORA and VEGETATION

4.1 Vegetation Types

The vegetation on the John Colet School site generally is documented in the EIAR previously prepared by SLR Consulting in 2014 (by the undersigned); and remains essentially as it was in 2014 - with some areas having been modified more recently pursuant to a development approval in 2016.

There is very little native vegetation within that part of the subject site at Belrose on which the current development is proposed (see Photographic Essay in Appendix C) – the only native plants being a few horticultural plantings, a small Water Gum *Tristaniopsis laurina* (Tree No. 38B) and one small Red Bloodwood *Corymbia gummifera* (Tree No. 39) – both likely planted specimens.

4.2 Flora Assemblage

Native plant species are concentrated in (albeit not confined to) the Caley's Grevillea Reserve and in the small area of disturbed woodland in the northwest of the site. There are two native trees within the development footprint (see discussion above and Photographic Essay in Appendix C) - which will be replaced in the landscape plantings for the site.

Most of the 'vegetation' within the development footprint consists of introduced Buffalo Grass and Kikuyu; with a range of horticultural plantings along the western and southern sides of the footprint (see Photographic Essay in Appendix C). None of this vegetation is of any biodiversity value or significance.

4.3 Threatened Biota

The only threatened plant species recorded on or likely to occur on the subject site at Belrose is Caley's Grevillea. As documented in the SLR Ecology *Report* (2014), approximately 15 specimens of this threatened plant species are located within the Caley's Grevillea Reserve – located in the northern part of the subject site at Belrose (see Map in Appendix A). There are also several specimens beyond the School grounds to the north.

There are no specimens of Caley's Grevillea on the subject site outside of the Caley's Grevillea Reserve; and none in any proximity to the works proposed on the subject site.

Vegetation within the Caley's Grevillea Reserve (approximately 400m² in area) represents an intact example of the Duffys Forest EEC. A substantial band of this vegetation type occurs in reserved land to the north of the John Colet School site (Appendix A).

There is also a small modified patch of Duffys Forest woodland (approximately 800m² in area) in the northwestern part of the School grounds – which is managed for bushfire protection purposes and is used by students for recreational purposes (see Photographic Essay in Appendix C). The southern edge of this modified stand of Duffys Forest abuts an area to be excavated and re-worked to provide a 'level' grass area and seating (detailed plans in Appendix B; Photographic Essay in Appendix C).

However - **no** Duffys Forest is to be removed for that purpose.

5 FAUNA and FAUNA HABITATS

5.1 Fauna Habitats

There are no habitats or resources of particular (or any real) relevance for native biota within the development footprint on the John Colet School site – other than highly adaptable and tolerant urban and peri-urban species (see Photographic Essay in Appendix C).

No hollow-bearing trees are present in the areas proposed for the new classroom building and associated landscaping on the John Colet School site at Belrose; and there are no other habitat features or resources of any particular value for native biota (including threatened species) on the site.

5.2 Fauna Species

Only individuals of a relatively small number of generally cosmopolitan urban and peri-urban species and/or highly mobile fauna species are likely to occur on the School site at Belrose – given the nature and condition of the site and its location and context. Further, only a few individuals of any such species would likely utilise the small and highly modified area to be affected by the proposed new classroom building and the associated landscaping on the subject site at Belrose.

There are no special resources or habitats present on the John Colet School site at Belrose that would be necessary for the survival of any native biota in this general location (see Appendix C).

5.3 Threatened Biota

There is no evidence for any threatened fauna species on the John Colet School site at Belrose.

The only threatened fauna species that could occur, on occasions, are highly mobile and wide-ranging.

- Microchiropteran bats – a number of threatened microchiropteran bats could utilise the John Colet School site at Belrose for foraging purposes; although the area to be affected by the proposed new classroom building and the associated landscaping would not be of any value or relevance. There are no roosting resources present, and any such individuals would not likely be resident on the subject site.
- The Grey-headed Flying Fox – individuals of this wide-ranging and highly mobile species could feed in the canopy on the School site at certain times of the year; although the area to be affected by the proposed new classroom building and associated landscaping would not be of any value or relevance. The resources present on the site do not represent a significant element for even an individual of the Grey-headed Flying Fox.
- A few threatened birds (eg Regent Honeyeater, Swift Parrot) – whilst individuals of these highly mobile species could theoretically occur occasionally on the site, the potential resources present are minimal for even individuals of any such species. In particular, the area to be affected by the proposed new classroom building and the associated landscaping is not of any relevance.

There is no likelihood for any threatened fauna species to be dependent on the area to be affected by the proposed development on the John Colet School site at Belrose.

6 SECTION 4.15 of the EP&A ACT

Section 4.15(b) of the EP&A Act requires (relevantly) that a consent authority is to take into consideration “*the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality*”. The application of Section 4.15(b) of the EP&A Act, therefore, is a matter of balancing the “*environmental impacts*” of a development proposal against the development outcomes.

As documented above, the subject site at Belrose has long been modified from its original condition; and contains extremely limited and predominantly artificial resources and habitat features for native (including threatened) species of wildlife (see Photographic Essay in Appendix C).

In particular, the area to be affected by the proposed new classroom building and the associated landscaping on the subject site at Belrose (see plans in Appendix B) is of no relevance to any element of the natural environment. This area has existing structures and large areas of introduced grass; as well as smaller areas of gardens with predominantly horticultural plantings. There are no areas of “*native vegetation*” to be removed for the proposed development (see Photographic Essay in Appendix C).

Given those circumstances, the potential biodiversity conservation value of the relevant part of the subject site is miniscule. The proposed new classroom building and the associated landscaping on the subject site at Belrose is not likely to impose any relevant adverse impacts upon any threatened (or non-threatened) biota or upon any biodiversity values.

Given the considerations above, the proposed new classroom building and the associated landscaping on the subject site at Belrose does not constitute an activity which would be regarded as unacceptable or unreasonable in terms of Section 4.15(b) of the EP&A Act.

7 NSW BIODIVERSITY CONSERVATION ACT

7.1 The Statutory Regime

The *Biodiversity Conservation Act 2016* (BCon Act) has modified the *Environmental Planning & Assessment Act 1979* (EP&A Act) by the provision of specific requirements for the consideration and assessment of the clearing of native vegetation and the potential for impacts on “*threatened species*”³.

Section 7.7(2) of the BCon Act states that if a “*proposed development is likely to significantly affect threatened species, the application for development consent is to be accompanied by a biodiversity development assessment report*”.

Section 7.2(1) of the BCon Act details the following required considerations.

- (1) *For the purposes of this Part, development or an activity is **likely to significantly affect threatened species** if:*
 - (a) *it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or*
 - (b) *the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or*
 - (c) *it is carried out in a declared area of outstanding biodiversity value.*

7.2 Section 7.2(1) of the BCon Act

Consideration of the proposed new classroom building and the associated landscaping on the subject site at Belrose pursuant to Section 7.2(1) of the BCon Act (see above) provides the following assessments.

- (a) *likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3*

The proposed new classroom building and the associated landscaping on the subject site at Belrose is **not** “*likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3*” (as discussed in Chapter 7.3 of this *Report*).

- (b) *the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values*

The proposed new classroom building and the associated landscaping on the subject site at Belrose does **not** exceed “*the biodiversity offsets scheme threshold*”; pursuant to Section 7.2(1) of the BC Act on the basis of the following considerations.

First - the proposal will not result in “*the clearing of **native vegetation** of an area declared by clause 7.2 [of the Regulation] as exceeding the [biodiversity offsets scheme] threshold*” (emphasis added).

³ The term “*threatened species*” include “*threatened species, populations and ecological communities*” listed in the *Biodiversity Conservation Act 2016*.

The area of “*native vegetation*” to be removed is represented essentially by a few trees and shrubs (all or most of which have been planted); and does not exceed the “*biodiversity offsets scheme threshold*” – which at the very minimum would be 2,500m².

Second - the proposed development on the subject site at Belrose will not involve the “*clearing of native vegetation, or other action prescribed in clause 6.1, on land included on the Biodiversity Values Map published under clause 7.3*” of the *Regulation*.

This is because - (a) none of the land to be affected by the proposal contains any “*native vegetation*” (see Photographic Essay in Appendix C); and (b) the proposal does not extend into the BV mapped land on the subject site (see detailed plan below and in Appendix A).

(c) *It is carried out in a declared area of outstanding biodiversity value*

The subject site at Belrose is **not** located “*in a declared area of outstanding biodiversity value*”.

Given those considerations, the proposed new classroom building and the associated landscaping on the subject site at Belrose is **not** “*likely to significantly affect threatened species*” (pursuant to Section 7.2(1) of the BCon Act) and does **not** trigger any requirement for the application of the Biodiversity Offsets Scheme or the requirement for a *Biodiversity Development Assessment Report* (BDAR).

7.3 Section 7.3 of the BCon Act

Section 7.3 of the BCon Act provides the “*Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats*” referred to in Section 7.2(a) of the BCon Act.

Section 7.3 of the BCon Act is a modified version of the pre-existing Section 5A of the EP&A Act. This Section of the BCon Act contains the specific requirements and matters that “*must be taken into account for the purposes of determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats*”.

In addition to the factors which “*must be taken into account*” (where relevant) pursuant to Section 7.3(1) of the BCon Act, Section 7.3(2) of the Act identifies that the “*Minister may, by order published in the Gazette with the concurrence of the Minister for Planning, issue guidelines relating to the determination of whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats*”.

Where relevant, such guidelines have been taken into account by the undersigned in the consideration of potential impacts on threatened biota.

Factor (a) Threatened Species – Risk of Extinction

There is no likelihood that any element of the area to be affected by the proposed new classroom building and the associated landscaping on the subject site at Belrose would support or be crucial to the survival of a “*viable local population*” (or even a single individual) of any “*threatened species*” known from the general locality or even potentially present.

No threatened flora species have been recorded or are likely to occur within the development footprint on the subject site at Belrose.

The only threatened fauna which could potentially occur on (or more likely ‘over’) the subject site are highly mobile and wide-ranging species – some microchiropteran bats, individuals of a few threatened bird species and possibly the Grey-headed Flying Fox. However, it is not likely that even a single individual of any such species would be dependent on that part of the subject site to be affected by the proposal for their survival in this general location (as discussed in Chapters 5.2 and 5.3 above).

Given the considerations discussed above, it is **not** “likely” that a “viable local population” of **any** “threatened species” would (or even could) be “placed at risk of **extinction**” (emphasis added) by the proposed new classroom building and the associated landscaping on the subject site at Belrose.

Factor (b) Threatened Ecological Communities – Risk of Extinction

As discussed above (in Chapter 4), the John Colet School site at Belrose does contain a small area of vegetation listed as a “threatened ecological community” (TEC) in the BCon Act. A disturbed patch of the Duffys Forest EEC (located at the southern periphery of a much larger patch of this EEC) is present in the northwestern part of the School grounds.

However, **none** of the current extent of this patch of Duffy Forest vegetation (at its southern extremity) is to be “removed or modified” for the proposal; including the landscaping of the site.

In any case, vegetation adjacent to the excavation area is not of significance or concern for the following reasons.

- The Duffys Forest adjacent to the proposed development is already modified and disturbed (being under-scrubbed for bushfire protection purposes and used in part for student recreation).
- The patch of the EEC present on the subject site represents only a miniscule proportion of the larger stand of the EEC at this location (Appendix A).

There is **no** potential that the proposed new classroom building and the associated landscaping on the subject site at Belrose would be:

- “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**” – Factor (b)(ii); or
- “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**” – Factor (b)(i).

Factor (c) Impacts on Habitat for Threatened Biota

As discussed in detail above, the subject site at Belrose is highly modified from its original condition; and the area to be affected on the School site does not contain any relevant native vegetation.

Given the circumstances of the subject site at Belrose, the following considerations apply to “the action proposed” (ie the proposed new classroom building and the associated landscaping) with respect to Factor (c) of Section 7.3(1) of the BCon Act.

- The “*extent*” of habitat for any potential threatened biota that is to be “*removed or modified*” from the subject land at Belrose is miniscule and insignificant – consisting of a few scattered native trees and shrubs (most of them horticultural plantings) - Factor (c)(i).

No threatened biota are likely to be dependent on the vegetation or ‘habitats’ on the subject land at Belrose for their survival in the vicinity or locality.

- The proposed removal of a few trees and shrubs from the subject site at Belrose is not likely to result in any relevant habitat for any threatened biota becoming “*fragmented or isolated from other areas of habitat*” – Factor (c)(ii), given the following considerations.
 - The location of the subject site – at the interface between existing urban development and retained bushland (to the north).
 - The high mobility and wide-ranging habits of any threatened biota that could even potentially be relevant.
- The small number of trees and shrubs to be removed from the subject site at Belrose cannot be regarded as of importance with respect to “*the long-term survival*” of any of the potential threatened biota known or likely to occur “*in the locality*” – Factor (c)(iii); given the following considerations.
 - The lack of important habitat or resources for any threatened biota.
 - The mobility of any potentially relevant threatened biota.

Factor (d) Impacts on Areas of Outstanding Biodiversity Value

The proposed development of the subject site at Belrose will not involve any impacts (direct or indirect) on any “*declared area of outstanding biodiversity value*” listed in the BCon Act.

Factor (e) Key Threatening Processes

The proposed development of the subject site at Belrose will not involve the imposition of any “*key threatening process*” (KTP) listed in the BCon Act; given the disturbed and modified nature of the subject site (as described above).

The removal of the few (mostly planted) trees and shrubs from the subject site does not relevantly constitute the “*removal of native vegetation*”; and even if it did, that ‘removal’ is of no ecological or biodiversity consequence or significance.

7.4 Conclusions

Given the matters discussed above, the proposed new classroom building and the associated landscaping on the John Colet School site at Belrose is not “*likely*” to impose a “*significant effect*” upon any “*threatened species or ecological communities, or their habitats*” that are present in the vicinity or that could theoretically or potentially occur at this location - pursuant to Section 7.3(1) of the BCon Act.

8 KOALAS and KOALA HABITAT

8.1 Application of SEPP 44

The aims of *State Environmental Planning Policy No. 44 - Koala Habitat Protection* (SEPP 44) are to protect the Koala and its habitat by identifying matters for consent authorities to consider during the assessment of proposals. In particular, SEPP 44 contains definitions of “*potential koala habitat*” and “*core koala habitat*” to be applied in the consideration of developments within those Local Government Areas (LGAs) listed in Schedule 1 of the *Policy*.

The Warringah LGA is listed in Schedule 1 of SEPP 44 as an area to which the *Policy* applies, and the site is greater than 1ha in subject site. Consequently, SEPP 44 applies (at least theoretically) to the site.

8.2 Potential Koala Habitat

SEPP 44 defines “*potential koala habitat*”, as native vegetation in which trees listed in Schedule 2 of the SEPP “*constitute at least 15% of the total number of trees in the upper or lower strata of the tree component*”. Schedule 2 of SEPP 44 provides a list of tree species recognised as Koala food trees.

The vegetation on the development footprint at Belrose does not have a tree canopy in which “*at least 15%*” of the canopy consists of those tree species identified in SEPP 44. Consequently, the site does not constitute “*potential koala habitat*”, as defined in SEPP 44.

It is to be noted that if a site is not “*potential koala habitat*”, as defined in SEPP 44, it cannot be “*core koala habitat*”.

8.3 Core Koala Habitat

SEPP 44 defines “*core koala habitat*” as “*an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population*”.

There is no evidence for a “*resident population*” of Koalas on the site at Belrose, and the subject site does not constitute “*core koala habitat*”.

8.4 Conclusions

The subject site at Belrose does not represent either “*potential koala habitat*” or “*core koala habitat*” as defined in either SEPP 44.

Further, there is no potential for adverse impacts to be imposed on the Koala as a result of the proposed development on the John Colet School site at Belrose; as there are no Koalas in the vicinity.

9 APPLICATION of the EPBC ACT

9.1 Introduction

The *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) requires consideration of the potential for a “*significant impact*” to be imposed by an activity on a *Matter of National Environmental Significance* (MNES).

In the event that such an “*impact*” is “*likely*” to be imposed, the activity proposed must be referred to the Commonwealth for determination as to whether it constitutes a “*controlled action*”. Where a development activity does constitute a “*controlled action*”, an approval from the Commonwealth Minister of the Environment is required.

The MNES include *inter alia*:

- world heritage properties;
- national heritage places;
- wetlands of international importance (listed under the Ramsar Convention);
- listed threatened species and ecological communities;
- migratory species protected under national agreements;
- Commonwealth marine areas;
- the Greater Barrier Reef Marine Park;
- nuclear actions (including uranium mines); and
- “*where actions proposed are on, or will affect, Commonwealth land and environment*”.

9.2 Relevant MNES

The proposed new classroom building and associated landscaping on the John Colet School site at Belrose has no potential (theoretically at least) to affect any MNES other than the following.

- Listed threatened species and ecological communities.
- Listed migratory species.

Migratory Species

With respect to “*migratory species protected under international agreements*”, the subject site at Belrose is not considered to be of any significance, given the following considerations.

- The lack of any even potential habitat of relevance for any “*migratory species*”.
- The widespread distribution and large home ranges of any such species.
- The nature and habits of these species including (in particular) their wide-ranging nature and high mobility.

There is no likelihood of a “*significant impact*”, nor indeed any impact at all, being imposed by the proposed works on the John Colet School at Belrose upon even individuals of any “*migratory species*” listed in the EPBC Act.

Threatened Species

Similar considerations apply to “*threatened species*” listed in the EPBC Act (see listing in Appendix D) as discussed above with respect to “*migratory species*” and threatened species listed in the BCon Act.

The only relevant threatened plant species listed in the EPBC Act is *Grevillea caleyi* – which (as detailed above) is present as a small population in the northern part of the subject site, extending further to the north (into public reserve land). The proposed new classroom building and associated landscaping on the John Colet School site at Belrose will not affect any individuals of or habitat for this species – as the whole of the population on the subject site is located within a fenced Reserve to the north.

Only occasional individuals of a few threatened fauna species listed in the EPBC Act would be likely to occur on the subject site at Belrose – potentially using the limited tree canopy on the site for foraging. However, the footprint of the proposed new classroom building and associated landscaping on the John Colet School site contains extremely few even potential resources for any such species. The proposed development cannot be considered likely to impose a “*significant impact*” upon any threatened species – given the following considerations.

- The nature and circumstances of the area to be affected by the proposed new classroom building and associated landscaping.
- The life-history and habits of any possible threatened species.
- The lack of any need to remove any relevant resources from the subject site.
- The substantial extent of suitable habitat and resources in the immediate vicinity (see Figure 1 in Appendix A) for such species.

There is no likelihood of a “*significant impact*” being imposed upon any threatened species listed in the EPBC Act as a result of the proposed new classroom building and associated landscaping on the John Colet School site at Belrose.

Threatened Ecological Communities

As discussed above (in Chapter 7.3), the subject site at Belrose does contain a small area of vegetation listed as a “*threatened ecological community*” (TEC) in the BCon Act. A disturbed patch of the Duffys Forest EEC (located at the southern periphery of a much larger patch of this EEC) is present in the northwestern part of the School grounds.

However, none of the current extent of this patch (at its southern extremity) is to be removed for the landscaping of the site.

9.3 Conclusions

There is no potential for or likelihood of a “*significant impact*” being imposed upon any potentially relevant MNES as a consequence of the proposed new classroom building and associated landscaping on the John Colet School site at Belrose.

There is no requirement for ‘*Referral*’ of the proposal to the Commonwealth pursuant to the EPBC Act.

10 CONCLUSIONS

The proposed new classroom building and associated landscaping on the John Colet School site at Belrose is located within an existing highly modified and developed part of the subject site which has previously been cleared and/or developed for classrooms and recreational space. This area is of only extremely limited value for a few generally widespread, cosmopolitan and urban-tolerant native species.

No threatened biota will be adversely affected to any significant extent (if at all) by the proposed school upgrade at Belrose.

A small and already managed patch of Duffys Forest on the site is located close to an area of proposed landscaping of the site. The small (800m²) patch in the northwestern corner of the site is already managed (under-scrubbed) for bushfire protection purposes; and is used to some extent by students. None of this area of vegetation is to be removed.

Importantly – no “*native vegetation*” is to be removed from the area of mapped *Biodiversity Values* on the subject site; and the proposed development does **not** trigger any requirement for the application of the Biodiversity Offsets Scheme pursuant to the BCon Act.

The proposed new classroom building and associated landscaping on the John Colet School site at Belrose is not “*likely*” to impose a “*significant effect*” upon any threatened biota - pursuant to Section 7.2 of the BCon Act.

The subject site is of no relevance to the Koala.

There is no potential for or likelihood of a “*significant impact*” being imposed upon any potentially relevant MNES as a consequence of the proposed new classroom building and associated landscaping on the John Colet School site at Belrose. There is no requirement for ‘*Referral*’ of the proposal to the Commonwealth pursuant to the EPBC Act.

A handwritten signature in blue ink, appearing to read 'F Dominic Fanning', with a stylized flourish at the end.

F Dominic Fanning
Gunninah

GLOSSARY

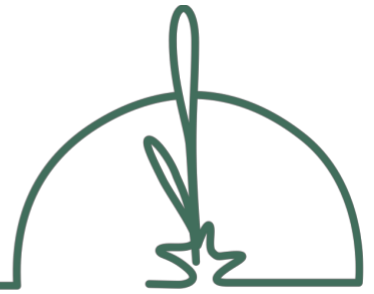
AOBV	<i>“Areas of Outstanding Biodiversity Value”</i> as defined in Part 3 of the BCon Act
BCon Act	<i>NSW Biodiversity Conservation Act 2016</i>
Biota	<i>“Biota”</i> means the animals and plants, and other organisms, of a geographic region or locality
CEEC	A <i>“critically endangered ecological community”</i> listed in the BCon Act and/or EPBC Act
DA	<i>Development Application</i> - prepared pursuant to the EP&A Act
EEC	Endangered Ecological Community - <i>“an ecological community specified in Part 3 of Schedule 1”</i> of the TSC Act
Ecological Community	BCon Act - <i>“an assemblage of species occupying a particular area”</i>
EP&A Act	<i>NSW Environmental Planning & Assessment Act 1979</i>
EPBC Act	<i>Commonwealth Environment Protection & Biodiversity Conservation Act 1999</i>
KTP	Key Threatening Process - <i>“a threatening process”</i> listed in Schedule 4 of the BCon Act
Locality	An area included within a 10km radius around the subject site
MNES	Matters of National Environmental Significance - as listed in the EPBC Act
NPWS	NSW National Parks & Wildlife Service
OEH	NSW Office of Environment & Heritage
Region	A <i>“bioregion defined in a national system of bioregionalisation that is determined (by the Director-General by order published in the Gazette) to be appropriate for those purposes”</i> (BCon Act)
SEPP 44	<i>State Environmental Planning Policy No. 44 - Koala Habitat Protection</i>
SIS	<i>Species Impact Statement</i> - prepared pursuant to Sections 7.20 and 7.21 of the BCon Act
Subject Site	Lot 1 in DP 601101 and Lot 101 in DP 874509) - located at Nos. 6-8 Wyatt Avenue, Belrose
TEC	A <i>“threatened ecological community”</i> – as specified in Schedule 2 of the BCon Act and/or in the EPBC Act
Threatening Process	A <i>“process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities”</i> (BCon Act)
Threatened Species	A species specified in Schedule 1 of the BCon Act
TSC Act	<i>NSW Threatened Species Conservation Act 1995</i>
WDCP 2010	<i>Warringah Development Control Plan 2010</i>
WLEP 2010	<i>Warringah Local Environmental Plan 2010</i>

BIBLIOGRAPHY

- Benson D, Howell J and McDougall L. 1996. *Mountain Devil to Mangrove: A Guide to Natural vegetation in the Hawkesbury - Nepean Catchment*. Royal Botanic Gardens, Sydney.
- Benson D and McDougall L. 1991. *Rare Bushland Plants of Western Sydney*. Royal Botanical Gardens, Sydney.
- Briggs JD and JH Leigh. 1988. *Rare or Threatened Australian Plants*. Special Publication 14. Australian National Parks & Wildlife Service.
- Briggs JD and JH Leigh. 1996. *Rare or Threatened Australian Plants*. CSIRO, Australia.
- Brooker MIH and Kleinig DA. 1990. *Field Guide to Eucalypts Volume 1 - South-eastern Australia*. Inkata Press, Melbourne.
- Brouwer J and Garnett S (eds). 1990. *Threatened Birds of Australia: An Annotated List*. Royal Australasian Ornithologists Union Report No. 68.
- Churchill S. 2008. *Australian Bats*. New Holland Publishers.
- Cogger HG. 1992. *Reptiles and Amphibians of Australia*. AH & AW Reed, Sydney.
- Cropper SC. 1993. *Management of Endangered Plants*. CSIRO, East Melbourne.
- Fairley A and Moore P. 1989. *Native Plants of the Sydney District*. Kangaroo Press, Sydney.
- Garnett ST and Crowley GM. 2000. *The Action Plan for Australian Birds*. Environment Australia, Canberra.
- Hall LS and Richards GC. 1979. *Bats of Eastern Australia*. Queensland Museum Booklet No. 12. Queensland Museum, Brisbane.
- Harden G (ed). 1992. *Flora of NSW. Vol 3*. NSW University Press, Kensington.
- Harden G (ed). 1993. *Flora of NSW. Vol 4*. NSW University Press, Kensington.
- Harden G (ed). 2000. *Flora of NSW. Vol 1 (revised)*. NSW University Press, Kensington.
- Harden G (ed). 2002. *Flora of NSW. Vol 2 (revised)*. NSW University Press, Kensington.
- Higgins PJ (ed). 1999. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 4 - Parrots to Dollarbird*. Oxford University Press, Melbourne.
- Higgins PJ and Davies SJJF (eds). 1996. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 3 - Snipe to Pigeons*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Steele WK (eds). 2001. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 6 - Pardalotes to Shrike-thrushes*. Oxford University Press, Melbourne.
- Higgins PJ and Peter JM (eds). 2002. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 5 - Tyrant-flycatchers to Chats*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Cowling SJ (eds). 2006. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 7 Part A - Boatbill to Starlings*. Oxford University Press, Melbourne.
- Higgins PJ, Peter JM and Cowling SJ (eds). 2006. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 7 Part B - Boatbill to Starlings*. Oxford University Press, Melbourne.
- Marchant S and Higgins PJ. 1990a. *Handbook of Australian, New Zealand & Antarctic Birds. Volume 1 Part A - Ratites to Ducks*. Oxford University Press, Melbourne.
- Marchant S and Higgins PJ. 1990b. *Handbook of Australian, New Zealand & Antarctic Birds. Volume 1 Part B - Ratites to Ducks*. Oxford University Press, Melbourne.

- Marchant S and Higgins PJ (eds). 1993. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2 - Raptors to Lapwings*. Oxford University Press, Melbourne.
- McDonald RC, Isbell RF, Speight JG, Walker J and Hopkins M. 1990. *Australian Soil and Land Survey Field Handbook* (2nd Edition). Inkata, Melbourne.
- Robinson L. 1991. *Field Guide to the Native Plants of Sydney*. Kangaroo Press, Sydney.
- Robinson M. 1994. *A Field Guide to Frogs of Australia*. Australian Museum/Reed Books, Sydney.
- Simpson K and Day N. 1998. *The Claremont Field Guide to the Birds of Australia (5th Edition)*. Penguin Books, Australia.
- Slater P, Slater P and Slater R. 1989. *The Slater Field Guide to Australian Birds*. Weldon Publishing, Sydney.
- SLR Consulting Ecological. 2015. *John Colet School, Wyatt Avenue Belrose. Proposed School Upgrade. Ecological Issues & Assessment Report*.
- Specht RL. 1988. Major Vegetation Formations in Australia. In *Ecological Biogeography of Australia*. Keast A (ed). Junk, The Hague.
- Strahan R (ed). 1995. *The Mammals of Australia*. Reed Books, Chatswood.

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John Colet School
Wyatt Avenue, Belrose

New Classroom Building and Landscaping

Ecological Issues & Assessment Report

Appendix C
Photographic Essay of the Subject Site

F Dominic Fanning

November 2019



Photo 1 The western side of the subject site from the COLA looking north. The bent tree in the middle background will be retained. The embankment is to be re-engineered and replanted.



Photo 2 The western side of the subject site from the COLA looking south. The embankment is to be re-engineered and replanted.



Photo 3 Part of the area of the John Colet School where the new schoolrooms will be located. This area is of no ecological value.



Photo 4 Part of the area of the John Colet School where the new schoolrooms will be located. This area is of no ecological value.



Photo 5 The western side of the subject site from beyond the area to be landscaped; looking south. The tree in the foreground will remain *in situ*; the tree behind the demountable will be removed.



Photo 6 The Guringai Reserve within the John Colet school grounds. This area will not be affected by the proposed new works; including any landscaping.

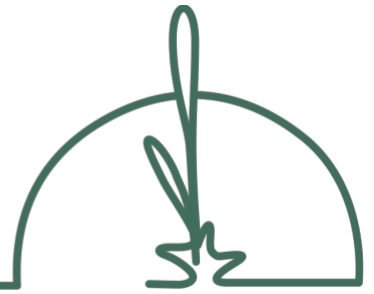


Photo 7 The area on the subject site that will be affected by the proposed new landscaping works. No works will be conducted to the left of the yellow line.



Photo 8 The area on the subject site that will be affected by the proposed new landscaping works (after removal of the demountable). No “*native vegetation*” is present or will be affected.

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John Colet School
Wyatt Avenue, Belrose

New Classroom Building and Landscaping

Ecological Issues & Assessment Report

Appendix D
Database Searches (OEH and EPBC)

F Dominic Fanning

November 2019

Data from the BioNet 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 0.1°; ^^ rounded to 0.01°).

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Search criteria : Public Report of all Valid Records of Threatened (listed on TSC Act 1995) Entities in selected area [North: -33.67 West: 151.17 East: 151.27 South: -33.77] returned a total of 2,934 records of 61 species.

Scientific Name	Common Name	NSW status	Comm. status	Records
Amphibians				
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V,P	V	38
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V,P		179
Reptiles				
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1,P	V	1
<i>Caretta caretta</i>	Loggerhead Turtle	E1,P	E	1
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	V,P		131
Birds				
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V,P		1
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V,P		2
<i>Ixobrychus flavicollis</i>	Black Bittern	V,P		6
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P	C	21
<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		1
^^ <i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		8
^^ <i>Pandion cristatus</i>	Eastern Osprey	V,P,3		3
<i>Esacus magnirostris</i>	Beach Stone-curlew	E4A,P		1
^^ <i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	V,P,3		2
^ <i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V,P,2		81
<i>Glossopsitta pusilla</i>	Little Lorikeet	V,P		8
^^ <i>Lathamus discolor</i>	Swift Parrot	E1,P,3	CE	14
^^ <i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		1
^^ <i>Ninox connivens</i>	Barking Owl	V,P,3		5
^^ <i>Ninox strenua</i>	Powerful Owl	V,P,3		229
^^ <i>Tyto tenebricosa</i>	Sooty Owl	V,P,3		2
<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A,P	CE	4
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		2
<i>Artamus cyanopterus</i>	Dusky Woodswallow	V,P		7
<i>Petroica boodang</i>	Scarlet Robin	V,P		2

Mammals				
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	16
<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot (eastern)	E1,P	E	128
<i>Phascolarctos cinereus</i>	Koala	V,P	V	6
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V,P		228
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P		1
<i>Macropus parma</i>	Parma Wallaby	V,P		1
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	165
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		3
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V,P		9
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V,P	V	10
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		1
<i>Myotis macropus</i>	Southern Myotis	V,P		27
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		3
<i>Miniopterus australis</i>	Little Bent-winged Bat	V,P		30
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V		102
Plants				
<i>Hibbertia puberula</i>		E1		1
<i>Hibbertia superans</i>		E1		1
<i>Tetradlea glandulosa</i>		V		250
<i>Epacris purpurascens</i> var. <i>purpurascens</i>		V		92
<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V	2
<i>Acacia terminalis</i> subsp. <i>terminalis</i>	Sunshine Wattle	E1	E	1
<i>Haloragodendron lucasii</i>		E1	E	12
^^ <i>Prostanthera marifolia</i>	Seaforth Mintbush	E4A,3	CE	1
^^ <i>Callistemon linearifolius</i>	Netted Bottle Brush	V,3		6
<i>Darwinia biflora</i>		V	V	2
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	44
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	3
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E1	V	1
<i>Leptospermum deanei</i>		V	V	34
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	12
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	6
^ <i>Genoplesium baueri</i>	Bauer's Midge Orchid	E1,P,2	E	51
^ <i>Microtis angusii</i>	Angus's Onion Orchid	E1,P,2	E	91
^^ <i>Grevillea caleyi</i>	Caley's Grevillea	E4A,3	CE	761
^^ <i>Persoonia hirsuta</i>	Hairy Geebung	E1,P,3	E	27
<i>Pimelea curviflora</i> var. <i>curviflora</i>		V	V	56



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.

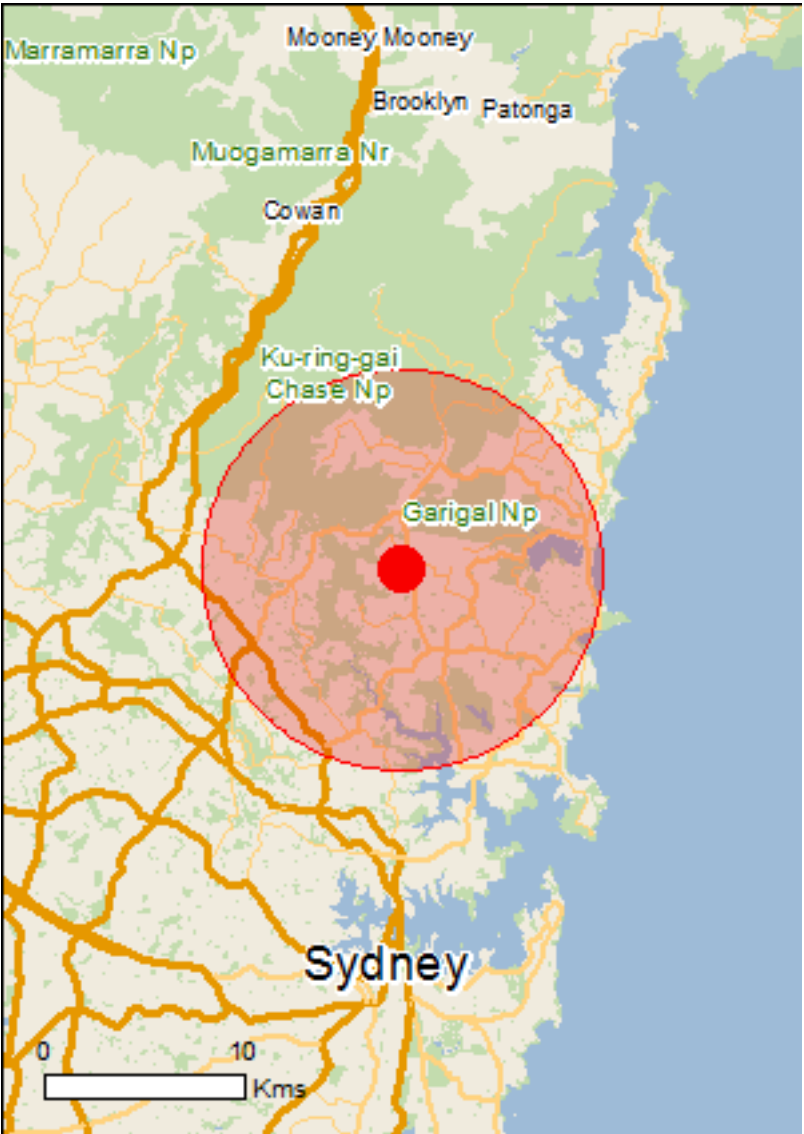
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

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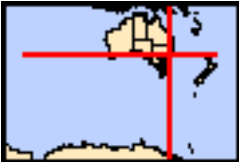
- [Summary](#)
- [Details](#)

[Matters of NES](#)[Other Matters Protected by the EPBC Act](#)[Extra Information](#)
- [Caveat](#)
- [Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)
Buffer: 10.0Km



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:	11
Listed Threatened Species:	94
Listed Migratory Species:	58

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:	17
Commonwealth Heritage Places:	None
Listed Marine Species:	79
Whales and Other Cetaceans:	14
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:	5
Regional Forest Agreements:	None
Invasive Species:	49
Nationally Important Wetlands:	None
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
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community may 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
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species

Name	Status	Type of Presence
		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
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat 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
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may

Name	Status	Type of Presence
occur within area		
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area
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 [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
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable	Species or species habitat likely to occur within area
Fish		
Epinephelus daemeli 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 likely to 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

Name	Status	Type of Presence within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area
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
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely 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
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat likely 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 likely 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 known to occur within area
Allocasuarina glareicola [21932]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Asterolasia elegans [56780]	Endangered	Species or species habitat likely to occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely 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
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 known to occur within area
Grevillea shiressii [19186]	Vulnerable	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
Kunzea rupestris [8798]	Vulnerable	Species or species habitat likely 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 may occur within area
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat likely to occur within area
Microtis angusii Angus's Onion Orchid [64530]	Endangered	Species or species habitat known to occur within area

Name	Status	Type of Presence
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat may 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 may occur within area
Prostanthera junonis Somersby Mintbush [64960]	Endangered	Species or species habitat known to occur within area
Prostanthera marifolia Seaforth Mintbush [7555]	Critically Endangered	Species or species habitat known to occur within area
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	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour 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	Foraging, feeding or related behaviour known to occur within area
Sharks		
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within

Name	Status	Type of Presence area
Listed Migratory Species		[<u>Resource Information</u>]
* 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
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Ardenna grisea Sooty Shearwater [82651]		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
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known 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
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Sternula albifrons Little Tern [82849]		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 Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely

Name	Threatened	Type of Presence
		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		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	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 known 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	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
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		Species or species habitat known to occur

Name	Threatened	Type of Presence
Ray [84994] Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may 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
Calidris acuminata Sharp-tailed Sandpiper [874]		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 melanotos Pectoral Sandpiper [858]		Species or species

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		habitat known to occur within area Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species 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
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land	[Resource Information]
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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 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 Defence Service Homes Commonwealth Land - Director of War Service Homes Commonwealth Land - Telstra Corporation Limited Defence - DEE WHY DEPOT Defence - PYMBLE MULTI-USER DEPOT Defence - TRAINING SHIP CONDAMINE Defence - WILLOUGHBY TRG DEP

Listed Marine Species	[Resource Information]
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* 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

Name	Threatened	Type of Presence
Ardea ibis Cattle Egret [59542]		within area Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		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 melanotos Pectoral Sandpiper [858]		Species or species habitat known 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 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
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known 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]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		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
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

Name	Threatened	Type of Presence
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 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
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
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Puffinus griseus Sooty Shearwater [1024]		Species or species habitat likely 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 known to occur within area
Sterna albifrons Little Tern [813]		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 Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
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 to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable	Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]		Species or species habitat likely to occur within area
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Dugong dugon Dugong [28]		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	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known

Name	Threatened	Type of Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	to occur within area Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
102 Rosedale Road	NSW
Dalrymple-Hay	NSW
Garigal	NSW
Ku-ring-gai Chase	NSW
Lane Cove	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

Name	Status	Type of Presence
Pycnonotus jocosus		within area
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 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

Name	Status	Type of Presence
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 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

Name	Status	Type of Presence
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

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

-33.7225 151.21423

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

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Please feel free to provide feedback via the [Contact Us](#) page.