

The new Sydney Fish Market

Concept and Stage 1 Works and Stage 2 Main Works
Biodiversity Development Assessment Report (BDAR)

UrbanGrowth NSW Development Corporation



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Executive Summary

Eco Logical Australia (ELA) was commissioned by UrbanGrowth NSW Development Corporation (UrbanGrowth NSW) to conduct a Biodiversity Development Assessment Report (BDAR) for the proposed construction of a new Sydney Fish Market, within Blackwattle Bay (the Development Site). The new facility will include land and water-based structures, car park, new foreshore promenade and wharves. This BDAR assesses impacts to terrestrial ecology, whilst a separate report by ELA will assess impacts to marine ecology. This BDAR addresses the Secretary's Environmental Assessment Requirements (SEARs) Application Number SSD 8925, under Specific Matter 10 - Biodiversity: Provide a Biodiversity Development Assessment Report (BDAR) prepared in accordance with the Biodiversity Assessment Method (BAM) to assess the impacts of the proposed development on biodiversity.

No mapped Plant Community Types (PCTs), as defined by the NSW BioNet Vegetation Classification system had previously been recorded within the Development Site. The Development site does not contain any mapped streams or wetlands, but does contribute to a Biodiversity Corridor mapped by Greater Sydney Local Land Services (GSLLS). The Development Site is mapped with the soil landscape 'Disturbed Terrain'. These areas were previously swamps, estuaries, and wetlands, which have been cut and filled using estuarine sand and mud, and rocks and local soil materials, along with a variety of artificial material. The site inspection solely identified scattered planted (or naturally established) native and exotic vegetation within the Development Site.

Due to the absence of PCTs within the Development Site, no ecosystem credit or species credit species were predicted to occur. To determine the Likelihood of Occurrence of threatened species, a 10 km search of BioNET records of threatened species under the *Biodiversity Conservation Act 2016* (BC Act), and 10 km Protected Matters search for threatened species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), was conducted. Species of Local Conservation Significance under the Urban Ecology Strategic Action Plan (UESAP; City of Sydney) and Connected Corridors for Biodiversity (CCB; Southern Sydney Regional Organisation of Councils Incorporated), were also included in the assessment.

Pteropus poliocephalus (Grey-headed Flying Fox; GHFF), listed as *Vulnerable* under the BC Act and EPBC Act, and non-threatened 'small birds' (as a general group of local conservation significance under the UESAP) were identified with the potential to occur within the Development Site. Although the Development Site lacks areas of dense native mid-storey vegetation, canopy vegetation provides potential habitat for 'small birds' including Yellow Thornbill, Australian Reed-warbler, Superb Fairywren, Spotted Pardalote, and Silvereye, all birds of local conservation significance.

The nectar and pollen of native trees provide potential foraging and roosting habitat for GHFF, especially species in the families of Myrtaceae (e.g. *Lophostemon confertus*) and Proteaceae (e.g. *Grevillea robusta*). The fruit of fig trees (Moraceae family) are another important food source for GHFF. Potential habitat for GHFF is dispersed throughout the Development Site, along with a large stand of primarily *Ficus* ssp. adjacent to the southern boundary of the Development Site, with a small portion of canopy overhanging the Development Site. GHFF is listed as both an ecosystem and species credit species; the species credit listing relates to breeding colonies only. No GHFF breeding colonies are located within or near the Development Site, and thus no targeted survey was required for this species under the

Biodiversity Assessment Methodology. According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018).

The Development Site is located in the southern portion of Blackwattle Bay and has substantially avoided biodiversity impacts (particularly threatened species and ecological communities) by utilising, as much as possible, already disturbed sites and existing infrastructure. However, the development will directly impact a small amount of potential foraging habitat for small birds of local conservation significance, and the GHFF.

Potential indirect impacts of the proposed works would include sediment runoff, mitigated by using sediment barriers, and light spill to adjacent stand of Fig trees (potential foraging habitat for GHFF), mitigated by intentional direction of lighting.

Based on the data available as discussed in **Section 2.2.6**, the proposed works would not have any Serious and Irreversible Impacts (SAIL).

No PCTs (ecosystem credits) or threatened species credit species were recorded within the Development Site, and thus no offsets are required under the BC Act. It is noted that the GHFF is an ecosystem credit species (for foraging and non-breeding habitat) and the small birds of local conservation significance are not listed threatened species, and therefore, due to the absence of PCTs within the Development Footprint, do not require an offset.

One Matter of National Environmental Significance (MNES) was identified as potentially adversely affected by the proposed works. The Grey-headed Flying-fox is listed as *Vulnerable* under the EPBC Act, and it is considered that this species is likely to use some of the Development Site for foraging, such as Fig trees and other Myrtaceae species.

An assessment of the Commonwealth Significant Impact Criteria (Commonwealth of Australia 2013) was undertaken for the Grey-headed Flying-fox. The assessment concluded that the project would not have a significant impact on this species, and as such, a referral to the Commonwealth was not required. Furthermore, offsets for this species are not required (according to Framework for Biodiversity Assessment [FBA] methodology), as impacts are associated with an ecosystem credit species.

All impacts to MNES have been avoided as far as practicable and all impacts have been assessed in accordance with Commonwealth guidelines. Mitigation strategies have been put into place to manage potential impacts to MNES.

Contents

1. Biodiversity Assessment	1
1.1 Introduction.....	1
1.1.1 General description of the Development Site	1
1.1.2 Development Footprint	2
1.1.3 Sources of information used.....	3
1.2 Approval Strategy	6
1.3 Summary of the Development.....	6
1.3.1 Concept development application.....	7
1.3.2 Main Works development application.....	7
1.4 Landscape features.....	8
1.4.1 IBRA regions and subregions	8
1.4.2 Mitchell Landscapes.....	8
1.4.3 Native vegetation extent	9
1.4.4 Rivers and streams.....	9
1.4.5 Wetlands.....	9
1.4.6 Connectivity features	9
1.4.7 Areas of geological significance and soil hazard features.....	11
1.4.8 Site context	11
1.5 Native vegetation	11
1.5.1 Survey effort	11
1.5.2 Plant Community Types present	11
1.5.3 Vegetation integrity assessment	18
1.5.4 Use of local data	18
1.6 Threatened species.....	18
1.6.1 Ecosystem credit species	18
1.7 Species credit species	18
1.7.1 Candidate Species credit species	18
1.8 Final candidate species	18
1.8.2 Use of local data	20
1.8.3 Expert reports	20
2. Stage 2: Impact assessment (biodiversity values).....	23
2.1 Avoiding impacts.....	23
2.1.1 Locating a project to avoid and minimise impacts on vegetation and habitat.....	23
2.1.2 Prescribed biodiversity impacts and other impacts.....	23
Assessment of Impacts	24
2.1.3 Direct impacts	24

2.1.4 Change in vegetation integrity.....	25
2.1.5 Indirect impacts	25
2.1.6 Prescribed biodiversity impacts and other impacts.....	26
2.1.7 Mitigating and managing impacts.....	27
2.1.8 Serious and Irreversible Impacts (SAII)	34
2.2 Risk assessment	34
2.3 Adaptive management strategy	37
2.4 Impact summary	37
2.4.1 Serious and Irreversible Impacts (SAII)	37
2.4.2 Impacts requiring offsets	37
2.4.3 Impacts not requiring offsets.....	37
2.4.4 Areas not requiring assessment.....	38
2.4.5 Credit summary	38
3. References	41
Appendix A: Likelihood of Occurrence Assessment.....	43
Appendix B: Flora and fauna species list.....	85
Appendix C: Significance Assessment (EPBC Act)	106

List of Figures

Figure 1: Site Map	4
Figure 2: Location Map.....	5
Figure 3: Greater Sydney Local Land Services (GSLLS) Biodiversity Corridor Mapping	10
Figure 4: Terrestrial habitat in the southern portion of the Development Site	13
Figure 5: Vegetation within Development Site	14
Figure 6: Canary Island Date Palms on the eastern border of the Development Site	15
Figure 7: <i>Ficus rubiginosa</i> (Port Jackson Fig) within the Development Site.....	16
Figure 8: Vegetation adjacent to the south-eastern boundary of the Development Site	17
Figure 9: Potential habitat for threatened birds and birds of conservation significance in the Development Site	21
Figure 10: Potential habitat for the threatened Grey-headed Flying-fox (GHFF) in the Development Site	22
Figure 11: Development Site (includes construction and operation) and terrestrial vegetation within the Development Site.....	28
Figure 12: Indirect impact zones within the Development Site.....	29
Figure 13: Impacts not requiring offset under the BAM within the Development Site.....	39
Figure 14: Areas within the Development Site where no assessment is required	40

List of Tables

Table 1: Mitchell Landscapes	9
Table 2: Final candidate species list	19
Table 3: Locating a project to avoid and minimise impacts on vegetation and habitat	23
Table 4: Direct impacts on threatened species, threatened species habitat, and species of local conservation significance	24
Table 5: Indirect impacts if not mitigated	25
Table 6: Measures proposed to minimise impacts	30
Table 7: Likelihood criteria	34
Table 8: Consequence criteria.....	35
Table 9: Risk matrix	35
Table 10: Risk assessment.....	36
Table 11: Impacts within the Development Site Footprint not requiring offset	37
Table 12: Likelihood of occurrence and requirement of impact assessment for threatened fauna species and species of local conservation significance.....	44
Table 13: Likelihood of occurrence and requirement of impact assessment for threatened flora species	71
Table 14: Flora species recorded within the Development Site	85
Table 15: Fauna species recorded within the Development Site.....	87
Table 16: Non-threatened native species records from within 10 km of the Development Site, relevant to 'Priority Fauna Groups' as identified in the UESAP	88

Abbreviations

Abbreviation	Description
ALA	Atlas of Living Australia
BAM	Biodiversity Assessment Methodology
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BLA	Bird Life Australia
CCB	Connected Corridors for Biodiversity
CEMP	Construction Environmental Management Plan
CoS	City of Sydney
DA	Development Application
DECC	Department of the Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DotE	Department of the Environment
DotEE	Department of the Environment and Energy
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FBA	Framework for Biodiversity Assessment
GSLLS	Greater Sydney Local Land Services
LGA	Local Government Area
LPI	Land and Property Information
OEH	Office of Environment and Heritage
PCT	Plant Community Type
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SFM	Sydney Fish Market Pty Ltd.
SRD	State and Regional Development
SSROC	Southern Sydney Regional Organisation of Councils
TEC	Threatened Ecological Community
UESAP	Urban Ecology Strategic Action Plan

1. Biodiversity Assessment

1.1 Introduction

Sydney Fish Market is the largest of its kind in the Southern Hemisphere and among the three largest seafood markets in terms of variety in the world. The market sources product both nationally and internationally and trades approximately 14,500 tonnes of seafood annually with up to one hundred sustainable seafood species traded every day and approximately 500 species traded annually. The site attracts over 3 million visits each year.

In November 2016 the NSW Premier announced a new Sydney Fish Market would be built at the head of Blackwattle Bay, adjacent to the existing Fish Market. In June 2017 the Premier of NSW announced the appointment of Danish architects 3XN to lead the design team that includes Sydney firms BVN and Aspect Studios. They have been working with key stakeholders, including UrbanGrowth NSW Development Corporation (UrbanGrowth NSW) and Sydney Fish Market Pty Ltd (SFM), to develop the design for the new Sydney Fish Market. As announced by the NSW Premier, works are planned to commence in 2019.

This Biodiversity Development Assessment Report (BDAR) has been prepared by Mitchell Scott and Matthew Dowle. Mitchell and Matthew are both Accredited Persons under the *NSW Biodiversity Conservation Act 2016* (BC Act), and Matthew is the nominated Accredited Assessor for this report. The BDAR is a requirement of the NSW Secretary's Environmental Assessment Requirements (SEARS) for the State Significant Development (SSD8925) and assessment under the BC Act. This report was prepared in accordance with Part 7 of the BC Act. Specifically:

- under Section 7.9 of the BC Act, State Significant Developments (SSD) must be accompanied by a BDAR
- under Section 7.14 of the BC Act, for SSD, a BDAR must assess the likely impact of the proposed development on biodiversity values. The conditions of the consent or approval may require the applicant to retire biodiversity credits to offset the residual impact on biodiversity values.

The contents of this BDAR complies with the minimum requirements outlined in Table 25 of the Biodiversity Assessment Methodology (BAM: OEH, 2017).

1.1.1 General description of the Development Site

The Development Site is approximately 4 ha in area, located on the boundary of Glebe, Ultimo, and Pyrmont, within the Sydney Local Government Area (LGA) (Figure 1 and Figure 2). This BDAR considers only terrestrial areas within the Development Site. Aquatic impacts associated with the development are considered in a separate report.

The site is located at the head of Blackwattle Bay between the Pyrmont Peninsula and the foreshore of Glebe, situated less than 2km west of Sydney's CBD and is partially within the City of Sydney Local Government Area.

The land to which the development application relates comprises Lots 3 - 5 in DP 1064339 part of lot 107 in DP 1076596 and part Lot 1 in DP835794. Works to connect to the existing waterfront promenade to the west of the site are located on Lot 3 in DP1018801. The development footprint is irregular in

shape and has an area of approximately 36,800m². The site is partly on land above mean high water mark and partly on water below mean high water mark.

The site has a frontage to Bridge Road to the south and Blackwattle Bay to the north. Pyrmont Bridge Road is an arterial road that links to the Anzac Bridge to the north west of the site. Sydney Secondary College Blackwattle Bay Campus is immediately south west of the site and the existing Fish Market immediately north east. Located directly opposite the site to the south is Wentworth Park, separated by Bridge Road.

Located approximately 400m walking distance from the site are the existing Fish Market, Wentworth Park, and Glebe Light Rail stops which are serviced by the Dulwich Hill Line which is a 23 stop, 12.8-kilometre route running from Dulwich Hill to Central station via Pyrmont.

The site contains one heritage item being the heritage stormwater culvert. The site is also near a number of heritage items.

The site's current uses include a concrete batching plant at the Western end and concrete hardstand and wharf area at the Eastern end, which is currently vacant. The site includes wharves and land-based structures. Part of the site is the water of Blackwattle Bay. Works will be undertaken on Bridge Road and its intersections with Wattle Street and Wentworth Park Road.

No mapped native vegetation communities, defined as Plant Community Types (PCTs) by the NSW BioNet Vegetation Classification system occur within the Development Site.

The Development Site is defined in the Site Map (Figure 1) and the Location Map (Figure 2).

1.1.2 Development Footprint

The Development Footprint is located at the head of Blackwattle Bay between the Pyrmont Peninsula and the foreshore of Glebe, situated less than 2 km west of Sydney's CBD and is partially within the City of Sydney LGA (Figure 1). In this report, the Development Site and the Development Footprint are the same area, and hereafter cumulatively referred to as the Development Site.

The land to which the Development Application (DA) relates comprises Lots 3 - 5 in DP 106433 part of Lot 107 in DP 1076596 and Lot 1 in DP835794. Works to connect to the existing waterfront promenade to the west of the site located on Lot 3 in DP1018801. The Development Site Footprint is irregular in shape and has an area of approximately 32,000 m². The site is partly on land above mean high water mark and partly on water below mean high water mark.

The site has a frontage to Bridge Road to the south and Blackwattle Bay to the north. Pyrmont Bridge Road is an arterial road that links to the Anzac Bridge to the north west of the site. Sydney Secondary College Blackwattle Bay Campus is immediately south west of the site and the existing Fish Market immediately north east. Located directly opposite the site to the south is Wentworth Park, separated by Bridge Road.

Located approximately 400 m walking distance from the site are the existing Fish Market and Wentworth Park Light Rail stops which are serviced by the Dulwich Hill Line which is a 23 stop, 12.8-kilometre route running from Dulwich Hill to Central station via Pyrmont.

The site does not contain any heritage items. The site is near a number of heritage items.

The site's current uses include a concrete batching plant. The site includes wharves and land-based structures. Part of the site is the water of Blackwattle Bay. Works will be undertaken on Bridge Road and its intersections with Wattle Street and Wentworth Park Road.

1.1.3 Sources of information used

The following data sources were reviewed as part of this report:

- Biodiversity Assessment Methodology Calculator
- BioNet Vegetation Classification
- BioNet Atlas
- Urban Ecology Strategic Action Plan (UESAP) (CoS 2014)
- Connected Corridors for Biodiversity (CCB) (SSROC 2016).

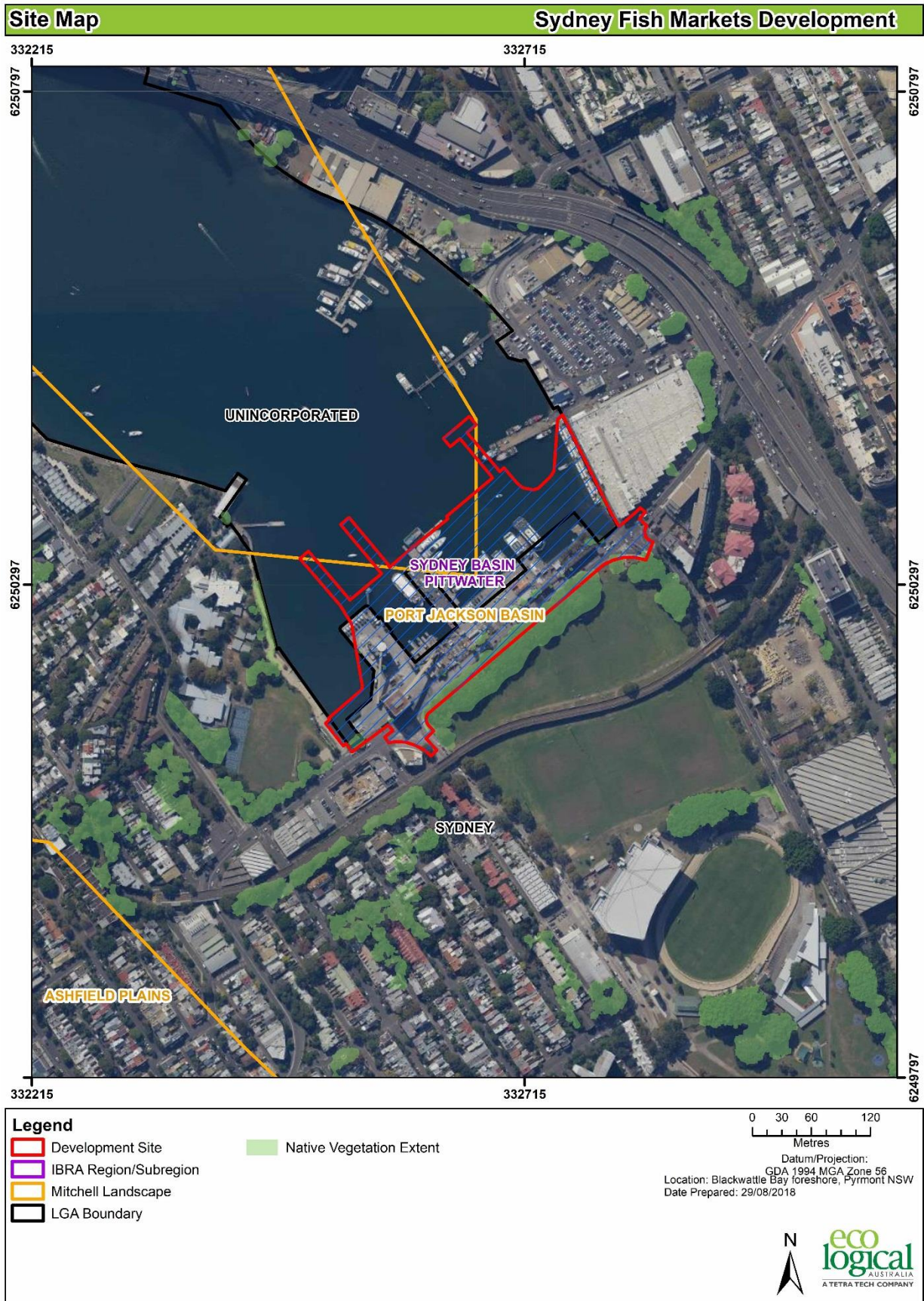


Figure 1: Site Map

Location Map

Sydney Fish Markets Development

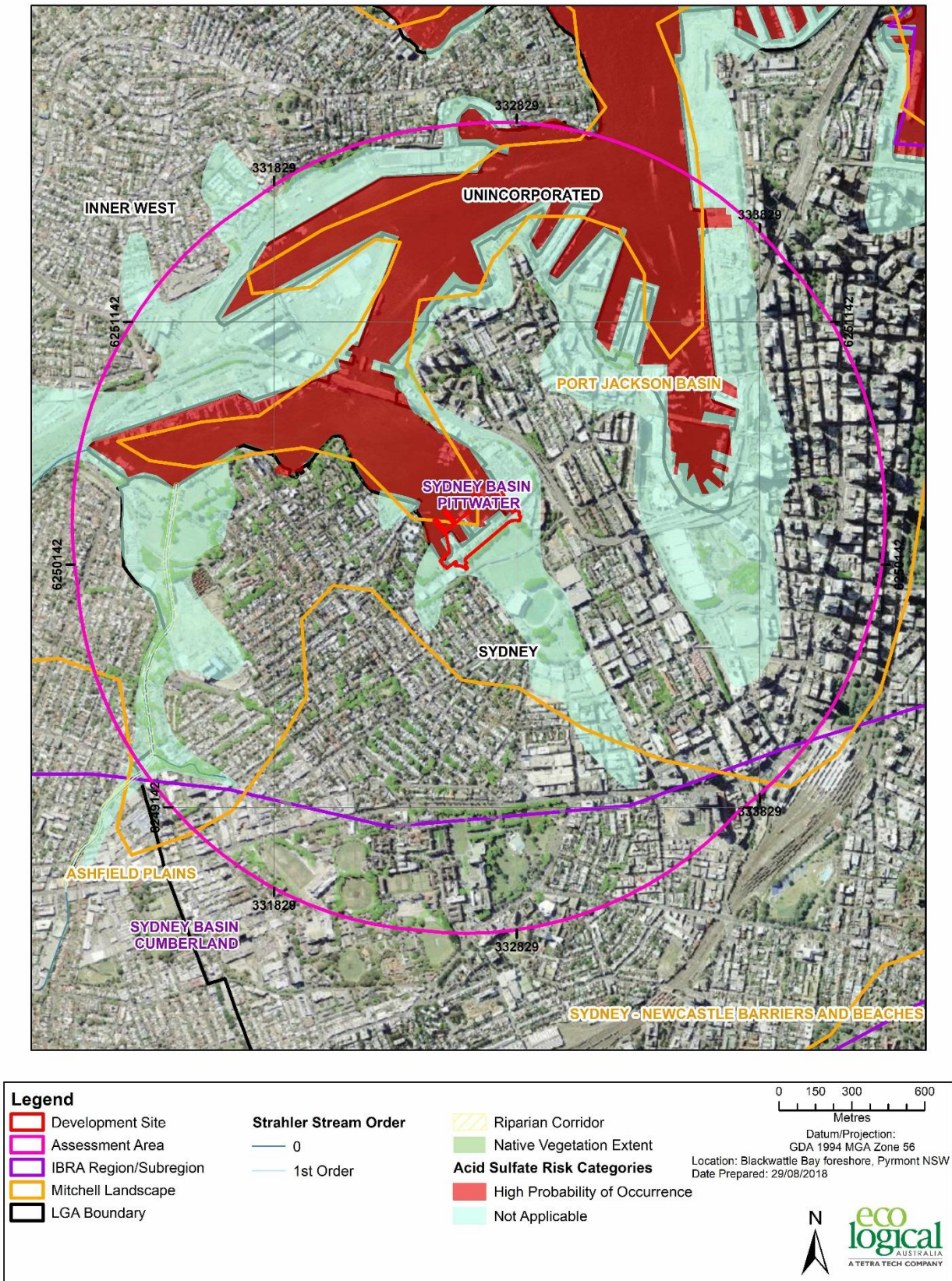


Figure 2: Location Map

1.2 Approval Strategy

Pursuant to the provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *State Environmental Planning Policy (State and Regional Development) 2011* ("SEPP SRD") the new Sydney Fish Market development is a State Significant Development (SSD 8925) and the Minister for Planning is the consent authority.

The purpose of this BDAR Report is to address the Secretary's Environmental Assessment Requirements (SEARs) Application Number SSD 8924 and SSD 8925, under Specific Matter 10 - Biodiversity:

- Provide a Biodiversity Development Assessment Report (BDAR) prepared in accordance with the Biodiversity Assessment Method (BAM) to assess the impacts of the proposed development on biodiversity.

To deliver the new Sydney Fish Market, the following applications will be lodged:

1. A concept development application seeking approval for concept proposals for the new Sydney Fish Market. This is to meet the requirements for a master plan contained in clause 40 of SREP26. This concept development application will also set out details of the first stage of the development being the demolition of land and water-based structures on the site including removal of marine piles and any resulting repairs to the existing sea wall;
2. A development application for the construction of the new Sydney Fish Market;
3. An application to amend the planning controls applying to the site to enable the proposed development to be a permissible use on all of the site. This is to be achieved by an amendment to Sydney Regional Environmental Plan No 26—City West ("SREP26").

These applications are lodged concurrently.

1.3 Summary of the Development

The proposal is to build a new Sydney Fish Market with a contemporary urban design, provide unique experiences for visitors and world-class auction and wholesale facilities. The new facility will be set within an improved public domain including the creation of a waterfront promenade with improved access to Blackwattle Bay and linking to surrounding areas and to public transport.

The development will expand and improve the functions of the existing in a new setting designed to achieve design excellence, functional performance and environmental sustainability.

The new Sydney Fish Market will include retail and food and beverage premises, wholesale facilities and auction rooms, offices and commercial space, Sydney Seafood Schools, back-of-house facilities and car, truck and coach parking spaces. The new facility is to include a new foreshore promenade and wharves. The new Sydney Fish Market will be purpose built and will be supported by a state of the art back-of-house plant and recycling/waste management facilities.

1.3.1 Concept development application

The Concept development application seeks approval for:

1. the use of the site for the new Sydney Fish Market including waterfront commercial and tourist facilities and ancillary uses and the distribution of uses;
2. a gross floor area of approximately 30,000 m² contained within a defined building envelope;
3. waterfront structures such as wharves;
4. concepts for improvements to the public domain including promenades, access to Blackwattle Bay and landscaping;
5. pedestrian cycle and road access and circulation principles;
6. principles for infrastructure provision and waste management.

This concept development application will also set out details of the first stage of the development being the demolition of land and water-based structures on the site including removal of marine piles and any resulting repairs to the existing sea wall, and related services relocations.

1.3.2 Main Works development application

The Main Works development application seeks approval for:

1. the construction of a new Sydney Fish Market including land and water-based structures.
2. the use of the site for the new Sydney Fish Market including waterfront commercial and tourist facilities and ancillary uses and the distribution of uses;
3. a gross floor area of approximately 26,000 m² as calculated according to the definition of GFA under SREP 26 (approximately 25,600 m² as calculated according to the definition of GFA under the Standard Instrument).
4. public domain works including promenades access to Blackwattle Bay and landscaping;
5. pedestrian, cycle and road access and circulation;
6. infrastructure provision and waste management;
7. associated works as required.

Below Ground Level

- Parking for service and delivery, and private vehicles up to approximately 415 vehicles;
- Plant and storage;
- Waste Management facilities; and
- End of journey facilities.

Ground Level - Outside of Building Envelope

- Up to three operational wharves for fishing fleet servicing and product unloading/loading, multi-purpose wharf space, recreational vehicles and the like;
- Vehicular access driveways; and
- Publicly accessible promenade.

Ground Level - Within Building Envelope

- Wholesale services space including product storage and processing; and
- Auction floor and associated refrigeration and handling space.
- Loading dock including limited delivery and service vehicle parking area;
- Waste management facilities;
- Office space including buyers room;
- Staff amenities, plant and storage.

Upper Ground Level (L1)

- Retail premises including fresh food retail, food and drink premises including harbourside dining;
- External/shared dining space;
- Ancillary back of house space and staff amenities; and
- Circulation areas.

Upper Level 2

- Catering space;
- The Sydney Seafood School;
- Tenant and subtenant office space; and
- Plant and storage space.

Bridge Road works

- Road upgrade and widening on Bridge Road and its intersections with Wattle Street and Wentworth Park Road.

1.4 Landscape features

1.4.1 IBRA regions and subregions

The Development Site falls within the Sydney Basin IBRA region, within the Pittwater subregion (Figure 2). The boundary of the Cumberland subregion occurs approximately 1 km to the south of the Development Site.

1.4.2 Mitchell Landscapes

The terrestrial portion of the Development Site is located within the Mitchell Landscape as outlined in Figure 2.

Table 1: Mitchell Landscapes

Mitchell landscape	Description	Area within Development Site (ha)
Port Jackson Basin	Deep elongated harbour with steep cliffed margins on horizontal Triassic quartz sandstone. Small pocket beaches and more extensive Quaternary estuary fill of muddy sand at the head of most tributary streams. General elevation 0 to 80 m, local relief 10 to 50 m. Sandstone slopes and cliffs have patches of uniform or gradational sandy soil on narrow benches and within joint crevices that support forest and woodland of Sydney peppermint (<i>Eucalyptus piperita</i>), smooth-barked apple (<i>Angophora costata</i>), red bloodwood (<i>Corymbia gummifera</i>) and blackbutt (<i>Eucalyptus pilularis</i>). Sheltered gullies contain some turpentine (<i>Syncarpia glomulifera</i>), coachwood (<i>Ceratopetalum apetalum</i>) and water gum (<i>Tristania laurina</i>). Estuarine sands were originally dominated by saltmarsh but have been taken over by grey mangrove (<i>Avicennia marina</i>) in the past century (DECC 2002).	Approximately 4 ha (the entire Development Site)

1.4.3 Native vegetation extent

The extent of native vegetation within the Development Site is 0.29 ha, and within the 1,500 m buffer is 45.05 ha (0.64 %). Native vegetation has the same definition as in Part 5A of the *Local Land Services Act 2013*.

1.4.4 Rivers and streams

The Development Site does not contain any rivers or streams. The nearest drainage line is approximately 700 m from the Development Site.

1.4.5 Wetlands

The Development Site does not contain any wetlands. The nearest local wetland is mapped as Subtropical and Temperate Coastal Saltmarsh, approximately 900 m to the west of the Development Site.

1.4.6 Connectivity features

A large proportion of the Development Site has been mapped as providing a Biodiversity Corridor under the Greater Sydney Local Land Services (GSLLS) Biodiversity Corridor Mapping (GSLLS 2017) (Figure 3).

The following definitions apply:

- Supporting habitat - Vegetation mapped as 'Urban & exotic' by OEH (2013), which comprises 'generalised boundaries of mixed vegetation in a highly urbanised environment'; including additional areas supporting habitat areas identified by Council staff during the review phase
- Supporting areas – areas within 100 m of potential habitat.

Given the urban context of the Development Site and the type of specific habitat provided (mostly landscape plantings and street trees) the mapping of the Development Site is taken to refer primarily to highly mobile species such as birds and bats.

Connectivity features relating to the aquatic portion of the Development Site have been addressed in a separate report.

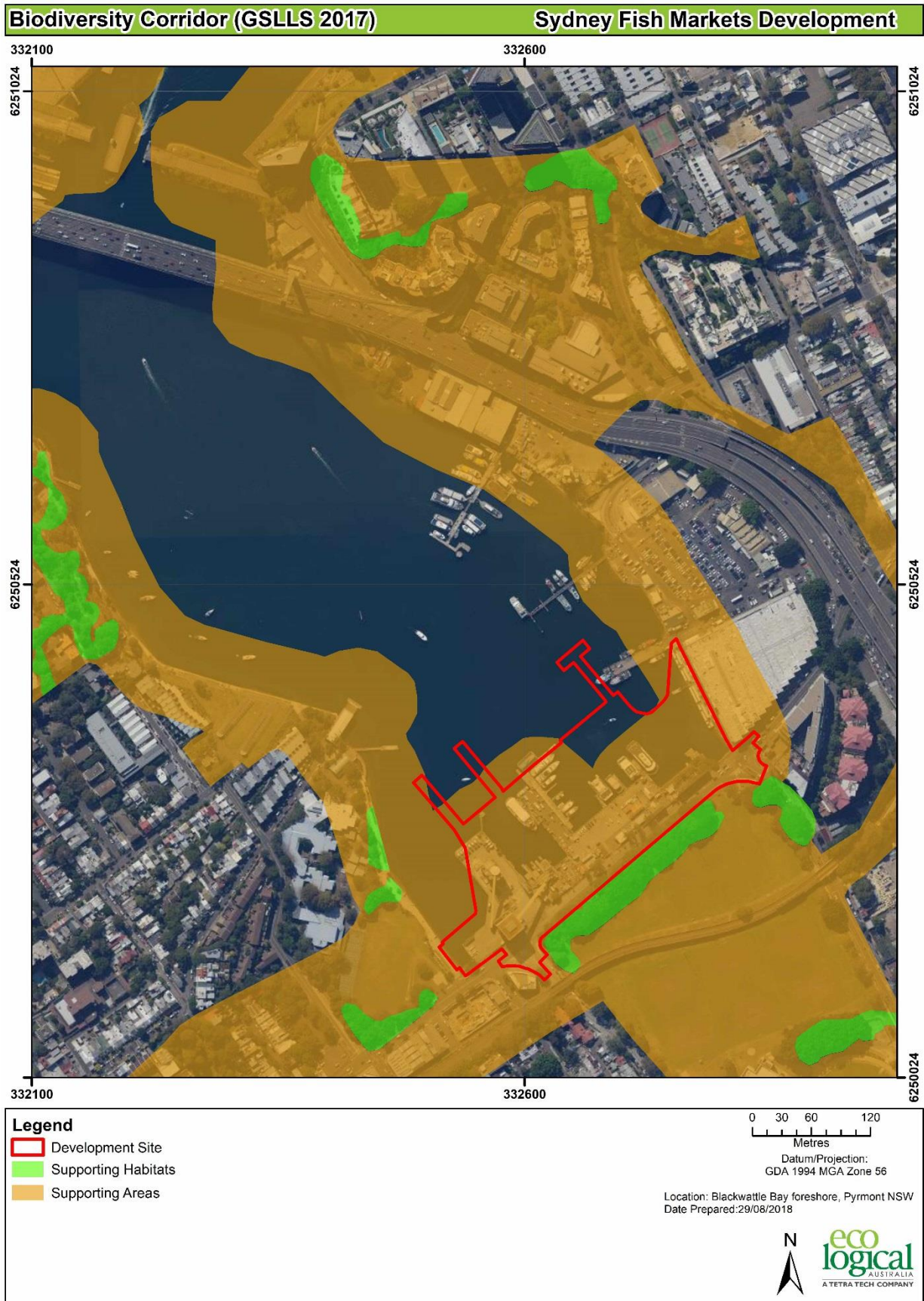


Figure 3: Greater Sydney Local Land Services (GSLLS) Biodiversity Corridor Mapping

1.4.7 Areas of geological significance and soil hazard features

The Development Site does not contain areas of geological significance recognised by the BAM. The Development Site has been mapped with the soil landscape 'Disturbed Terrain'. These areas were previously swamps, estuaries, and wetlands, which have been cut and filled using estuarine sand and mud, and rocks and local soil materials, along with a variety of artificial material including demolition rubble, industrial and household waste (OEH 2017a).

1.4.8 Site context

1.4.8.1 Method applied

The site-based method has been applied to this development.

1.4.8.2 Percent native vegetation cover in the landscape

The current percent native vegetation cover in the landscape was assessed in a Geographic Information System (GIS) using aerial imagery sourced from SIX Maps (LPI 2018) using increments of 5%. The extent of native vegetation within the Development Site is 0.29 ha, and within the 1,500 m buffer is 45.05 ha (0.64 %).

1.5 Native vegetation

1.5.1 Survey effort

A vegetation survey was undertaken within the Development Site by Ecologist Mitchell Scott on 22 August 2017 and 31 August 2017.

Vegetation within the Development Site has been mapped in Figure 4.

No Plant Community Types (PCTs) as defined by the NSW BioNet Vegetation Classification system were identified within the Development Site, thus no vegetation integrity plots were conducted.

1.5.2 Plant Community Types present

No PCTs were identified within the Development Site. The Development Site is entirely modified and disturbed, and contains exotic species, weeds and planted native or non-indigenous species.

1.5.2.1 PCT selection justification

No PCTs were mapped within Development Site (Figure 4). The entire Development Site is located on soil mapped as 'Disturbed Terrain', having previous been an area of wetland and estuarine habitat. Therefore, it was unlikely that remnant native vegetation would currently occur within the Development Site.

All vegetation present within the Development Site was classified as 'Urban Exotic and Native Cover', consistent with the non-native vegetation mapped by OEH (2013; Sydney Metropolitan Catchment Management Authority Vegetation Mapping project) and was considered to be in a low condition. This vegetation type is not required to be further assessed using the BAM, and was thus excluded from any credit or offset calculations.

The largest portion of contiguous vegetation are a lined of *Casuarina glauca* (Swamp Oak) located along the south-eastern boundary of the Development Site.

The Development Site includes scattered native and exotic vegetation which has been either planted or naturally established (Figure 4).

Vegetation Mapping

Vegetation within the Development Site includes native canopy species *Casuarina glauca*, *Ficus rubiginosa* (Port Jackson Fig) and *Ficus macrophylla* (Moreton Bay Fig), and exotic canopy species *Celtis sinensis* (Japanese Hackberry), and *Magnolia grandiflora* (Magnolia). Mid-storey and groundcover species include *Lantana camara* (Lantana), *Ehrharta erecta* (Veldtgrass), and *Cenchrus setaceus* (Fountain Grass) (Figure 6 and Figure 7).

The road to adjacent to the south of the Development Site is lined with *Lophostemon confertus*. A large stand of planted *F. macrophylla* (Moreton Bay Fig), and one *Ficus microcarpa* var. *hillii* (Hills Weeping Fig), occurs adjacent to the southern boundary of the Development Site, within Wentworth Park. The canopy of this stand overhangs the boundary of the Development Site and may require trimming only within the Development Site boundary (Figure 8).

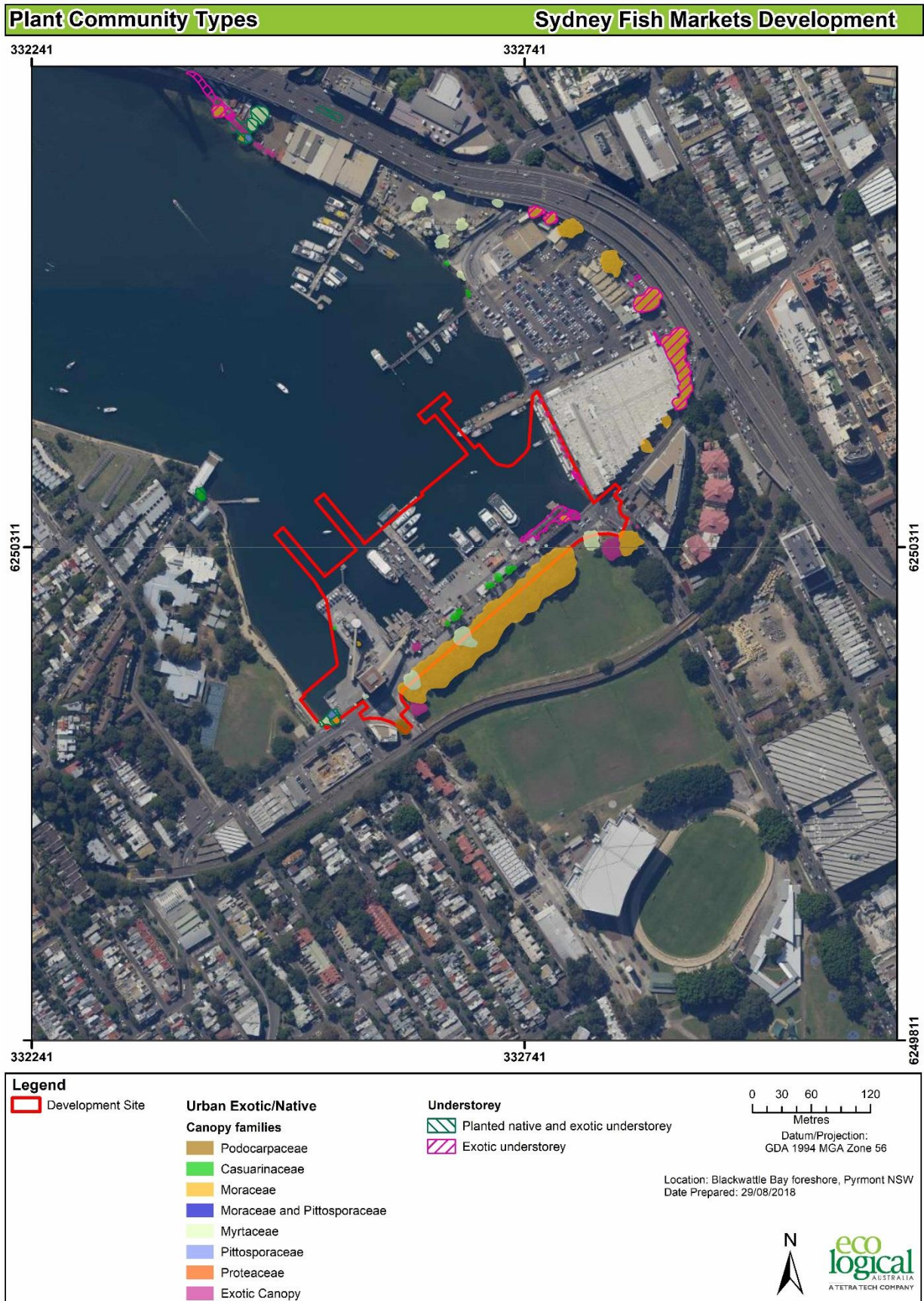


Figure 4: Terrestrial habitat in the southern portion of the Development Site



Figure 5: Vegetation within Development Site



Figure 6: Canary Island Date Palms on the eastern border of the Development Site



Figure 7: *Ficus rubiginosa* (Port Jackson Fig) within the Development Site



Figure 8: Vegetation adjacent to the south-eastern boundary of the Development Site

1.5.2.2 Threatened Ecological Communities Justification

No threatened ecological communities (TECs) were identified within the Development Site.

1.5.3 Vegetation integrity assessment

No PCTs were identified within the Development Site, and thus a vegetation integrity assessment as part of the BAM has not been conducted.

1.5.4 Use of local data

Use of local data instead of benchmark integrity scores is not proposed.

1.6 Threatened species

1.6.1 Ecosystem credit species

The BDAR requires that a list of threatened species that can be reliably predicted by habitat surrogates are identified. These species are called ecosystem credit species and they are automatically generated based on the PCT, the IBRA subregion of the project footprint, the condition and patch size of vegetation. The BDAR allows an assessor to determine whether any of the habitat components for the predicted threatened species are present or not. If they are not present, an assessor does not need to identify the ecosystem credit species present in the vegetation zone.

However, due to the lack of PCTs within the Development Site, no ecosystem credit species were predicted to occur.

1.7 Species credit species

1.7.1 Candidate Species credit species

Species credit species are typically predicted by the assessment tool based on the PCTs present within the project footprint, and a series of habitat and geographic location questions formulated by the assessment tool. Once the species credit species are identified, they undergo a second filtering step to determine whether they are filtered into the assessment for consideration as a species credit species.

However, no species credit species were identified from the tool, and therefore no species credit species were considered for further assessment.

1.8 Final candidate species

No candidate species were initially predicted by the tool. However, some species have habitat requirements that cannot be predicted by PCTs, and therefore cannot be predicted by the assessment tool. Particularly those species that can utilise man-made or exotic environments. As such, a conservative list of final candidate species was developed Table 2.

This list is based on the species Likelihood of Occurrence (**Appendix A**), which was informed from database searches, previous studies, and specific habitat features present within the Development Site.

The list of final candidate species is then used to determine whether or not the species requires further assessment in the tool and whether targeted surveys are required.

Furthermore, it is noted that a candidate species is typically not considered present by the BDAR where:

- The habitat is substantially degraded
- An expert report states that the species is unlikely to be present
- The species is a vagrant and is unlikely to frequently use habitat in the project footprint
- Records of the species are at least 20 years old or have doubtful authenticity.

Table 2: Final candidate species list

Species	Common Name	Species Type	Habitat Constraints	Geographic limitations	Sensitivity to gain class	BC Act	EPBC Act
Small birds		n/a				-	-
(As a general group identified by the UESAP. Non-threatened species recorded within 10 km of Development Site listed in Table 16)							
<i>Acanthiza nana</i>*	Yellow Thornbill	n/a				-	-
<i>Acrocephalus australis</i>*	Australian Reed-warbler	n/a				-	-
<i>Malurus cyaneus</i>*	Superb Fairy-wren	n/a				-	-
<i>Pardalotus punctatus</i>*	Spotted Pardalote	n/a				-	-
<i>Zosterops lateralis</i>*	Silvereye	n/a				-	-
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Ecosystem (foraging) and Species Credit (breeding) Species	Breeding colonies		High Sensitivity to Potential Gain	Vulnerable	Vulnerable

**species of local conservation significance, as identified by the UESAP and SSROC CCB*

1.8.1.1 Targeted surveys

Targeted surveys are required for species which are listed as species credit species. No targeted surveys were undertaken during this assessment.

Grey-headed Flying Fox (GHFF) is listed as both an ecosystem and species credit species; the species credit listing relates to breeding colonies only. No GHFF breeding colonies are located within or near the Development Site, and thus no targeted survey was conducted for this species (see **Section 2.2.6**).

According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred

approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018).

1.8.1.2 Potential habitat for threatened species.

'Small birds' (a general group under the UESAP)

Although the Development Site lacks areas of dense native mid-storey vegetation, canopy vegetation provides potential habitat for 'small birds' (as a general group under the UESAP), including Yellow Thornbill, Australian Reed-warbler, Superb Fairy-wren, Spotted Pardalote, and Silvereye, all birds of local conservation significance (see Section 2.2.6).

Pteropus poliocephalus (Grey-headed Flying Fox - GHFF)

The nectar and pollen of native trees provide potential foraging and roosting habitat for GHFF, especially species in the families of Myrtaceae (e.g. *Lophostemon confertus*, *Angophora costata*) and Proteaceae (e.g. *Grevillea robusta*) (Eby and Law 2008). The fruit of fig trees (Moraceae family) are another important food source for GHFF. Potential foraging habitat for GHFF within the Development Site includes 2 *Ficus* spp., 1 *Angophora costata* and 10 juvenile *Lophostemon confertus*, along with a large stand of *Ficus* ssp. adjacent to the south-eastern boundary of the Development Site with canopy overhanging the boundary (Figure 10). Potential feed trees are scattered across the Development Site but are limited in number and occur as individual trees (i.e. not in stands).

1.8.2 Use of local data

Use of local data is not proposed.

1.8.3 Expert reports

Expert reports have not been used as part of this BDAR.

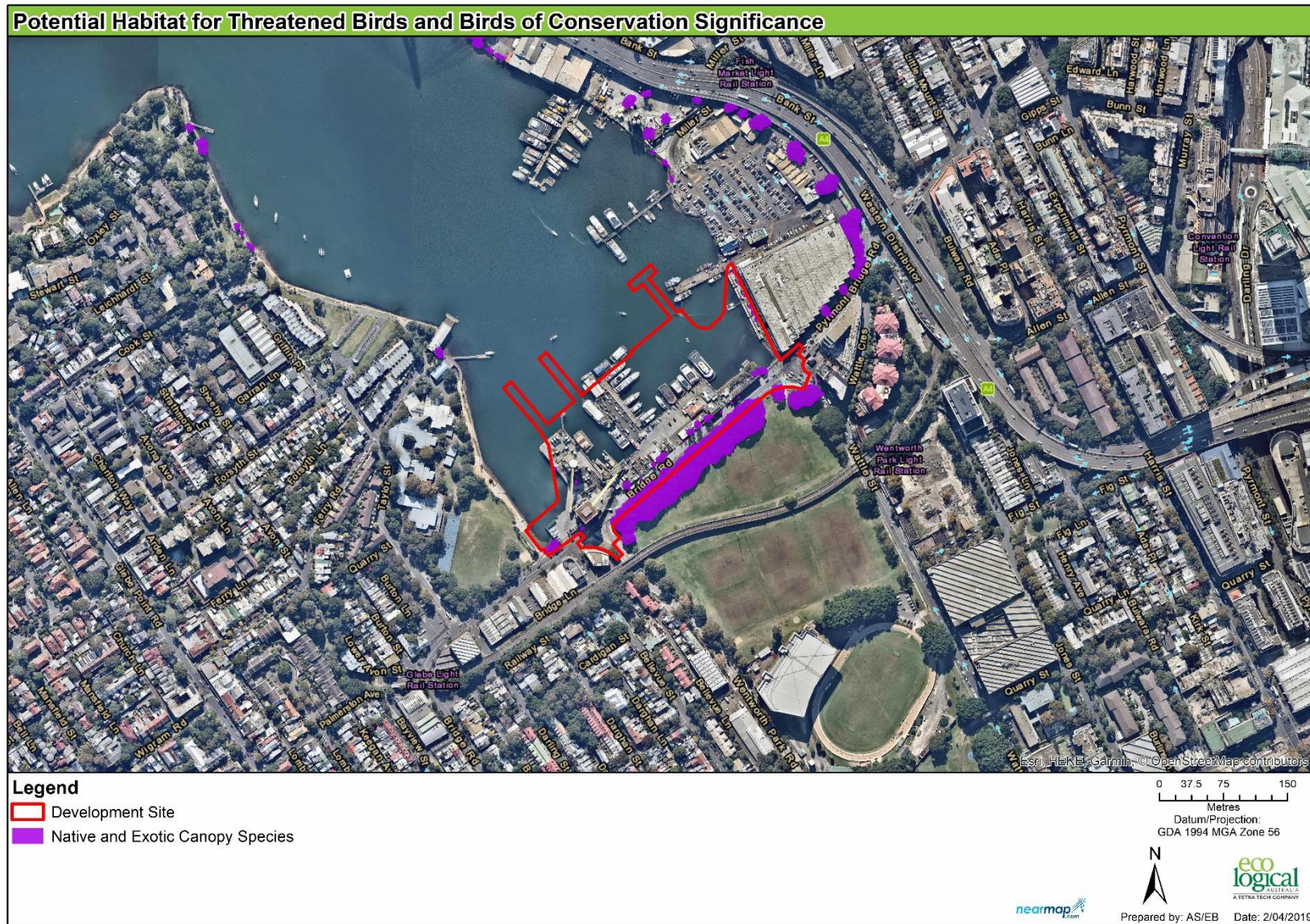


Figure 9: Potential habitat for threatened birds and birds of conservation significance in the Development Site



Figure 10: Potential habitat for the threatened Grey-headed Flying-fox (GHFF) in the Development Site

2. Stage 2: Impact assessment (biodiversity values)

2.1 Avoiding impacts

2.1.1 Locating a project to avoid and minimise impacts on vegetation and habitat

The development has been located in a way which substantially avoids and minimises impacts to biodiversity values, as outlined in Table 3.

Table 3: Locating a project to avoid and minimise impacts on vegetation and habitat

Approach	How addressed	Justification
locating the project in areas where there are no biodiversity values	The Development Site has been located in an area containing very low biodiversity value in general, and lower than the remainder of the Bays Precinct.	The placement of the Development Site has primarily occurred on areas of existing development and urban infrastructure, containing no biodiversity values.
locating the project in areas where the native vegetation or threatened species habitat is in the poorest condition	The Development Site has been located in an area containing very low density of potential habitat for threatened species and species of local conservation significance. The Development Site utilises as much as possible, already disturbed sites and existing infrastructure	The Development Site has been located in the south of Blackwattle Bay. The highest proportion of potential habitat for threatened species and species of local conservation significance is located in the north-eastern and western portions of the Bays Precinct.
locating the project in areas that avoid habitat for species and vegetation in high threat categories (e.g. an TEC or CEEC), indicated by the biodiversity risk weighting for a species	No PCTs or TECs have been mapped within the Development Site.	No PCTs or TECs have been mapped within the Development Site.
locating the project such that connectivity enabling movement of species and genetic material between areas of adjacent or nearby habitat is maintained	The importance of the Development Site as a Biodiversity Corridor has been depicted in Figure 3. There are currently very low biodiversity values within Blackwattle Bay. Thus, the removal of vegetation within this area will have a minimal impact on connectivity.	A stand of <i>Ficus</i> spp. occurs adjacent to the southern boundary of the Development Site, and this is more likely to facilitate connectivity in the region. No Figs within this stand will be removed, although canopy may be trimmed where it enters the Development Site.

2.1.2 Prescribed biodiversity impacts and other impacts

The proposed works would remove approximately 0.19 ha of potential foraging habitat (2 *Ficus* spp., 1 *Angophora costata* and 10 juvenile *Lophostemon confertus*) for GHFF, and approximately 0.37 ha of potential foraging habitat for 'small birds' (As a general group identified by the UESAP), including Yellow Thornbill, Australian Reed-warbler, Superb Fairy-wren, Spotted Pardalote, and Silvereye (Table 4).

The Development Site is located in the southern portion of Blackwattle Bay and has substantially avoided biodiversity impacts to small birds and GHFF by utilising, as much as possible, already disturbed sites and existing infrastructure.

Assessment of Impacts

2.1.3 Direct impacts

The direct impacts of the development as assessed using the BAM is outlined below:

- No PCTs were identified within the Development Site during the site inspection, and thus 0 ha of PCT will be cleared during the proposed works
- A total of 0.37 ha of 'Urban Native and Exotic Cover' would be removed by the proposed works, which includes:
 - Approximately 0.29 ha of native species which has been planted or naturally established would be removed by the proposed works
 - Approximately 0.08 ha of exotic species would be removed by the proposed works
- Direct impacts including the final project footprint (construction and operation) are shown in Figure 11
- None of the Fig trees located along the southern boundary of the study area will be removed, although the canopy of the stand partially overhangs the Development Site boundary and may require trimming. This report assumes that canopy overhanging the Development Site will be trimmed, and includes this as a Direct Impact.

Table 4: Direct impacts on threatened species, threatened species habitat, and species of local conservation significance

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act	EPBC Act
Small birds (As a general group identified by the UESAP. Non-threatened species recorded within 10 km of Development Site listed in Table 16)		0.37 ha potential foraging habitat	-	-
<i>Acanthiza nana</i> *	Yellow Thornbill	0.37 ha potential foraging habitat	-	-
<i>Acrocephalus australis</i> *	Australian Reed-warbler	0.37 ha potential foraging habitat	-	-
<i>Malurus cyaneus</i> *	Superb Fairy-wren	0.37 ha potential foraging habitat	-	-
<i>Pardalotus punctatus</i> *	Spotted Pardalote	0.37 ha potential foraging habitat	-	-
<i>Zosterops lateralis</i> *	Silvereye	0.37 ha potential foraging habitat	-	-
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	0.19 ha potential foraging habitat (2 <i>Ficus</i> spp., 1 <i>A. costata</i> and 10 juvenile <i>L. confertus</i> , trimming of Fig stand on southern boundary of Development Site)	Vulnerable	Vulnerable

*species of local conservation significance under the UESAP

2.1.4 Change in vegetation integrity

No PCTs were identified within the Development Site, and thus a vegetation integrity assessment has not been conducted.

2.1.5 Indirect impacts

The potential indirect impacts of the development, if no mitigation measures are in place, are outlined in the following documents:

- SLR 2018. New Sydney Fish Market SSDA Noise Impact Assessment. Prepared for UrbanGrowth NSW
- Thelm 2018. Sydney Fish Market Development Construction Environment Management Plan (CEMP) - Stage 1 Demolition and Early Works, and Stage 2 Main Works. Prepared for UrbanGrowth NSW
- Cardno 2018. Flooding and Water Quality Assessment Draft Report - Sydney Fish Market Concept Design and Stage 1 Works. Prepared for UrbanGrowth NSW
- JBS&G 2018. Hazardous Materials Management Plan - Proposed Fish Markets 1A to 1C Bridge Road, Glebe NSW. Prepared for UrbanGrowth NSW.

Table 5: Indirect impacts if not mitigated

Indirect impact zones are shown on Figure 12 and includes a 10 m indirect impact area surrounding the Development Site boundary.

Table 5: Indirect impacts if not mitigated

Indirect impact	Project phase	Nature of impact if not mitigated	Extent	Frequency	Duration	Timing
Sedimentation and contaminated and/or nutrient rich run-off	Construction	Runoff during construction works	10 m from Development Site boundary	During heavy rainfall or storm events	During rainfall events	Short-term impacts
Noise, dust or light spill	Construction / operation	Noise and dust created from machinery (no night works proposed, therefore no light spill). Potential light spill from Development into adjacent	Noise, dust, and light are likely to carry further than 10 m from Development Site boundary	Daily/nightly, during construction works	Sporadic throughout construction period	Short-term impacts during construction Long-term impacts from Development

Indirect impact	Project phase	Nature of impact if not mitigated	Extent	Frequency	Duration	Timing
		retained vegetation				
Inadvertent impacts on adjacent habitat or vegetation	Construction	Damage to adjacent habitat or vegetation	10 m from Development Site boundary	Daily/nightly, during construction works	Throughout construction period	Short-term impacts
Transport of weeds and pathogens from the site to adjacent vegetation	Construction	Spread of weed seed or pathogens	Potential for spread into adjacent habitat	Daily, during construction works	Sporadic throughout construction period	Short-term impacts
Vehicle strike	Construction / operation	Potential for native fauna to be struck by working machinery and moving vehicles	Within Development Site	Daily, during both construction works	During working hours for construction Potential at any point during operation of the new Sydney Fish Markets	During working hours for construction Potential at any point during operation of the new Sydney Fish Markets
Rubbish dumping	Construction / operation	Illegal dumping by local residents/construction crews	Potential for rubbish to spread via wind into adjacent vegetation	Potential to occur at any time throughout construction or operational phases	During working hours for construction Potential at any point during operation of the new Sydney Fish Markets	During working hours for construction Potential at any point during operation of the new Sydney Fish Markets

2.1.6 Prescribed biodiversity impacts and other impacts

The proposed works would remove approximately 0.19 ha of potential foraging habitat (2 *Ficus* spp., 1 *Angophora costata* and 10 juvenile *Lophostemon confertus*, trimming of Fig stand canopy on southern boundary of Development Site) for GHFF, and approximately 0.37 ha of potential foraging habitat for 'small birds' (As a general group identified by the UESAP), including Yellow Thornbill, Australian Reed-warbler, Superb Fairy-wren, Spotted Pardalote, and Silvereye (Table 4).

Impacts on threatened species and species of local conservation significance under the BC Act

No PCTs were recorded within the Development Site during the site inspection, and thus no potential habitat for GHFF or for small birds (as a general group of local conservation significance under the UESAP) are recognised under the BC Act.

Thus, the proposed works is unlikely to cause a significant impact to GHFF or 'small birds' under the BC Act, and a 5 Part Test under the BC Act is not required.

Impact on threatened species under the EPBC Act

One MNES (threatened species) was presumed to be present within the Development Site, being the Grey-headed Flying Fox, which is listed as *Vulnerable* under the EPBC Act.

A habitat assessment and Likelihood of Occurrence (**Appendix A**) indicated that this species was considered likely to forage on a limited number of feed trees within the Development Site and potentially be impacted by the proposed works. Known records exist for the species in the locality within proximity to the Development Site, and therefore was assumed to be present. Further details including level of impacts, project specific mitigation measures and required offsets are discussed in **Section 2.1.7**.

An assessment in accordance with the Commonwealth Significant Impact Guidelines (Commonwealth of Australia 2013) for the Grey-headed Flying-fox is provided in **Appendix C**. This assessment concluded that a significant impact on the Grey-headed Flying-fox is unlikely to occur as a result of the works. Consequently, an EPBC Act referral is not required.

2.1.7 Mitigating and managing impacts

Measures proposed to minimise impacts at the Development Site before, during and after construction are outlined in Table 6.

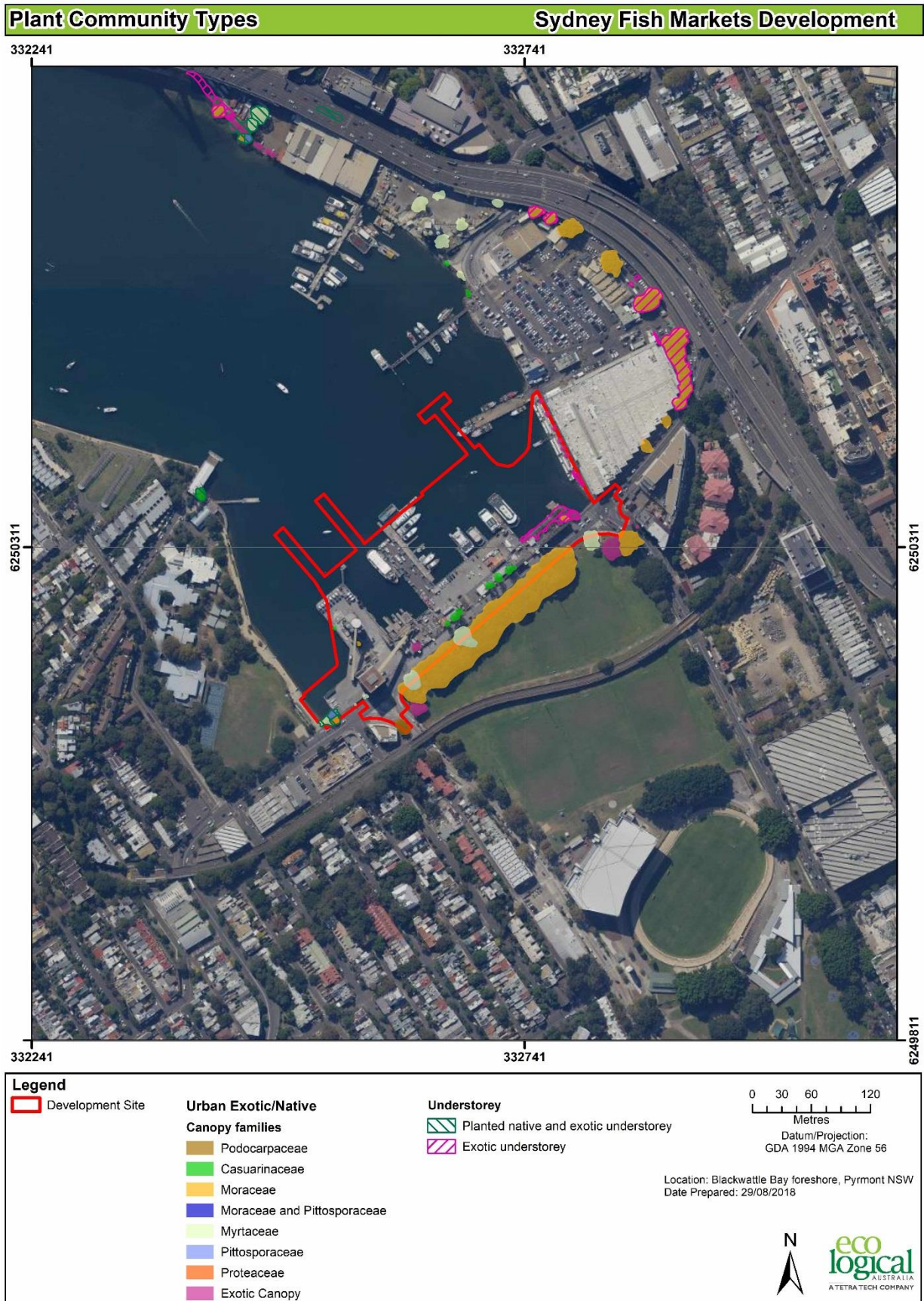


Figure 11: Development Site (includes construction and operation) and terrestrial vegetation within the Development Site

Indirect Impact Zones

Sydney Fish Markets Development

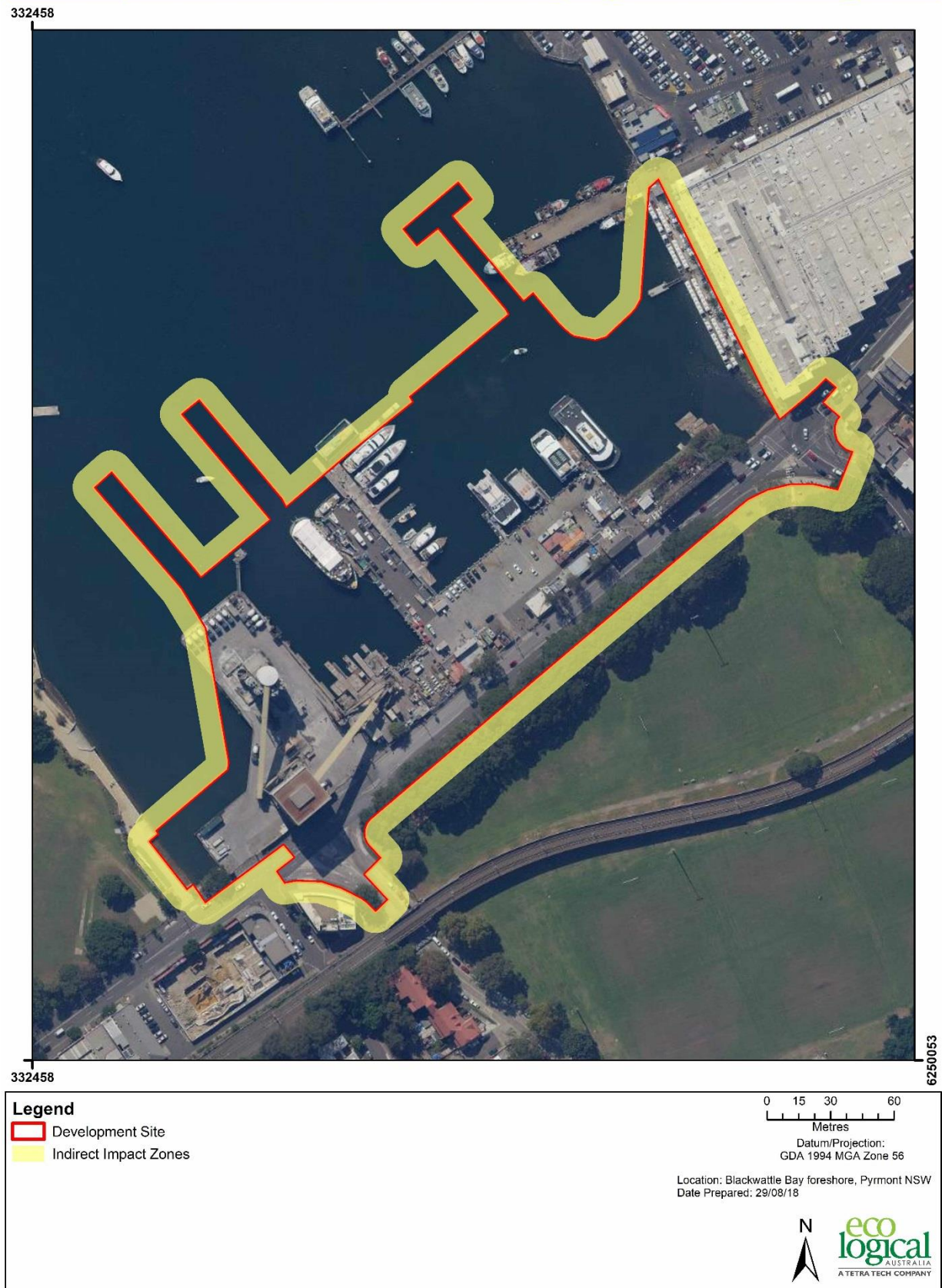


Figure 12: Indirect impact zones within the Development Site

Table 6: Measures proposed to minimise impacts

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
Displacement of resident fauna	Moderate	Minor	<ul style="list-style-type: none"> In lieu of identified habitat trees (e.g. hollow-bearing trees) within the Development Site, if fauna are located within the Development Site during the proposed works a qualified ecologist/licensed wildlife handler must be contacted during tree removal in accordance with best practise methods 	Relocation of fauna in a sensitive manner	Prior to and during clearing works	Project Manager
Timing works to avoid critical life cycle events such as breeding or nursing	Moderate	Minor	<ul style="list-style-type: none"> Winter/early spring is breeding/nesting period for birds and fruit bats (including Grey-headed Flying Fox). Observe trees for fauna if works are to be conducted during this period, and if fauna are utilising trees, notify a qualified ecologist/licensed wildlife handler. 	Impacts to fauna during nesting/nursing avoided	During clearing works	Project Manager
Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment	Minor	Negligible	<ul style="list-style-type: none"> Appropriate controls will be utilised to manage exposed soil surfaces and stockpiles to prevent sediment discharge into waterways Ensure all works within proximity to the drainage lines have adequate sediment and erosion controls Commence revegetation as soon as practicable to minimise the risks of erosion 	Erosion and sedimentation will be controlled	For the duration of construction works	Project Manager
Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise	Minor	Negligible	<ul style="list-style-type: none"> Winter/early spring is breeding/nesting period for birds and fruit bats (including Grey-headed Flying Fox). Observe trees for fauna if works are to be conducted during this period, and if fauna are utilising trees, notify a qualified ecologist/licensed wildlife handler. 	Noise impacts associated with the development will be managed in accordance with guidelines	For the duration of construction works	Project Manager

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
			<ul style="list-style-type: none"> Select quieter options of mechanic plant and equipment Maximise the offset distance between noisy plant items and nearby noise-sensitive receivers Avoiding the coincidence of noisy plant working simultaneously close together and adjacent to sensitive receivers Orienting equipment away from noisy receivers Carring out loading and unloading away from noise sensitive areas Localised shielding of noisy equipment Minimising consecutive works in the same locality Considering periods of respite. 			
Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill	Minor	Negligible	<ul style="list-style-type: none"> Consider construction works only to occur during daylight hours, and consider not using night lights If required, lights installed as part of the new Sydney Fish Markets should be directional so as to avoid shining into adjacent retained vegetation, adjacent to the southern boundary of the Development Site 	<p>Light impacts associated with construction will be avoided by prioritising all works to occur during daylight hours</p> <p>Light impact to adjacent vegetation to be minimised</p>	For the duration of construction works	Project Manager
Adaptive dust monitoring programs to control air quality	Minor	Negligible	<ul style="list-style-type: none"> Dust suppression measures will be implemented during construction works to limit dust on site Commence revegetation as soon as practicable to minimise areas likely to create dust 	Mitigate dust created during construction activities	For the duration of construction works	Project Manager

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
			<ul style="list-style-type: none"> • External design of the building envelope to consider wind mitigation devices • Erection of hoardings around high risk activities where practical to prevent migration of dust from site • Erection of shade cloth along ATF fencing and perimeter fencing to prevent migration of dust from site • Dust suppression through water application • Visual dust monitoring will be conducted throughout the project and following receipt of any legitimate complaints, and works modified if necessary; If contamination is discovered and identified within the dust, works will cease, the areas will be stabilised and an investigation will be conducted. • Areas of ground disturbance will be stabilised as soon as possible to prevent windblown dust • Equipment and vehicles will be maintained in good operating conditions and be subject to regular servicing, daily inspections will be conducted to identify and plant or equipment that is causing visible emissions • Plant or equipment will be switched off when not in use • Truck loads will be covered when removing spoil off site • Any stockpiles will either be located appropriately for protection from wind or covered 			

Measure	Risk before mitigation	Risk after mitigation	Action	Outcome	Timing	Responsibility
			<ul style="list-style-type: none"> Works that are likely to generate high levels of dust or air borne particles will not be carried out during strong winds. Dust would be vi 			
Impact to Fig stand on the southern boundary of the Development Site. Canopy of these trees occur within the Development Site.	Moderate	Minor	<ul style="list-style-type: none"> Fig tree canopy will only be trimmed where required, and will only be trimmed where canopy enters the Development Site An arborist report will assess the stand of Fig trees A project arborist will be appointed to ensure the trees are not damaged during construction of Bridge Road. 	Minimize impact to stand of Fig trees on southern boundary of Development Site, and ensure none are removed.	For the duraciton of the construction works.	Project Manager

2.1.8 Serious and Irreversible Impacts (SAIL)

Grey-headed Flying Fox is listed as a dual credit species, occurring as an ecosystem credit species when foraging habitat is present, and a species credit species and potential candidate Serious and Irreversible Impacts (SAIL) species when breeding colonies / camps are present. According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018).

At the time of writing this BDAR, the thresholds for SAIL had not been set by OEH. It is unlikely that the proposed works within the Development Site will exceed the thresholds for impacts on GHFF camps, as the thresholds is likely to be limited to breeding camps only.

2.2 Risk assessment

A risk assessment has been undertaken for any residual impacts likely to remain after the mitigation measures (**Section 2.1.7**, Table 10) have been applied. Likelihood criteria, consequence criteria and the risk matrix are provided in Table 7, Table 8, and Table 9 respectively and the risk assessment outcome is presented in Table 10.

Table 7: Likelihood criteria

Likelihood criteria	Description
Almost certain (Common)	Will occur, or is of a continuous nature, or the likelihood is unknown. There is likely to be an event at least once a year or greater (up to ten times per year). It often occurs in similar environments. The event is expected to occur in most circumstances.
Likely (Has occurred in recent history)	There is likely to be an event on average every one to five years. Likely to have been a similar incident occurring in similar environments. The event will probably occur in most circumstances.
Possible (Could happen, has occurred in the past, but not common)	The event could occur. There is likely to be an event on average every five to twenty years.
Unlikely (Not likely or uncommon)	The event could occur but is not expected. A rare occurrence (once per one hundred years).
Remote (Rare or practically impossible)	The event may occur only in exceptional circumstances. Very rare occurrence (once per one thousand years). Unlikely that it has occurred elsewhere; and, if it has occurred, it is regarded as unique.

Table 8: Consequence criteria

Consequence category	Description
Critical (Severe, widespread long-term effect)	Destruction of sensitive environmental features. Severe impact on ecosystem. Impacts are irreversible and/or widespread. Regulatory and high-level government intervention/action. Community outrage expected. Prosecution likely.
Major (Wider spread, moderate to long term effect)	Long-term impact of regional significance on sensitive environmental features (e.g. wetlands). Likely to result in regulatory intervention/action. Environmental harm either temporary or permanent, requiring immediate attention. Community outrage possible. Prosecution possible.
Moderate (Localised, short-term to moderate effect)	Short term impact on sensitive environmental features. Triggers regulatory investigation. Significant changes that may be rehabilitated with difficulty. Repeated public concern.
Minor (Localised short-term effect)	Impact on fauna, flora and/or habitat but no negative effects on ecosystem. Easily rehabilitated. Requires immediate regulator notification.
Negligible (Minimal impact or no lasting effect)	Negligible impact on fauna/flora, habitat, aquatic ecosystem or water resources. Impacts are local, temporary and reversible. Incident reporting according to routine protocols.

Table 9: Risk matrix

Consequence	Likelihood				
	Almost certain	Likely	Possible	Unlikely	Remote
Critical	Very High	Very High	High	High	Medium
Major	Very High	High	High	Medium	Medium
Moderate	High	Medium	Medium	Medium	Low
Minor	Medium	Medium	Low	Low	Very Low
Negligible	Medium	Low	Low	Very Low	Very Low

Table 10: Risk assessment

Potential impact	Project phase	Risk (pre-mitigation)	Risk (post mitigation)
Vegetation clearing	Construction / operation	Medium	Low
Sedimentation and contaminated and/or nutrient rich run-off	Construction	Medium	Very Low
Noise, dust or light spill	Construction	Medium	Very Low
Inadvertent impacts on adjacent habitat or vegetation	Construction	Low	Very Low
Vehicle strike	Construction / operation	Low	Very Low
Rubbish dumping	Construction / operation	Low	Very Low
Sedimentation and contaminated and/or nutrient rich run-off	Construction	Low	Very Low

2.3 Adaptive management strategy

This section is required for those impacts that are infrequent, cumulative or difficult to predict. Impacts associated with the proposed development have been considered and addressed **Section 2.1.7** and no further impacts are considered to be addressed.

2.4 Impact summary

Following implementation of the BAM, the following impacts have been determined.

2.4.1 Serious and Irreversible Impacts (SAII)

Based on the data available as discussed in **Section 2.1.8**, the development does not have any Serious and Irreversible Impacts (SAII).

2.4.2 Impacts requiring offsets

No PCTs or threatened species credit species were recorded within the Development Site, and therefore, no offsets are required under the BAM.

2.4.3 Impacts not requiring offsets

Impacts from the proposed works that do not require offset are mapped in Figure 13 and detailed Table 11.

Table 11: Impacts within the Development Site Footprint not requiring offset

Species	Common Name	Direct impact number of individuals / habitat (ha)	BC Act	EPBC Act
Small birds (As a general group identified by the UESAP. Non-threatened species recorded within 10 km of Development Site listed in Table 16		0.37 ha potential foraging habitat	-	-
Acanthiza nana*	Yellow Thornbill	0.37 ha potential foraging habitat	-	-
Acrocephalus australis*	Australian Reed-warbler	0.37 ha potential foraging habitat	-	-
Malurus cyaneus*	Superb Fairy-wren	0.37 ha potential foraging habitat	-	-
Pardalotus punctatus*	Spotted Pardalote	0.37 ha potential foraging habitat	-	-
Zosterops lateralis*	Silvereye	0.37 ha potential foraging habitat	-	-
Pteropus poliocephalus	Grey-headed Flying-fox	0.19 ha potential foraging habitat (2 <i>Ficus</i> spp., 1 <i>A. costata</i> and 10 juvenile <i>L. confertus</i> , trimming of Fig stand on southern boundary of Development Site)	Vulnerable	Vulnerable

**species of local conservation significance under the UESAP*

2.4.4 Areas not requiring assessment

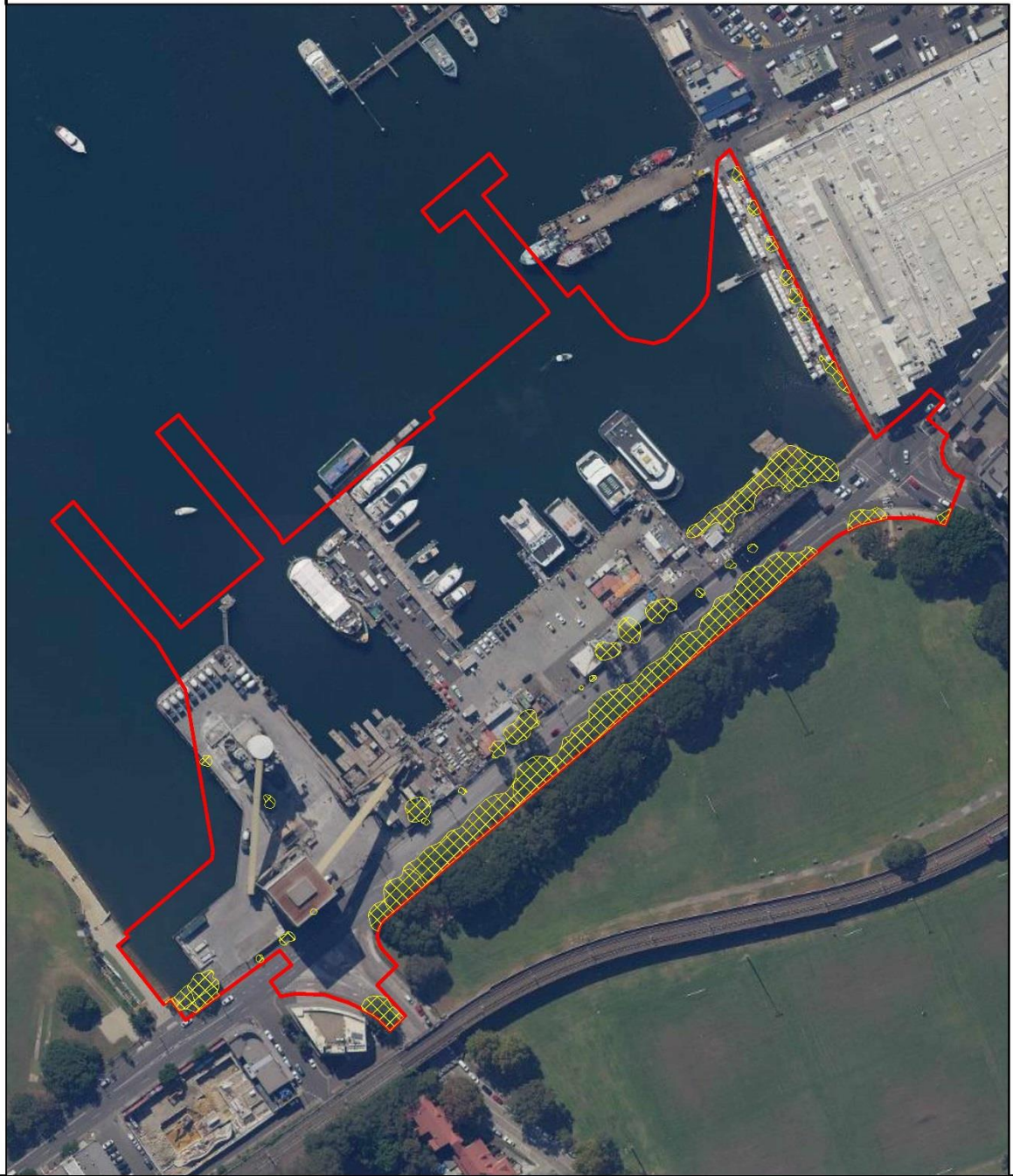
The Development Site includes large wharves and land-based structures such as buildings, gates and roads. These areas do not require assessment under the BAM, and have been mapped in Figure 14.

2.4.5 Credit summary

The proposed works does not require any offsets under the BAM, and thus no ecosystem credits or species credits are required.

Impacts Not Requiring Offset **Sydney Fish Markets Development**

332469



332469

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Figure 13: Impacts not requiring offset under the BAM within the Development Site

No Assessment Required

Sydney Fish Markets Development

332469

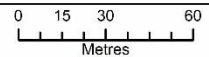


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6250066

Legend

- Development Site
- No Assessment Requirement



Datum/Projection:
GDA 1994 MGA Zone 56

Location: Blackwattle Bay foreshore, Pyrmont NSW
Date Prepared: 29/08/2018



Figure 14: Areas within the Development Site where no assessment is required

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Appendix A: Likelihood of Occurrence Assessment

An assessment of likelihood of occurrence was made for threatened species, migratory species, and species of local conservation significance (referred to in UESAP and SSROC CCB), as identified from the literature review. The literature review included records from the BioNet Search (OEH 2017b) and EPBC Act Protected Matters Search (DotEE 2017a). Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database or other records, presence or absence of suitable habitat, features of the proposal site, results of the site inspection and professional judgement. Some Migratory or Marine species identified from the Commonwealth database search have been excluded from the assessment, due to lack of habitat. The terms for likelihood of occurrence are defined below:

- “known” = the species was or has been observed on the site
- “likely” = a medium to high probability that a species uses the site
- “potential” = suitable habitat for a species occurs on the site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” = a very low to low probability that a species uses the site
- “no” = habitat on site and in the vicinity is unsuitable for the species.

An assessment of significance was conducted for threatened species or ecological communities that were recorded within the Development Site or had a higher likelihood of occurring and were not recorded during the site visit. It is noted that some threatened fauna species that are highly mobile, wide ranging and vagrant may use portions of the Development Site intermittently for foraging.

Information provided in the habitat associations’ column has primarily been extracted (and modified) from the Commonwealth Species Profile and Threats Database (DotEE 2017b), the NSW Threatened Species Profiles (OEH. 2017b), the Atlas of Living Australia (ALA 2017), and BirdLife Australia (BLA 2017).

Table 12: Likelihood of occurrence and requirement of impact assessment for threatened fauna species and species of local conservation significance

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
Amphibians						
Amphibians (As a general group identified by the UESAP. Non-threatened species recorded within 5 km of Development Site listed in Table 16)		-	-	Swamps, marshes, streams, rivers, ponds, inundations, drainage lines and generally moist areas.	Potential	No, there is no specific potential habitat located within the Development Site
<i>Crinia tinnula</i>	Wallum Froglet	V		Acidic swamps on coastal sand plains (typically in sedgeland and wet heathlands), drainage lines, and swamp sclerophyll forests.	No. No suitable habitat on or near the Development Site	No
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	Heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based.	No. No suitable habitat on or near the Development Site	No
<i>Litoria aurea</i>	Green and Golden Bell Frog	E1	V	Marshes, dams and stream-sides, particularly those containing Typha spp. (bullrushes) or Eleocharis spp. (spikerushes). Some populations occur in highly disturbed areas.	No. No suitable habitat on or near the Development Site	No
<i>Litoria fallax</i> *	Eastern Dwarf Tree Frog	-	-	Coastal wetlands, swamps, dams and streams, and can also be found in urban areas.	Potential	No
<i>Litoria peronii</i> *	Peron's Tree Frog	-	-	Most forest habitats, but will also forage open grassland and other open areas.	Potential	No
<i>Mixophyes balbus</i>	Stuttering Frog	E1	V	Rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.	No.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					No suitable habitat on or near the Development Site	
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V		Open forests, mostly on Hawkesbury and Narrabeen Sandstones.	No. No suitable habitat on or near the Development Site	No
Birds						
Small birds (As a general group identified by the UESAP. Non-threatened species recorded within 5 km of Development Site listed in Table 16)		-	-	A variety of vegetated habitats, dependant on the species.	Potential. Suitable potential habitat occurs within the Development Site	Yes
Freshwater wetland birds (As a general group identified by the UESAP. Non-threatened species recorded within 5 km of Development Site listed in Table 16)		-	-	Coastal and inland wetlands, pond, inundations, dense sedge sand reeds.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Acanthiza nana</i> *	Yellow Thornbill	-	-	Found in open forests, woodlands and shrublands which are dominated by Casuarinas, Acacias or paperbarks rather than eucalypts. Often seen in parks and gardens, preferring more established areas.	Potential. Suitable potential habitat occurs within the Development Site	Yes
<i>Actitis hypoleucos</i>	Common Sandpiper		M	Coastal wetlands and some inland wetlands, especially muddy margins or rocky shores. Also estuaries and deltas, lakes, pools, billabongs, reservoirs, dams and claypans, mangroves.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Acrocephalus australis</i> *	Australian Reed-warbler	-	-	A freshwater wetland species of local conservation significance. Prefers dense vegetation alongside water, especially thick reed beds, as well as tall crops, bamboo thickets and lantana.	Potential. Suitable potential habitat occurs within the Development Site	Yes

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Anous stolidus</i>	Common Noddy		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Anseranas semipalmata</i>	Magpie Goose	V		Shallow wetlands, floodplains, grasslands, pastures, dams and crops.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A	CE	Eucalypt woodland and open forest, wooded farmland and urban areas with mature eucalypts, and riparian forests of <i>Casuarina cunninghamiana</i> (River Oak).	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Apus pacificus</i>	Fork-tailed Swift		M	Riparian woodland, swamps, low scrub, heathland, saltmarsh, grassland, Spinifex sandplains, open farmland and inland and coastal sand-dunes.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Ardenna carneipes</i>	Flesh-footed Shearwater	V	M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Ardenna pacificus</i>	Wedge-tailed Shearwater		M	Islands, offshore.	Unlikely. Marginal suitable habitat on or near the Development Site.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Ardenna tenuirostris</i>	Short-tailed Shearwater		M	Islands, offshore.	Marginal suitable habitat on or near the Development Site	No
<i>Arenaria interpres</i>	Ruddy Turnstone		M	Tidal reefs and pools; pebbly, shelly and sandy shores; mudflats; inland shallow waters; sewage ponds, saltfields; ploughed ground.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V		Woodlands and dry open sclerophyll forest, usually eucalypts and mallee associations. Also have recordings in shrub and heathlands and various modified habitats, including regenerating forests. In western NSW, this species is primarily associated with River Red Gum/Black Box/Coolabah open forest/woodland and associated with larger river/creek systems.	Unlikely	No
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1	E	Permanent freshwater wetlands with tall, dense vegetation, particularly Typha spp. (bullrushes) and Eleocharis spp. (spikerushes).	No	No
<i>Burhinus grallarius</i>	Bush Stone-curlew	E1		In NSW, it occurs in lowland grassy woodland and open forest.	No	No
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper		M	Shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris alba</i>	Sanderling	V	M	Coastal areas on low beaches of firm sand, near reefs and inlets, along tidal mudflats and lagoons; rarely recorded in near-coastal wetlands.	Unlikely. Marginal suitable habitat on or near	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					the Development Site	
<i>Calidris bairdii</i>	Baird's Sandpiper		M	Sandy beaches, mudflats, saltponds, sewage ponds and shores of lakes and lagoons.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris canutus</i>	Red Knot		E, M	Intertidal mudflats, sandflats sheltered sandy beaches, estuaries, bays, inlets, lagoons, harbours, sandy ocean beaches, rock platforms, coral reefs, terrestrial saline wetlands near the coast, sewage ponds and saltworks. Rarely inland lakes or swamps.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris ferruginea</i>	Curlew Sandpiper	E1	CE, M	"Littoral and estuarine habitats, including intertidal mudflats, non-tidal swamps, lakes and lagoons on the coast and sometimes inland."	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris melanotos</i>	Pectoral Sandpiper		M	Shallow fresh to saline wetlands, including coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris ruficollis</i>	Red-necked Stint		M	Tidal mudflats, saltmarshes, sandy and shelly beaches, saline and freshwater wetlands, saltfields, sewage ponds.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Calidris subminuta</i>	Long-toed Stint		M	Coastal and inland shallow wetlands, sewage ponds, tidelines, tidal mudflats.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calidris tenuirostris</i>	Great Knot	V	CE, M	Intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calonectris leucomelas</i>	Streaked Shearwater		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Calyptrorhynchus lathamii</i>	Glossy Black-Cockatoo	V		Open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Charadrius bicinctus</i>	Double-banded Plover		M	Beaches, bays and inlets, exposed reefs and rock platforms, harbours, margins of fresh or saline terrestrial wetlands such as lakes, lagoons and swamps; shallow estuaries, rivers, saltmarsh, grasslands, pasture. Sometimes associated with coastal lagoons, inland saltlakes, saltworks, seagrass beds, kelp beds.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Charadrius leschenaultii</i>	Greater Sand-plover	V	V, M	Almost entirely restricted to coastal areas in NSW, mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks.	Unlikely. Marginal suitable habitat on or near	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					the Development Site	
<i>Charadrius mongolus</i>	Lesser Sand-plover	V	E, M	Almost entirely coastal in NSW, using sheltered bays, harbours and estuaries with large intertidal sandflats or mudflats, sandy beaches, coral reefs and rock platforms.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Charadrius ruficapillus</i>	Red-capped Plover		Mar	Occurs on sandy beaches, coastal lagoons, estuaries, bays and inland saline wetlands.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Charadrius veredus</i>	Oriental Plover		M	Open plains, ploughed land, inland swamps, tidal mudflats, claypans, coastal marshes, grassy airfields, playing fields, lawns.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Charadrius veredus</i>	Oriental Plover		M	Open plains, ploughed land, inland swamps, tidal mudflats, claypans, coastal marshes, grassy airfields, playing fields, lawns.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Chlidonias leucopterus</i>	White-winged Black Tern		M	Large coastal and inland wetlands, saltfields, tidal estuaries, lagoons, grassy swamps, and sewage ponds.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Cuculus saturatus</i>	Oriental Cuckoo			Occupies rainforests, monsoon forests and vine thickets with dense vegetation and closed canopies	No. No suitable habitat on or near	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					the Development Site	
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V		Inhabits eucalypt forests and woodlands, mallee and Acacia woodland.	Unlikely	No
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E1	E	Central and southern populations inhabit heath and open woodland with a heathy understorey. In northern NSW, habitat comprises open forest with dense tussocky grass understorey.	No	No
<i>Diomedea antipodensis</i>	Antipodean Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Diomedea antipodensis gibsoni</i>	Antipodean Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Diomedea epomophora</i>	Southern Royal Albatross		Mar	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Diomedea exulans</i>	Wandering Albatross	E1	V, M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Diomedea gibsoni</i>	Gibson's Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Diomedea sanfordi</i>	Northern Royal Albatross		Mar	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	
<i>Egretta sacra</i>	Eastern Reef Egret			Beaches, rocky shores, tidal rivers and inlets, mangroves, and exposed coral reefs.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Elseya melanops</i> *	Black-fronted Dotterel	-	-	A freshwater wetland species of local conservation significance. Found in the shallow margins of wetlands, lakes, rivers, sewage farms, storm drains and marshes. It is normally always near freshwater and is not often seen on the coast.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Epthianura albifrons</i>	White-fronted Chat population in the Sydney Metropolitan Catchment Management Area	E2		"Saltmarsh of Newington Nature Reserve and in grassland on the northern bank of the Parramatta River. Saltmarsh and on the sandy shoreline of a small island of Towra Point Nature Reserve."	No. No suitable habitat on or near the Development Site	No
<i>Epthianura albifrons</i>	White-fronted Chat	V		Saltmarsh vegetation, open grasslands and sometimes low shrubs bordering wetland areas.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Erythrotriorchis radiatus</i>	Red Goshawk	E4A	V	Open woodland and forest, often along or near watercourses or wetlands. In NSW, preferred habitats include mixed subtropical rainforest, Melaleuca swamp forest and coastal riparian Eucalyptus forest.	Unlikely	No
<i>Falco subniger</i>	Black Falcon	V		Woodland, shrubland and grassland, especially riparian woodland and agricultural land. Often associated with streams or wetlands.	Unlikely	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Fregata ariel</i>	Lesser Frigatebird		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Fregata minor</i>	Great Frigatebird		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Fregetta grallaria</i>	White-bellied Storm-Petrel	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Gallinago hardwickii</i>	Latham's Snipe		M	Freshwater, saline or brackish wetlands up to 2000 m above sea-level; usually freshwater swamps, flooded grasslands or heathlands.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Gallinago megala</i>	Swinhoe's Snipe		M	Breeds in Siberia and Mongolia. In Australia found around edges of fresh and brackish wetlands. This includes swamps, billabongs, river pools, small streams and sewage ponds. They are also found in drying claypans and inundated plains.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Gallinago stenura</i>	Pin-tailed Snipe		M	Breeds in Siberia. Habitat specific to Australia includes dense clumps of grass and rushes round the edges of fresh and brackish wetlands. This includes swamps, billabongs, river pools, small streams and sewage ponds. During non-breeding period occurs most often in or at the edges of shallow freshwater swamps, ponds and lakes with emergent, sparse to dense cover of grass/sedge or other vegetation. Also found in drier, more open wetlands such as claypans, inundated with plains pitted with crab	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
				holes and also commonly seen at sewage ponds; not normally in saline or inter-tidal wetlands.		
<i>Gallirallus philippensis</i> *	Buff-banded Rail	-	-	A freshwater wetland species of local conservation significance. Seen singly or in pairs in dense reeds and vegetation bordering many types of wetlands or crops. It makes widespread use of artificial wetlands like sewage ponds and drainage channels.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Glossopsitta pusilla</i>	Little Lorikeet	V		Dry, open eucalypt forests and woodlands, including remnant woodland patches and roadside vegetation.	Unlikely	No
<i>Grantiella picta</i>	Painted Honeyeater	V	V	Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests.	No	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V		Rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	E1		Intertidal flats of inlets and bays, open beaches and sandbanks.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V		Freshwater swamps, rivers, lakes, reservoirs, billabongs, saltmarsh and sewage ponds and coastal waters. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest and urban areas.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Hieraetus morphnoides</i>	Little Eagle	V		Open eucalypt forest, woodland or open woodland, including sheoak or Acacia woodlands and riparian woodlands of interior NSW.	Unlikely	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Himantopus himantopus</i>	Black-winged Stilt	-	Mar	A freshwater wetland species of local conservation significance. A social species, and is usually found in small groups. Black-winged Stilts prefer freshwater and saltwater marshes, mudflats, and the shallow edges of lakes and rivers.	No	No
<i>Hirundapus caudacutus</i>	White-throated Needletail		M	Occur most often over open forest and rainforest, as well as heathland, and remnant vegetation in farmland.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Hydroprogne caspia</i>	Caspian Tern		M	Coastal offshore waters, beaches, mudflats, estuaries, rivers, lakes.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Ixobrychus flavicollis</i>	Black Bittern	V		Terrestrial and estuarine wetlands. Also flooded grassland, forest, woodland, rainforest and mangroves where permanent water is present.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Lathamus discolor</i>	Swift Parrot	E1	CE	Box-ironbark forests and woodlands.	No	No
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	V	M	Sheltered parts of the coast such as estuarine sandflats and mudflats, harbours, embayments, lagoons, saltmarshes and reefs.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Limosa lapponica</i>	Bar-tailed Godwit		M	Intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons, bays, seagrass beds, saltmarsh, sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. Rarely inland wetlands, paddocks and airstrips.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Limosa limosa</i>	Black-tailed Godwit	V	M	"Usually sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found around muddy lakes and swamps."	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Lophochroa leadbeateri</i>	Major Mitchell's Cockatoo	V		Wide range of treed and treeless inland habitats, always within easy reach of water.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Lophoictinia isura</i>	Square-tailed Kite	V		Timbered habitats including dry woodlands and open forests, particularly timbered watercourses.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Macronectes giganteus</i>	Southern Giant Petrel	E1	E, M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Macronectes halli</i>	Northern Giant-Petrel	V	V, M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Malurus cyaneus</i> *	Superb Fairy-wren	-	-	A species of local conservation significance. Seen in most habitat types where suitable dense cover and low shrubs occur. They are common in urban parks and gardens, and can be seen in small social groups. These groups normally consist of one male and several females and young birds.	Potential. Suitable potential habitat occurs within the Development Site	Yes
<i>Monarcha melanopsis</i>	Black-faced Monarch		M	Rainforest, open eucalypt forests, dry sclerophyll forests and woodlands, gullies in mountain areas or coastal foothills, Brigalow scrub, coastal scrub, mangroves, parks and gardens.	No	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Motacilla flava</i>	Yellow Wagtail		M	Swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land, lawns.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Myiagra cyanoleuca</i>	Satin Flycatcher		M	Eucalypt-dominated forests, especially near wetlands, watercourses, and heavily-vegetated gullies.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	E4A	CE	Winter habitat is mostly within 3 km of the coast in sheltered bays, lagoons, estuaries, coastal dunes and saltmarshes. Also small islands and peninsulas, saltworks, golf courses, low samphire hermland and taller coastal shrubland.	No	No
<i>Neophema pulchella</i>	Turquoise Parrot	V		Eucalypt and cypress pine open forests and woodlands, ecotones between woodland and grassland, or coastal forest and heath.	No	No
<i>Nettapus coromandelianus</i>	Cotton Pygmy-Goose	E1		Freshwater lakes, lagoons, swamps and dams.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Ninox connivens</i>	Barking Owl	V		Woodland and open forest, including fragmented remnants and partly cleared farmland, wetland and riverine forest.	Unlikely	No
<i>Ninox strenua</i>	Powerful Owl	V		Woodland, open sclerophyll forest, tall open wet forest and rainforest.	Unlikely	No
<i>Numenius madagascariensis</i>	Eastern Curlew		CE, M	Estuaries, bays, harbours, inlets and coastal lagoons, intertidal mudflats or sandflats, ocean beaches, coral reefs, rock platforms, saltmarsh, mangroves, freshwater/brackish lakes, saltworks and sewage farms.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Numenius minutus</i>	Little Curlew		M	Dry grasslands, open woodlands, floodplains, margins of drying swamps, tidal mudflats, airfields, playing fields, crops, saltfields, sewage ponds.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Numenius phaeopus</i>	Whimbrel		M	Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, grasslands, sports fields, lawns.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Onychoprion fuscatus</i>	Sooty Tern	V		Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pandion cristatus</i>	Eastern Osprey	V		Rocky shorelines, islands, reefs, mouths of large rivers, lagoons and lakes.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pandion haliaetus</i>	Osprey		M	Coastal areas near shallow waters.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pachyptila turtur subantarctica</i>	Fairy Prion		V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pardalotus punctatus</i> *	Spotted Pardalote	-	-	A species of local conservation significance. The Spotted Pardalote is mostly found in eucalypt forests and woodlands but occurs in parks and gardens with well-established eucalypt canopy.	Potential. Suitable potential habitat occurs within the Development Site	Yes

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Petroica boodang</i>	Scarlet Robin	V		Dry eucalypt forests and woodlands, and occasionally in mallee, wet forest, wetlands and tea-tree swamps.	Unlikely	No
<i>Petroica phoenicea</i>	Flame Robin	V		Breeds in upland tall moist eucalypt forests and woodlands. In winter uses dry forests, open woodlands, heathlands, pastures and native grasslands. Occasionally occurs in temperate rainforest, herbfields, heathlands, shrublands and sedgeland at high altitudes.	Unlikely	No
<i>Phaethon lepturus</i>	White-tailed Tropicbird		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Philomachus pugnax</i>	Ruff		M	Terrestrial wetlands including lakes, swamps, pools, lagoons, tidal rivers, swampy fields and floodlands. Occasionally harbours, estuaries, seashores, sewage farms and saltworks.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Phoebastria fusca</i>	Sooty Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Phylidonyris novaehollandiae</i> *	New Holland Honeyeater	-	-	A species of local conservation significance. Common in heath, forests, woodland and gardens, mainly where grevilleas and banksias are found. It is inquisitive and approaches humans. It also mixes with other types of honeyeaters.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Phoebastria fusca</i>	Sooty Albatross	V	V, M	Marine.	Unlikely. Marginal suitable habitat on	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					or near the Development Site	
<i>Platalea regia</i> *	Royal Spoonbill	-	-	A freshwater wetland species of local conservation significance. Found in shallow freshwater and saltwater wetlands, intertidal mud flats and wet grasslands. Both permanent and temporary inland waters are used when available in the arid zone. Will also use artificial wetlands such as sewage lagoons, saltfields, dams and reservoirs.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pluvialis fulva</i>	Pacific Golden Plover		M	Estuaries, mudflats, saltmarshes, mangroves, rocky reefs, inland swamps, ocean shores, paddocks, sewage ponds, ploughed land, airfields, playing fields.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pluvialis squatarola</i>	Grey Plover		M	Mudflats, saltmarsh, tidal reefs and estuaries.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pterodroma leucoptera leucoptera</i>	Gould's Petrel	V	E	"Marine. Nesting habitat is located within steeply sloping rock scree gullies with a canopy of Cabbage Tree Palms."	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Pterodroma neglecta neglecta</i>	Kermadec Petrel (west Pacific subspecies)	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Ptilinopus superbis</i>	Superb Fruit-Dove	V		Rainforest and closed forests. May also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	No	No
<i>Puffinus carneipes</i>	Flesh-footed Shearwater		M, Mar	Marine.	Unlikely. Marginal suitable habitat on	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					or near the Development Site	
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet			Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Rhipidura rufifrons</i>	Rufous Fantail		M	Wet sclerophyll forests, subtropical and temperate rainforests. Sometimes drier sclerophyll forests and woodlands.	Unlikely	No
<i>Rostratula australis</i>	Australian Painted Snipe	E1	E	Swamps, dams and nearby marshy areas.	No	No
<i>Stagonopleura guttata</i>	Diamond Firetail	V		"Grassy eucalypt woodlands, open forest, mallee, Natural Temperate Grassland, secondary derived grassland, riparian areas and lightly wooded farmland."	No	No
<i>Stercorarius longicaudus</i>	Long-tailed Jaeger		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Stercorarius parasiticus</i>	Arctic Jaeger		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Stercorarius pomarinus</i>	Pomarine Jaeger		M	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Sterna albifrons</i>	Little Tern		M, Mar	The Little Tern is mainly coastal, being found on beaches, sheltered inlets, estuaries, lakes, sewage farms, lagoons, river mouths and deltas	Unlikely. Marginal suitable habitat on	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					or near the Development Site	
<i>Sterna hirundo</i>	Common Tern		M	Offshore waters, ocean beaches, estuaries, large lakes. Less commonly freshwater swamps, floodwaters, sewage farms and brackish and saline lakes.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Sternula albifrons</i>	Little Tern	E1	M	Sheltered coastal environments, harbours, inlets and rivers.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Sternula nereis nereis</i>	Australian Fairy Tern		V	Embayments of a variety of habitats including offshore, estuarine or lake islands, wetlands and mainland coastline. Nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Stictonetta naevosa</i>	Freckled Duck	V		Freshwater swamps and creeks, lakes, reservoirs, farm dams and sewage ponds.	No	No
<i>Sula dactylatra</i>	Masked Booby	V		Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche bulleri</i>	Buller's Albatross		V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche cauta cauta</i>	Shy Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Thalassarche chrysostoma</i>	Grey-headed Albatross		E	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche eremita</i>	Chatham Albatross		E	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche impavida</i>	Campbell Albatross		V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche melanophris</i>	Black-browed Albatross	V	V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche salvini</i>	Salvin's Albatross	V		Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Thalassarche steadi</i>	White-capped Albatross		V	Marine.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tringa brevipes</i> (also listed as <i>Heteroscelus brevipes</i>)	Grey-tailed Tattler		M	"Sheltered coasts with reefs and rock platforms or intertidal mudflats; intertidal rocky, coral or stony reefs; shores of rock, shingle, gravel or shells; embayments, estuaries and coastal lagoons; lagoons and lakes; and ponds in sewage farms and saltworks.	Unlikely. Marginal suitable habitat on or near the Development Site	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Tringa glareola</i>	Wood Sandpiper		M	Well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes; inundated grasslands; floodplains; irrigated crops; sewage ponds; reservoirs; large farm dams; bore drains; rarely brackish wetlands and saltmarsh.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tringa incana</i> (also listed as <i>Heteroscelus incanus</i>)	Wandering Tattler		M	Rocky coasts with reefs and platforms, offshore islands, shingle beaches or beds; occasionally coral reefs or beaches.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tringa nebularia</i>	Common Greenshank		M	Terrestrial wetlands (swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans, saltflats, sewage farms and saltworks dams, inundated rice crops and bores) and sheltered coastal habitats (mudflats, saltmarsh, mangroves, embayments, harbours, river estuaries, deltas, lagoons, tidal pools, rock-flats and rock platforms).	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tringa stagnatilis</i>	Marsh Sandpiper		M	Swamps, lagoons, billabongs, salt pans, saltmarshes, estuaries, pools on inundated floodplains, intertidal mudflats, sewage farms and saltworks, reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	-	M	Short grasslands, freshwater or saline wetlands, tidal mudflats.	Unlikely. Marginal suitable habitat on or near the Development Site	No
<i>Tyto novaehollandiae</i>	Masked Owl	V		Dry eucalypt forests and woodlands from sea level to 1100 m.	No	No
<i>Tyto tenebricosa</i>	Sooty Owl	V		Dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.	No	No
<i>Xenus cinereus</i>	Terek Sandpiper	V	M	Mudbanks and sandbanks near mangroves, rocky pools and reefs, and occasionally up to 10 km inland around brackish pools.	Unlikely. Marginal suitable habitat on	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					or near the Development Site	
<i>Zosterops lateralis*</i>	Silvereye	-	-	A species of local conservation significance. Coastal heath, shrublands, forests, farms, and urban areas.	Potential. Suitable habitat occurs within the Development Site	Yes
Mammals (excluding bats)						
<i>Arctocephalus forsteri</i>	New Zealand Fur-seal	V		Prefers rocky parts of islands with jumbled terrain and boulders.	No. No suitable habitat on or near the Development Site	No
<i>Arctocephalus pusillus doriferus</i>	Australian Fur-seal	V		Rocky parts of islands with flat, open terrain.	No. No suitable habitat on or near the Development Site	No
<i>Aepyprymnus rufescens</i>	Rufous Bettong	V		From tall wet sclerophyll forests on the coast to the dry forests and open woodlands west of the Great Dividing Range.	No	No
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V		Rainforest, sclerophyll forest (including Box-Ironbark), woodland and heath.	No	No
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	No	No
<i>Dasyurus maculatus</i> (SE mainland population)	Spotted-tailed Quoll	V	E	Rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline.	No	No
<i>Dasyurus viverrinus</i>	Eastern Quoll	E1	E	Dry sclerophyll forest, scrub, heathland and cultivated land.	No	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Isoodon obesulus</i>	Southern Brown Bandicoot (eastern)	E1	E	Heath or open forest with a heathy understorey on sandy or friable soils.	No	No
<i>Perameles nasuta</i>	Long-nosed Bandicoot, North Head	E2		Occupies a variety of habitats on North Head.	No	No
<i>Perameles nasuta</i>	Long-nosed Bandicoot population in inner western Sydney	E2		Backyards, parkland.	No	No
<i>Petaurus australis</i>	Yellow-bellied Glider			The habitat on the Bago Plateau consists of tall wet sclerophyll forest dominated by <i>Eucalyptus delegatensis</i> (Alpine Ash), <i>E. dalrympleana</i> (Mountain Gum), <i>E. radiata</i> (Narrow-leaved Peppermint), and <i>E. rubida</i> (Candlebark).	No	No
<i>Petauroides volans</i>	Greater Glider population in the Eurobodalla local government area	E2	V	Eucalypt forests and woodlands.	No	No
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E1	V	Rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges.	No	No
<i>Phascolarctos cinereus</i>	Koala	V	V	Eucalypt woodlands and forests.	No	No
<i>Pseudomys novaehollandiae</i>	New Holland Mouse		V	Open heathlands, woodlands and forests with a heathland understorey, vegetated sand dunes.	No	No
Microbats and Fruit Bats						
Microbats (As a general group identified by the UESAP. Non-threatened species recorded within 5 km of Development Site listed in Table 16)		-	-	Occur in a variety of habitat from forested areas, particularly containing hollows, to caves and cliff lines, along with urban features such as culverts and bridges.	Likely	No. Although microbats are likely to occur in urban areas, there are no

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
						specific urban features within the Development Site (such as culverts or bridges) where microbats are particularly likely to utilize.
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Wet and dry sclerophyll forests, Cyprus Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country.	Unlikely	No
<i>Chalinolobus gouldii</i> *	Gould's Wattled Bat	-	-	A priority fauna species under EUSAP. Utilises a wide variety of habitats including rainforests, eucalypt forest and woodlands, grasslands, desert, and urban areas. Roosts commonly in tree hollows, but may also utilise buildings.	Potential	No. There was no specific roosting habitat identified for this generalist widespread species.
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V		Tall (greater than 20m) moist habitats.	No	No
<i>Miniopterus australis</i>	Little Bentwing-bat	V		Moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub.	Unlikely	No
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V		Rainforest, wet and dry sclerophyll forest, monsoon forest, open woodland, paperbark forests and open grassland.	Unlikely	No
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V		Dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range.	Unlikely	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Myotis macropus</i>	Southern Myotis	V		Foraging habitat is waterbodies (including streams, or lakes or reservoirs) and fringing areas of vegetation up to 20m.	Unlikely	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops.	Likely. Suitable potential habitat occurs within the Development Site	Yes
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V		Almost all habitats, including wet and dry sclerophyll forest, open woodland, open country, mallee, rainforests, heathland and waterbodies.	Unlikely	No
<i>Vespadelus vulturnus</i> *	Little Forest Bat	-	-	A priority fauna species under EUSAP. Wet and dry sclerophyll forests and woodland, often in riverine habitats. Roosts in tree hollows.	No. No potential habitat was identified in the Development Site	No
Reptiles						
Reptiles (As a general group identified by the UESAP. Non-threatened species recorded within 5 km of Development Site listed in Table 16)		-	-	A wide variety of urban and rural habitats which contain shelters such as cracks, crevices, hollows, and dappled to full exposure of sunlight.	Unlikely. The Development Site does not contain any specific potential habitat for this general group	No
<i>Amphibolurus* muricatus</i>	Jacky Lizard	-	-	A species of local conservation significance. Sclerophyll forests, coastal woodlands, usually in areas with some native vegetation.	Unlikely. The Development Site does not contain any specific potential habitat for this species	No
<i>Chelonia mydas</i>	Green Turtle	V	V	Marine. Nesting occurs on beaches.	Unlikely. No suitable habitat on	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					or near the Development Site	
<i>Dermochelys coriacea</i>	Leatherback Turtle	E1	M	Marine. Nesting occurs on beaches.	Unlikely. No suitable habitat on or near the Development Site	No
<i>Eulamprus tenuis</i> *	Bar-sided Skink	-	-	A species of local conservation significance. Forest and woodland areas.	Unlikely. The Development Site does not contain any specific potential habitat for this species	No
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E1	V	Dry and wet sclerophyll forests, riverine forests, coastal heath swamps, rocky outcrops, heaths, grassy woodlands.	No. No suitable habitat on or near the Development Site	No
<i>Saproscinus spectabilis</i> *	Gully Skink	-	-	A species of local conservation significance. Cool shaded gullies with rocky outcrops, ground cover, and rocky cracks.	Unlikely. The Development Site does not contain any specific potential habitat for this species	No
<i>Tiliqua scincoides</i>	Eastern Blue-tongue	-	-	A species of local conservation significance. This species inhabits semi-desert, mixed woodland, and scrubland areas of Australia, New Guinea, and Tasmania.	Unlikely. The Development Site does not contain any specific potential habitat for this species	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
Invertebrates						
<i>Pommerhelix duralensis</i>	Dural Land Snail		E	The Dural Land Snail is endemic to NSW and is confined to the northwest fringes of the Cumberland Plain. The snail has a strong preference for dry shale-influenced transitional landscapes. Associated with open eucalypt forests, particularly Shale-Sandstone Transition Forest and Sydney Turpentine – Ironbark Forest. Found under fallen logs, debris and in bark and leaf litter around the trunk of gum trees (particularly <i>Eucalyptus punctata</i>) or burrowing in loose soil around clumps of grass.	No	No

^BC Act: E1 = Endangered, E2 = Endangered Population, E4 = Extinct, E4A = Critically Endangered, V = Vulnerable; EPBC Act: M = Migratory, E = Endangered, CE – Critically Endangered, Mar = Marine;

*species of local conservation significance under the UESAP

Table 13: Likelihood of occurrence and requirement of impact assessment for threatened flora species

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V	Heath or dry sclerophyll forest on sandy soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Acacia gordonii</i>		E1	E	Sclerophyll forest and heathlands amongst or within rock platforms on sandstone outcrops.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Acacia pubescens</i>	Downy Wattle	V	V	Open woodland and forest, including Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Cumberland Plain Woodland. Occurs on alluviums, shales and at the intergrade between shales and sandstones.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Acacia terminalis</i> <i>subsp. terminalis</i>	Sunshine Wattle	E1	E	Coastal scrub and dry sclerophyll woodland on sandy soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					Development Site during the site inspection.	
<i>Allocasuarina glareicola</i>	-	E1	E	Castlereagh woodland on lateritic soil. Found in open woodland with Eucalyptus parramattensis, Eucalyptus fibrosa, Angophora bakeri, Eucalyptus sclerophylla and Melaleuca decora.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Allocasuarina portuensis</i>	Nielsen Park She-oak	E1	E	The original habitat is tall closed woodland, above a sandstone shelf approximately 20 m above the harbour. Soils are shallow and sandy; plantings have occurred on similar soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Amperea xiphoclada</i> var. <i>pedicellata</i>	-	E4		Heath, woodland and forest in low-fertility, sandy soils. Known only from the type specimen collected in 1892 from Sydney. Has not been observed since and is presumed extinct.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Asterolasia buxifolia</i>	-	E1		Restricted to dense riparian scrub along rocky watercourses with a granitic substrate.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					Development Site during the site inspection.	
<i>Asterolasia elegans</i>	-	E1	E	"Hawkesbury sandstone. Found in sheltered forests on mid- to lower slopes and valleys."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Caladenia tessellata</i>	Thick Lip Spider Orchid	E1	V	Grassy sclerophyll woodland on clay loam or sandy soils, or low woodland with stony soil.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Callistemon linearifolius</i>	Netted Bottle Brush	V		Dry sclerophyll forest.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V	V	"Coastal heathlands, margins of coastal swamps and sedgelands, coastal forest, dry woodland, and lowland forest."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					Development Site during the site inspection.	
<i>Darwinia biflora</i>	-	V	V	Woodland, open forest or scrub-heath on the edges of weathered shale-capped ridges, where these intergrade with Hawkesbury Sandstone.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Deyeuxia appressa</i>	-	E1	E	Moist conditions.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Dichanthium setosum</i>	Bluegrass	V	V	Cleared woodland, grassy roadside remnants and highly disturbed pasture, on heavy basaltic black soils and red-brown loams with clay subsoil.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Dillwynia tenuifolia</i>	-	V		Scrubby/dry heath areas within Castlereagh Ironbark Forest and Shale Gravel Transition Forest, transitional areas where these communities adjoin Castlereagh Scribbly	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
				Gum Woodland, and disturbed escarpment woodland on Narrabeen sandstone.	Development Site during the site inspection.	
<i>Diuris arenaria</i>	Sand Doubletail	E1		"Coastal heath and dry grassy eucalypt forest.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Doryanthes palmeri</i>	Giant Spear Lily	V		"Exposed rocky outcrops, cliff-tops and on steep cliff-faces in montane heath next to subtropical rainforest, warm temperate rainforest or wet eucalypt forest."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Epacris purpurascens</i> <i>var. purpurascens</i>	-	V		Sclerophyll forest, scrubs and swamps. Most habitats have a strong shale soil influence.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	"Coastal heath on shallow sandy soils overlying Hawkesbury sandstone, mostly on exposed sandy ridges."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					Development Site during the site inspection.	
<i>Eucalyptus fracta</i>	Broken Back Ironbark	V		Dry eucalypt woodland in shallow soils along the upper escarpment of a steep sandstone range.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Eucalyptus leucoxylon subsp. pruinosa</i>	Boland Yellow Gum	V		In NSW, occurs at the bases of sandy rises and on loamy clay flats on the floodplains of the Murray River and its tributaries.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	Dry grassy woodland, on shallow soils of slopes and ridges.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Eucalyptus pulverulenta</i>	Silver-leafed Gum	V	V	Open forest typically dominated by <i>Eucalyptus mannifera</i> (Brittle Gum), <i>E. macrorhynca</i> (Red Stringybark), <i>E. dives</i> (Broad-leafed Peppermint), <i>E. sieberi</i>	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
				(Silvertop Ash) and <i>E. bridgesiana</i> (Apple Box), on shallow soils.	Development Site during the site inspection.	
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E1	V	"Open eucalypt forest, woodland and heaths on well-drained granite/rhyolite hilltops, slopes and rocky outcrops, typically at high altitudes.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Genoplesium baueri</i>	Bauer's Midge Orchid	E1	E	Dry sclerophyll forest and moss gardens over sandstone.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E1		Rainforest and moist eucalypt forest, usually near streams, on rocks or in trees.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Grevillea caleyi</i>	Caley's Grevillea	E4A	E	Open forest, generally dominated by <i>Eucalyptus sieberi</i> and <i>E. gummifera</i> on a ridgetop, in association with laterite soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					Development Site during the site inspection.	
<i>Hibbertia puberula</i>		E1		Low heath, dry sclerophyll woodland, upland swamps, on sandy soils or clay.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Hibbertia spanantha</i>	Julian's Hibbertia	E4A		Endemic to the Sydney Basin bioregion. Grows in forest with canopy species including Eucalyptus pilularis, E. resinifera, Corymbia gummifera and Angophora costata. The understorey is open with species of Poaceae, Orchidaceae, Fabaceae and Liliaceae. Soil identifies as light clay occurring on shale sandstone soil transition.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Lasiopetalum joyceae</i>	-	V		Heath on lateritic to shaley ridgetops over sandstone.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Leptospermum deanei</i>		V	V	Woodland, riparian scrub and open forest on lower hill slopes or near creeks, on sand or sandy alluvial soil.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					potential habitat for this species. This species was not identified within the Development Site during the site inspection.	
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut	V		Subtropical rainforest, usually near the coast.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Damp places, often near streams or low-lying areas on alluvial soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Damp places, often near streams or low-lying areas on alluvial soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Melaleuca deanei</i>	Deane's Paperbark	V	V	Heath on sandstone.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
					potential habitat for this species. This species was not identified within the Development Site during the site inspection.	
<i>Microtis angusii</i>	Angus's Onion Orchid			"Ingleside location is highly disturbed and dominated by the introduced weeds Coolatai grass (<i>Hyparrhenia hirta</i>) and <i>Acacia saligna</i> . The area is likely to have originally supported the Duffys Forest Vegetation Community, which ranges from open forest to low open forest and woodland."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Pelargonium striatellum</i> sp.	Omeo Storksbill	E1	E	Irregularly inundated or ephemeral lakes, in the transition zone between surrounding grasslands or pasture and wetland or aquatic communities.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Persoonia hirsuta</i>	Hairy Geebung	E1	E	Sandy soils in dry sclerophyll open forest, woodland and heath on sandstone.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Persoonia nutans</i>	Nodding Geebung	E1	E	Northern populations: sclerophyll forest and woodland (Agnes Banks Woodland,	No. The Development Site is located on land which has been cut and filled (see	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
				Castlereagh Scribbly Gum Woodland and Cooks River / Castlereagh Ironbark Forest) on aeolian and alluvial sediments. Southern populations: tertiary alluvium, shale sandstone transition communities and Cooks River / Castlereagh Ironbark Forest.	Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	
<i>Pimelea curviflora</i> var. <i>curviflora</i>		V	V	Woodland, mostly on shaley/lateritic soils over sandstone and shale/sandstone transition soils on ridgetops and upper slopes.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Pimelea spicata</i>	Spiked Rice-flower	E1	E	"Well-structured clay soils. Eucalyptus moluccana (Grey Box) communities and in areas of ironbark on the Cumberland Plain. Coast Banksia open woodland or coastal grassland in the Illawarra."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Prasophyllum fuscum</i>	Slaty Leek Orchid	E4A	V	Moist heath, often along seepage lines	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Prostanthera marifolia</i>	Seaforth Mintbush	E4A		In or in close proximity to the endangered Duffys Forest ecological community, on deeply weathered clay-loam soils associated with ironstone and scattered shale lenses.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	E1	E	Small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines, adjacent to sclerophyll forest or woodland on shale/sandstone transition soils or shale soils.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Pultenaea parviflora</i>		E1	V	"Dry sclerophyll forest, especially Castlereagh Ironbark Forest, Shale Gravel Transition Forest and transitional areas where these communities adjoin Castlereagh Scribbly Gum Woodland."	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Sarcophilus hartmannii</i>	Hartman's Sarcophilus	V		On volcanic rocks, in sclerophyll forest or exposed sites, from 500 to 1000 m. Rarely on bases of trees.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	"Subtropical and littoral rainforest on gravels, sands, silts and clays.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Tetratheca glandulosa</i>		V		"Heath, scrub, woodlands and open forest on upper-slopes and mid-slope sandstone benches. Soils generally shallow, consisting of a yellow, clayey/sandy loam.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Tetratheca juncea</i>	Black-eyed Susan	V	V	Low open forest/woodland, heathland and moist forest, mainly on low nutrient soils associated with the Awaba Soil Landscape.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Thesium australe</i>	Austral Toadflax	V	V	Grassland on coastal headlands or grassland and grassy woodland away from the coast.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Habitat	Likelihood of Occurrence	Impact Assessment Required
<i>Triplarina imbricata</i>	Creek Triplarina	E1	E	Along watercourses in low open forest with <i>Tristaniopsis laurina</i> (Water Gum).	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No
<i>Wilsonia backhousei</i>	Narrow-leafed Wilsonia	V		Margins of salt marshes and lakes.	No. The Development Site is located on land which has been cut and filled (see Section 1.3.7), and does not contain potential habitat for this species. This species was not identified within the Development Site during the site inspection.	No

^BC Act: E1 = Endangered, E2 = Endangered Population, E4 = Extinct, E4A = Critically Endangered, V = Vulnerable; EPBC Act: M = Migratory, E = Endangered, CE – Critically Endangered, Mar = Marine;

Appendix B: Flora and fauna species list

Table 14: Flora species recorded within the Development Site

Family	Species Name	Common Name	Planted (^)	Exotic (*), Naturalised (^)	Priority Weed / WoNS
Agavaceae	<i>Agave americana</i>	Century Plant		*	
Alliaceae	<i>Agapanthus praecox</i>	Lily of the Nile		*	
Araceae	<i>Monstera deliciosa</i>	Fruit Salad Plant / Swiss Cheese Plant		*	
Araceae	<i>Philodendron sp.</i>	-		*	
Araliaceae	<i>Hedera helix</i>	English Ivy		*	
Araliaceae	<i>Hydrocotyle laxiflora</i>	Stinking Pennywort			
Araliaceae	<i>Schefflera actinophylla</i>	Umbrella tree		*	
Arecaceae	<i>Livistona australis</i>	Cabbage Tree Palm			
Arecaceae	<i>Phoenix canariensis</i>	Canary Island Date Palm		*	
Arecaceae	<i>Syagrus romanzoffianum</i>	Cocos Palm / Queen Palm		*	
Asparagaceae	<i>Asparagus aethiopicus</i>	Asparagus fern		*	
Asparagaceae	<i>Dracaena sp.</i>	Dragon Tree		*	
Asphodelaceae	<i>Aloe vera</i>	-		*	
Aspleniaceae	<i>Asplenium nidus</i>	Birds Nest Fern		*	
Asteraceae	<i>Bidens pilosa</i>	Cobblers Pegs		*	
Asteraceae	<i>Conyza sp.</i>	Fleabane		*	
Asteraceae	<i>Hypochaeris radicata</i>	Catsear		*	
Berberidaceae	<i>Nandina domestica</i>	Sacred bamboo		*	
Caryophyllaceae	<i>Stellaria media</i>	Chickweed		*	
Casuarinaceae	<i>Casuarina glauca</i>	Swamp Oak			
Cupressaceae	<i>Cupressus arizonica</i>	Arizona Cypress		*	
Cupressaceae	<i>Cupressus sempervirens</i>	Italian Cypress		*	
Doryanthaceae	<i>Doryanthes excelsa</i>	Gymea Plant Lily	^		
Euphorbiaceae	<i>Ricinus communis</i>	Castor Oil Plant		*	
Fabaceae subf. Faboideae	<i>Acacia binervata</i>	Two-veined Hickory	^		
Fabaceae subf. Faboideae	<i>Trifolium repens</i>	White Clover		*	
Fabaceae subf. Mimosoideae	<i>Acacia ulicifolia</i>	Prickly Moses	^		
Geraniaceae	<i>Geranium sp.</i>	Geranium		*	

Family	Species Name	Common Name	Planted (^)	Exotic (*), Naturalised (^)	Priority Weed / WoNS
Lauraceae	<i>Cinnamomum camphora</i>	Camphor Laurel		*	
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush			
Lomandraceae	<i>Lomandra longifolia</i>	Matt Rush			
Lomariopsidaceae	<i>Nephrolepis cordifolia</i>	Fishbone Fern		*	Weed of Regional Concern - Environmenta l Risk
Magnoliaceae	<i>Magnolia grandiflora</i>	Southern Magnolia		*	
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne		*	
Moraceae	<i>Ficus elastica</i>	Variegated Rubber Plant			
Moraceae	<i>Ficus macrophylla</i>	Moreton Bay Fig			
Moraceae	<i>Ficus microcarpa</i> var. <i>hillii</i>	Hill's Weeping Fig			
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson Fig			
Moraceae	<i>Morus alba</i>	White Mulberry		*	
Myrtaceae	<i>Angophora costata</i>	Sydney Red Gum			
Myrtaceae	<i>Callistemon citrinus</i>	Crimson Bottlebrush	^		
Myrtaceae	<i>Eucalyptus botryoides</i>	Bangalay			
Myrtaceae	<i>Eucalyptus robusta</i>	Swamp Mahogany			
Myrtaceae	<i>Eucalyptus saligna</i>	Sydney Blue Gum	^		
Myrtaceae	<i>Lophostemon confertus</i>	Brush Box			
Myrtaceae	<i>Syzygium leuhmanni</i>	Small Leaf Lillypilly	^	*	
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive		*	
Phormiaceae	<i>Dianella caerulea</i>	Blue Flax-lily			
Pittosporaceae	<i>Pittosporum undulatum</i>	Native Daphne			
Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's Tongue		*	
Poaceae	<i>Axonopus compressus</i>	Broad-leafed Grass	Carpet	*	
Poaceae	<i>Cenchrus setaceus</i> (previously <i>Pennisetum setaceum</i>)	Fountain Grass		#	
Poaceae	<i>Cynodon dactylon</i>	Couch		*	
Poaceae	<i>Ehrharta erecta</i>	Veldtgrass		*	
Poaceae	<i>Eragrostis curvula</i>	African Love Grass		*	
Poaceae	<i>Setaria</i> sp.	-		*	
Podocarpaceae	<i>Podocarpus elatus</i>	Brown Pine	^		

Family	Species Name	Common Name	Planted (^)	Exotic (*), Naturalised (^)	Priority Weed / WoNS
Proteaceae	<i>Grevillea banksii</i> × <i>Grevillea bipinnatifida</i> ('Supurb')	Supurb Grevillea	^		
Proteaceae	<i>Grevillea robusta</i>	Silky Oak			
Rosaceae	<i>Cotoneaster</i> sp.			*	
Rosaceae	<i>Cotoneaster glaucophyllus</i>	Glaucous Cotoneaster		*	
Rosaceae	<i>Malus pumila</i>	Apple		*	
Rosaceae	<i>Rhaphiolepis</i> sp.	-		*	
Ulmaceae	<i>Celtis sinensis</i>	Japanese Hackberry		*	
Verbenaceae	<i>Lantana camara</i>	Lantana		*	State Priority Weed - Assest Protection Risk; WoNS

WoNS - Weed of National Significance

Table 15: Fauna species recorded within the Development Site

Family	Species Name	Common Name	Introduced (*)
Columbidae	<i>Columba livia</i>	Rock Dove	*
Corvidae	<i>Corvus coronoides</i>	Australian Raven	
Laridae	<i>Chroicocephalus novaehollandiae</i>	Silver Gull	
Pelecanidae	<i>Pelecanus onocrotalus</i>	Pelican	
Phalangeridae	<i>Trichosurus vulpecula</i>	Common Brushtail Possum	
Psittaculidae	<i>Trichoglossus moluccanus</i>	Ranbow Lorikeet	
Rhipiduridae	<i>Rhipidura leucophrys</i>	Willie Wagtail	
Threskiornithidae	<i>Threskiornis moluccus</i>	Australian White Ibis	

Table 16: Non-threatened native species records from within 10 km of the Development Site, relevant to 'Priority Fauna Groups' as identified in the UESAP

Family	Species Name	Common Name
Amphibians - As a general group identified by the UESAP		
HYLIDAE	<i>Litoria caerulea</i>	Green Tree Frog
HYLIDAE	<i>Litoria chloris</i>	Red-Eyed Tree Frog
HYLIDAE	<i>Litoria citropa</i>	Blue Mountains Tree Frog
HYLIDAE	<i>Litoria dentata</i>	Bleating Tree Frog
HYLIDAE	<i>Litoria ewingii</i>	Brown Tree Frog
HYLIDAE	<i>Litoria fallax</i>	Eastern Dwarf Tree Frog
HYLIDAE	<i>Litoria freycineti</i>	Freycinet's Frog
HYLIDAE	<i>Litoria infrafrenata</i>	Giant Tree Frog
HYLIDAE	<i>Litoria jervisiensis</i>	Jervis Bay Tree Frog
HYLIDAE	<i>Litoria latopalmata</i>	Gunther's Frog
HYLIDAE	<i>Litoria lesueuri</i>	Lesueur's Frog
HYLIDAE	<i>Litoria nasuta</i>	Rocket Frog
HYLIDAE	<i>Litoria peronii</i>	Peron's Tree Frog
HYLIDAE	<i>Litoria phyllochroa</i>	Leaf-Green Tree Frog
HYLIDAE	<i>Litoria rothii</i>	Northern Laughing Tree Frog
HYLIDAE	<i>Litoria rubella</i>	Little Red Tree Frog
HYLIDAE	<i>Litoria tyleri</i>	Tyler's Tree Frog
HYLIDAE	<i>Litoria verreauxii</i>	Verreaux's Frog
LIMNODYNASTIDAE	<i>Adelotus brevis</i>	Tusked Frog
LIMNODYNASTIDAE	<i>Heleioporus albopunctatus</i>	Western Spotted Frog
LIMNODYNASTIDAE	<i>Heleioporus australiacus</i>	Giant Burrowing Frog
LIMNODYNASTIDAE	<i>Limnodynastes dumerilii</i>	Eastern Banjo Frog
LIMNODYNASTIDAE	<i>Limnodynastes peronii</i>	Brown-Striped Frog
LIMNODYNASTIDAE	<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog
LIMNODYNASTIDAE	<i>Neobatrachus fulvus</i>	Tawny Frog
MYOBATRACHIDAE	<i>Crinia signifera</i>	Common Froglet
MYOBATRACHIDAE	<i>Crinia tinnula</i>	Wallum Froglet
MYOBATRACHIDAE	<i>Paracrinia haswelli</i>	Haswell's Frog
MYOBATRACHIDAE	<i>Pseudophryne bibronii</i>	Brown Toadlet
MYOBATRACHIDAE	<i>Uperoleia laevisgata</i>	Smooth Toadlet
MYOBATRACHIDAE	<i>Uperoleia tyleri</i>	Tyler's Toadlet
Small birds - As a general group identified by the UESAP		
ACANTHIZIDAE	<i>Acanthiza (Acanthiza) apicalis</i>	Inland Thornbill
ACANTHIZIDAE	<i>Acanthiza (Acanthiza) pusilla</i>	Brown Thornbill

Family	Species Name	Common Name
ACANTHIZIDAE	<i>Acanthiza (Geobasileus) chrysorrhoa</i>	Yellow-Rumped Thornbill
ACANTHIZIDAE	<i>Acanthiza (Geobasileus) iredalei</i>	Slender-Billed Thornbill
ACANTHIZIDAE	<i>Acanthiza (Geobasileus) reguloides</i>	Buff-Rumped Thornbill
ACANTHIZIDAE	<i>Acanthiza (Subacanthiza) lineata</i>	Striated Thornbill
ACANTHIZIDAE	<i>Acanthiza (Subacanthiza) nana</i>	Yellow Thornbill
ACANTHIZIDAE	<i>Chthonicola sagittata</i>	Speckled Warbler
ACANTHIZIDAE	<i>Gerygone fusca</i>	Western Gerygone
ACANTHIZIDAE	<i>Gerygone mouki</i>	Brown Gerygone
ACANTHIZIDAE	<i>Gerygone olivacea</i>	White-Throated Gerygone
ACANTHIZIDAE	<i>Origma solitaria</i>	Rockwarbler
ACANTHIZIDAE	<i>Sericornis (Sericornis) citreogularis</i>	Yellow-Throated Scrubwren
ACANTHIZIDAE	<i>Sericornis (Sericornis) frontalis</i>	White-Browed Scrubwren
ACCIPITRIDAE	<i>Hamirostra melanosternon</i>	Black-Breasted Buzzard
ACCIPITRIDAE	<i>Lophoictinia isura</i>	Square-Tailed Kite
ALCEDINIDAE	<i>Ceyx azureus</i>	Azure Kingfisher
ALCEDINIDAE	<i>Dacelo (Dacelo) novaeguineae</i>	Kookaburra
ALCEDINIDAE	<i>Todiramphus (Lazulena) macleayii</i>	Forest Kingfisher
ALCEDINIDAE	<i>Todiramphus (Todiramphus) sanctus</i>	Sacred Kingfisher
APODIDAE	<i>Apus (Apus) pacificus</i>	Fork-Tailed Swift
APODIDAE	<i>Hirundapus caudacutus</i>	Spine-Tailed Swift
ARTAMIDAE	<i>Artamus (Angroyan) cinereus</i>	Black-Faced Woodswallow
ARTAMIDAE	<i>Artamus (Artamus) leucorhynchus</i>	White-Breasted Woodswallow
ARTAMIDAE	<i>Artamus (Campbellornis) personatus</i>	Masked Woodswallow
ARTAMIDAE	<i>Artamus (Campbellornis) superciliosus</i>	White-Browed Woodswallow
ARTAMIDAE	<i>Cracticus nigrogularis</i>	Pied Butcherbird
ARTAMIDAE	<i>Cracticus tibicen</i>	Australian Magpie
ARTAMIDAE	<i>Cracticus torquatus</i>	Grey Butcherbird
CACATUIDAE	<i>Cacatua (Licmetis) sanguinea</i>	Little Corella
CACATUIDAE	<i>Cacatua (Licmetis) tenuirostris</i>	Long-Billed Corella
CACATUIDAE	<i>Eolophus roseicapillus</i>	Galah
CAMPEPHAGIDAE	<i>Coracina (Coracina) novaehollandiae</i>	Black-Faced Cuckoo-Shrike
CISTICOLIDAE	<i>Cisticola (Cisticola) exilis</i>	Golden-Headed Cisticola
CLIMACTERIDAE	<i>Climacteris (Climacterobates) erythrops</i>	Red-Browed Treecreeper
CLIMACTERIDAE	<i>Cormobates leucophaea</i>	White-Throated Treecreeper
COLUMBIDAE	<i>Chalcophaps indica</i>	Emerald Dove
COLUMBIDAE	<i>Columba (Columba) livia</i>	Rock Pigeon

Family	Species Name	Common Name
COLUMBIDAE	<i>Ducula (Myristicivora) bicolor</i>	Pied Imperial-Pigeon
COLUMBIDAE	<i>Geopelia cuneata</i>	Diamond Dove
COLUMBIDAE	<i>Geopelia humeralis</i>	Bar-Shouldered Dove
COLUMBIDAE	<i>Geopelia striata</i>	Peaceful Dove
COLUMBIDAE	<i>Macropygia (Macropygia) amboinensis</i>	Brown Cuckoo-Dove
COLUMBIDAE	<i>Ocyphaps lophotes</i>	Crested Pigeon
COLUMBIDAE	<i>Phaps (Phaps) chalcoptera</i>	Common Bronzewing
COLUMBIDAE	<i>Phaps (Phaps) elegans</i>	Brush Bronzewing
COLUMBIDAE	<i>Ptilinopus (Megaloprepia) magnificus</i>	Wompoo Fruit-Dove
COLUMBIDAE	<i>Ptilinopus (Ptilinopus) superbus</i>	Superb Fruit-Dove
COLUMBIDAE	<i>Streptopelia (Spilopelia) chinensis</i>	Spotted Dove
COLUMBIDAE	<i>Streptopelia (Spilopelia) roseogrisea</i>	Barbary Dove
COLUMBIDAE	<i>Streptopelia (Spilopelia) senegalensis</i>	Laughing Turtle-Dove
CORACIIDAE	<i>Eurystomus orientalis</i>	Dollarbird
CUCULIDAE	<i>Cacomantis (Cacomantis) variolosus</i>	Brush Cuckoo
CUCULIDAE	<i>Cacomantis (Vidgenia) flabelliformis</i>	Fan-Tailed Cuckoo
CUCULIDAE	<i>Chrysococcyx basalis</i>	Horsfield's Bronze-Cuckoo
CUCULIDAE	<i>Chrysococcyx lucidus</i>	Shining Bronze-Cuckoo
CUCULIDAE	<i>Chrysococcyx minutillus</i>	Little Bronze-Cuckoo
DICRURIDAE	<i>Dicrurus bracteatus</i>	Spangled Drongo
ESTRILDIDAE	<i>Erythrura (Chloebia) gouldiae</i>	Gouldian Finch
ESTRILDIDAE	<i>Lonchura (Lonchura) punctulata</i>	Nutmeg Munia
ESTRILDIDAE	<i>Lonchura (Munia) flaviprymna</i>	Yellow-Rumped Munia
ESTRILDIDAE	<i>Lonchura (Padda) oryzivora</i>	Java Sparrow
ESTRILDIDAE	<i>Neochmia (Aegintha) temporalis</i>	Red-Browed Finch
ESTRILDIDAE	<i>Neochmia (Neochmia) phaeton</i>	Crimson Finch
ESTRILDIDAE	<i>Neochmia (Neochmia) ruficauda</i>	Star Finch
ESTRILDIDAE	<i>Poephila (Neopoephila) personata</i>	Masked Finch
ESTRILDIDAE	<i>Stagonopleura (Stagonopleura) guttata</i>	Diamond Firetail
ESTRILDIDAE	<i>Stagonopleura (Zonaeginthus) bella</i>	Beautiful Firetail
ESTRILDIDAE	<i>Stizoptera bichenovii</i>	Double-Barred Finch
ESTRILDIDAE	<i>Taeniopygia guttata</i>	Zebra Finch
FRINGILLIDAE	<i>Carduelis carduelis</i>	European Goldfinch
FRINGILLIDAE	<i>Carduelis chloris</i>	European Greenfinch
FRINGILLIDAE	<i>Carduelis chloris</i>	Greenfinch
FRINGILLIDAE	<i>Chloris chloris</i>	European Greenfinch

Family	Species Name	Common Name
HIRUNDINIDAE	<i>Cheramoeca leucosterna</i>	White-Backed Swallow
HIRUNDINIDAE	<i>Hirundo (Hirundo) neoxena</i>	Welcome Swallow
HIRUNDINIDAE	<i>Petrochelidon (Hylochelidon) nigricans</i>	Tree Martin
HIRUNDINIDAE	<i>Petrochelidon (Petrochelidon) ariel</i>	Fairy Martin
LARIDAE	<i>Sterna (Sterna) striata</i>	White-Fronted Tern
LARIDAE	<i>Sterna nereis</i>	Fairy Tern
MALURIDAE	<i>Malurus (Leggeornis) lamberti</i>	Variegated Fairy-Wren
MALURIDAE	<i>Malurus (Leggeornis) pulcherrimus</i>	Blue-Breasted Fairy-Wren
MALURIDAE	<i>Malurus (Malurus) cyaneus</i>	Superb Fairy-Wren
MALURIDAE	<i>Malurus (Malurus) splendens</i>	Splendid Fairy-Wren
MALURIDAE	<i>Malurus (Musciparus) leucopterus</i>	White-Winged Fairy-Wren
MALURIDAE	<i>Stipiturus malachurus</i>	Southern Emu-Wren
MEGALURIDAE	<i>Megalurus timoriensis</i>	Tawny Grassbird
MELIPHAGIDAE	<i>Acanthagenys rufogularis</i>	Spiny-Cheeked Honeyeater
MELIPHAGIDAE	<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill
MELIPHAGIDAE	<i>Anthochaera (Anellobia) chrysoptera</i>	Little Wattlebird
MELIPHAGIDAE	<i>Anthochaera (Anthochaera) carunculata</i>	Red Wattlebird
MELIPHAGIDAE	<i>Anthochaera (Anthochaera) paradoxa</i>	Yellow Wattlebird
MELIPHAGIDAE	<i>Anthochaera (Xanthomyza) phrygia</i>	Regent Honeyeater
MELIPHAGIDAE	<i>Caligavis chrysops</i>	Yellow-Faced Honeyeater
MELIPHAGIDAE	<i>Entomyzon cyanotis</i>	Blue-Faced Honeyeater
MELIPHAGIDAE	<i>Epthianura (Epthianura) albifrons</i>	White-Fronted Chat
MELIPHAGIDAE	<i>Epthianura (Parepthianura) tricolor</i>	Crimson Chat
MELIPHAGIDAE	<i>Gavicalis virescens</i>	Singing Honeyeater
MELIPHAGIDAE	<i>Gliciphila melanops</i>	Tawny-Crowned Honeyeater
MELIPHAGIDAE	<i>Grantiella picta</i>	Painted Honeyeater
MELIPHAGIDAE	<i>Lichenostomus melanops</i>	Yellow-Tufted Honeyeater
MELIPHAGIDAE	<i>Lichmera (Lichmera) indistincta</i>	Brown Honeyeater
MELIPHAGIDAE	<i>Manorina (Manorina) melanophrys</i>	Bell Miner
MELIPHAGIDAE	<i>Manorina (Myzantha) flavigula</i>	Yellow-Throated Miner
MELIPHAGIDAE	<i>Manorina (Myzantha) melanocephala</i>	Noisy Miner
MELIPHAGIDAE	<i>Meliphaga (Meliphaga) lewinii</i>	Lewin's Honeyeater
MELIPHAGIDAE	<i>Meliphaga (Meliphaga) notata</i>	Yellow-Spotted Honeyeater
MELIPHAGIDAE	<i>Melithreptus (Eidopsarus) brevirostris</i>	Brown-Headed Honeyeater
MELIPHAGIDAE	<i>Melithreptus (Eidopsarus) gularis</i>	Black-Chinned Honeyeater
MELIPHAGIDAE	<i>Melithreptus (Melithreptus) chloropsis</i>	

Family	Species Name	Common Name
MELIPHAGIDAE	<i>Melithreptus (Melithreptus) lunatus</i>	White-Naped Honeyeater
MELIPHAGIDAE	<i>Myzomela (Cosmeteira) obscura</i>	Dusky Honeyeater
MELIPHAGIDAE	<i>Myzomela (Myzomela) sanguinolenta</i>	Scarlet Honeyeater
MELIPHAGIDAE	<i>Nesoptilotis leucotis</i>	White-Eared Honeyeater
MELIPHAGIDAE	<i>Philemon (Microphilemon) citreogularis</i>	Little Friarbird
MELIPHAGIDAE	<i>Phylidonyris (Meliornis) niger</i>	White-Cheeked Honeyeater
MELIPHAGIDAE	<i>Phylidonyris (Meliornis) novaehollandiae</i>	New Holland Honeyeater
MELIPHAGIDAE	<i>Phylidonyris (Phylidonyris) pyrrhoptera</i>	Crescent Honeyeater
MELIPHAGIDAE	<i>Plectorhyncha lanceolata</i>	Striped Honeyeater
MELIPHAGIDAE	<i>Ptilotula fusca</i>	Fuscou Honeyeater
MELIPHAGIDAE	<i>Ptilotula ornata</i>	Yellow-Plumed Honeyeater
MELIPHAGIDAE	<i>Ptilotula penicillata</i>	White-Plumed Honeyeater
MELIPHAGIDAE	<i>Sugomel niger</i>	Black Honeyeater
MEROPIIDAE	<i>Merops (Merops) ornatus</i>	Rainbow Bee-Eater
MONARCHIDAE	<i>Grallina cyanoleuca</i>	Magpie-Lark
MONARCHIDAE	<i>Monarcha (Monarcha) melanopsis</i>	Black-Faced Monarch
MONARCHIDAE	<i>Myiagra (Myiagra) rubecula</i>	Leaden Flycatcher
MONARCHIDAE	<i>Myiagra (Piezorhynchus) alecto</i>	Shining Flycatcher
MONARCHIDAE	<i>Myiagra (Seisura) inquieta</i>	Restless Flycatcher
MOTACILLIDAE	<i>Anthus (Anthus) novaeseelandiae</i>	Australian Pipit
MOTACILLIDAE	<i>Motacilla (Budytes) flava</i>	Yellow Wagtail
NECTARINIIDAE	<i>Dicaeum (Dicaeum) hirundinaceum</i>	Mistletoebird
NEOSITTIDAE	<i>Daphoenositta (Neositta) chrysoptera</i>	Varied Sittella
ORIOIDAE	<i>Oriolus (Mimeta) sagittatus</i>	Olive-Backed Oriole
ORIOIDAE	<i>Sphecotheres vieilloti</i>	Australasian Figbird
PACHYCEPHALIDAE	<i>Colluricincla (Colluricincla) harmonica</i>	Grey Shrike-Thrush
PACHYCEPHALIDAE	<i>Falcunculus frontatus</i>	Crested Shrike-Tit
PACHYCEPHALIDAE	<i>Pachycephala (Alisterornis) rufiventris</i>	Rufous Whistler
PACHYCEPHALIDAE	<i>Pachycephala (Pachycephala) melanura</i>	Mangrove Golden Whistler
PACHYCEPHALIDAE	<i>Pachycephala (Pachycephala) pectoralis</i>	Golden Whistler
PARDALOTIDAE	<i>Pardalotus (Pardalotinus) striatus</i>	Striated Pardalote
PARDALOTIDAE	<i>Pardalotus (Pardalotus) punctatus</i>	Spotted Pardalote
PASSERIDAE	<i>Passer (Passer) domesticus</i>	House Sparrow
PASSERIDAE	<i>Passer (Passer) montanus</i>	Eurasian Tree Sparrow
PETROICIDAE	<i>Eopsaltria (Eopsaltria) australis</i>	Eastern Yellow Robin
PETROICIDAE	<i>Eopsaltria (Eopsaltria) griseogularis</i>	Western Yellow Robin

Family	Species Name	Common Name
PETROICIDAE	<i>Eopsaltria (Quoyornis) georgiana</i>	White-Breasted Robin
PETROICIDAE	<i>Melanodryas (Melanodryas) cucullata</i>	Hooded Robin
PETROICIDAE	<i>Microeca (Microeca) fascians</i>	Jacky Winter
PETROICIDAE	<i>Petroica (Erythrodryas) rosea</i>	Rose Robin
PETROICIDAE	<i>Petroica (Littlera) phoenicea</i>	Flame Robin
PETROICIDAE	<i>Petroica (Petroica) boodang</i>	Scarlet Robin
PETROICIDAE	<i>Petroica (Petroica) goodenovii</i>	Red-Capped Robin
PETROICIDAE	<i>Petroica (Petroica) multicolor</i>	Pacific Robin
PHALACROCORACIDAE	<i>Microcarbo melanoleucos</i>	Little Pied Cormorant
PHASIANIDAE	<i>Coturnix (Synoicus) ypsilophora</i>	Brown Quail
PITTIDAE	<i>Pitta (Pitta) versicolor</i>	Noisy Pitta
POMATOSTOMIDAE	<i>Pomatostomus (Morganornis) ruficeps</i>	Chestnut-Crowned Babbler
POMATOSTOMIDAE	<i>Pomatostomus (Pomatostomus) temporalis</i>	Grey-Crowned Babbler
PSITTACIDAE	<i>Alisterus scapularis</i>	Australian King-Parrot
PSITTACIDAE	<i>Glossopsitta concinna</i>	Musk Lorikeet
PSITTACIDAE	<i>Lathamus discolor</i>	Swift Parrot
PSITTACIDAE	<i>Melopsittacus undulatus</i>	Budgerigar
PSITTACIDAE	<i>Parvipsitta pusilla</i>	Little Lorikeet
PSITTACIDAE	<i>Platycercus (Platycercus) elegans</i>	Crimson Rosella
PSITTACIDAE	<i>Platycercus (Violania) adscitus</i>	Pale-Headed Rosella
PSITTACIDAE	<i>Platycercus (Violania) eximius</i>	Eastern Rosella
PSITTACIDAE	<i>Platycercus (Violania) icterotis</i>	Western Rosella
PSITTACIDAE	<i>Polytelis anthopeplus</i>	Regent Parrot
PSITTACIDAE	<i>Polytelis swainsonii</i>	Superb Parrot
PSITTACIDAE	<i>Psephotus (Psephotellus) chrysopterygius</i>	Golden-Shouldered Parrot
PSITTACIDAE	<i>Psephotus (Psephotus) haematonotus</i>	Red-Rumped Parrot
PSITTACIDAE	<i>Trichoglossus chlorolepidotus</i>	Scaly-Breasted Lorikeet
PSITTACIDAE	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet
PSOPHODIDAE	<i>Cinclosoma (Cinclosoma) punctatum</i>	Spotted Quail-Thrush
PSOPHODIDAE	<i>Psophodes (Psophodes) olivaceus</i>	Eastern Whipbird
PYCNONOTIDAE	<i>Pycnonotus (Pycnonotus) jocosus</i>	Red-Whiskered Bulbul
RALLIDAE	<i>Rallina (Rallina) tricolor</i>	Red-Necked Crake
RHIPIDURIDAE	<i>Rhipidura (Howeavis) dryas</i>	Arafura Fantail
RHIPIDURIDAE	<i>Rhipidura (Howeavis) rufifrons</i>	Rufous Fantail
RHIPIDURIDAE	<i>Rhipidura (Rhipidura) albiscapa</i>	Grey Fantail
RHIPIDURIDAE	<i>Rhipidura (Rhipidura) fuliginosa</i>	New Zealand Fantail

Family	Species Name	Common Name
RHIPIDURIDAE	<i>Rhipidura (Sauloprocta) leucophrys</i>	Willie Wagtail
SCOLOPACIDAE	<i>Philomachus pugnax</i>	Ruff
STURNIDAE	<i>Acridotheres tristis</i>	Common Myna
STURNIDAE	<i>Sturnus (Sturnus) tristis</i>	Common Myna
STURNIDAE	<i>Sturnus (Sturnus) vulgaris</i>	Common Starling
TIMALIIDAE	<i>Zosterops lateralis</i>	Silvereye
TURDIDAE	<i>Turdus merula</i>	Blackbird
TURNICIDAE	<i>Turnix (Alphaturnia) velox</i>	Little Button-Quail
TURNICIDAE	<i>Turnix (Austrotornix) varius</i>	Painted Button-Quail
TURNICIDAE	<i>Turnix (Ortygodes) maculosus</i>	Red-Backed Button-Quail
TURNICIDAE	<i>Turnix pyrrhothorax</i>	Red-Chested Button-Quail
Freshwater wetland birds - As a general group identified by the UESAP		
ACROCEPHALIDAE	<i>Acrocephalus (Acrocephalus) australis</i>	Australian Reed Warbler
ANATIDAE	<i>Anas (Anas) platyrhynchos</i>	Mallard Duck
ANATIDAE	<i>Anas (Anas) superciliosa</i>	Pacific Black Duck
ANATIDAE	<i>Anas (Nettion) castanea</i>	Chestnut Teal
ANATIDAE	<i>Anas (Nettion) gracilis</i>	Grey Teal
ANATIDAE	<i>Anas (Spatula) rhynchotis</i>	Australasian Shoveler
ANATIDAE	<i>Anser anser</i>	Greylag Goose
ANATIDAE	<i>Aythya (Nyroca) australis</i>	Hardhead
ANATIDAE	<i>Biziura lobata</i>	Musk Duck
ANATIDAE	<i>Chenonetta jubata</i>	Australian Wood Duck
ANATIDAE	<i>Cygnus (Chenopsis) atratus</i>	Black Swan
ANATIDAE	<i>Cygnus (Cygnus) olor</i>	Mute Swan
ANATIDAE	<i>Dendrocygna (Dendrocygna) arcuata</i>	Wandering Whistling-Duck
ANATIDAE	<i>Dendrocygna (Leptotarsis) eytoni</i>	Grass (Plumed) Whistling Duck
ANATIDAE	<i>Malacorhynchus membranaceus</i>	Pink-Eared Duck
ANATIDAE	<i>Stictonetta naevosa</i>	Freckled Duck
ANATIDAE	<i>Tadorna (Casarca) tadornoides</i>	Australian Shelduck
ANATIDAE	<i>Tadorna (Radjah) radjah</i>	Rajah Shelduck
ANHINGIDAE	<i>Anhinga novaehollandiae</i>	Australasian Darter
ANSERANATIDAE	<i>Anseranas semipalmata</i>	Magpie Goose
ARDEIDAE	<i>Botaurus poiciloptilus</i>	Australasian Bittern
ARDEIDAE	<i>Butorides striatus</i>	Striated Heron
ARDEIDAE	<i>Egretta novaehollandiae</i>	White-Faced Heron
ARDEIDAE	<i>Ixobrychus minutus</i>	Little Bittern

Family	Species Name	Common Name
ARDEIDAE	<i>Nycticorax caledonicus</i>	Nankeen Night-Heron
CHARADRIIDAE	<i>Charadrius (Charadrius) bicinctus</i>	Banded Dotterel
CHARADRIIDAE	<i>Charadrius (Charadrius) ruficapillus</i>	Red-Capped Dotterel
CHARADRIIDAE	<i>Charadrius (Eupoda) australis</i>	Inland Plover
CHARADRIIDAE	<i>Elseyaornis melanops</i>	Black-Fronted Dotterel
CHARADRIIDAE	<i>Erythronyx cinctus</i>	Red-Kneed Dotterel
CHARADRIIDAE	<i>Pluvialis squatarola</i>	Grey Plover
CHARADRIIDAE	<i>Vanellus (Lobipluvia) miles</i>	Masked Plover
LARIDAE	<i>Chroicocephalus novaehollandiae</i>	Silver Gull
LARIDAE	<i>Larus novaehollandiae</i>	Silver Gull
LARIDAE	<i>Sternula albifrons</i>	Little Tern
LARIDAE	<i>Thalasseus bergii</i>	Crested Tern
MEGALURIDAE	<i>Megalurus gramineus</i>	Little Grassbird
PELECANIDAE	<i>Pelecanus conspicillatus</i>	Australian Pelican
PHALACROCORACIDAE	<i>Phalacrocorax (Phalacrocorax) carbo</i>	Great Cormorant
PHALACROCORACIDAE	<i>Phalacrocorax (Phalacrocorax) varius</i>	Pied Cormorant
PHALACROCORACIDAE	<i>Phalacrocorax melanoleucos</i>	Little Cormorant
PODICIPEDIDAE	<i>Poliiocephalus poliocephalus</i>	Hoary-Headed Grebe
PODICIPEDIDAE	<i>Tachybaptus novaehollandiae</i>	Australasian Grebe
RALLIDAE	<i>Fulica atra</i>	Eurasian Coot
RALLIDAE	<i>Gallinula (Gallinula) tenebrosa</i>	Dusky Moorhen
RALLIDAE	<i>Gallirallus philippensis</i>	Banded Rail
RALLIDAE	<i>Lewinia pectoralis</i>	Lewin's Rail
RALLIDAE	<i>Porphyrio (Porphyrio) porphyrio</i>	Purple Swamphe
RALLIDAE	<i>Porphyrio melanotus</i>	Pukeko
RALLIDAE	<i>Porzana (Porzana) fluminea</i>	Australian Spotted Crake
RALLIDAE	<i>Porzana (Porzana) pusilla</i>	Baillon's Crake
RALLIDAE	<i>Porzana (Porzana) tabuensis</i>	Spotless Crake
RECURVIROSTRIDAE	<i>Himantopus himantopus</i>	Australasian Pied Stilt
RECURVIROSTRIDAE	<i>Recurvirostra novaehollandiae</i>	Australian Red-Necked Avocet
ROSTRATULIDAE	<i>Rostratula australis</i>	Australian Painted Snipe
SCOLOPACIDAE	<i>Calidris (Ereunetes) ruficollis</i>	Red-Necked Stint
SCOLOPACIDAE	<i>Calidris (Erolia) acuminata</i>	Sharp-Tailed Sandpiper
SCOLOPACIDAE	<i>Calidris (Erolia) ferruginea</i>	Curlew Sandpiper
SCOLOPACIDAE	<i>Gallinago (Gallinago) hardwickii</i>	Latham's Snipe
SCOLOPACIDAE	<i>Limosa lapponica</i>	Bar-Tailed Godwit

Family	Species Name	Common Name
RALLIDAE	<i>Gallirallus philippensis</i>	Banded Rail
SCOLOPACIDAE	<i>Tringa (Rhyacophilus) stagnatilis</i>	Marsh Sandpiper
SULIDAE	<i>Morus serrator</i>	Australasian Gannet
THRESKIORNITHIDAE	<i>Platalea (Platalea) regia</i>	Royal Spoonbill
THRESKIORNITHIDAE	<i>Threskiornis molucca</i>	Australian White Ibis
THRESKIORNITHIDAE	<i>Threskiornis spinicollis</i>	Straw-Necked Ibis
Other bird species records		
ACANTHIZIDAE	<i>Gerygone levigaster</i>	Mangrove Gerygone
ACANTHIZIDAE	<i>Hylacola pyrrhopygia</i>	Chestnut-Rumped Heathwren
ACANTHIZIDAE	<i>Sericornis (Arfakornis) magnirostra</i>	Large-Billed Scrubwren
ACANTHIZIDAE	<i>Smicrornis brevirostris</i>	Weebill
ACCIPITRIDAE	<i>Accipiter (Leucospiza) fasciatus</i>	Brown Goshawk
ACCIPITRIDAE	<i>Accipiter (Leucospiza) novaehollandiae</i>	Grey Goshawk
ACCIPITRIDAE	<i>Accipiter (Paraspizias) cirrocephalus</i>	Collared Sparrowhawk
ACCIPITRIDAE	<i>Aquila (Uroaetus) audax</i>	Wedge-Tailed Eagle
ACCIPITRIDAE	<i>Aviceda (Aviceda) subcristata</i>	Pacific Baza
ACCIPITRIDAE	<i>Circus approximans</i>	Swamp Harrier
ACCIPITRIDAE	<i>Circus assimilis</i>	Spotted Harrier
ACCIPITRIDAE	<i>Elanus axillaris</i>	Black-Shouldered Kite
ACCIPITRIDAE	<i>Elanus scriptus</i>	Letter-Winged Kite
ACCIPITRIDAE	<i>Erythrotriorchis radiatus</i>	Red Goshawk
ACCIPITRIDAE	<i>Haliaeetus (Pontoaetus) leucogaster</i>	White-Bellied Sea-Eagle
ACCIPITRIDAE	<i>Haliastur indus</i>	Brahminy Kite
ACCIPITRIDAE	<i>Haliastur sphenurus</i>	Whistling Kite
ACCIPITRIDAE	<i>Hieraaetus (Hieraaetus) morphnoides</i>	Little Eagle
ACCIPITRIDAE	<i>Milvus migrans</i>	Black Kite
ACCIPITRIDAE	<i>Pandion cristatus</i>	Eastern Osprey
ACCIPITRIDAE	<i>Pandion haliaetus</i>	Osprey
AEGOTHELIDAE	<i>Aegotheles (Aegotheles) cristatus</i>	Australian Owlet-Nightjar
ALAUDIDAE	<i>Alauda arvensis</i>	Eurasian Skylark
ALAUDIDAE	<i>Mirafra (Mirafra) javanica</i>	Horsfield's Bushlark
ALCEDINIDAE	<i>Todiramphus (Cyanalcyon) pyrrhopygius</i>	Red-Backed Kingfisher
ANATIDAE	<i>Cereopsis novaehollandiae</i>	Cape Barren Goose
ANATIDAE	<i>Nettapus (Cheniscus) coromandelianus</i>	Cotton Pygmy-Goose
ANATIDAE	<i>Nettapus (Cheniscus) pulchellus</i>	Green Pygmy-Goose
ANATIDAE	<i>Oxyura australis</i>	Blue-Billed Duck

Family	Species Name	Common Name
ANATIDAE	<i>Tadorna variegata</i>	Paradise Shelduck
ANHINGIDAE	<i>Anhinga melanogaster</i>	Darter
ARDEIDAE	<i>Ardea (Ardea) pacifica</i>	White-Necked Heron
ARDEIDAE	<i>Ardea (Bubulcus) ibis</i>	Cattle Egret
ARDEIDAE	<i>Ardea (Casmerodius) modesta</i>	Eastern Great Egret
ARDEIDAE	<i>Ardea (Mesophoyx) intermedia</i>	Intermediate Egret
ARDEIDAE	<i>Ardea alba</i>	
ARDEIDAE	<i>Ardea cinerea</i>	Grey Heron
ARDEIDAE	<i>Egretta garzetta</i>	Little Egret
ARDEIDAE	<i>Egretta sacra</i>	Eastern Reef Egret
ARDEIDAE	<i>Ixobrychus dubius</i>	Australian Little Bittern
ARDEIDAE	<i>Ixobrychus flavicollis</i>	Black Bittern
ARTAMIDAE	<i>Strepera (Neostrepera) versicolor</i>	Grey Currawong
ARTAMIDAE	<i>Strepera (Strepera) fuliginosa</i>	Black Currawong
ARTAMIDAE	<i>Strepera (Strepera) graculina</i>	Pied Currawong
BURHINIDAE	<i>Burhinus (Burhinus) grallarius</i>	Bush Stone-Curlew
BURHINIDAE	<i>Esacus magnirostris</i>	Beach Stone-Curlew
CACATUIDAE	<i>Cacatua (Cacatua) galerita</i>	Sulphur-Crested Cockatoo
CACATUIDAE	<i>Callocephalon fimbriatum</i>	Gang-Gang Cockatoo
CACATUIDAE	<i>Calyptorhynchus (Calyptorhynchus) banksii</i>	Red-Tailed Black Cockatoo
CACATUIDAE	<i>Calyptorhynchus (Zanda) funereus</i>	Yellow-Tailed Black-Cockatoo
CACATUIDAE	<i>Lophochroa leadbeateri</i>	Major Mitchell's Cockatoo
CACATUIDAE	<i>Nymphicus hollandicus</i>	Cockatiel
CACATUIDAE	<i>Probosciger aterrimus</i>	Palm Cockatoo
CAMPEPHAGIDAE	<i>Coracina (Coracina) papuensis</i>	White-Bellied Cuckoo-Shrike
CAMPEPHAGIDAE	<i>Coracina (Edolisoma) tenuirostris</i>	Cicadabird
CAMPEPHAGIDAE	<i>Coracina (Paragraucalus) lineata</i>	Barred Cuckoo-Shrike
CAMPEPHAGIDAE	<i>Lalage (Lalage) sueurii</i>	White-Winged Triller
CAPRIMULGIDAE	<i>Eurostopodus (Eurostopodus) mystacalis</i>	White-Throated Nightjar
CASUARIIDAE	<i>Dromaius novaehollandiae</i>	Emu
CENTROPODIDAE	<i>Centropus (Polophilus) phasianinus</i>	Pheasant Coucal
CHARADRIIDAE	<i>Charadrius (Charadrius) leschenaultii</i>	Greater Sand Plover
CHARADRIIDAE	<i>Charadrius (Charadrius) mongolus</i>	Mongolian Dotterel
CHARADRIIDAE	<i>Charadrius (Eupoda) veredus</i>	Oriental Dotterel
CHARADRIIDAE	<i>Charadrius hiaticula</i>	Ringed Plover
CHARADRIIDAE	<i>Pluvialis dominica</i>	American Golden Plover

Family	Species Name	Common Name
CHARADRIIDAE	<i>Pluvialis fulva</i>	Pacific Golden Plover
CHARADRIIDAE	<i>Vanellus (Lobivanellus) tricolor</i>	Banded Lapwing
CICONIIDAE	<i>Ephippiorhynchus (Ephippiorhynchus) asiaticus</i>	Black-Necked Stork
COLUMBIDAE	<i>Columba (Janthoenas) leucomela</i>	White-Headed Pigeon
COLUMBIDAE	<i>Leucosarcia melanoleuca</i>	Wonga Pigeon
COLUMBIDAE	<i>Lopholaimus antarcticus</i>	Topknot Pigeon
COLUMBIDAE	<i>Ptilinopus (Ptilinopus) regina</i>	Rose-Crowned Fruit-Dove
CORCORACIDAE	<i>Corcorax melanorhamphos</i>	White-Winged Chough
CORCORACIDAE	<i>Struthidea cinerea</i>	Apostlebird
CORVIDAE	<i>Corvus bennetti</i>	Little Crow
CHARADRIIDAE	<i>Charadrius (Charadrius) leschenaultii</i>	Greater Sand Plover
CORVIDAE	<i>Corvus coronoides</i>	Australian Raven
CORVIDAE	<i>Corvus mellori</i>	Little Raven
CORVIDAE	<i>Corvus orru</i>	Torresian Crow
CORVIDAE	<i>Corvus tasmanicus</i>	Forest Raven
CUCULIDAE	<i>Cacomantis (Vidgenia) pallidus</i>	Pallid Cuckoo
CUCULIDAE	<i>Chrysococcyx osculans</i>	Black-Eared Cuckoo
CUCULIDAE	<i>Cuculus (Cuculus) optatus</i>	Oriental Cuckoo
CUCULIDAE	<i>Eudynamys orientalis</i>	Pacific Koel
CUCULIDAE	<i>Scythrops novaehollandiae</i>	Channel-Billed Cuckoo
DASYORNITHIDAE	<i>Dasyornis (Dasyornis) brachypterus</i>	Eastern Bristlebird
DIOMEDEIDAE	<i>Diomedea antipodensis</i>	Antipodean Albatross
DIOMEDEIDAE	<i>Diomedea epomophora</i>	Southern Royal Albatross
DIOMEDEIDAE	<i>Diomedea exulans</i>	Wandering Albatross
DIOMEDEIDAE	<i>Phoebastria fusca</i>	Sooty Albatross
DIOMEDEIDAE	<i>Thalassarche bulleri</i>	Buller's Albatross
DIOMEDEIDAE	<i>Thalassarche cauta</i>	Shy Albatross
DIOMEDEIDAE	<i>Thalassarche chlororhynchos</i>	Yellow-Nosed Albatross
DIOMEDEIDAE	<i>Thalassarche chrysostoma</i>	Grey-Headed Albatross
DIOMEDEIDAE	<i>Thalassarche impavida</i>	Campbell Albatross
DIOMEDEIDAE	<i>Thalassarche melanophrys</i>	Black-Browed Albatross
DIOMEDEIDAE	<i>Thalassarche salvini</i>	Salvin's Albatross
ESTRILDIDAE	<i>Lonchura (Munia) castaneothorax</i>	Chestnut-Breasted Munia
ESTRILDIDAE	<i>Lonchura (Munia) malacca</i>	
FALCONIDAE	<i>Falco (Falco) longipennis</i>	Australian Hobby
FALCONIDAE	<i>Falco (Hierofalco) peregrinus</i>	Peregrine Falcon

Family	Species Name	Common Name
FALCONIDAE	<i>Falco (Ieracidea) berigora</i>	Brown Falcon
FALCONIDAE	<i>Falco (Tinnunculus) cenchroides</i>	Nankeen Kestrel
FREGATIDAE	<i>Fregata ariel</i>	Lesser Frigatebird
GLAREOLIDAE	<i>Glareola (Glareola) maldivarum</i>	Oriental Pratincole
GRUIDAE	<i>Grus (Mathewsia) rubicunda</i>	Brolga
HAEMATOPODIDAE	<i>Haematopus finschi</i>	South Island Pied Oystercatcher
HAEMATOPODIDAE	<i>Haematopus fuliginosus</i>	Sooty Oystercatcher
HAEMATOPODIDAE	<i>Haematopus longirostris</i>	Pied Oystercatcher
JACANIDAE	<i>Irediparra gallinacea</i>	Comb-Crested Jacana
LARIDAE	<i>Anous minutus</i>	Black Noddy
LARIDAE	<i>Anous stolidus</i>	Common Noddy
LARIDAE	<i>Chlidonias (Chlidonias) leucopterus</i>	White-Winged Black Tern
LARIDAE	<i>Chlidonias (Pelodes) hybrida</i>	Whiskered Tern
LARIDAE	<i>Gelochelidon nilotica</i>	Gull-Billed Tern
LARIDAE	<i>Gygis alba</i>	White Tern
LARIDAE	<i>Hydroprogne caspia</i>	Caspian Tern
LARIDAE	<i>Larus (Larus) dominicanus</i>	Kelp Gull
LARIDAE	<i>Larus (Larus) pacificus</i>	Pacific Gull
LARIDAE	<i>Larus pipixcan</i>	Franklin's Gull
LARIDAE	<i>Onychoprion fuscata</i>	Sooty Tern
LARIDAE	<i>Procelsterna cerulea</i>	Grey Ternlet
LARIDAE	<i>Sterna (Sterna) hirundo</i>	Common Tern
LARIDAE	<i>Sterna (Sterna) paradisaea</i>	Arctic Tern
LARIDAE	<i>Sternula nereis</i>	Fairy Tern
MALURIDAE	<i>Malurus (Musciparus) melanocephalus</i>	Red-Backed Fairy-Wren
MEGALURIDAE	<i>Cincloramphus (Cincloramphus) cruralis</i>	Brown Songlark
MEGALURIDAE	<i>Cincloramphus (Maclellannia) mathewsi</i>	Rufous Songlark
MEGAPODIIDAE	<i>Alectura lathamii</i>	Australian Brush-Turkey
MELIPHAGIDAE	<i>Anthochaera (Anellobia) lunulata</i>	Western Wattlebird
MELIPHAGIDAE	<i>Epthianura (Aurepthianura) aurifrons</i>	Orange Chat
MELIPHAGIDAE	<i>Philemon (Tropidorhynchus) corniculatus</i>	Noisy Friarbird
MENURIDAE	<i>Menura (Menura) novaehollandiae</i>	Superb Lyrebird
MONARCHIDAE	<i>Myiagra (Myiagra) cyanooleuca</i>	Satin Flycatcher
MONARCHIDAE	<i>Symposiachrus trivirgatus</i>	Spectacled Monarch
NUMIDIDAE	<i>Numida meleagris</i>	Helmeted Guinea fowl
OCEANITIDAE	<i>Oceanites oceanicus</i>	Wilson's Storm-Petrel

Family	Species Name	Common Name
OCEANITIDAE	<i>Pelagodroma marina</i>	White-Faced Storm-Petrel
OTIDIDAE	<i>Ardeotis australis</i>	Australian Bustard
PEDIONOMIDAE	<i>Pedionomus torquatus</i>	Plains-Wanderer
PHAETHONTIDAE	<i>Phaethon lepturus</i>	White-Tailed Tropicbird
PHAETHONTIDAE	<i>Phaethon rubricauda</i>	Red-Tailed Tropicbird
PHALACROCORACIDAE	<i>Phalacrocorax (Phalacrocorax) sulcirostris</i>	Little Black Cormorant
PHALACROCORACIDAE	<i>Phalacrocorax melanoleucos</i>	Little Pied Cormorant
PHASIANIDAE	<i>Coturnix (Coturnix) pectoralis</i>	Stubble Quail
PHASIANIDAE	<i>Excalfactoria chinensis</i>	King Quail
PHASIANIDAE	<i>Gallus gallus</i>	Red Junglefowl
PHASIANIDAE	<i>Pavo cristatus</i>	Indian Peafowl
PHASIANIDAE	<i>Phasianus colchicus</i>	Common Pheasant
PODARGIDAE	<i>Podargus strigoides</i>	Tawny Frogmouth
PODICIPEDIDAE	<i>Podiceps cristatus</i>	Great Crested Grebe
PROCELLARIIDAE	<i>Ardenna bulleri</i>	Buller's Shearwater
PROCELLARIIDAE	<i>Ardenna carneipes</i>	Flesh-Footed Shearwater
PROCELLARIIDAE	<i>Ardenna grisea</i>	Sooty Shearwater
PROCELLARIIDAE	<i>Ardenna pacifica</i>	Wedge-Tailed Shearwater
PROCELLARIIDAE	<i>Ardenna tenuirostris</i>	Short-Tailed Shearwater
PROCELLARIIDAE	<i>Calonectris leucomelas</i>	Streaked Shearwater
PROCELLARIIDAE	<i>Daption capense</i>	Cape Petrel
PROCELLARIIDAE	<i>Fulmarus glacialis</i>	Southern Fulmar
PROCELLARIIDAE	<i>Halobaena caerulea</i>	Blue Petrel
PROCELLARIIDAE	<i>Lugensa brevirostris</i>	Kerguelen Petrel
PROCELLARIIDAE	<i>Macronectes giganteus</i>	Southern Giant-Petrel
PROCELLARIIDAE	<i>Macronectes halli</i>	Northern Giant-Petrel
PROCELLARIIDAE	<i>Pachyptila belcheri</i>	Slender-Billed Prion
PROCELLARIIDAE	<i>Pachyptila desolata</i>	Antarctic Prion
PROCELLARIIDAE	<i>Pachyptila salvini</i>	Salvin's Prion
PROCELLARIIDAE	<i>Pachyptila turtur</i>	Fairy Prion
PROCELLARIIDAE	<i>Pachyptila vittata</i>	Broad-Billed Prion
PROCELLARIIDAE	<i>Pelecanoides urinatrix</i>	Common Diving-Petrel
PROCELLARIIDAE	<i>Procellaria (Procellaria) aequinoctialis</i>	White-Chinned Petrel
PROCELLARIIDAE	<i>Procellaria (Procellaria) parkinsoni</i>	Black Petrel
PROCELLARIIDAE	<i>Pseudobulweria rostrata</i>	Tahiti Petrel
PROCELLARIIDAE	<i>Pterodroma (Aestrelata) cervicalis</i>	White-Necked Petrel

Family	Species Name	Common Name
PROCELLARIIDAE	<i>Pterodroma (Cookilaria) leucoptera</i>	Gould's Petrel
PROCELLARIIDAE	<i>Pterodroma (Cookilaria) nigripennis</i>	Black-Winged Petrel
PROCELLARIIDAE	<i>Pterodroma (Hallstroma) neglecta</i>	Kermadec Petrel
PROCELLARIIDAE	<i>Pterodroma (Pterodroma) lessonii</i>	White-Headed Petrel
PROCELLARIIDAE	<i>Pterodroma (Pterodroma) macroptera</i>	Great-Winged Petrel
PROCELLARIIDAE	<i>Pterodroma (Pterodroma) solandri</i>	Providence Petrel
PROCELLARIIDAE	<i>Pterodroma cookii</i>	Cook's Petrel
PROCELLARIIDAE	<i>Pterodroma inexpectata</i>	Mottled Petrel
PROCELLARIIDAE	<i>Pterodroma mollis</i>	Soft-Plumaged Petrel
PROCELLARIIDAE	<i>Puffinus (Puffinus) assimilis</i>	Little Shearwater
PROCELLARIIDAE	<i>Puffinus (Puffinus) gavia</i>	Fluttering Shearwater
PROCELLARIIDAE	<i>Puffinus (Puffinus) huttoni</i>	Hutton's Shearwater
PROCELLARIIDAE	<i>Puffinus (Puffinus) lherminieri</i>	Audubon's Shearwater
PROCELLARIIDAE	<i>Puffinus griseus</i>	Sooty Shearwater
PROCELLARIIDAE	<i>Puffinus tenuirostris</i>	Short-Tailed Shearwater
PSITTACIDAE	<i>Aprosmictus erythropterus</i>	Red-Winged Parrot
PSITTACIDAE	<i>Barnardius zonarius</i>	Australian Ringneck
PSITTACIDAE	<i>Cyanoramphus novaezelandiae</i>	Red-Crowned Parakeet
PSITTACIDAE	<i>Neophema (Neonanodes) chrysogaster</i>	Orange-Bellied Parrot
PSITTACIDAE	<i>Neophema (Neonanodes) chrysostoma</i>	Blue-Winged Parrot
PSITTACIDAE	<i>Northiella haematogaster</i>	Bluebonnet
PSITTACIDAE	<i>Pezoporus wallicus</i>	Ground Parrot
PTILONORHYNCHIDAE	<i>Ailuroedus crassirostris</i>	Green Catbird
PTILONORHYNCHIDAE	<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird
PTILONORHYNCHIDAE	<i>Scenopoeetes dentirostris</i>	Tooth-Billed Bowerbird
PTILONORHYNCHIDAE	<i>Sericulus (Sericulus) chrysocephalus</i>	Regent Bowerbird
RALLIDAE	<i>Crex crex</i>	Corncrake
RALLIDAE	<i>Rallus pectoralis</i>	Lewin's Rail
RALLIDAE	<i>Tribonyx ventralis</i>	Black-Tailed Native-Hen
RECURVIROSTRIDAE	<i>Cladorhynchus leucocephalus</i>	Banded Stilt
ROSTRATULIDAE	<i>Rostratula benghalensis</i>	Painted Snipe
SCOLOPACIDAE	<i>Actitis hypoleucos</i>	Common Sandpiper
SCOLOPACIDAE	<i>Arenaria interpres</i>	Ruddy Turnstone
SCOLOPACIDAE	<i>Bartramia longicauda</i>	Upland Sandpiper
SCOLOPACIDAE	<i>Bartramia longicauda</i>	Upland Sandpiper
SCOLOPACIDAE	<i>Calidris (Calidris) canutus</i>	Lesser Knot

Family	Species Name	Common Name
SCOLOPACIDAE	<i>Calidris (Calidris) tenuirostris</i>	Great Knot
SCOLOPACIDAE	<i>Calidris (Crocethia) alba</i>	Sanderling
SCOLOPACIDAE	<i>Calidris (Erolia) melanotos</i>	Pectoral Sandpiper
SCOLOPACIDAE	<i>Calidris bairdii</i>	Baird's Sandpiper
SCOLOPACIDAE	<i>Limicola falcinellus</i>	Broad-Billed Sandpiper
SCOLOPACIDAE	<i>Limosa limosa</i>	Black-Tailed Godwit
SCOLOPACIDAE	<i>Numenius (Mesoscolopax) minutus</i>	Little Whimbrel
SCOLOPACIDAE	<i>Numenius (Numenius) madagascariensis</i>	Eastern Curlew
SCOLOPACIDAE	<i>Numenius (Phaeopus) phaeopus</i>	Whimbrel
SCOLOPACIDAE	<i>Tringa (Glottis) nebularia</i>	Common Greenshank
SCOLOPACIDAE	<i>Tringa (Heteroscelus) brevipes</i>	Siberian (Grey-Tailed) Tattler
SCOLOPACIDAE	<i>Tringa (Heteroscelus) incana</i>	Wandering Tattler
SCOLOPACIDAE	<i>Tringa (Rhyacophilus) glareola</i>	Wood Sandpiper
SCOLOPACIDAE	<i>Tryngites subruficollis</i>	Buff-Breasted Sandpiper
SCOLOPACIDAE	<i>Xenus cinereus</i>	Terek Sandpiper
SPHENISCIDAE	<i>Eudyptula minor</i>	Little Penguin
STERCORARIIDAE	<i>Catharacta skua</i>	Great Skua
STERCORARIIDAE	<i>Stercorarius antarcticus</i>	Brown Skua
STERCORARIIDAE	<i>Stercorarius longicaudus</i>	Long-Tailed Jaeger
STERCORARIIDAE	<i>Stercorarius maccormicki</i>	South Polar Skua
STERCORARIIDAE	<i>Stercorarius parasiticus</i>	Arctic Jaeger
STERCORARIIDAE	<i>Stercorarius pomarinus</i>	Pomarine Jaeger
STRIGIDAE	<i>Ninox (Hieracoglaux) connivens</i>	Barking Owl
STRIGIDAE	<i>Ninox (Ninox) novaeseelandiae</i>	Southern Boobook
STRIGIDAE	<i>Ninox (Rhabdoglaux) strenua</i>	Powerful Owl
SULIDAE	<i>Sula dactylatra</i>	Masked Booby
SULIDAE	<i>Sula leucogaster</i>	Brown Booby
SULIDAE	<i>Sula sula</i>	Red-Footed Booby
THRESKIORNITHIDAE	<i>Platalea (Platibis) flavipes</i>	Yellow-Billed Spoonbill
THRESKIORNITHIDAE	<i>Plegadis falcinellus</i>	Glossy Ibis
TURDIDAE	<i>Turdus philomelos</i>	Song Thrush
TURDIDAE	<i>Zoothera (Zoothera) heinei</i>	Russet-Tailed Thrush
TURDIDAE	<i>Zoothera (Zoothera) lunulata</i>	Bassian Thrush
TYTONIDAE	<i>Tyto (Megastrix) novaehollandiae</i>	Masked Owl
TYTONIDAE	<i>Tyto (Megastrix) tenebricosa</i>	Sooty Owl
TYTONIDAE	<i>Tyto (Tyto) javanica</i>	Eastern Barn Owl

Family	Species Name	Common Name
TYTONIDAE	<i>Tyto (Tyto) longimembris</i>	Eastern Grass Owl
TYTONIDAE	<i>Tyto alba</i>	Barn Owl
Microbats - As a general group identified by the UESAP		
MOLOSSIDAE	<i>Austronomus australis</i>	White-Striped Freetail-Bat
MOLOSSIDAE	<i>Mormopterus (Micronomus) norfolkensis</i>	Eastern Freetail-Bat
MOLOSSIDAE	<i>Mormopterus (Ozimops) planiceps</i>	South-Eastern Free-Tailed Bat
MOLOSSIDAE	<i>Mormopterus (Ozimops) ridei</i>	Ride's Free-Tailed Bat
VESPERTILIONIDAE	<i>Chalinolobus morio</i>	Chocolate Wattled Bat
VESPERTILIONIDAE	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle
VESPERTILIONIDAE	<i>Nyctophilus geoffroyi</i>	Lesser Long-Eared Bat
VESPERTILIONIDAE	<i>Nyctophilus gouldi</i>	Gould's Long-Eared Bat
VESPERTILIONIDAE	<i>Scoteanax rueppellii</i>	Greater Broad-Nosed Bat
VESPERTILIONIDAE	<i>Scotorepens greyii</i>	Little Broad-Nosed Bat
VESPERTILIONIDAE	<i>Scotorepens orion</i>	Eastern Broad-Nosed Bat
VESPERTILIONIDAE	<i>Vespadelus darlingtoni</i>	Large Forest Bat
VESPERTILIONIDAE	<i>Vespadelus regulus</i>	Southern Forest Bat
VESPERTILIONIDAE	<i>Vespadelus vulturnus</i>	Little Forest Bat
Reptiles - As a general group identified by the UESAP		
ACROCHORDIDAE	<i>Acrochordus arafurae</i>	Arafura Filesnake
AGAMIDAE	<i>Amphibolurus muricatus</i>	Jacky Lizard
AGAMIDAE	<i>Chlamydosaurus kingii</i>	Frilled Lizard
AGAMIDAE	<i>Ctenophorus caudicinctus</i>	Ring-Tailed Dragon
AGAMIDAE	<i>Ctenophorus decresii</i>	Tawny Dragon
AGAMIDAE	<i>Ctenophorus nuchalis</i>	Central Netted Dragon
AGAMIDAE	<i>Ctenophorus vadrappa</i>	Red-Barred Dragon
AGAMIDAE	<i>Intellagama lesueurii</i>	Water Dragon
AGAMIDAE	<i>Moloch horridus</i>	Thorny Devil
AGAMIDAE	<i>Pogona barbata</i>	Bearded Dragon
AGAMIDAE	<i>Pogona henrylawsoni</i>	Downs Bearded Dragon
AGAMIDAE	<i>Rankinia diemensis</i>	Mountain Dragon
CARETTOCHELYIDAE	<i>Carettochelys insculpta</i>	Pig-Nosed Turtle
CARPHODACTYLIDAE	<i>Phyllurus platurus</i>	Broad-Tailed Gecko
CARPHODACTYLIDAE	<i>Saltuarius swaini</i>	Southern Leaf-Tailed Gecko
CARPHODACTYLIDAE	<i>Underwoodisaurus milii</i>	Thick-Tailed Gecko
CHELIDAE	<i>Chelodina (Chelodina) longicollis</i>	Eastern Long-Necked Turtle
CHELIDAE	<i>Chelodina (Macrochelodina) oblonga</i>	

Family	Species Name	Common Name
CHELIDAE	<i>Emydura macquarii</i>	Murray Turtle
COLUBRIDAE	<i>Boiga irregularis</i>	Brown Tree Snake
COLUBRIDAE	<i>Dendrelaphis punctulatus</i>	Common Tree Snake
CROCODYLIDAE	<i>Crocodylus johnstoni</i>	Freshwater Crocodile
CROCODYLIDAE	<i>Crocodylus porosus</i>	Saltwater Crocodile
DIPLODACTYLIDAE	<i>Amalosia lesueurii</i>	Lesueur's Velvet Gecko
DIPLODACTYLIDAE	<i>Diplodactylus vittatus</i>	Wood Gecko
DIPLODACTYLIDAE	<i>Nebulifera robusta</i>	Robust Velvet Gecko
ELAPIDAE	<i>Acanthophis antarcticus</i>	Common Death Adder
ELAPIDAE	<i>Aipysurus laevis</i>	Golden Seasnake
ELAPIDAE	<i>Austrelaps superbus</i>	Lowland Copperhead
ELAPIDAE	<i>Cacophis squamulosus</i>	Golden-Crowned Snake
ELAPIDAE	<i>Cryptophis nigrescens</i>	Eastern Small-Eyed Snake
ELAPIDAE	<i>Demansia psammophis</i>	Yellow-Faced Whip Snake
ELAPIDAE	<i>Denisonia devisi</i>	De Vis' Banded Snake
ELAPIDAE	<i>Drysdalia rhodogaster</i>	Mustard-Bellied Snake
ELAPIDAE	<i>Furina diadema</i>	Red-Naped Snake
ELAPIDAE	<i>Hemiaspis signata</i>	Black-Bellied Swamp Snake
ELAPIDAE	<i>Hydrophis elegans</i>	Elegant Seasnake
ELAPIDAE	<i>Hydrophis platurus</i>	Yellow-Bellied Seasnake
ELAPIDAE	<i>Hydrophis stokesii</i>	Stokes's Seasnake
ELAPIDAE	<i>Laticauda colubrina</i>	Wide-Faced Sea Krait
ELAPIDAE	<i>Notechis scutatus</i>	Tiger Snake
ELAPIDAE	<i>Oxyuranus microlepidotus</i>	Fierce Snake
ELAPIDAE	<i>Oxyuranus scutellatus</i>	Taipan
ELAPIDAE	<i>Parasuta dwyeri</i>	Dwyer's Snake
ELAPIDAE	<i>Pseudechis porphyriacus</i>	Red-Bellied Black Snake
ELAPIDAE	<i>Pseudonaja textilis</i>	Eastern Brown Snake
ELAPIDAE	<i>Vermicella annulata</i>	Bandy-Bandy
EMYDIDAE	<i>Trachemys scripta</i>	Common Slider
GEKKONIDAE	<i>Gehyra variegata</i>	Tree Dtella
GEKKONIDAE	<i>Hemidactylus frenatus</i>	House Gecko
PYGOPODIDAE	<i>Lialis burtonis</i>	Burton's Snake-Lizard
PYGOPODIDAE	<i>Pygopus lepidopodus</i>	Common Scaly-Foot
PYGOPODIDAE	<i>Pygopus schraderi</i>	Eastern Hooded Scaly-Foot
PYTHONIDAE	<i>Aspidites melanocephalus</i>	Black-Headed Python

Family	Species Name	Common Name
PYTHONIDAE	<i>Aspidites ramsayi</i>	Woma
PYTHONIDAE	<i>Morelia spilota</i>	Carpet Python
SCINCIDAE	<i>Acritoscincus platynotus</i>	Red-Throated Skink
SCINCIDAE	<i>Acritoscincus trilineatus</i>	Western Three-Lined Skink
SCINCIDAE	<i>Concinnia tenuis</i>	Barred-Sided Skink
SCINCIDAE	<i>Cryptoblepharus pulcher</i>	Elegant Snake-Eyed Skink
SCINCIDAE	<i>Cryptoblepharus virgatus</i>	Striped Snake-Eyed Skink
SCINCIDAE	<i>Ctenotus labillardieri</i>	Common South-West Ctenotus
SCINCIDAE	<i>Ctenotus robustus</i>	Robust Ctenotus
SCINCIDAE	<i>Ctenotus taeniolatus</i>	Copper-Tailed Skink
SCINCIDAE	<i>Cyclodomorphus gerrardii</i>	Pink-Tongued Lizard
SCINCIDAE	<i>Cyclodomorphus michaeli</i>	Mainland She-Oak Skink
SCINCIDAE	<i>Egernia cunninghami</i>	Cunningham's Skink
SCINCIDAE	<i>Egernia kingii</i>	King's Skink
SCINCIDAE	<i>Eulamprus heatwolei</i>	Yellow-Bellied Water-Skink
SCINCIDAE	<i>Eulamprus quoyii</i>	Eastern Water-Skink
SCINCIDAE	<i>Hemiergis decresiensis</i>	Three-Toed Earless Skink
SCINCIDAE	<i>Lampropholis amacula</i>	Friendly Sunskink
SCINCIDAE	<i>Lampropholis delicata</i>	Dark-Flecked Garden Sunskink
SCINCIDAE	<i>Lampropholis guichenoti</i>	Pale-Flecked Garden Sunskink
SCINCIDAE	<i>Liopholis striata</i>	Nocturnal Desert-Skink
SCINCIDAE	<i>Liopholis whitii</i>	White's Skink
SCINCIDAE	<i>Pseudemoia entrecasteauxii</i>	Tussock Cool-Skink
SCINCIDAE	<i>Pseudemoia spenceri</i>	Trunk-Climbing Cool-Skink
SCINCIDAE	<i>Saiphos equalis</i>	Three-Toed Skink
SCINCIDAE	<i>Saproscincus mustelinus</i>	Weasel Skink
SCINCIDAE	<i>Saproscincus spectabilis</i>	Pale-Lipped Shadeskink
SCINCIDAE	<i>Tiliqua nigrolutea</i>	Blotched Blue-Tongue
SCINCIDAE	<i>Tiliqua rugosa</i>	Shingle-Back
SCINCIDAE	<i>Tiliqua scincoides</i>	Eastern Blue-Tongue
TYPHLOPIDAE	<i>Anilius bituberculatus</i>	Prong-Snouted Blind Snake
TYPHLOPIDAE	<i>Anilius nigrescens</i>	Blackish Blind Snake
TYPHLOPIDAE	<i>Anilius polygrammicus</i>	North-Eastern Blind Snake
TYPHLOPIDAE	<i>Anilius proximus</i>	Proximus Blind Snake
VARANIDAE	<i>Varanus varius</i>	Lace Monitor

Appendix C: Significance Assessment (EPBC Act)

Pteropus poliocephalus (Grey-headed Flying-fox)

The Grey-headed Flying-fox (GHFF) is listed as a *vulnerable* species under the EPBC Act.

This species utilises a wide variety of habitats (including disturbed areas) for foraging, and have been recorded travelling long distances on feeding forays. Fruits and flowering plants of a wide variety of species are the main food source. The species roosts in large ‘camps’ of up to 200 000 individuals. Camps are usually formed close to water and along gullies, however, the species has been known to form camps in urban areas (DECCW 2009).

Grey-headed Flying-fox has not been recorded within the Development Site but is known from the locality within close proximity to the Development Site (OEH 2017b). The vegetation within the Development Site provides marginal potential foraging habitat in the form of 2 *Ficus* spp., 1 *Angophora costata*, 10 juvenile *Lophostemon confertus*, and a stand of Fig trees which overhand the southern boundary of the Development Site (total of 0.19 ha). It is considered likely that this species would use the site on occasion for foraging purposes. According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018).

Criterion a: lead to a long-term decrease in the size of an important population of a species

No important populations have been recorded within the Development Site. The site does not support key source populations for breeding or dispersal, populations necessary for maintaining genetic diversity, or populations near the limit of the species range. According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018).

Criterion b: reduce the area of occupancy of an important population

No important populations have been recorded within the Development Site. Therefore the proposed works would not reduce the area of occupancy of an important population.

Criterion c: fragment an existing important population into two or more populations

No important populations have been recorded within the Development Site. The potential foraging habitat to be removed is marginal relative to adjacent potential habitat within the region. A dense stand of *Ficus* spp. occurs adjacent to the south-eastern boundary of the Development Site and canopy slightly overhangs the boundary, and is more likely to facilitate connectivity in the region for this highly mobile species.

Whilst the potential foraging habitat may contribute as a 'stepping stone' for this highly mobile species to other more substantial foraging habitat sites, this function is unlikely to be significantly inhibited by the proposed works.

Furthermore, this species has been recorded in urban environments and is likely to continue to forage adjacent to the site and across the broader locality.

Criterion d: adversely affect habitat critical to the survival of a species

The potential foraging habitat to be removed includes 2 *Ficus* spp., 1 *Angophora costata*, 10 juvenile *Lophostemon confertus*, and trimming of the canopy of Fig trees which overhand the southern boundary of the Development Site (total of 0.19 ha).

These individual trees represent a negligible amount of potential foraging resources in the locality. Potential foraging habitat will persist adjacent to the Development Site in Wentworth Park, and across the locality, and that this species is highly mobile, it is considered unlikely that the works would adversely affect habitat critical to the survival of this species.

Criterion e: disrupt the breeding cycle of an important population

According to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018). Thus, no important population of GHFF occurs within the Development Site, and the proposed works is unlikely to disrupt the breeding cycle of an important population.

Criterion f: Adversely affect habitat critical to the survival of a species; modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The potential foraging habitat to be removed includes 2 *Ficus* spp., 1 *Angophora costata* and 10 juvenile *Lophostemon confertus*, and trimming of Fig stand canopy on southern boundary of Development Site. This potential foraging habitat is marginal and of low quality relative to adjacent potential foraging habitat, including a dense stand of *Ficus* spp. occurs adjacent to the south-eastern boundary of the Development Site, in Wentworth Park.

Given the small amount of potential foraging habitat to be removed, that potential foraging habitat will persist adjacent to the Development Site and across the locality, and that this species is highly mobile, it is unlikely that the habitat to be removed would cause the species to decline.

Furthermore, according to the National Flying-fox Monitoring Program, no GHFF camps currently occur or have ever been recorded within the Development Site (DotE 2018). The nearest historic camp occurred approximately 2 km to the east of the Development Site, within the Royal Botanic Gardens, although no GHFF camps currently occur there. The nearest active GHFF camp occurs approximately 5 km to the south-east of the Development Site, within Centennial Park (DotE 2018). Therefore, no known GHFF roosting camps for this species will be impacted by the proposed works.

Criterion g: Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

The proposed works will not result in the establishment of an invasive species that is harmful to GHFF.

Criterion h: Introduce disease that may cause the species to decline

The proposed works will not result in the introduction of a disease that is harmful to the GHFF.

Criterion i: Interfere substantially with the recovery of the species

Considering the above factors, the proposed works will not interfere substantially with the recovery of the species.

Conclusion

In consideration of the above, the proposed works are not considered likely to have a significant impact on the Grey-headed Flying-fox, and therefore, an EPBC Act referral is not required.

