



Australian Government

**Department of Infrastructure, Transport,
Regional Development, Communications and the Arts**

Western Sydney International (Nancy-Bird Walton) Airport – Airspace and flight path design

Draft Environmental Impact Statement

Technical paper 8: Biodiversity

September 2023



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Terms and abbreviations

Term/abbreviation	Definition
AGL	Above Ground Level
Airport Plan	Western Sydney Airport Plan
Apia Convention	Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific
ATM	Air Traffic Movement
ATSB	Air Traffic Safety Board
BC Act	<i>Biodiversity Conservation Act 2017</i>
BIO Map	Biodiversity Investment Map
BSR	Biodiversity Sensitive Receiver
BWU	Bankstown Airport code
CASA	Civil Aviation Safety Authority
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Cth	Commonwealth of Australia
DAWE	Department of Agriculture, Water and the Environment (now DCCEEW)
dB(A)	A-weighted decibel
DCCEEW	Department of Climate Change Energy the Environment and Water
Defence	Department of Defence
DITRDCA	Department of Infrastructure, Transport, Regional Development, Communications and the Arts
DPE	Department of Planning and Environment
EAP	Environmental Assessment Package
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EIS	Environmental Impact Statement
GBMA	Greater Blue Mountains Area (World Heritage and National Heritage Place)
Ha	Hectare
IBRA	Interim Biogeographic Regionalisation of Australia
ICAO	International Civil Aviation Organisation
km	kilometre
KSA	Sydney (Kingsford Smith) Airport
KTP	Key Threatening Process

Term/abbreviation	Definition
m	metre
MAP	Million Annual Passengers
MNES	Matters of National Environmental Significance
NASF	National Airports Safeguarding Framework
NSW	New South Wales
NOS	National Operating Standard (Environmental Management of Changes to Aircraft Operations Standard (Airservices Australia 2022)
PAAM	Plan for Aviation Airspace Management
PCTs	Plant Community Types
RAAF	Royal Australian Air Force
RMO	Runway Mode of Operation
PMST	EPBC Act Protected Matters Search Tool
SIA	Significant Impact Assessments
SID	Standard Instrument Departure
STAR	Standard Instrument Arrivals
VFR	Visual Flight Rules
WSI	Western Sydney International (Nancy-Bird Walton) Airport

Executive summary

WSP was engaged to assess the biodiversity impact components of the Environmental Assessment Package for the Western Sydney International (Nancy-Bird Walton) Airport Airspace and Flight Path Design in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The assessment considers the Airport Site relative to the land uses in the vicinity as some biodiversity values are likely to use the whole landscape interchangeably, transiting to and from the various habitats and potentially impacting on operational airspace in the form of wildlife strikes. Furthermore, potential impacts associated with the Airspace and Flight Path Design such as aircraft noise, vibration, air and water quality, increased light and fuel jettisoning may have indirect impacts on biodiversity values which utilise airspace within the region.

The assessment identified that the key impact associated with the Airspace and Flight Path Design on biodiversity values was wildlife strike leading to mortality. Impacts associated with wildlife strike have been described and assessed in detail in Technical paper 4: Hazard and risk (Technical paper 4) and Technical Paper 5: Wildlife strike risk (Technical paper 5) and as part of the Environmental Assessment Package. There will be no other direct impacts on biodiversity values.

All indirect impacts were identified as being negligible or are considered to be unlikely to significantly modify species behaviours or use of habitats that are locally or regionally available.

Overall, the assessment concludes that any potential impacts of the Airspace and Flight Path Design on biodiversity entities protected under the EPBC Act, including biodiversity attributes associated with the Greater Blue Mountains Area (GBMA), are unlikely to be significant.

The analysis of the Airspace and Flight Path Design against Australia's obligations under international agreements conducted identified that the proposed action will not breach or raise inconsistencies with any of Australia's obligations under the various biodiversity related international agreements to which it is a signatory.

The assessment also identified that the Airspace and Flight Path Design is unlikely to compound impacts on biodiversity associated with the 2019-2020 bushfires. The 'Black Summer' bushfires of spring and summer 2019–2020 were catastrophic and unprecedented which lead to large impacts on biodiversity within the GBMA and surrounds. Given the nature and extent of the project's impacts it is considered unlikely to compound impacts on biodiversity affected by these bushfires as there will be no direct on-ground impacts and impacts will largely be limited to occasional wildlife strike. It is unlikely that the project would affect immediate or long-term post-fire recovery within areas affected by the Black Summer bushfires.

Technical paper 5 provides mitigation measures in relation to wildlife management. These include off-airport requirements to mitigate wildlife strike risk for aircraft operating in and out of WSI in land use planning instruments, along with recommendations and guidelines detailed in NASF Guideline C. Other mitigation measures and design safeguards detailed in the other technical papers for the project are also likely to further minimise impacts on biodiversity values. Of key importance is the implementation of monitoring programs which underpin all wildlife hazard mitigation and airport safeguarding and a bird and bat monitoring program is therefore proposed (refer to Technical paper 4). Robust standardised monitoring programs that regularly collect meaningful data will inform decisions relating to wildlife management programs, identify emerging risks, and determine wildlife activity trends over time.

Residual impacts associated with the proposed Airspace and Flight Path Design are unable to be reasonably avoided or mitigated due to other airport flight paths requirements and the design specifications required to safely operate aircraft associated with the Western Sydney International (Nancy-Bird Walton) Airport. Although there will be residual impacts, these impacts are unlikely to have a significant impact on threatened biodiversity entities or biodiversity attributes associated with the GBMA – protected under the EPBC Act. As such, in accordance with the EPBC Act Environmental Offset Policy the proposed action is not obligated to provide offsets for impacts associated with the project, although it is important to note that Western Sydney International (Nancy-Bird Walton) Airport project is already providing substantial and regionally important on-ground biodiversity offsets and conservation measures.

Chapter 1 Introduction

This chapter provides an overview of the proposed airspace and flight path design for the Western Sydney International (Nancy-Bird Walton) Airport (WSI). This includes the background to WSI and its accompanying airspace and flight path design (the project) which impacts on the existing Sydney Basin airspace. It describes the key features and objectives of the project and identifies the purpose and structure of this technical paper.

1.1 Western Sydney International (Nancy-Bird Walton) Airport

1.1.1 Background

In 2016, the then Australian Minister for Urban Infrastructure approved development for a new airport for Western Sydney, now known as the Western Sydney International (Nancy-Bird Walton) Airport (WSI), under the *Airports Act 1996* (Commonwealth). The site of the new airport (the Airport Site) covers approximately 1,780 hectares (ha) at Badgerys Creek, as shown in Figure 1.1. The Airport Site is located within the Liverpool local government area (LGA).

Following the finalisation of the *Western Sydney Airport – Environmental Impact Statement* (2016 EIS), the Western Sydney Airport – Airport Plan (Airport Plan) was approved in December 2016. The Airport Plan authorised the construction and operation of the Stage 1 Development. It also set the requirements for the further development and assessment of the preliminary airspace design for WSI. The Australian Government has committed to developing and delivering WSI by the end of 2026.

The 2016 approval provided for the on-ground development of Stage 1 Development of WSI (a single runway and terminal facility capable of initially handling up to 10 million passengers per year) utilising indicative ‘proof of concept’ flight paths. These flight paths, presented in the 2016 EIS demonstrated that WSI could operate safely and efficiently in the Sydney Basin. WSI will be a 24-hour international airport and will:

- cater for ongoing growth in demand for air travel, particularly in the rapidly expanding Western Sydney region, as well as providing additional aviation capacity in the Sydney region more broadly
- provide a more accessible and convenient international and domestic airport facility for the large and growing population of Western Sydney
- provide long term economic and employment opportunities in the surrounding area
- accelerate the development of critical infrastructure and urban development.

The Australian Government has committed to developing and delivering WSI by the end of 2026.

The design and assessment process for the next phase of the airspace design (referred to as the preliminary airspace design) was set by Condition 16 of the Airport Plan. This included the future airspace design principles and the establishment of an Expert Steering Group. Key to these design principles was the need to minimise the impact on the community and other airspace users while maximising safety, efficiency and capacity of WSI and the Sydney Basin airspace. The airspace design must also meet the requirements of Airservices Australia and civil aviation safety regulatory standards.

Led by the Australian Government Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), the Expert Steering Group has developed the preliminary flight paths and airspace arrangements for WSI (the project). The preliminary airspace design is the subject of the Draft EIS and this assessment on the impacts to human health.

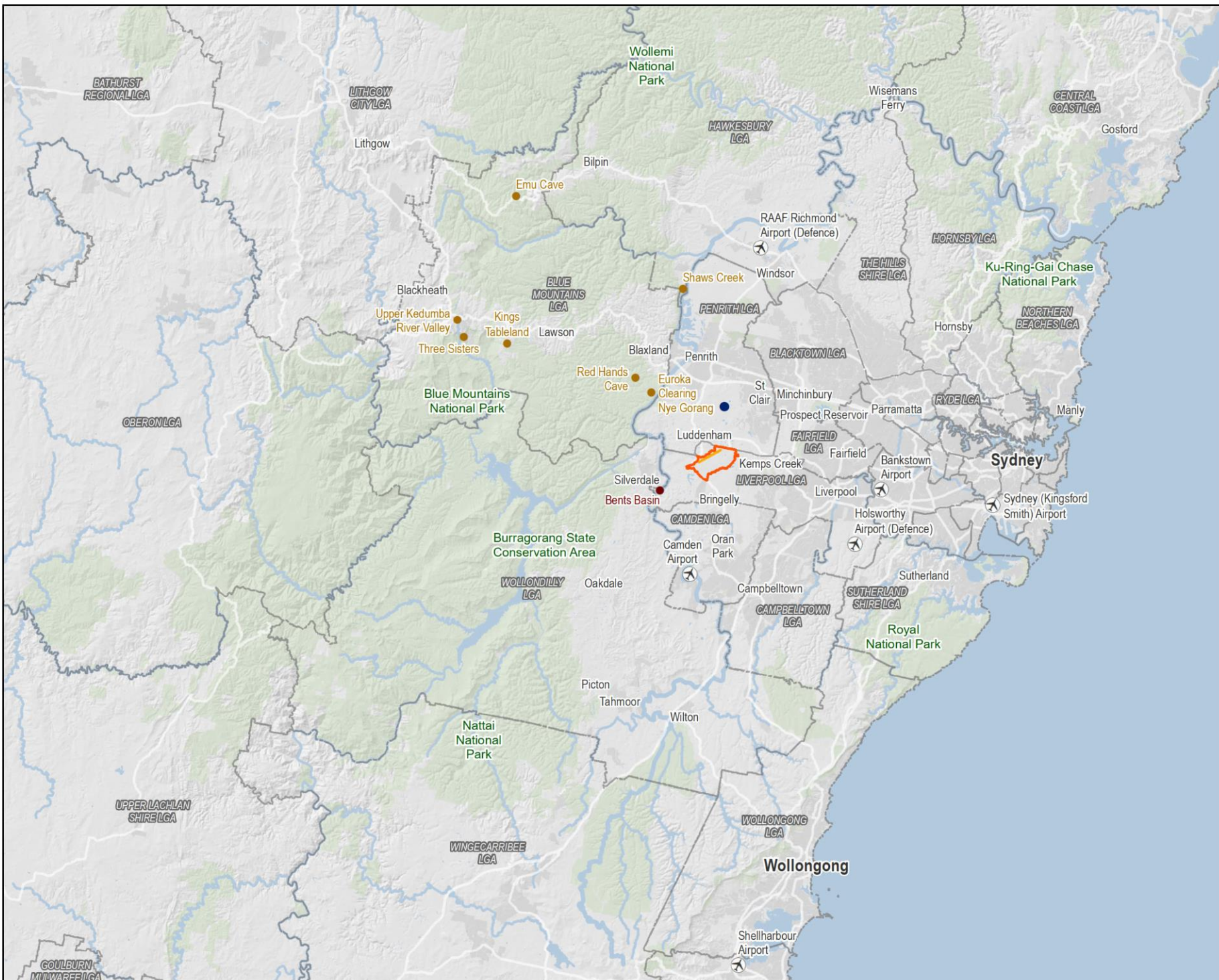


Figure 1.1

Regional Context of the Western Sydney International (Nancy-Bird Walton) Airport

- Legend**
- WSI Runway
 - Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - State local government area (LGA)
 - Orchard Hills Defence Establishment
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance



Coordinate system: GDA 1994 NSW Lambert
 Scale ratio correct when printed at A4
 1:750,000 Date: 27/06/2023

Data sources: - DTED, DCS, Geoscience Australia, Esri, HERE, Garmin, IG, OpenStreetMap contributors, and the GIS user community, Airbus, USGS, NOAA, NASA, CIGAR, NCEAS, NLS, GE, NMA, Geonames, Esri, USA, USI and the GIS User Community

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1.1.2 The Airport

1.1.2.1 Stage 1 Development

The Stage 1 Development of WSI has been approved and is limited to single runway operations. It will handle up to 10 million annual passengers and around 81,000 air traffic movements per year by 2033 including freight operations (a movement being a single aircraft arrival or departure). Single runway operations are expected to reach capacity at around 37 million annual passengers and around 226,000 air traffic movements per year in 2055.

The approval provides for the construction of the aerodrome (including the single runway), terminal and landside layout and facilities, and ground infrastructure such as the instrument landing systems and high intensity approach lighting arrays. Construction of the Stage 1 Development commenced in 2018. Figure 1.2 shows location of the single runway within the Airport Site.

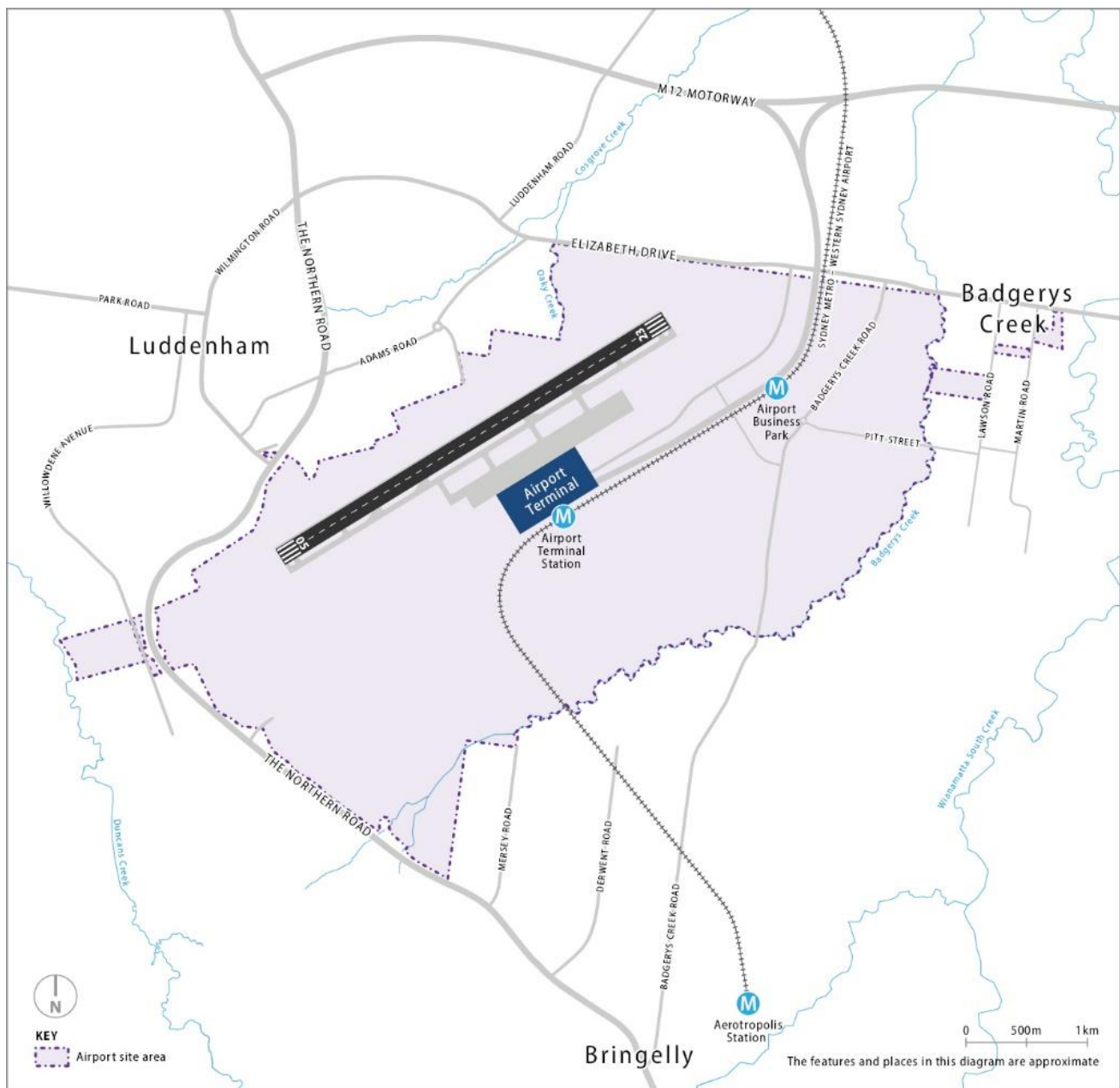


Figure 1.2 Western Sydney International Stage 1 Development

1.2 The project

The project consists of the development and implementation of proposed flight paths and a new controlled airspace volume for single runway operations at WSI. The project also includes the associated air traffic control and noise abatement procedures for eventual use by civil, commercial passenger and freight aircraft. The airspace and flight paths would be managed by the Air Navigation Services Provider (ANSP), Airservices Australia.

The project involves flight paths for all-weather operations on Runway 05 and Runway 23 during the day (5:30 am to 11 pm) and night (11 pm to 5:30 am), as well as head-to-head Reciprocal Runway Operations (RRO) during night-time periods (when meteorological conditions and low flight demand permit) to minimise the number of residences subjected to potential noise disturbance.

The flight paths differ during the day and night. Flight paths at night differ to take advantage of the additional airspace capacity offered when the curfew for Sydney (Kingsford Smith) Airport is in force. The proposed flight paths are depicted in Figure 1.3 to Figure 1.7.

The project does not include any physical infrastructure or construction work.

1.2.1 Objectives of the project

The overall objectives for WSI are to:

- improve access to aviation services for Western Sydney
- resolve the long-term aviation capacity constraints in the Sydney Basin
- maximise the economic benefit for Australia by maximising the value of the Airport as a national asset
- optimise the benefit of WSI for employment and investment in Western Sydney
- deliver sound financial, environmental and social outcomes for the Australian community.

The project will assist in achieving these overall objectives as it would enable single runway operations to commence at WSI through the introduction of new flight paths and a new controlled airspace volume.

The Western Sydney Airport Plan sets out 12 airspace design principles that the design process is required to follow. The principles were informed by and reflect community and industry feedback on the 2016 EIS. The principles seek to maximise safety, efficiency and capacity, while minimising impacts on the community and the environment. For further information on the airspace design principles refer to Chapter 6 (Project development and alternatives) of the Draft EIS.

1.3 Purpose of this Technical Paper

WSP was engaged to assess the biodiversity impact components of the Environmental Assessment Package (EAP) for the project. The delegate for the Australian Environment Minister determined on 28 January 2022 that the project would be assessed by way of an EIS and in doing so issued the EIS Guidelines, and the Department is the nominated proponent for the project.

Consideration of the Airport Site relative to the land uses in the vicinity is important as some biodiversity values are likely to use the whole landscape interchangeably, transiting to and from the various habitats and potentially impacting on operational airspace in the form of wildlife strikes.

Furthermore, potential impacts associated with the Airspace and Flight Path Design such as aircraft noise, vibration, air quality, water quality and increased light may have indirect impacts on biodiversity values which utilise airspace within the region.

Impacts relating to wildlife strike and noise on biodiversity have been largely assessed in the 'Technical Paper – Wildlife strike risk' (Technical paper 5).

This report has been prepared to address the remaining biodiversity matters set out in the EIS Guidelines (Reference: EPBC 2022/9143), identifying and assessing biodiversity values with potential to be impacted by the Airspace and Flight Path Design for the WSI. This includes an assessment of impacts to biodiversity entities listed under the EPBC Act including threatened species, threatened ecological communities, migratory species and biological attributes of World Heritage Properties.

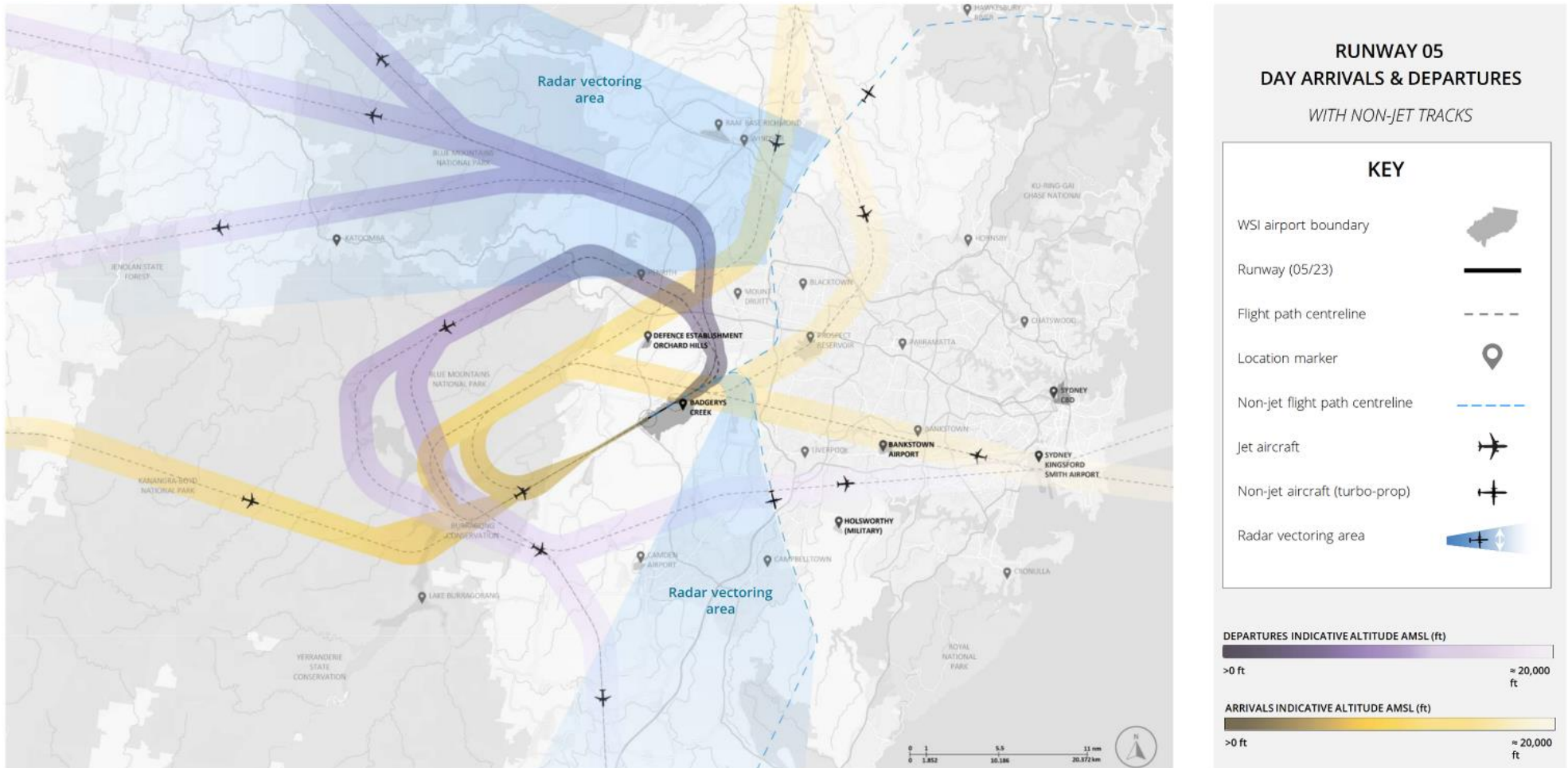


Figure 1.3 Runway 05 – Day arrivals and departures – flight paths

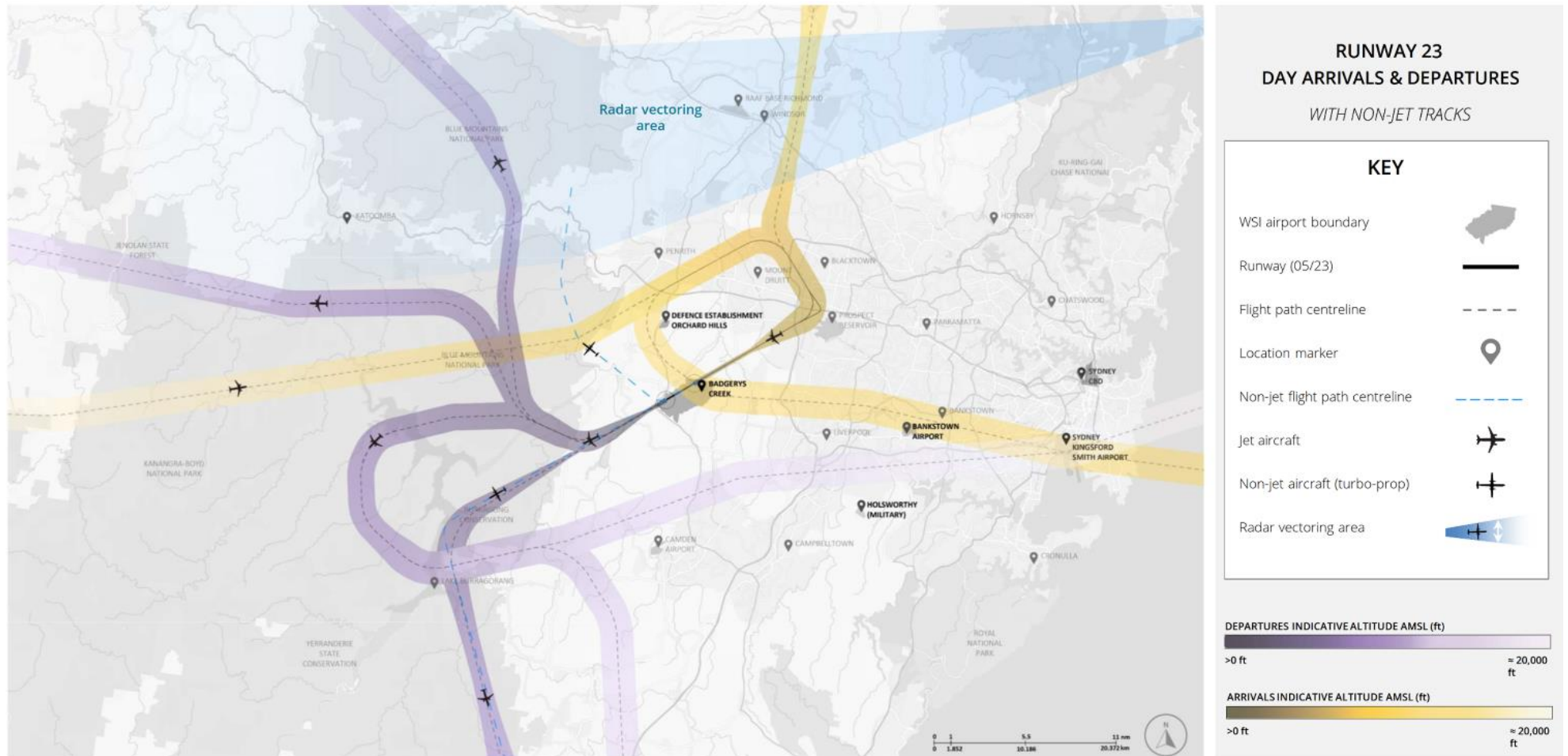


Figure 1.4 Runway 23 – Day arrivals and departures – flights paths

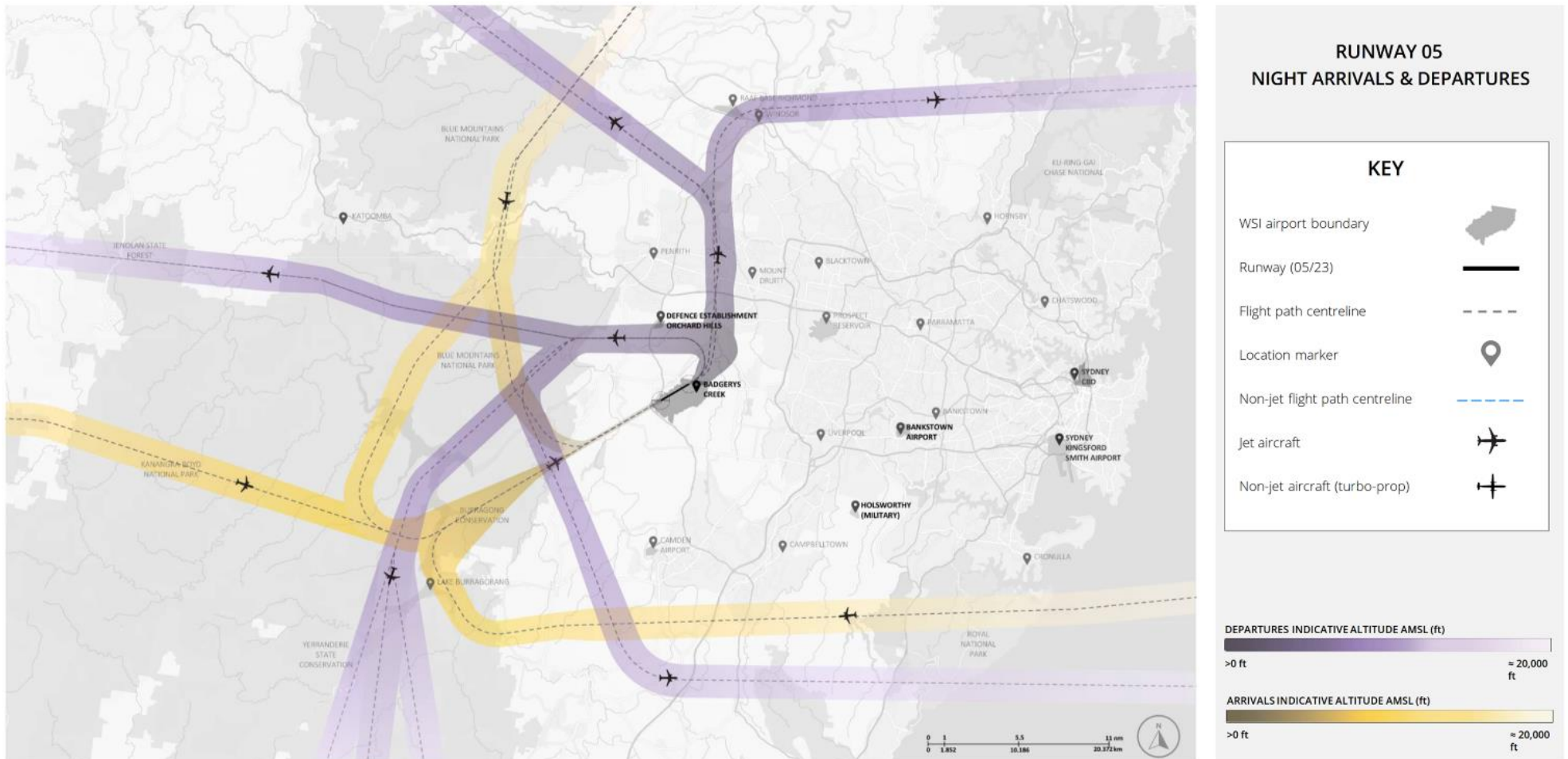


Figure 1.5 Runway 05 – Night arrivals and departures – flight paths



Figure 1.6 Runway 23 – Night arrivals and departures – flight paths



Figure 1.7 RRO – night arrivals and departures – flight paths

Specifically, the key objectives of this report are to:

- identify key biodiversity values, including entities listed as Matters of National Environmental Significance (MNES) under the EPBC Act, which have potential to occur within the study area and be impacted upon by the project
- identify and describe suitable and preferred habitat that supports biodiversity values relevant to the project
- assess the direct and indirect impacts of the project on biodiversity values relevant to the project
- assess the cumulative impacts of the project on biodiversity values relevant to the project
- assess whether the project will have any significant impacts on biodiversity values in accordance with the Australian Government’s Significant impact guidelines:
 - ‘Matters of National Environmental Significance, Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999’ (Significant impact guidelines 1.1) (Department of the Environment 2013)
 - ‘Actions on, or impacting upon Commonwealth land, and actions by Commonwealth agencies, Significant impact guidelines 1.2 Environment Protection and Biodiversity Conservation Act 1999’ (Significant impact guidelines 1.2) (Department of Sustainability Environment Water Population and Communities 2013).
- describe alternative options considered to avoid and minimise impacts on biodiversity values
- recommend mitigation measures to assist in further minimising impacts to biodiversity values
- determine potential biodiversity offset requirements in accordance with the EPBC Act Environment Offsets Policy (Department of Sustainability Environment Water Population and Communities 2012).

The assessment requirements relating to biodiversity specified in the EIS Guidelines are summarised in Table 1.1. Table 1.1 also identified where each requirement has been addressed within this or other technical papers prepared as part of the project’s EAP.

Table 1.1 Biodiversity assessment requirements (EPBC 2022/9143)

Identifier	Summary of requirements	Where requirement is addressed
6 Description of the environment	<p>The EIS must include a description of the environment, land uses and character of the proposal site and the surrounding areas that may be affected by the action. It must include the following:</p> <ul style="list-style-type: none"> a. Identify known historical records of fauna and undertake an assessment to identify species and suitable habitat in the area. Identify species relevant to impacts of the action and provide: <ul style="list-style-type: none"> i. A description of species characteristics, preferred habitat, and any state or commonwealth threatened or migratory listing status; ii. The location, relative to the action; iii. The amount and quality of habitat, breeding areas, movement corridors or flight paths, threats and the regional context; and iv. Detailed mapping and present details on the scope, timing/effort (survey season/s) and methodology for studies and surveys used to provide information on the relevant fauna. This includes details of how best practice survey guidelines have been applied and for commonwealth listed threatened species, how surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements. g. A description of the environment in all areas of potential impact, including all components of the environment as defined in Section 528 of the EPBC Act: <ul style="list-style-type: none"> a. ecosystems and their constituent parts, including people and communities. 	<p>Technical paper 5, Chapter 5 Existing biodiversity values and Appendix B Nationally listed threatened species, ecological communities and Migratory species preferred habitat of this report.</p>

Identifier	Summary of requirements	Where requirement is addressed
7.1 Describe and assess relevant impacts	<p>The EIS must include a description of all of the relevant impacts of the action (including direct, indirect, facilitated and cumulative), including the magnitude, duration and frequency of the impacts. Relevant impacts are impacts that the action will have or is likely to have.</p> <p>a. Provide the following information:</p> <ol style="list-style-type: none"> i. a detailed assessment of the nature and extent of the likely short-term and long-term relevant impacts; ii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible; iii. analysis of the significance of the relevant impacts; and iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts, including details of the scope, timing (survey season/s) and methodology for studies or surveys used to provide information. <p>b. The EIS should identify and address facilitated impacts on operations at Sydney (Kingsford Smith) Airport and other aerodromes and aviation activities in the region as a direct result of arrival and departure paths into and out of the Airport and associated airspace control zone.</p> <p>c. The EIS should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity).</p>	<p>Technical paper 5, Technical paper 14: Greater Blue Mountains World Heritage Area (Technical paper 14) and the following sections of this report:</p> <ul style="list-style-type: none"> • Chapter 6 Facilitated changes • Chapter 7 Impact assessment, including design scenarios • Chapter 8 Cumulative impacts • Chapter 9 Significant impact assessments • Appendix C Significant impact assessments.
7.2.1 Impacts to fauna	<p>Detailed assessment of any likely impact that the proposed action may facilitate (at the local, regional, state and national scale) including but not limited to impacts from noise, lights and risk of bird and bat strike.</p> <p>Include quantification of the habitat area (in hectares) to be impacted as well as quantification of impacted individuals and populations, where feasible.</p> <p>Consider potential compounding impacts of the proposal and the 2019-2020 bushfires, including consideration of impacts of the proposal to potential post-bushfire recovery.</p>	As above for EIS Guidelines 7.1 Describe and assess relevant impacts.
7.2.2 Impacts to fauna	Assessment of the likely duration of impacts and a discussion of whether any impacts are likely to be unknown, unpredictable or irreversible.	As above for EIS Guidelines 7.1 Describe and assess relevant impacts.
7.2.3 Impacts to fauna	Discussion on whether fauna would still continue to use the Airport and surrounding areas on a long-term basis.	As above for EIS Guidelines 7.1 Describe and assess relevant impacts.

Identifier	Summary of requirements	Where requirement is addressed
7.2.4 Impacts to fauna	<p>For EPBC listed fauna include a justification, with supporting evidence, how the proposed action will not be inconsistent with:</p> <ul style="list-style-type: none"> • Australia’s obligations under the Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and • a recovery plan or threat abatement plan. 	Section 7.5 of this report.
7.2.5 Impacts to fauna	<p>For EPBC listed migratory species, justify, with supporting evidence, how the proposed action will not be inconsistent with Australia’s obligations under:</p> <ul style="list-style-type: none"> • The Bonn Convention • China-Australia Migratory Bird Agreement • Japan-Australia Migratory Bird Agreement • International Agreement – Republic of Korea-Australia Migratory Bird Agreement • any international agreement approved under subsection 209(4) of the EPBC Act. 	Section 7.6 of this report.
7.3.1 Heritage	<p>Detailed assessment of any likely impact that the proposed action may facilitate on the natural, cultural, heritage and socio-economic values of the Greater Blue Mountains Area (GBMA), and any other World Heritage properties or National Heritage places identified as relevant to the impacts of the proposed action.</p> <p>Include explicit assessment against the Outstanding Universal Value, including the integrity of the property. This should be based on (but is not limited to) the following:</p> <ul style="list-style-type: none"> • impacts to biological attributes of the GBMA. 	Addressed in Technical paper 14 and Section 7.7 of this report.
7.3.3 Heritage	<p>Assessment of impacts to any places in the area surrounding the airport with heritage value as a component of the whole of the environment, with reference to consultation undertaken to identify values and their importance to the community.</p>	Section 4.5, Section 5.2 and Chapter 7 Impact assessment, including design scenarios of this report. Also addressed in Chapter 9 (Community and stakeholder engagement) and Chapter 17 (Heritage) of the Draft EIS.
8 Proposed safeguards and mitigation measures	<p>The EIS must provide information on proposed safeguards and mitigation measures to deal with the relevant impacts of the action including those required by other Commonwealth, State and local government approvals.</p> <p>Specific and detailed descriptions of proposed measures must be provided and substantiated, based on best available practices and must include a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action.</p>	Proposed safeguards and mitigation measures relating to biodiversity detailed in Technical paper 5 and Chapter 10 Management and mitigation measures of this report.

Identifier	Summary of requirements	Where requirement is addressed
9 Offsets and compensatory measures	<ul style="list-style-type: none"> a. The EIS must provide details of the likely residual impacts upon a matter protected by a controlling provision after the proposed avoidance and mitigation measures have been taken into account. This includes: <ul style="list-style-type: none"> i. the reasons why avoidance or mitigation of impacts may not be reasonably achieved; and ii. quantification of the extent and scope of significant residual impacts. b. The EIS must include details of any measures proposed to compensate for residual significant impacts associated with the project, as well as an analysis of how the offset meets the requirements of the department’s Environmental Offsets Policy October 2012 (EPBC Act Offset Policy). 	<p>Offset and compensatory measures relating to biodiversity are detailed in Technical paper 5 and Chapter 10 Management and mitigation measures of this report.</p>

Chapter 2 Legislation

2.1 Commonwealth legislation

2.1.1 *Environment Protection and Biodiversity Conservation Act 1999*

The EPBC Act provides the national framework for protecting and managing nationally (and internationally) important flora and fauna, ecological communities and heritage places (including World Heritage) that are defined under the EPBC Act as MNES. In particular, the EPBC Act is Australia's main legislative instrument for implementing its obligations under the World Heritage Convention. The EPBC Act also confers jurisdiction over actions that have the potential to make a significant impact on the environment where the actions affect Commonwealth land or are undertaken on behalf of Commonwealth agencies.

Under Section 160 of the EPBC Act, an Australian agency (or employee) must obtain and consider advice from the Australian Environment Minister before a plan for aviation airspace management is adopted or implemented where the aircraft operations will have or is likely to have a significant impact on the environment. The preliminary airspace design for the project is a plan for aviation airspace management within the meaning of the EPBC Act.

A referral was made under Section 161 of the EPBC Act by the Department, Airservices Australia and CASA in 2021 (EPBC 2022/9143). The delegate for the Australian Environment Minister determined on 28 January 2022 that the project would be assessed by way of an EIS and in doing so issued the EIS Guidelines, and the Department is the nominated proponent for the project.

In accordance with the EPBC Act and EIS Guidelines, the EIS requires an assessment of impacts on biodiversity to provide an understanding of the nature, extent and significance of potential impacts on the environment associated with the project.

2.1.2 Impacts on MNES

MNES biodiversity entities considered and assessed in this report against the Significant impact guidelines 1.1 include:

- nationally threatened flora and fauna species
- nationally threatened ecological communities
- species listed under international agreements including:
 - Japan-Australia Migratory Bird Agreement (JAMBA)
 - China-Australia Migratory Bird Agreement (CAMBA)
 - Korea-Australia Migratory Bird Agreement (ROKAMBA)
 - Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
 - Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention)
 - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- wetlands of international importance listed under the Ramsar Convention
- biodiversity attributes contained within World Heritage Properties (WHP).

2.1.3 Impacts on whole of the environment

The assessment of disturbance or impacts that the project has on the whole of the environment was guided by Significant impact guidelines 1.2. In relation to biodiversity, the Significant Impact Guidelines 1.2 provide criteria to assess the significance of an impact on plants and animals.

This consideration has been incorporated into the determination of the significance criteria for this assessment, so that any change associated with the project that would substantially alter the biodiversity values would be deemed as a potential significant impact.

Appendix A of the Significant Impact Guidelines 1.2 includes a list of questions to assist in identifying the environmental context, in this case, the vegetation and fauna species of the biodiversity study area. For example:

- ‘What general vegetation types and vegetation species are present?’
- ‘What animal species are present and what are their characteristics?’

These questions are answered in the description of the existing environment (refer to Chapter 5), and in the impact assessment (refer to Chapter 7).

Appendix A of the Significant Impact Guidelines 1.2 also identifies issues to be considered in relation to heritage values, including: ‘Will the action impact on heritage places or items which are very rare or have special value?’. This requirement will be partially considered in this assessment, in Section 1.1, about impacts to Greater Blue Mountains Area (GBMA) WHP biodiversity values.

2.1.4 EPBC Act Part 13 Permit

If a proposed action occurring on Commonwealth land may impact a listed threatened species, ecological community, migratory species or marine species, regardless of whether that impact is significant or not, a permit may be required under Part 13 of the EPBC Act.

A Part 13 Permit was applied for and approved as part of the Stage 1 development (E2017-0138), subject to conditions of approval. Although the permit focuses on direct impacts, the 2016 EIS also considered airspace impacts based on indicative flight paths available at the time of preparation.

Potential impacts on biodiversity relating to the WSI Airport Airspace and Flight Path Design are considered to be consistent with those assessed as part of the 2016 EIS and as such the EPBC Act Part 13 Permit (E2017-0138) is considered adequate to address impacts associated the project.

2.2 NSW legislation

2.2.1 Biodiversity Conservation Act 2016

Certified airports in NSW can lethally control hazardous native wildlife (by means of shooting by authorised shooters) for the purpose of aircraft hazard reduction. Specific permit conditions vary for each airport, and usually include the requirement to report activities on a regular basis relating to species and numbers culled. Breeding disruption and lethal control can only occur under a Licence to Harm Protected Animal under the *Biodiversity Conservation Act 2016* (BC Act), issued by the Department of Planning and Environment (Environment, Energy and Science) (DPE), unless the target species is categorised as introduced.

2.2.2 *Environmental Planning and Assessment Act 1979*

Institutes the state's planning system and describes the Ministerial Directions under Section 9.1. The Ministerial Directions that relate to safeguarding aviation and the Western Sydney Aerotropolis include:

- Direction 3.5 Development Near Regulated Airports and Defence Airports
- Direction 7.8 Implementation of Western Sydney Aerotropolis Interim Land Use and Infrastructure Plan.

2.2.3 *Damage by Aircraft Act 1952*

Describes 'unlimited liability' to aircraft operators in the event of property damage/destruction or personal injury/loss of life by an aircraft or part thereof. In worst case situations following a significant strike, aircraft operators may seek to clarify if aerodrome operators, and even land users in the vicinity of airports, showed adequate due diligence in their responsibility to safeguard operations against wildlife strikes.

2.2.4 *State Environmental Planning Policy (Resilience and Hazards) 2021*

On the 1 March 2022 the State Environmental Planning Policy (Coastal Management) 2018 was repealed and consolidated into the State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP). The aim of the Resilience and Hazard SEPP is to promote a coordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the NSW *Coastal Management Act 2016*.

Coastal wetlands and proximity area for coastal wetlands are identified on the (Resilience and Hazards SEPP) Coastal Wetlands and Littoral Rainforests Area Map. These areas were used to identify potential suitable habitat for MNES biodiversity entities as part of this assessment.

2.3 Guidelines and standards

Other guidelines and standards relevant to the assessment of biodiversity values used to inform this report include:

- National Airports Safeguarding Framework (NASF) *Managing the Risk of Wildlife Strikes in the Vicinity of Airports* – provides guidelines to land users and planners regarding the management of wildlife hazards.
- International Civil Aviation Organisation (ICAO) Annex 14, Volume 1 (Aerodrome Design and Operation); ICAO Airport Services Manual Doc. 9184: Part 2 Land Use and Environmental Control; ICAO Airport Services Manual Doc. 9137: Airport Services Manual Part 3, Wildlife Control and Reduction (ICAO Guidelines) – all relate to the wildlife management responsibilities of airports.
- Environmental Management of Changes to Aircraft Operations standard (NOS) - AA-NOS-ENV2.100 Version 16: Effective 08 March 2022) (Airservices Australia 2022) – prescribes the requirements for environmental impact assessment of changes to aircraft operations, including criteria for assessing the significance of impacts to biodiversity sensitive receptors (BSRs) as a result of a change in aircraft overflights.

Chapter 3 Description of significance criteria

Under the EPBC Act a significant impact is defined as an impact which is important, notable, or of consequence, having regard to its context or intensity. Determining whether an impact will be significant depends on a variety of factors, chiefly the sensitivity, value and quality of the factor being impacted and the intensity duration, magnitude and geographic extent of the impact (Department of the Environment 2013).

Significant impact criteria are detailed in the following documents:

- MNES Significant impact guideline 1.1 (Department of the Environment 2013)
- Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2 (Department of Sustainability Environment Water Population and Communities 2013).

3.1 Likelihood of a significant impact

An action is considered likely to have a significant impact if there is a real or not remote chance or possibility of a significant impact.

3.2 Severity of impact

A set of impact severity assessment criteria were developed taking into consideration the EPBC Act Significant Impact Assessment documents listed above to identify and evaluate the scale, intensity, timing, duration and frequency of the project's impacts on biodiversity. The severity criteria were aligned to an impact order of magnitude which acted as a threshold to assist in determining whether the project was likely to have a significant impact on a biodiversity value (whether on MNES or the environment as a whole).

For the purposes of this assessment impacts with a major impact magnitude were considered to have a significant impact. A description of the significance criteria used for this assessment is provided in Table 3.1.

Table 3.1 Severity assessment criteria for assessing impacts on biodiversity

Severity	Description
Major	Detectable adverse impacts considered likely to result in a significant impact on a biodiversity value in accordance with the Significant Impact Guidelines 1.1 and 1.2. These impacts could include a potential decline of a population and/or reduction in an area of occupancy such that it would affect a species status under the EPBC Act or International Agreements. These impacts tend to be permanent, or irreversible or otherwise long-term or of high intensity.
High	Detectable adverse impact on a biodiversity value protected under state, federal or international legislation/agreements that is not considered to be significant in accordance with the Significant Impact Guidelines. These impacts tend to be permanent, or otherwise medium to long-term of high intensity.
Moderate	Detectable adverse impact on a biodiversity value not protected under state, federal or internal legislation/agreements that is not considered to be potentially significant at a local, regional, state or federal level. These impacts tend to range from short to long-term and be of medium intensity. Nevertheless, the cumulative effects of such impacts may lead to an increase in the overall effect upon a biodiversity value.
Minor	Minor adverse impacts that are detectable at a local scale only but not significant at a regional, state or federal level. These impacts tend to be short term or of low intensity.
Negligible	No or minimal adverse impacts on biodiversity values within the normal bounds of variation or below levels of detection that are not significant at a local, regional, state or federal level. These impacts tend to be short term, temporary or of low intensity.

Chapter 4 Methodology

4.1 Previous assessment

In April 2014, the Australian Government announced that Badgerys Creek would be the location of a new airport for Western Sydney. The development of a greenfield airport at Badgerys Creek was the subject of an EIS which was finalised in 2016. In December 2017 the then Minister for the Environment under section 96B(3)(a)(ii) of the Commonwealth *Airports Act 1996* (Airports Act) gave notice to the Minister for Infrastructure, stating that specified conditions and provisions should be included in the Stage 1 Airport Plan for the purpose of protecting the environment. Development approval for Stage 1 of WSI including the airfield, terminal and landside layout and facilities are set out in the Stage 1 Airport Plan determined under the Airports Act.

The 2016 EIS assessed proof of concept flight paths that have since been disregarded for a clean sheet of paper approach. As a result, in accordance with conditions of the Airport Plan and requirements of the EPBC Act, the finalised design of flight paths, airspace changes, air traffic control procedures and noise abatement procedures for WSI is required to be assessed.

Impacts of the Stage 1 Development on biodiversity were assessed in the 'Western Sydney Airport EIS Biodiversity Assessment' (GHD 2016) (Appendix K of the 2016 EIS). The Biodiversity Assessment was undertaken in accordance with the EIS guidelines and considered all impacts associated with the anticipated extent of vegetation clearing and grubbing, earthworks, drainage works and the permanent infrastructure that would be constructed for Stage 1 (nominally 2030) of the WSI. It also provided an assessment of operation impacts including bird and bat strike, noise, vibration, light and fuel jettisoning associated with aircraft flight.

The Biodiversity Assessment was supported by the 'Western Sydney Airport EIS Preliminary Bird and Bat Strike Risk Assessment' (Avisure 2016) (Appendix I of the 2016 EIS) which was prepared to provide a preliminary risk assessment of birds and bats present within the proximity of the WSI.

4.2 Dependencies and interactions with other study areas

The information presented in this report, including the formulation of the biodiversity study area, has been reliant upon information and data within the project's following documents:

- **Technical paper 1 – Aircraft noise** (Technical paper 1): considers potential significant noise and vibration impacts from aircraft overflights within an approximate 45 nautical mile (83 kilometre (km)) radius from WSI. Noise contours from this assessment were used to determine the biodiversity study area and to assist the assessment of noise and vibration impacts associated with the project on biodiversity entities.
- **Technical paper 2 – Air quality** (Technical paper 2): data from this assessment was used to inform the assessment of air quality impacts associated with the project on biodiversity entities.
- **Technical paper 3 – Greenhouse gas emissions** (Technical paper 3): assesses potential impacts relating to greenhouse gases and climate change and therefore biodiversity.
- **Technical paper 4 – Hazard and risk** (Technical paper 4): bird and bat strike data informed the overall hazards and risk assessment associated with airborne aircraft.
- **Technical paper 5 – Wildlife strike risk** (Technical paper 5): considers potential wildlife strike and noise impacts on biodiversity within a 13 km radius of the WSI runway. This assessment was used to inform the biodiversity study area and inform Significant Impacts Assessments (SIAs) and biodiversity offsetting requirements for the project's potential wildlife strike and noise impacts on biodiversity entities.
- **Technical paper 7 – Landscape and visual amenity** (Technical paper 7): data from this assessment was used to inform the assessment of light impacts associated with the project on biodiversity entities.
- **Technical paper 12 – Human health** (Technical paper 12): assesses potential impacts relating to human health and water quality.

- **Technical paper 14 – Greater Blue Mountains World Heritage Area** (Technical paper 14): data from this report was used to inform matters in relation to environment and World Heritage. The Biodiversity Technical Paper (this report) also informs the assessment of biodiversity attributes in Technical paper 14.

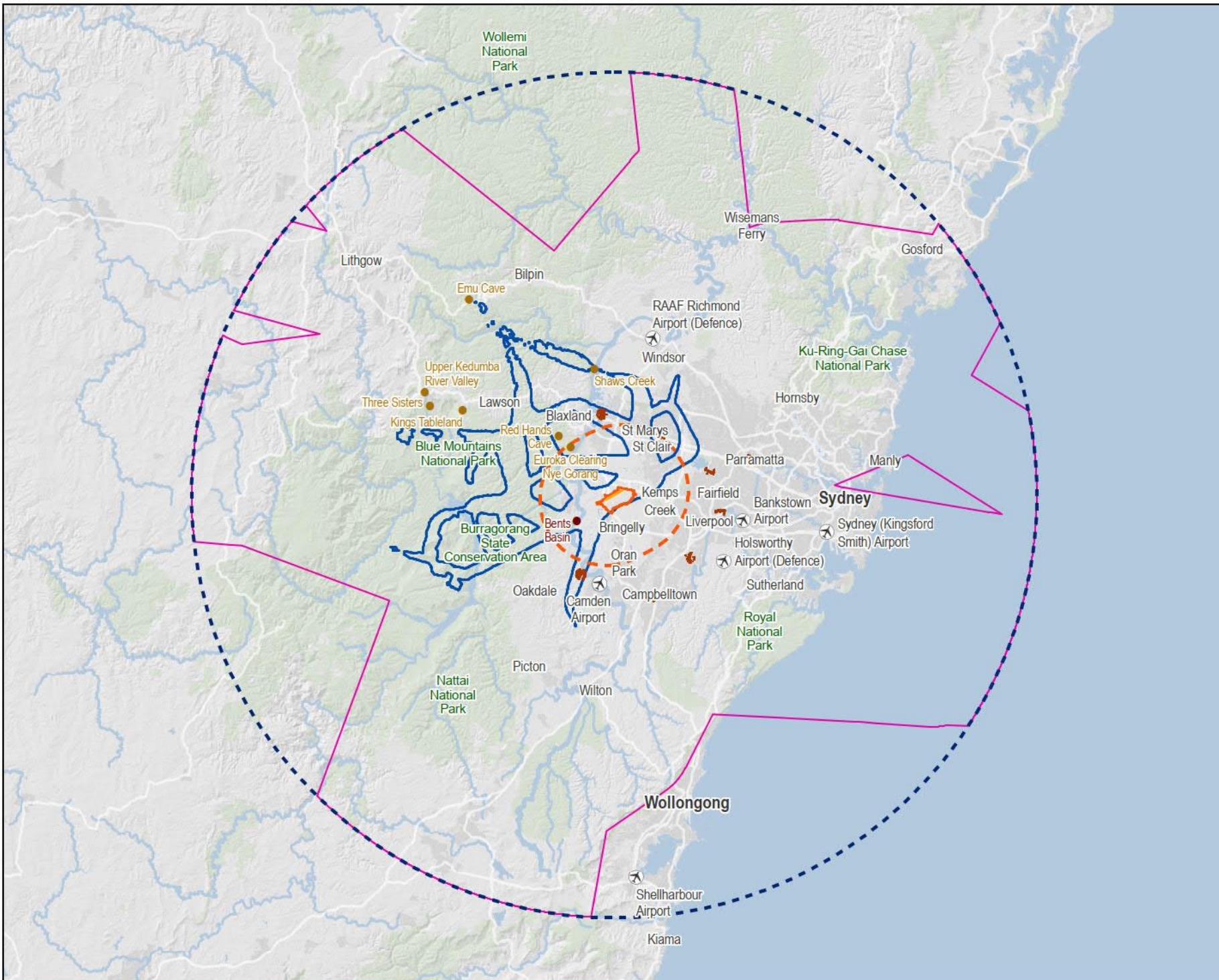
4.3 Key report terminology

For the purpose of this document the following definitions apply:

- **Project:** refers to the WSI Airspace and Flight Path Design subject to assessment in this report. Throughout this report this is referred to as the 'project'.
- **Airport Site:** defined as the site for the Sydney West Airport as defined in the *Airports Act 1996*.
- **Stage 1 Development:** the development (physical infrastructure) for Stage 1 of the WSI including all on-ground works associated with the airfield, terminal and landside layout and facilities as set out in the Airport Plan determined under the *Commonwealth Airports Act 1996*.
- **Biodiversity study area:** for this assessment is comprised of a nominal 45 nautical miles (83 km) radius from WSI to capture the general features of the environment where the action would take place. Throughout this report this area is also referred to as the study area.
- **Assessment zone(s):** 4 areas within the biodiversity study area used to determine the extent and nature of impacts associated with the project on biodiversity values. Each of the 4 areas are described below in Table 4.1 and depicted in Figure 4.1.
- **Flight paths:** 3-dimensional routes that safely guide aircraft between origin and destination airports, including manoeuvres for aircraft arriving and departing from an airport.
- **Flight path buffer:** a 10 km buffer around each flight path centreline determining the locality of the project's impacts in accordance with the NOS.
- **Biodiversity sensitive receivers (BSRs):** are defined by the NOS to include MNES listed under the EPBC Act (including WHPs, Wetlands of International Importance, Commonwealth marine areas, the Great Barrier Reef Marine park, National Heritage Places) and other sensitive areas which are likely to contain important habitat for EPBC Act listed threatened biota and migratory species or state-listed threatened biota (including nationally important wetlands, State forests, National Parks, other Conservation Reserves listed under State legislation) (Airservices Australia 2022).
- **Locality:** defined as an approximate 10 km radius from the WSI flight paths.
- **Candidate species/threatened ecological communities:** threatened and/or Migratory entities listed under the EPBC Act that are known to occur or likely to have suitable habitat and be impacted upon by the project. These entities required further detailed assessment including the completion of Significant Impact Assessments (SIAs). All other entities were not classified as candidate species either because they were not considered likely to occur or impacts relevant to the project would be negligible (for example impacts on threatened ecological communities were considered negligible as the project is confined to airspace and no impacts would take place).
- **Region:** is a bioregion or subregion defined in a national system of bioregionalization. The biodiversity study area occurs within the Sydney Basin Bioregion as defined in the Interim Biogeographic Regionalisation of Australia (IBRA) (Thackway and Cresswell 1995).

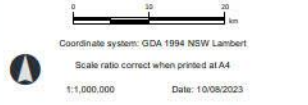
Figure 4.1

Project locality



Legend

- WSI Runway
- Western Sydney International (Nancy-Bird Walton) Airport land boundary
- Aboriginal Places raised during consultation (NPW Act)
- Site of Aboriginal significance
- Assessment zones**
- Biodiversity study area
- Wildlife buffer
- Flying-fox camps and buffers
- Noise contours
- Flight path buffer (10km)



Data sources: - DITDC, DCS, Geoscience Australia, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Airbus, USGS, NOAA, NASA, ODSAR, NCEAS, NLS, O.S.N.M.A, Good, Great, and Beautiful, GSA, GSI and the GIS User Community.

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Table 4.1 Assessment zone components

Assessment zone	Description	Purpose
Wildlife buffer	Includes any natural or anthropogenic (created by people or caused by human activity) structure or land use within 13 km of the airport runway boundary, including the airport's landside areas, identified as an actual or potential wildlife attractant (as per Technical paper 5). Technical paper 5 identified some wildlife attractants outside the 13 km buffer (up to 30 km buffer), these values occur within and included in the flight path buffer assessment zone for this assessment.	Evaluates extent of direct impacts on biodiversity values.
Flying-fox camps and buffers	All remnant vegetation mapped (Department of Planning and Environment 2022) within a 1 km buffer of the 8 flying-fox colonies, or 'camps' that were monitored in Technical paper 5.	Evaluates extent of direct impacts on biodiversity values.
Noise contours	Defined by 2055 N60 24-hour and N70 24-hour composite contours from Technical paper 1. Refer to Section 4.7.1 for justification.	Evaluates extent of indirect impacts on biodiversity values from aircraft noise.
Flight path buffer	Includes a 10 km buffer around each flight path's centreline to define the locality of the project's impacts on BSRs in accordance with the NOS.	Determines the extent of direct and indirect impacts on biodiversity values.

4.4 Literature and database assessment

4.4.1 Desktop review

The aim of the desktop review was to identify MNES biodiversity entities listed under the EPBC Act which had been previously recorded or are predicted to occur in the vicinity of the Airport Site relevant to the impacts of the project. These entities include:

- threatened flora and fauna species
- threatened ecological communities
- migratory species listed under international agreements
- wetlands of international importance listed under the Ramsar Convention
- WHPs and National Heritage Places.

Initially the desktop review included a review of resources outlined in Appendix A and a search of the databases presented in Table 4.2.

Table 4.2 Database searches reviewed

Database	Data of search	Area searched	Reference
EPBC Act Protected Matters Search Tool (PMST)	21 September 2022 18 October 2022 1 May 2023	Biodiversity study area	Department of Climate Change Energy the Environment and Water (2022)
BioNet Atlas of NSW Wildlife	21 September 2022 17 and 18 October 2022 28 March 2023	Biodiversity study area	Department of Planning and Environment (2022)

Results of the database searches are presented in Chapter 5 and Appendix B.

Following the database searches, additional relevant resources relating to the study area's existing environment, MNES biodiversity entities and information pertaining to the WSI Airspace and Flight Path Design project were sourced and reviewed. A summary of the resources reviewed as part of the desktop assessment is provided in Appendix A.

4.4.2 Likelihood of occurrence

The desktop review enabled the identification of EPBC Act threatened and migratory species that are known or considered to have potential to occur and use habitat characteristics available within the assessment zone. These threatened species were considered to be appropriate surrogates for NSW listed threatened species and other non-threatened native species which may be sensitive to impacts associated with the project. An assessment of each species likelihood of occurrence was completed to assist in determining candidate species with potential to be impacted upon by the project and therefore those that required further assessment.

Likelihood of occurrence assessments for threatened and migratory fauna species were completed for the entirety of the assessment zone (all components) and also specifically for the wildlife buffer to differentiate between potential direct and/or indirect impacts on individual species. For example, the extent of direct wildlife strike impacts is dependent on the altitudes at which aircraft and wildlife may interact and therefore would largely be restricted to the wildlife buffer, where the majority of wildlife strike occurs (Parsons, Blair et al. 2008). There may however be exceptions to this for some species which utilise airspace at higher altitudes outside the wildlife buffer (for example migratory species), although such impacts are expected to be negligible and/or be of a low likelihood.

Likelihood of occurrence assessments for threatened flora and threatened ecological communities were limited to those with potential to occur within the wildlife buffer. Impacts on threatened plants and ecological communities throughout the remainder of the assessment zone are expected to be negligible due to their location in relation to the proposed flight paths and the altitudes at which aircraft would be flying. As these entities would occur outside the project's zone of influence, impacts to these entities were considered negligible and deemed to not require further detailed assessment.

The likelihood of occurrence assessment took into consideration all relevant reference material available (including resources detailed in Section 4.4.1, Appendix A, NSW and/or Commonwealth profiles where available and the assessor's professional judgement) to determine which species have potential to occur and utilise habitats within the assessment zones. Additional investigations were carried out on these candidate species to analyse the extent and quality of habitat, presence of breeding areas, movement corridors or flight paths, potential threats and their regional context in regard to the assessment zones and the project's impacts.

For this study, the likelihood of occurrence of MNES threatened ecological communities, species and Migratory species was determined based on the criteria shown in Table 4.3 to Table 4.5 below.

Table 4.3 Likelihood of occurrence assessment classification and criteria for threatened ecological communities within wildlife buffer

Likelihood	Criteria
High	Ecological community is considered highly likely to occur if an associated Plant Community Type(s) (PCT) is mapped as occurring by the NSW State Vegetation Type Map (Department of Planning and Environment 2022) and the vegetation occurs within the known distribution of the threatened ecological community as determined by its NSW Scientific Determination or Commonwealth Listing Advice.
Moderate	An ecological community is considered to have a moderate likelihood of occurrence if an associated PCT is mapped as occurring by the NSW State Vegetation Type Map (Department of Planning and Environment 2022) and the vegetation occurs within or in proximity to its known distribution as determined by its NSW Scientific Determination or Commonwealth Listing Advice. Alternatively, if not mapped by the NSW State Vegetation Map it would also be considered to have a moderate likelihood of occurrence if the area being assessed it within the community’s known distribution and general attributes characteristic of the community are known or considered likely to occur.
Low	Ecological community is considered unlikely to occur if there are no associated PCTs mapped by the NSW State Vegetation Type Map (Department of Planning and Environment 2022) and the vegetation occurs outside the known distribution of the threatened ecological community as determined by its NSW Scientific Determination or Commonwealth Listing Advice.

Table 4.4 Likelihood of occurrence assessment classification and criteria for flora species within wildlife buffer

Likelihood	Criteria
Recorded	The species has been observed previously within the wildlife buffer, based on DPE BioNet records, and is considered have a high likelihood of occurrence based on habitat availability. Habitat availability determined using NSW State Vegetation Type Map (Department of Planning and Environment 2022).
High	Species is considered highly likely to inhabit the wildlife buffer as it contains or forms part of a large area of high-quality suitable habitat that has not been subject to recent disturbance (e.g. fire). The species is also known to form a persistent soil seedbank, has been recorded recently (within 10 years) in the locality and is likely to maintain populations in the wildlife buffer.
Moderate	A species is considered to have a moderate likelihood of occurrence if potential habitat is present (for example small to large area of high-quality suitable habitat or a large area of marginal habitat in the wildlife buffer that has not been subject to recent disturbance (e.g. fire)), species is known to form a persistent soil seedbank and has been recorded previously within the broader locality.
Low	Species is considered unlikely to inhabit the wildlife buffer as it has not been recorded recently (within 10 years) in the locality (i.e. the species is considered to be locally extinct), is not known to have a persistent soil seedbank and/or suitable habitat is not present.

Table 4.5 Likelihood of occurrence assessment classification and criteria for fauna and migratory species within assessment zone (all components)

Likelihood	Criteria
Recorded	The species has been observed previously within the assessment zone, based on DPE BioNet records, and is considered have a high likelihood of occurrence based on habitat availability. Habitat availability determined using NSW State Vegetation Type Map (Department of Planning and Environment 2022).
High	A species is considered to have a high likelihood of occurrence if: <ul style="list-style-type: none"> the assessment zone contains or forms part of a large area of high-quality suitable habitat important habitat elements (i.e., for breeding or important life cycle periods such as winter foraging periods) are abundant within the assessment zone the species has been recorded recently (previous 10 years) in similar habitat in the locality the assessment zone is likely to support resident populations or to contain habitat that is visited by the species during regular seasonal movements or migration.
Moderate	A species is considered to have a moderate likelihood of occurrence if: <ul style="list-style-type: none"> the assessment zone contains or forms part of a small area of high-quality suitable habitat the assessment zone contains or forms part of a large area of marginal habitat important habitat elements (i.e., for breeding or important life cycle periods such as winter foraging periods) are sparse or absent within the assessment zone the assessment zone is unlikely to support resident populations or to contain habitat that is visited by the species during regular seasonal movements or migration but is likely to be used occasionally during seasonal movements and/or dispersal.
Low	A species is considered to have a low likelihood of occurrence if: <ul style="list-style-type: none"> potentially suitable habitat exists but the species has not been recorded recently (previous 10 years) in the locality (i.e., the species is considered to be locally extinct) the species is considered to be a rare vagrant, likely only to visit the assessment zone very rarely; for example, during juvenile dispersal or exceptional climatic conditions (for example in extreme drought conditions in typical habitat of inland birds).

4.4.3 Vegetation communities and habitat determination

The vegetation communities and associated habitat types were determined using relevant literature and resources available (refer to Appendix A).

The NSW State Vegetation Type Map (Department of Planning and Environment 2022) was used to determine the PCT considered likely to be present throughout the assessment zone.

As the suitability, size and configuration of fauna habitat types correlate broadly with the structure of PCTs, each PCT was assigned a surrogate broad fauna habitat type.

Habitat types for flora species and threatened ecological communities were determined using each PCT's profile contained in DPE's BioNet Vegetation Classification Database (2023).

4.5 Consultation

Extensive consultation was undertaken to identify key heritage values, including those relating to biodiversity, and their importance to the community. The consultation completed for the project is detailed in Chapter 9 (Community and stakeholder engagement) and Chapter 17 (Heritage) of the Draft EIS.

4.6 Field surveys

Detailed field surveys have been completed (Avisure 2022) to determine the likely risk of wildlife strike from the project. These included targeted Grey-headed Flying Fox camp surveys and bird surveys within the wildlife buffer part of the assessment zone. These field surveys have been used to inform this assessment report.

No additional field surveys have occurred for this assessment report as the biodiversity of the assessment zone is very well understood due to the occurrence within and adjoining the urban area of greater Sydney. As such this area has been intensively surveyed over decades and, in combination with the wildlife strike surveys by Avisure, this was considered to be a sufficient and appropriate level of baseline knowledge to inform the assessment. This is particularly the case given the aerial nature of the impacts and that only highly mobile aerial fauna species are likely to be impacted directly.

4.7 Impact assessment approach

The 2055 assessment year was selected to assess impacts to biodiversity values from aircraft noise. This assessment year represents the worst-case scenario for biodiversity as it is when the single runway is operating close to capacity.

The main direct and indirect impacts relevant to biodiversity values associated with the project include:

- wildlife strike leading to injury or mortality (direct)
- changes to existing baseline noise and vibration levels associated with aircraft flight (indirect)
- changes to existing light levels (indirect)
- potential changes to air quality and fuel jettisoning (indirect)
- changes to existing water quality (indirect).

Wildlife strike and noise impacts on biodiversity are described in detail in Technical paper 5.

Technical paper 5 does not however describe other potential indirect impacts such as light, air quality and water quality nor does it include SIAs or consider biodiversity offset requirements in accordance with the relevant Commonwealth guidelines and policies.

This technical report addresses all these remaining biodiversity assessment matters specified in the EIS Guidelines (Reference: EPBC 2022/9143) that are not addressed in Technical paper 5.

As previously mentioned, no additional field surveys were conducted as part of this assessment, all information provided has been sourced from the above technical reports and relevant resources (refer to Appendix A).

4.7.1 Determining the extent of impacts

Determining the extent of impacts associated with the project was essential in determining an appropriate “study area” for this assessment. The information provided below outlines the approach to the assessment zone and its 4 components as described in Section 4.3.

4.7.1.1 Direct impact extents

Direct impacts associated with the project on biodiversity values are considered to be limited to wildlife strike leading to injury or mortality of fauna species. The extent of direct impacts is restricted to a 13 km radius of the Airport Site runway (wildlife buffer), all remnant vegetation mapped within a 1 km buffer of 8 flying-fox colonies monitored as part of Technical paper 5 (flying-fox camps and buffers) and the flight path buffer. This was considered appropriate due to the following:

- International Civil Aviation Organization (ICAO) guidelines relating to radial distances from an airport, Civil Aviation Safety Authority (CASA) and the NASF recognise that land uses within 13 km of an airport are potential risk contributors. As such, biodiversity values within this distance that attract, support, or have the potential to support or attract, wildlife relevant to the project may contribute to the airport’s potential wildlife strike risk and/or direct impact potential.
- In civil aviation around 93% of strikes occur at or below 3,500 feet (ft) (1 km) AGL (Dolbeer 2011), with 96% of flying-fox strikes recorded at or below 1,000 ft (300 m) AGL (Parsons, Blair et al. 2008).
- A review of the project’s flight path and altitude gains from take-off identified that most aircraft typically reach 3,500 ft (1 km) AGL within 13 km of the Airport Site, as captured by the wildlife buffer.
- Flying-foxes pose a potential strike risk (and therefore impact) as they were the most reported species group struck at Australian airports between 2008 and 2017, with over 10% of these strikes resulting in aircraft damage (Australian Transport Safety Bureau 2019). Seven of the Flying-fox colonies included in the assessment zone occur outside the 13 km wildlife buffer zone however were included as the species is highly mobile and able to travel 100 km in a single night, have a foraging radius of up to 50 km from their camp (McConkey, Prasad et al. 2012) and have been recorded travelling over 500 km in 2 days between camps (Roberts, Catterall et al. 2012).
- The ‘National Flying-fox monitoring viewer’ (Department of Climate Change Energy the Environment and Water 2022) only provides a centre point of each colony. A 1 km buffer of each centre point ensured that the entirety of each colony would be encompassed in the assessment zone.

There are some bird species that are known to occur at altitudes of greater than 3,500 ft (1 km) AGL. For these species direct impacts were assessed within the flight path buffer (10 km either side of the centerline) where aircraft may intersect with aerial habitats for these species.

The extent of wildlife strike cannot be quantified by area of habitat, nor can the total number of individuals be reliably estimated without long term baseline studies and operational monitoring (Avisure 2022). As such, the direct impact extent was limited to qualitative extents.

For this report, the extent of direct impacts within the wildlife buffer was used to inform the SIAs and determine whether offsets may be required to compensate for residual impacts in accordance with the relevant Commonwealth guidelines.

4.7.1.2 Indirect impact extents

Indirect impacts associated with the project on biodiversity values include potential changes to noise, light, air quality and water quality associated with aircraft operations along the flight paths. The extent of indirect impacts was conservatively limited to the assessment zones that included the wildlife buffer, the N60 24-hour and N70 24-hour contours modelled in Technical paper 1 and the flight path buffers.

The N60 24-hour and N70 24-hour noise contours were used as a proxy to assess the extent of noise impacts on biodiversity values as they take into consideration the proposed number of aircraft movements where a BSR is exposed to noise levels at or above 60 dB(A) and 70 dB(A) within a 10 km zone either side of the flight path centrelines in accordance with the NOS.

BSRs were considered surrogates for other NSW threatened and non-threatened native entities which may be sensitive to impacts associated with the project. These were located and classified using a 10 km buffer on flightpaths (as guided by the NOS) as a basis to assess the extent of noise impacts and presence or otherwise of key potential habitats. The adoption of these contours as a means to assess noise impacts on biodiversity were considered appropriate following a review of research and other relevant sources which identified:

- These noise thresholds represent levels above which aircraft noise would be considered a regular feature of the ambient noise environment. The N70 values of 5 or more events per day are considered appropriate for describing aircraft noise in areas currently experiencing noise and areas newly affected by aircraft overflights. They also provide sufficient resolution to describe changes in aircraft noise for both existing and newly affected areas (Airbiz 2022). Therefore, changes in existing noise levels will be concentrated within these contours and other areas should remain relatively unaffected (or affected to a minor degree) by noise associated with the project.
- Literature based on 20 years of international research documenting the effects of anthropogenic noise suggests that the range of noise levels, including aircraft noise, reported to induce annoyance in humans and trigger responses in terrestrial wildlife are similar that is between 40 and 100 dB(A) (Shannon, McKenna et al. 2016). There are no thresholds strictly identified for assessing noise impacts on biodiversity and there is limited research of noise impacts on individual Australian species likely to be impacted by the project. Further, past research in wildlife responses to noise have shown large variability between species and individuals at different locations even between individuals in the same population, making multi-species-based risk assessments difficult (Busnel and Fletcher 1978, Radle 2007, Duquette, Loss et al. 2021). The N60 24-hour and N70 24-hour contours however are used in Technical paper 1 and other noise impact assessments to assess noise related impacts in humans and have been developed taking into consideration international aircraft noise assessment metrics and methodologies, Australian regulatory requirements for noise management, and associated approaches of Air Navigation Service Providers. The noise level threshold of 60 dBA adopted for the criteria represents a reasonably conservative noise threshold based on the findings of the published literature (i.e. this threshold captures 60% of studies that have shown adverse responses in terrestrial wildlife, including impacts on physiology and fitness) and given the large variability in responses between species and individuals and at different locations (Shannon, McKenna et al. 2016).
- It has been found that the lateral distance between aircraft and wildlife is an important parameter when predicting animal behaviour due to aircraft noise exposure. For example, Delaney, Grub et al. (1999) noted that Mexican Spotted Owls were not flushed or visibly irritated by aircraft noise stimuli if they were located 100 m or further away from the airport runway. The assessment zones encompass all areas within the locality of the project including the wildlife buffer (representing a 13 km buffer of the airport runway).
- The most common source of anthropogenic noise are aircraft and airports due to the presence of multiple vehicles, however periods of airport noise are highly predictable, with a sudden peak while aircraft takeoff and land. It has been estimated that the noise level at airports range from 55 to 110 dB(A), depending on airport scale, number of flights, and the type of aircraft (Mato and Mufuruki 1999, Wang, Gao et al. 2022, 2022). Literature on wildlife response to low-altitude aircraft and helicopters report a threshold of approximately 90 - 15 dB(A) for a variety of animals (Barber, Burdett et al. 2011).
- These contours are consistent with the noise assessment criteria in the NOS. The NOS metrics and methodologies have been validated through consultation and negotiations with key stakeholders, Community Aviation Consultation Group meetings at airports around Australia, DCCEEW and ongoing analysis of aviation noise complaint data and flight path changes since 2013. Airservices Australia have assessed over 200 airspace changes for potential aviation noise impacts without later being found to represent a 'significant impact' under the EPBC Act. Given this and the significant traffic growth experiences in Australia since 2013 this methodology and criteria is considered appropriate and relatively conservative.

Given the above, the 2055 N60 24-hour and N70 24-hour noise contours are considered an appropriate approach to determining the extent and concentration of noticeable changes in noise levels associated with the project. Areas outside these thresholds should remain relatively unaffected (or affected to a minor degree) by noise associated with the project and likely to be negligible.

The flight path buffer was used as a proxy to determine the extent of light, air quality and water quality indirect impacts (including fuel dumping) on biodiversity values as this area would be the primary source of such impacts.

Given the nature of these indirect impacts, their extent cannot be quantified by area of habitat to be impacted, nor can the total number of individuals be reliably estimated without long term baseline studies and operational monitoring (Avisure 2022). As such, the indirect impact extent was limited to qualitative extents.

For this report, the extent of indirect impacts was used to inform the SIAs and determine whether offsets will be required to compensate for residual impacts in accordance with the relevant Commonwealth guidelines.

4.7.1.3 Other factors considered when determining extent of impacts

Other factors taken into consideration when determining the extent of the project's impacts on biodiversity values included:

- the nature, extent and significance of the impact in respect to each candidate species. For example, is the impact likely to be temporary, permanent, direct, indirect, unknown, unpredictable or irreversible
- aircraft altitude ranges divided into the following categories to assist in assessing impacts on different candidate species. These categories are presented in Section 5.5.
- population sizes of each candidate species and extent of preferred and suitable habitat for candidate species
- extent and nature of important and/or breeding habitat of candidate species
- WSI flight path locations in respect to wildlife movement corridors
- length of time and distance travelled by aircraft within each altitude category
- speed of aircraft and each candidate species ability to avoid strikes
- taking into consideration ambient and baseline noise conditions around the WSI and using the modelled noise levels in the Noise Aircraft Assessment (Airbiz 2022) to determine potential impacts on biodiversity values
- taking into consideration ambient and baseline air quality conditions around the WSI and using the modelled air quality changes in Technical paper 2 to determine potential impacts on biodiversity values
- taking into consideration the Landscape and Visual Assessment in Technical paper 7 to inform potential light impacts on biodiversity values
- bird and bat strike data collected as part of Technical paper 5.

4.7.2 Impact assessments

Threatened biodiversity listed under the EPBC Act require assessment in accordance with the 'EPBC Act Significant Impact Guidelines 1.1' (Department of the Environment 2013) and 'Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2' (Department of Sustainability Environment Water Population and Communities 2013).

These SIAs are required to assess the likelihood of potential significant impacts upon Commonwealth listed entities and the environment by actions undertaken by a Commonwealth agency. The outcomes of these assessments are used to determine the level of significance of an action's impact. They address an entities conservation status, population size and area of occupancy, likelihood of the establishment of invasive species and introduction of disease, in addition to species life cycle, habitat and recovery.

SIAs were completed for all EPBC Act listed biodiversity MNES known to occur or considered to have a moderate or higher likelihood of occurring in the study area and to be impacted upon by the project (Guideline 1.1).

SIAs were also completed for impacts on the environment, specifically biodiversity (plants and animals) (Guideline 1.2).

4.7.3 Risk assessment

Risk of bird and bat strike methodology and assessment is addressed in Technical paper 5.

4.8 Limitations and assumptions

In preparing this study, WSP has relied upon data, surveys, analyses, designs, plans and other information provided by DITRDCA and other organisations. Except as otherwise stated in this study, WSP has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in this study (conclusions) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. WSP will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

This report has relied upon the data and information contained within other technical papers prepared for the project as specified in Section 4.2.

No additional field surveys have occurred for this assessment report as the biodiversity of the assessment zone is very well understood due to the occurrence within and adjoining the urban area of western Sydney. As such this area has been intensively surveyed over decades and, in combination with the wildlife strike surveys by Avisure, this was considered to be a sufficient and appropriate level of baseline knowledge to inform the assessment. This is particularly the case given the aerial nature of the impacts and that only highly mobile aerial fauna species are likely to be impacted directly. As such, the biodiversity values and outcomes presented in this report are limited to a desktop review of information available at the time of preparing the report.

To the best of WSP's knowledge, the investigation presented and the facts and matters described in this study reasonably represent DITRDCA's intentions at the time of preparation of the study. However, the passage of time, the manifestation of latent conditions or the impact of future events (including a change in applicable law) may result in a variation of the project and its possible environmental impact. WSP will not be liable to update or revise this report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

Other assumptions used in preparing this report include:

- This report only assesses impacts on biodiversity attributes associated with the GBMA. All impacts relating to other attributes associated with the GBMA are addressed in Technical paper 14.
- Offset considerations have been determined using the EPBC Act guideline available at the time of preparation i.e. the EPBC Act Environmental Offset Policy (Department of Sustainability Environment Water Population and Communities 2012).
- Flying-fox camps identified in Technical paper 5 were used as an indicator of important habitat for the Grey-headed Flying-fox. It is identified that these camps often include multiple flying-fox species.
- There are no thresholds strictly identified for assessing aircraft noise, light, air quality and water quality impacts on biodiversity values and there is limited research of these impacts on individual Australian species likely to be impacted upon by the project. Further, past research in wildlife responses to noise have shown large variability between species and individuals at different locations even between individuals in the same population, making multi-species-based risk assessments difficult (Busnel and Fletcher 1978, Radle 2007, Duquette, Loss et al. 2021). Where possible, available guidelines, standards and literature have been used to determine an appropriate approach to assessing the extent, concentration and severity of these impacts associated with the project.

Chapter 5 Existing biodiversity values

This chapter provides an overview of the existing environment of the biodiversity study area and assessment zones as they relate to biodiversity values relevant to the project.

5.1 Study area overview and context

The WSI Airport Site is located in Badgerys Creek NSW, approximately 50 km west south-west of the Sydney Central Business District.

The biodiversity study area for this report is comprised of the nominal 45 nautical miles (83-kilometres) radius from WSI to capture the general features of the environment where the action would take place.

Within this study area, the biodiversity values likely to be impacted by the action are identified by 4 components collectively referred to as the 'assessment zones'. Each assessment zone is listed below and depicted in.

- wildlife buffer – 13 km buffer from the Airport Site
- flying-fox camps and buffers – flying-fox camps identified in Technical paper 5
- noise and vibration contours – N60 24-hour and N70 24-hour contours
- flight path buffer – 10 km buffer of the flight paths.

The biodiversity study area extends across 2 IBRA bioregions (Sydney Basin and South Eastern Highlands) and 16 IBRA subregions (Figure 5.1). Key characteristics of ecosystems which occur within these IBRA bioregions and subregions are provided in Table 5.1 and Appendix A (A3) respectively. The existing values within the biodiversity area and assessment zones are depicted in Figure 5.2.

Wildlife attractants identified as potential risk contributors for the project include all biodiversity values and other land uses (such as dams, non-native ecosystems and waste disposal facilities) with potential to provide suitable habitat within the 13 km buffer of the Airport Site in accordance with the ICAO guidelines. This includes values that occur within this wildlife buffer, which occurs within the Cumberland Plain of western Sydney and extends westwards to Nepean-Hawkesbury River before intersecting the foothills of the Blue Mountains National Park and the Burratorang State Conservation Area.

The existing land uses within the wildlife buffer largely consist of urban development including a combination of residential development, commercial development, agriculture, town centres, parklands, reserves and supporting road, rail, waste and power infrastructure. A large portion of the wildlife buffer occurs as a highly fragmented mosaic landscape retaining small to medium sized vegetation remnants and waterbodies having been subjected to pressures associated with urban development.

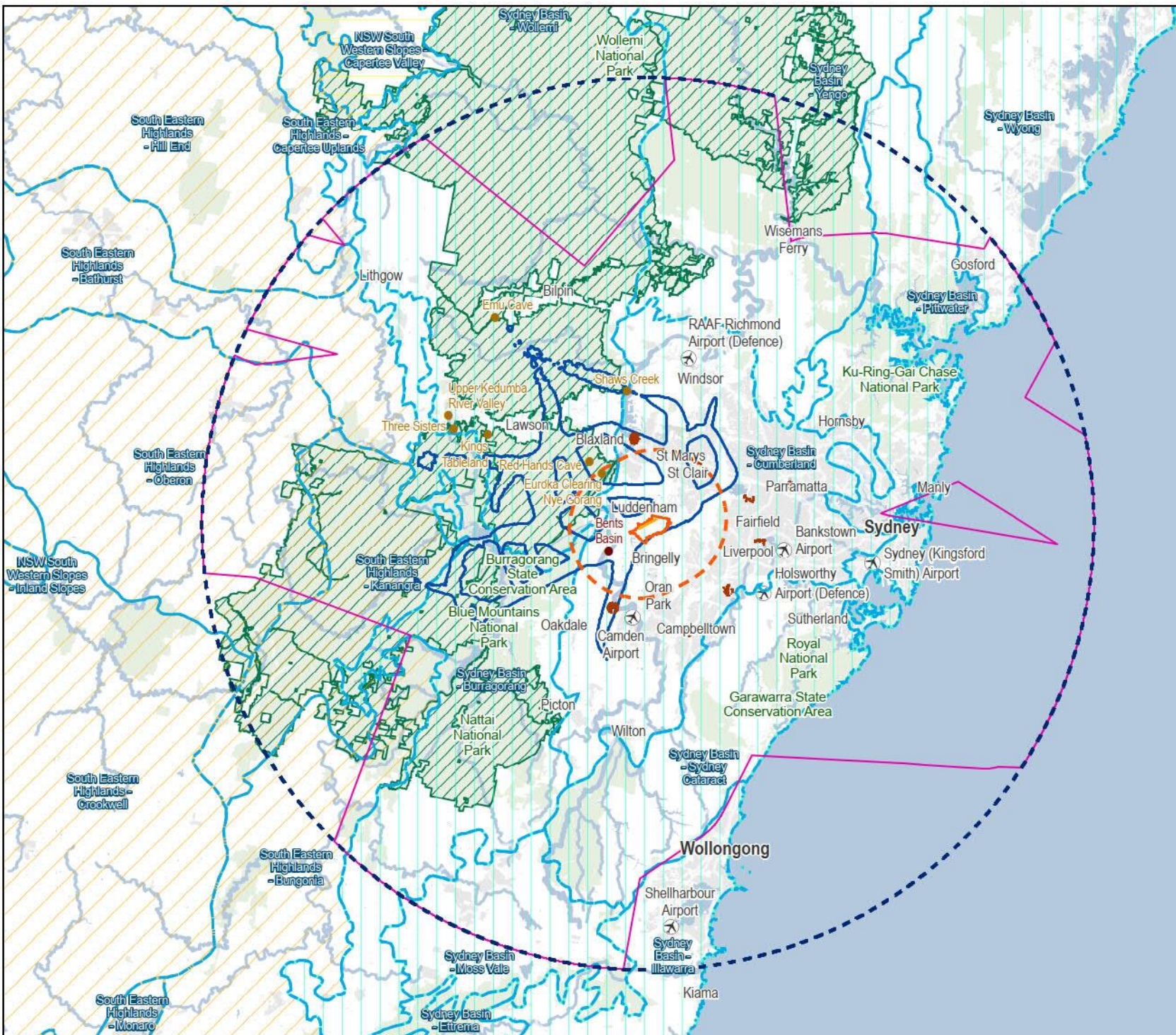
The Great Dividing Range occurs to the immediate west of the wildlife buffer and includes the vast wild remnant native forests and native vegetation of the GBMA and surrounds, which extend from the Hunter Valley in the north (Wollemi National Park) to the Shoalhaven in the south (Morton National Park) and the western edge of Blue Mountains National Park. Further afield and generally on the flat plains and valleys is dominated by agriculture in all directions except to the east, which are purely oceanic environments off the NSW coast.

Table 5.1 Overview of IBRA bioregions in the study area (National Parks and Wildlife Service, 2003)

IBRA bioregion	Description	Biodiversity	Associated subregions
Sydney Basin	<p>Covers a large part of the catchments of the Hawkesbury-Nepean, Hunter and Shoalhaven river systems.</p> <p>Dominated by a temperate climate characterised by warm summers with no dry season. Areas around the Blue Mountains falls in a montane climate zone.</p> <p>The most significant feature is the Great Escarpment, with its reversed drainage, and entrenched meander patterns and high level terrace gravels; the Blue Mountains are part of this feature.</p>	<p>One of the most species diverse in Australia. This is a result of the variety of rock types, topography and climates in the bioregion.</p> <p>Just over 40 per cent of the bioregion is used for conservation, including the Blue Mountains National Park, Wollemi National Park and Morton National Park.</p>	<p>Burraborang Cumberland Illawarra Moss Vale Pittwater Sydney Cataract Wollemi Wyong Yengo</p>
South Eastern Highlands	<p>Covers the dissected ranges and plateau of the Great Dividing Range that are topographically lower than the Australian Alps, which lie to the southwest.</p> <p>Dominated by a temperate climate characterised by warm summers and no dry season. Areas in the north and south are at higher elevations in a montane climate zone, where summers are much milder.</p> <p>Topographically, the dominant features are plateau remnants, granite basins with prominent ridges</p>	<p>Both soils and vegetation vary across the bioregion in relation to altitude, temperature and rainfall. Temperature affects the vertical distribution of species and can be observed in inverted sequences in frost hollows.</p>	<p>Bathurst Bungonia Capertee Uplands Crookwell Hill End Kanangra Oberon</p>

Figure 5.1

Study area overview and landscape context



Legend

- WSI Runway
- Western Sydney International (Nancy-Bird Walton) Airport land boundary
- Greater Blue Mountains World Heritage Area
- IBRA Subregions
- Aboriginal Places raised during consultation (NPW Act)
- Site of Aboriginal significance
- IBRA Regions**
 - NSW South Western Slopes
 - South Eastern Highlands
 - Sydney Basin
- Assessment zones**
 - Biodiversity study area
 - Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours
 - Flight path buffer (10km)



0 10 20
km

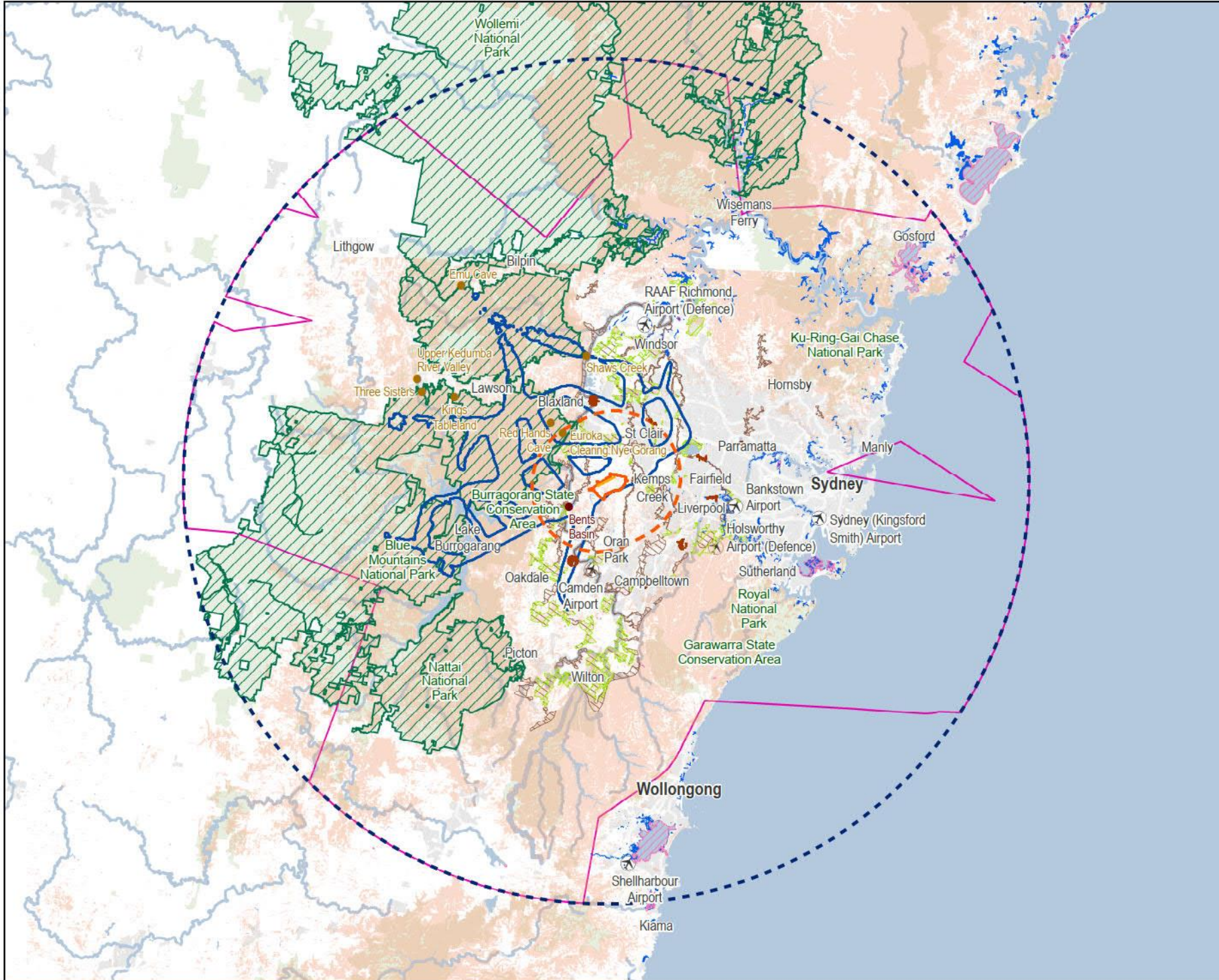
Coordinate system: GDA 1994 NSW Lambert
Scale ratio correct when printed at A4
1:1,000,000 Date: 3/08/2023

Data sources - DITROC, DCS, Geoscience Australia, Esri, HERE, Garmin, US OpenStreetMap contributors, and the GIS user community, Airbus, USGS, NOAA, NASA, CIGAR, NGA, NGA, NGA, NGA, Geospatial, GSA, GSI and the GIS User Community.

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Figure 5.2

Existing values within the biodiversity study area and assessment zones



- Legend**
- WSI Runway
 - Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - Important Wetlands
 - Greater Blue Mountains World Heritage Area
 - SEPP Coastal Wetlands
 - Cumberland Plain Priority Conservation Lands
 - BioMap Cumberland Subregion Regional Corridors
 - GHFF Foraging Habitat
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- Biodiversity study area
 - Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours
 - Flight path buffer (10km)



0 10 20 km
 Coordinate system: GDA 1994 NSW Lambert
 Scale ratio correct when printed at A4
 1:1,000,000
 Date: 3/08/2023

Data sources: DTIRDC, DCJ, Geoscience Australia
 Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Airbus, USGS, NOAA, NASA, CSIRO, NICTAS, NLS, OS, NOAA, Geobase, Skyline, GSA, GSI and the
 GIS User Community
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5.2 Heritage properties and places

5.2.1 World Heritage Properties

The PMST database search identified one WHP as occurring within the study area relevant to biodiversity values, being the GBMA. The GBMA was identified as a WHP and a National Heritage Place. The extent of the GBMA in respect to the project is depicted in Figure 5.1 and Figure 5.5.

The GBMA is comprised of 1.03 million hectares of sandstone plateau, escarpments and gorges dominated by eucalypt-dominated ecosystems (United Nations Educational Scientific and Cultural Organisation 2023). As it stands, it is one of the largest and most intact regions of protected bushland in Australia and is noted for its representation of the evolutionary adaptation and diversification of the eucalypts in post-Gondwana isolation on the Australian continent (UNESCO 2023). It also supports an exceptional representation of the taxonomic, physiognomic and ecological diversity that eucalypts have developed: an outstanding illustration of the evolution of plant life. Ongoing research continues to reveal the rich scientific value of the area as more species are discovered.

The GBMA makes up a significant representation of Australia's biodiversity supporting 10% of the country's vascular flora and significant numbers of rare or threatened species, including endemic and evolutionary relict species within its boundaries (UNESCO 2023). Additional to its outstanding eucalypts, the area also contains relict species of global significance including the ancient Wollemi Pine, one of the world's rarest species that was thought to have been extinct for millions of years. The few surviving trees are known only from 3 small populations located in remote, inaccessible gorges within the WHP (Department of Climate Change Energy the Environment and Water 2023).

The GBMA is large and botanically diverse representing a wide range of eucalypts habitats that support approximately 152 plant families, 484 genera and approximately 1,500 species. A significant proportion of the Australian continent's biodiversity, especially its scleromorphic flora, occur in the area. Plant families represented by exceptionally high levels of species diversity within include Myrtaceae (150 species), Fabaceae (149 species) and Proteaceae (77 species) (UNESCO 2023).

Broadscale vegetation mapping (Department of Planning and Environment 2022) identifies 162 PCTs as occurring within the boundary of the GBMA where it overlaps with the assessment zones. These PCTs represent 9 different vegetation formations as described by Keith (2004) which include:

- rainforests
- wet sclerophyll forests (shrubby sub-formation)
- wet sclerophyll forests (grassy sub-formation)
- grassy woodlands
- dry sclerophyll forests (shrub/grass sub-formation)
- dry sclerophyll forests (shrubby sub-formation)
- heathlands
- freshwater wetlands
- forested wetlands.

These diverse plant communities and habitats support more than 400 vertebrate taxa (of which 40 are threatened), comprising some 52 mammal, 63 reptile, over 30 frog and about one third (265 species) of Australia's bird species. Although invertebrates are still poorly known, the area supports an estimated 120 butterfly and 4,000 moth species, and a rich cave invertebrate fauna (67 taxa) (UNESCO 2023).

The Blue Mountains Conservation Society (2023) has generated lists of threatened species recorded within the GBMA which indicate as of September 2019 it provided habitat for approximately 180 threatened species listed under the BC Act and/or EPBC Act including 28 mammals, 33 birds, 4 reptiles, 7 frogs, one dragonfly, one snail, 100 plants and a few fungus species. The State of Conservation – GMA report (Department of Agriculture Water and the Environment 2020) identified in 2020 that the GBMA supports many plants of conservation significance including 114 endemics and 177 threatened plant species. The property also protects areas of many threatened ecological communities.

Most of the remnant vegetation and associated habitats within the GBMA is of high wilderness quality and remains close to pristine. They occur almost entirely as an extensive, largely undisturbed matrix almost entirely free of structures, earthworks and other human intervention (International Union for Conservation of Nature 2023). Due to the size of the GBMA and connectivity with other protected areas, the area will continue to play a vital role in providing opportunities for adaptation and shifts in range for all native plant and animal species within it, allowing essential ecological processes to continue. The area's integrity depends upon the complexity of its geological structure, geomorphology and water systems, which have created the conditions for the evolution of its outstanding biodiversity and which require the same level of protection (UNESCO 2023).

The GMA is comprised of natural, cultural, heritage and socio-economic values. This report specifically addresses the GBMA biodiversity attributes as they relate to the project. All other remaining attributes associated with the GBMA have been addressed in Technical paper 14.

Where appropriate, the GBMA biodiversity attributes relevant to the project have been described and assessed alongside other biodiversity values. Key threats to the GBMA are detailed in Technical paper 5.

5.2.2 National Heritage Places

The PMST database search identified 3 'natural' National Heritage Places as occurring within the study area, being:

- Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves
- Royal National Park and Garawarra State Conservation Area
- The GBMA.

Of these, only the GBMA is considered likely to be affected by the project given it occurs within the wildlife buffer and flying-fox camps and buffers. The remaining 2 National Heritage Places are not considered further as they occur outside the project's zone of influence and are considered unlikely to be directly affected by the project.

The GBMA is listed as both a WHP and a National Heritage Place. The Australian Heritage Council is currently assessing whether to expand the GBMA National Heritage Place into adjacent areas that contain similar geodiversity, biodiversity and historic values that satisfy the National Heritage criterion of events and processes, rarity and aesthetic characteristics. The Australian Heritage Council has identified engagement with First Nations People is required before it can identify any Aboriginal cultural heritage values that satisfy National Heritage criteria. Consent would also be sought to list any such values. Further details on the proposed expansion are detailed in Technical paper 5.

All WHPs in Australia were automatically included on the National Heritage List for their World Heritage Outstanding Universal Values in 2007. The National Heritage values identified for the GBMA listing are the same as the values recognised for the World Heritage Area. As such the assessments against the World Heritage values are taken to address both the World Heritage and National Heritage values of the GBMA.

5.2.3 Commonwealth Heritage Places

The PMST database search identified 3 'natural' Commonwealth Heritage Places as occurring within the study area, being:

- Malabar Headland
- Orchard Hills Cumberland Plain Woodland
- Shale Woodland Llandilo.

Of these, only the Orchard Hills Cumberland Plain Woodland and the Shale Woodland Llandilo are considered likely to be potentially influenced by the project given they occur within the flight path buffer. The remaining Commonwealth Heritage Place, Malabar Headland, is not considered further as it occurs outside the project's zone of influence and is considered unlikely to be directly affected by the project.

The Orchard Hills Cumberland Plain Woodland Commonwealth Heritage Place is comprised of some of the largest, least disturbed, and regenerating remnants of Cumberland Plain vegetation communities. It has been listed for its outstanding examples of Cumberland Plain Woodland and Sydney Coastal River-flat Forest threatened ecological communities, large area of continuous habitat, among the least disturbed catchments in western Sydney (primarily Blaxland Creek and its tributaries) and populations and/or habitat for regionally significant flora and fauna species. The low disturbance of Blaxland Creek has been identified as containing a high representation of macro-invertebrate genera including some disturbance-sensitive species that appear to be confined to Orchard Hills such as stoneflies, leptophlebiid mayflies and pollution-sensitive caddisflies. Due to this, it sets a valuable benchmark to measure water quality degradation in western Sydney (Department of Climate Change Energy the Environment and Water 2023).

The Shale Woodland Llandilo Commonwealth Heritage Place is comprised of one of the largest remnants of Cumberland Plain vegetation characteristic of Wianamatta shale, Tertiary alluvium and low-lying recent alluvium that support large areas of Cumberland Plain Woodland, Coastal River-flat Eucalypt Forest, Cooks River Ironbark Forest and Shale Gravel Transition Forest which are all listed under both the BC Act and EPBC Act as threatened. These areas comprise populations of many threatened flora species and provide habitat for threatened fauna species (Department of Climate Change Energy the Environment and Water 2023).

5.3 Biodiversity values used to determine suitable habitat present

5.3.1 Vegetation communities and associated broad fauna habitat types

A review of DPE's NSW State Vegetation Type Map (2022) identified 312 PCTs as occurring within the assessment zones. These PCTs have been stratified into 12 broad fauna habitat types using the vegetation formations described by Keith (2004) as surrogates. These broad fauna habitat types were used to determine the type of habitats present, potential impacts and risks associated with the project on fauna species.

The dominant fauna habitat types mapped by DPE (2022) within the assessment zone include Dry Sclerophyll Forest (Shrubby sub-formation) followed by Non-native/unattributed disturbed areas each occupying approximately 557,000 ha (38%) and 470,000 ha (32%) respectively of the assessment zone. The Dry Sclerophyll Forest (Shrubby sub-formation) was predominantly located within the GBMA and the Non-native/unattributed disturbed areas were predominantly located in the wildlife buffer. All other broad fauna habitat types typically equated to less than 10% of the assessment zone with 2 equating to 0–0.2%. These habitats are likely to provide a range of microhabitats for all fauna guilds including birds, reptiles, amphibians, fish, invertebrates and mammals.

The quality of these habitat values within the assessment zone varies considerably from highly degraded and fragmented to some of the largest and most intact remnants of protected bushland in Australia. A summary of the PCTs, broad fauna habitats and their extent is provided in Table 5.2.

Table 5.2 Broad habitat classifications located within assessment zones

Vegetation formation	Extent within wildlife buffer (ha)	Extent within flying-fox camps and buffers (ha)	Extent within noise contours (ha)	Total extent within assessment zones (ha)*	Extent of assessment zone within GBMA (ha)
Dry Sclerophyll Forests (Shrub/grass sub-formation)	618.62	0.31	6,130.23	122,325.21	72,632.33
Dry Sclerophyll Forests (Shrubby sub-formation)	5,438.41	–	34,313.17	557,032.39	236,934.24
Forested Wetlands	3,566.42	219.02	3,398.85	24,715.38	4,077.37
Freshwater Wetlands	12.67	7.14	257.20	17,615.74	3,842.23
Grasslands	–	–	–	182.78	–
Grassy Woodlands	12,164.15	69.9	6,900.37	88,025.56	3,530.86
Heathlands	–	–	820.90	38,963.49	11,089.32
Rainforests	72.25	1.26	600.70	25,787.50	9,939.36
Saline Wetlands	–	–	–	2,567.86	–
Wet Sclerophyll Forests (Grassy sub-formation)	1,041.57	–	1,142.83	49,220.45	15,866.96
Wet Sclerophyll Forests (Shrubby sub-formation)	378.74	58.71	5,120.70	74,701.96	36,963.51
Non-native/unattributed	39,511.44	2,156.96	29,066.99	470,303.06	1,123.38
Total	62,804.27	2,513.30	87,751.94	1,471,441.38	395,999.56

*Equates to the flight path buffer

The percentage portion of these broad fauna habitat types in the assessment zone is illustrated in in the chart below.

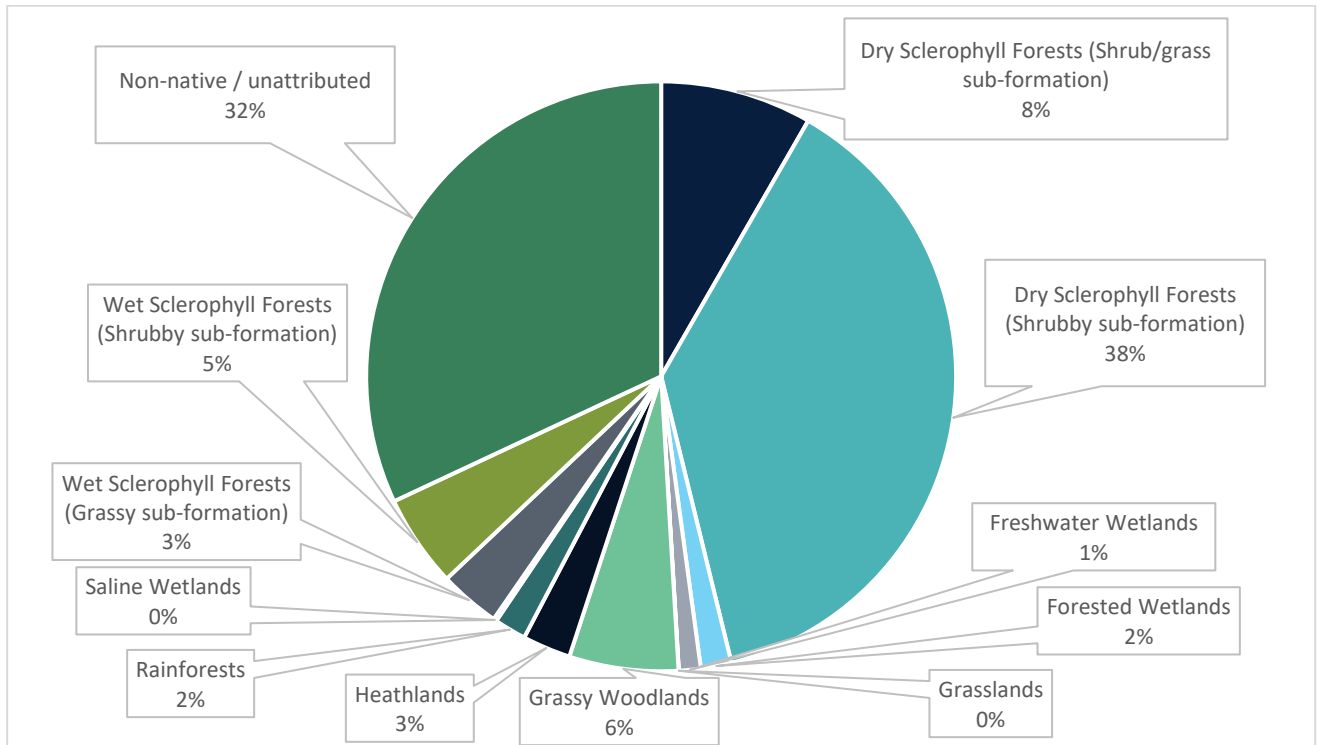
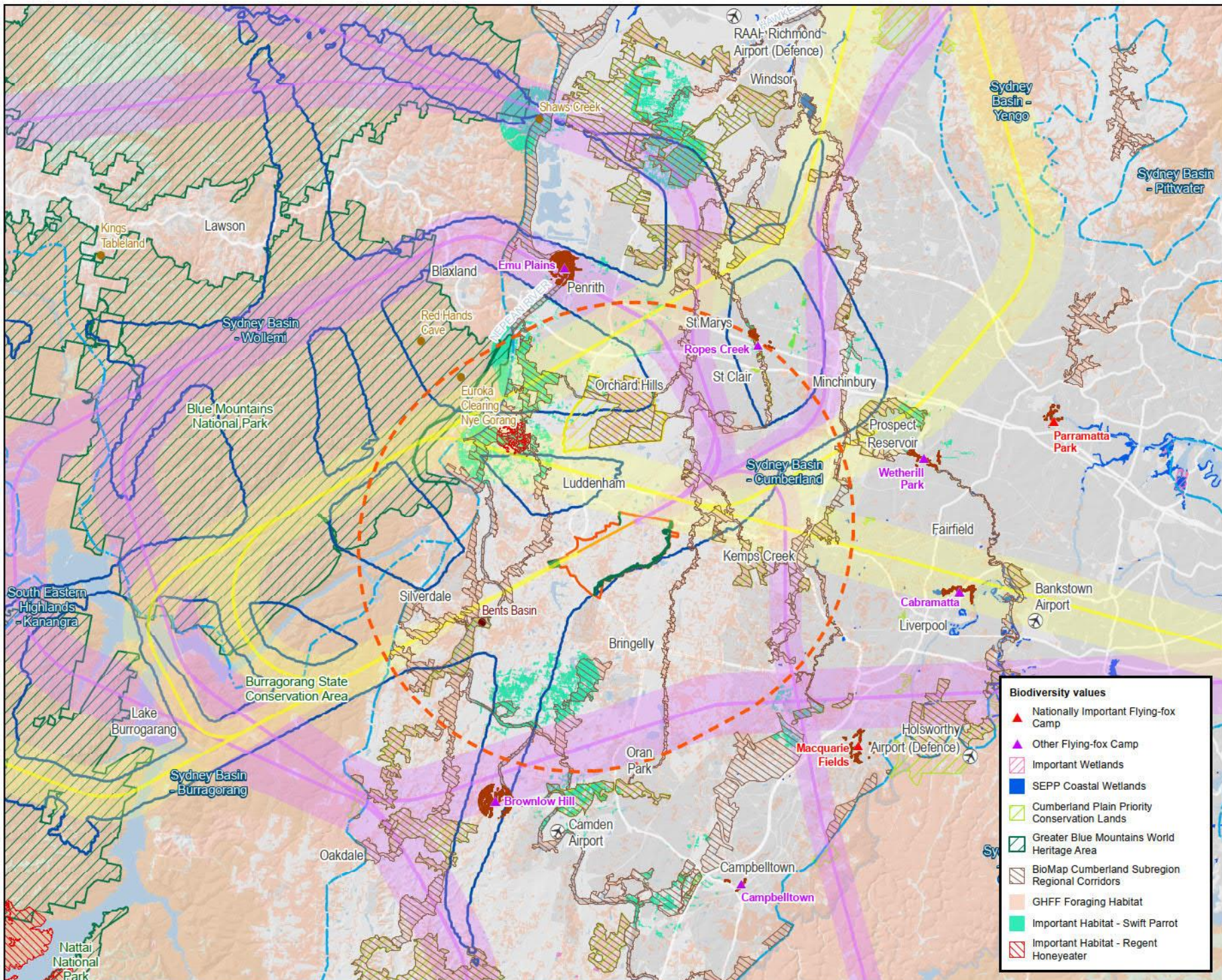


Figure 5.3 Percentage portion of broad fauna habitat types in the assessment zone

The existing values within the wildlife buffer are detailed by Figure 5.4.

Figure 5.4a

Existing values within the wildlife buffer (05 runway - day)



- Legend**
- WSI Runway
 - ▭ Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - ▭ Orchard Hills offset area (indicative boundary only)
 - ▭ Ecological Conservation Zone at WSI along Badgerys Creek
 - ▭ IBRA Subregions
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- - - Wildlife buffer
 - ▭ Flying-fox camps and buffers
 - ▭ Noise contours
- Flight paths and swaths**
- Arrivals
 - Departures

- Biodiversity values**
- ▲ Nationally Important Flying-fox Camp
 - ▲ Other Flying-fox Camp
 - ▭ Important Wetlands
 - ▭ SEPP Coastal Wetlands
 - ▭ Cumberland Plain Priority Conservation Lands
 - ▭ Greater Blue Mountains World Heritage Area
 - ▭ BioMap Cumberland Subregion Regional Corridors
 - ▭ GHFF Foraging Habitat
 - ▭ Important Habitat - Swift Parrot
 - ▭ Important Habitat - Regent Honeyeater



Coordinate system: GDA 1994 NSW Lambert
 Scale ratio correct when printed at A4
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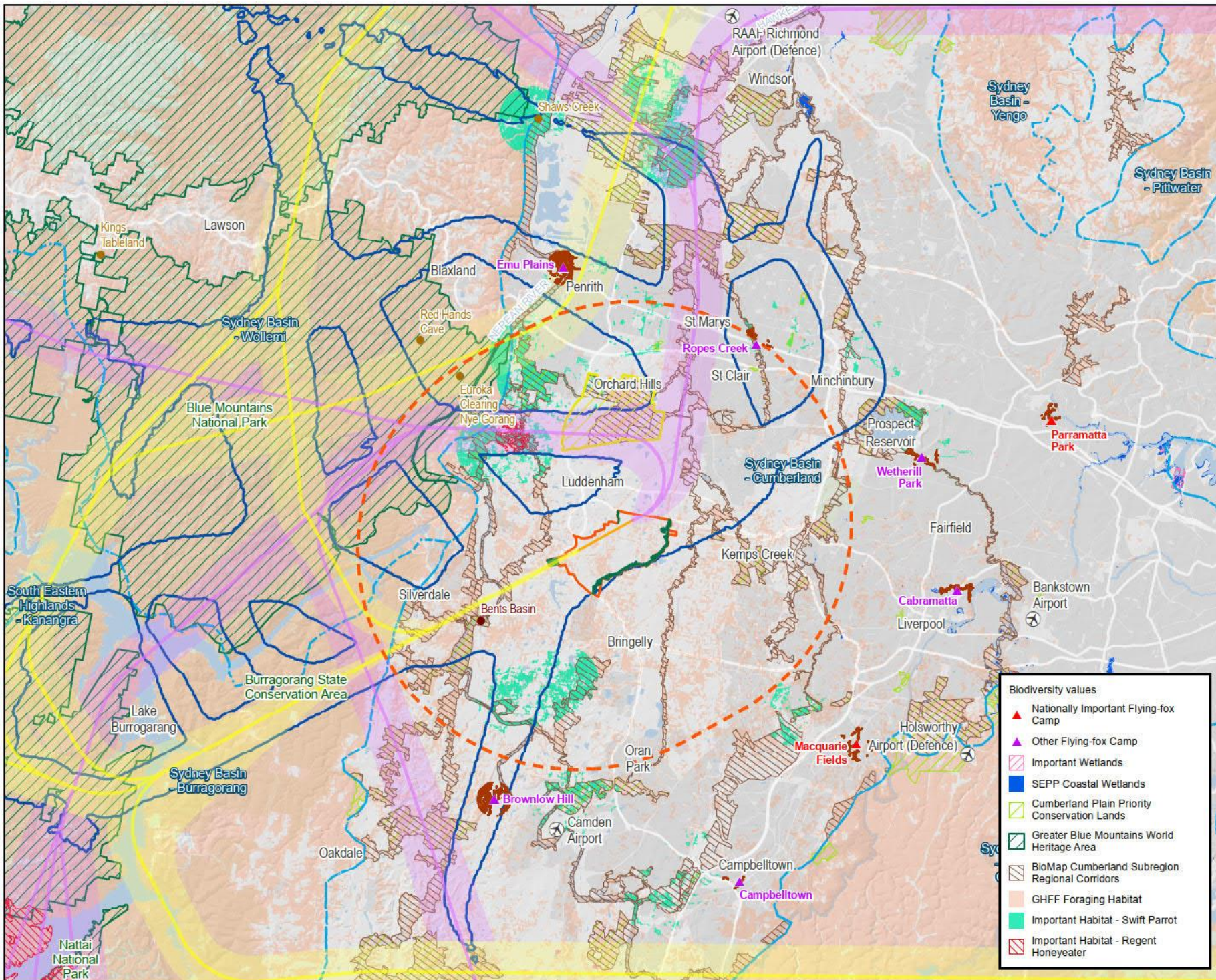


Figure 5.4b

Existing values within the wildlife buffer
(0.5 runway - night or RRO)

- Legend**
- WSI Runway
 - Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - Orchard Hills offset area (indicative boundary only)
 - Ecological Conservation Zone at WSI along Badgersy's Creek
 - IBRA Subregions
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours
- Flight paths and swaths**
- Arrivals
 - Departures

- Biodiversity values**
- Nationally Important Flying-fox Camp
 - Other Flying-fox Camp
 - Important Wetlands
 - SEPP Coastal Wetlands
 - Cumberland Plain Priority Conservation Lands
 - Greater Blue Mountains World Heritage Area
 - BioMap Cumberland Subregion Regional Corridors
 - GHFF Foraging Habitat
 - Important Habitat - Swift Parrot
 - Important Habitat - Regent Honeyeater



Coordinate system: GDA 1994 NSW Lambert
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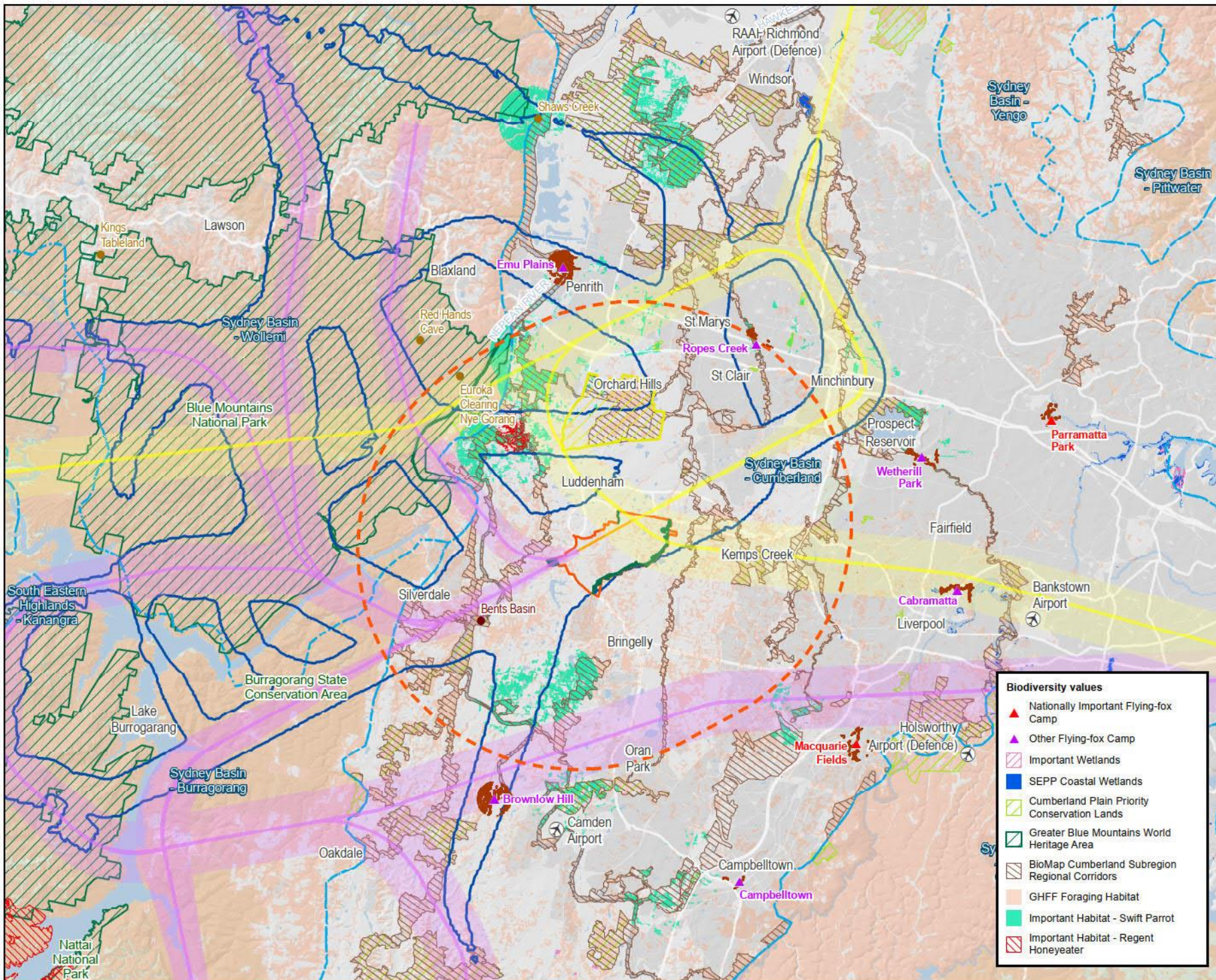


Figure 5.4c

Existing values within the wildlife buffer (23 runway - day)

- Legend**
- WSI Runway
 - ▭ Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - ▭ Orchard Hills offset area (indicative boundary only)
 - ▭ Ecological Conservation Zone at WSI along Badgersy's Creek
 - ▭ IBRA Subregions
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- ▭ Wildlife buffer
 - ▭ Flying-fox camps and buffers
 - ▭ Noise contours
- Flight paths and swaths**
- Arrivals
 - Departures

- Biodiversity values**
- ▲ Nationally Important Flying-fox Camp
 - ▲ Other Flying-fox Camp
 - ▭ Important Wetlands
 - ▭ SEPP Coastal Wetlands
 - ▭ Cumberland Plain Priority Conservation Lands
 - ▭ Greater Blue Mountains World Heritage Area
 - ▭ BioMap Cumberland Subregion Regional Corridors
 - ▭ GHFF Foraging Habitat
 - ▭ Important Habitat - Swift Parrot
 - ▭ Important Habitat - Regent Honeyeater

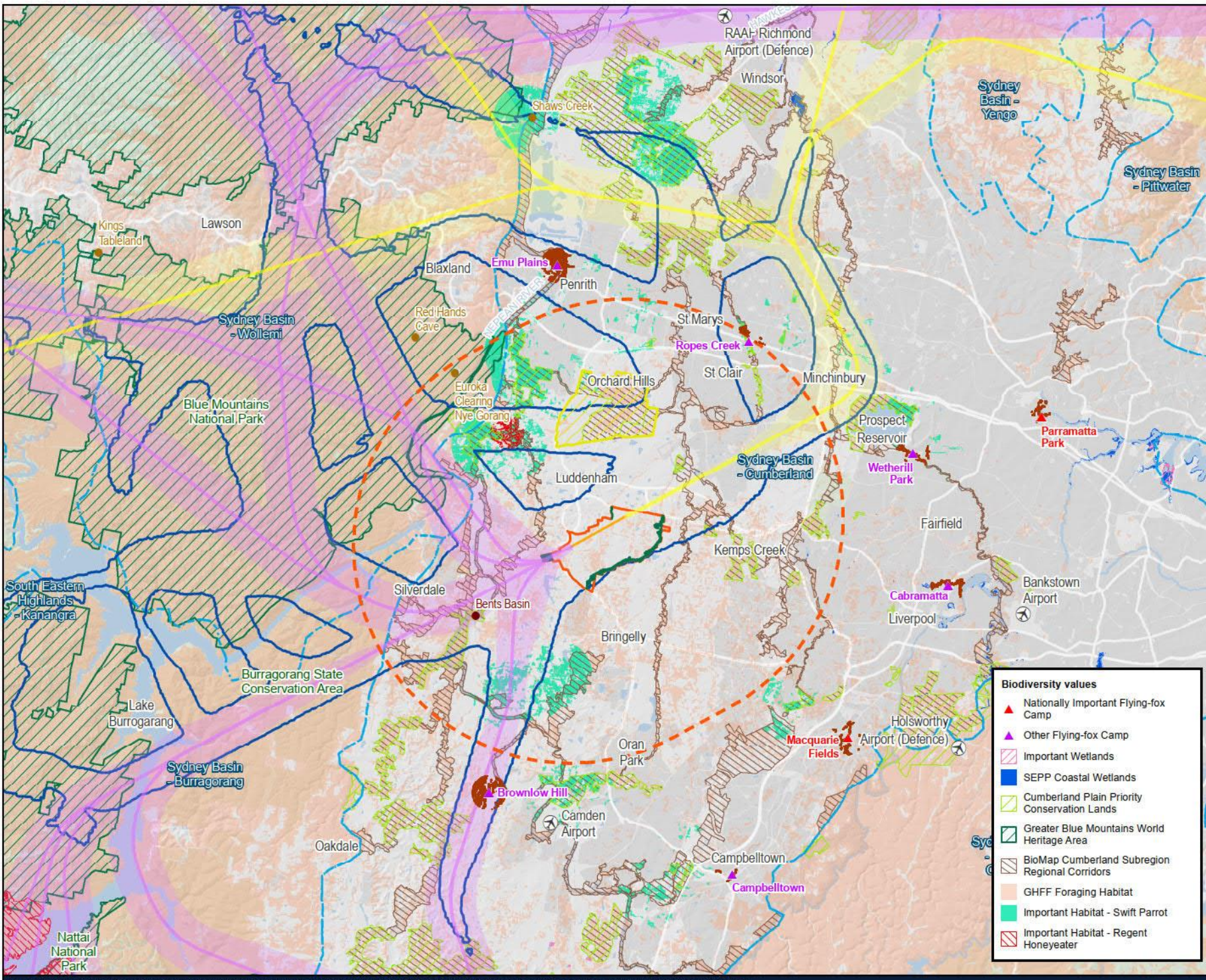


Coordinate system: GDA 1994 NSW Lambert
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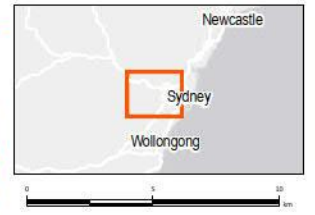
Figure 5.4d

Existing values within the wildlife buffer
(23 runway - night or RRO)



- Legend**
- WSI Runway
 - ▭ Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - ▭ Orchard Hills offset area (indicative boundary only)
 - ▭ Ecological Conservation Zone at WSI along Badgerys Creek
 - ▭ IBRA Subregions
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- - - Wildlife buffer
 - ▭ Flying-fox camps and buffers
 - ▭ Noise contours
- Flight paths and swaths**
- ▭ Arrivals
 - ▭ Departures

- Biodiversity values**
- ▲ Nationally Important Flying-fox Camp
 - ▲ Other Flying-fox Camp
 - ▭ Important Wetlands
 - ▭ SEPP Coastal Wetlands
 - ▭ Cumberland Plain Priority Conservation Lands
 - ▭ Greater Blue Mountains World Heritage Area
 - ▭ BioMap Cumberland Subregion Regional Corridors
 - ▭ GHFF Foraging Habitat
 - ▭ Important Habitat - Swift Parrot
 - ▭ Important Habitat - Regent Honeyeater



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5.3.2 ‘Important’ habitats including foraging and breeding habitats

Wildlife attractants identified as potential risk contributors for the project include all biodiversity values and other land uses with potential to provide suitable habitat within a 13 km buffer of the Airport Site in accordance with the ICAO guidelines. Important habitat essential to support the life stages of some species contribute as wildlife attractants. Although they will not be directly impacted upon, they provide habitat for species with potential to be impacted and as such are described here.

5.3.2.1 Important habitat maps

NSW DPE have developed a set of important habitat maps for a subset of threatened species which have habitat constraints essential to support critical life stages for the species for example breeding areas or locations important for foraging/over-wintering of Migratory species. Important habitat maps have been developed for the following MNES within the study area:

- Regent Honeyeater (*Anthochaera phrygia*)
- Swift Parrot (*Lathamus discolor*)
- Migratory Shorebirds including Sanderling (*Calidris alba*), Curlew Sandpiper (*Calidris ferruginea*), Great Knot (*Calidris tenuirostris*), Greater Sand-plover (*Charadrius leschenaultia*), Lesser Sand-plover (*Charadrius mongolus*), Broad-billed Sandpiper (*Limicola falcinellus*), Black-tailed Godwit (*Limosa limosa*), Terek Sandpiper (*Xenus cinereus*), Red Knot (*Calidris canutus*), Eastern Curlew (*Numenius madagascariensis*) and Bar-tailed Godwit (*Limosa lapponica baueri*).

Important habitat for these species has been mapped within the assessment zone. A summary of the area of important habitat mapped within each assessment zone is provided in Table 5.3 and depicted in respect to the Airport Site in Figure 5.2 and Figure 5.5.

Table 5.3 Important habitat mapped within the assessment zones

Species	Extent within wildlife buffer (ha)	Extent within flying-fox camps and buffers (ha)	Extent within noise contours (ha)	Extent within assessment zones (ha)*
Regent Honeyeater	149.37	–	149.37	8,496.01
Swift Parrot	3,268.77	91.58	2,671.75	15,495.43
Migratory Shorebirds	–	–	–	13,145.29

*Equates to the flight path buffer

5.3.2.2 Flying-fox breeding habitat and Grey-headed Flying-fox foraging habitat

Flying-foxes congregate and establish daytime roosts known as colonies or ‘camps’ which often include multiple flying-fox species. Eight active flying-fox colonies were monitored as part of the Wildlife Strike Risk Assessment (Avisure 2022) to understand their activity in the vicinity of the Airport Site. One of these camps occur within the 13 km radius of the airport runway whilst the remaining 7 occur within a 30 km radius. The 7 situated outside the 13 km radius have been included in the Wildlife Strike Risk Assessment (Avisure 2022) as the species are highly mobile and considered to be at risk of strike (Australian Transport Safety Bureau 2019).

The 8 flying-fox camps monitored and included in the assessment zone include:

- Emu Plains
- Ropes Creek
- Wetherill Park
- Cabramatta
- Macquarie Fields
- Campbelltown
- Cobbitty, Brownlow Hill
- Parramatta Park.

None of these 8 flying-fox camps occur within the GBMA.

As of October 2022, 6 of the 8 flying-fox camps monitored were active. Full details on the activity and numbers of individuals recorded within each monitored camp is detailed in the Wildlife Strike Risk Assessment (Avisure 2022).

While the Wildlife risk assessment does not differentiate between different species of flying-fox, the National flying-fox monitoring viewer indicates that these camps contain, or did contain, Grey-headed Flying-fox and Black Flying-fox (not threatened) co-occurring, and numbers and proportion fluctuate over time (Department of Climate Change Energy the Environment and Water 2022).

Two of the colonies monitored are classified as Nationally Important Flying-fox Camps (i.e. the Parramatta Park and Macquarie Fields Flying-fox colonies) (Department of Climate Change Energy the Environment and Water 2022). Nationally Important camps are identified as those that contain >10,000 Grey-headed Flying-foxes in more than a single year in the last 10 years or have been occupied by more than 2,500 Grey-headed Flying-foxes permanently or seasonally every year for at least 10 years (Department of the Environment 2015). These 2 camps occur outside the wildlife buffer.

Approximately 872,651.24 ha of Grey-headed Flying-fox foraging habitat has been mapped as occurring within the assessment zone, of this 46,434.24 ha occurs within the wildlife buffer, 231.93 ha occurs within the flying-fox camps and buffers and 68,539.86 ha has been mapped within the noise contours (Department of Planning and Environment 2011).

The location of flying-fox colonies and Grey-headed Flying-fox foraging habitat in respect to the Airport Site are depicted in Figure 5.2 and Figure 5.5.

5.3.3 State Environmental Planning Policy (Resilience and Hazards) 2021

Approximately 5,436.39 ha of coastal wetlands protected under the Resilience and Hazards SEPP occur within the assessment zone. Of this, 3.70 ha occurs within the wildlife buffer, 7.15 ha occurs within the flying-fox camps and buffer and none occurs within the noise contours. These areas are likely to provide suitable roosting and foraging habitat for many fauna species with potential to be impacted upon by the project. No direct impacts to these areas would occur.

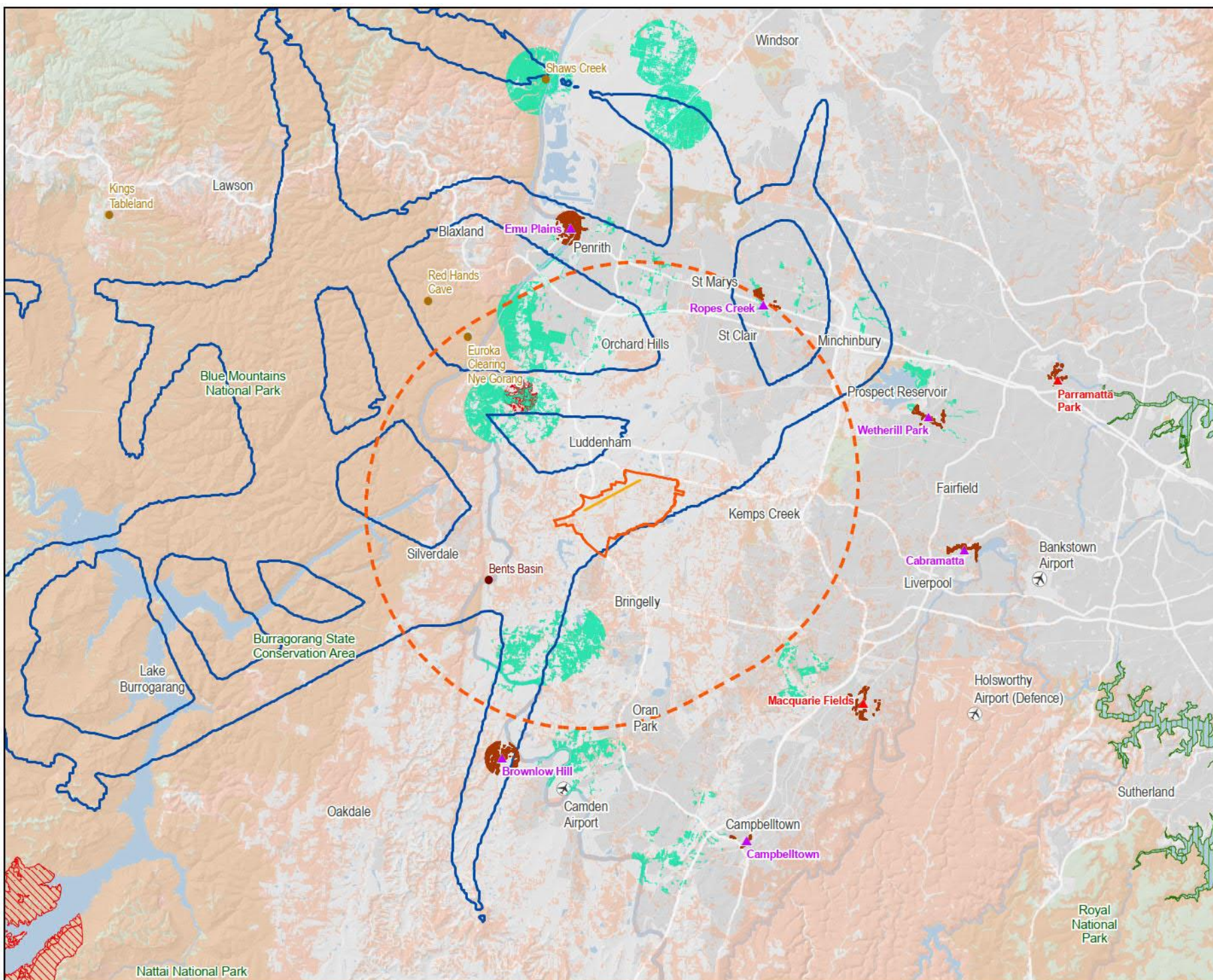
The extent of these coastal wetlands and proximity area for coastal wetlands in respect to the project is depicted in Figure 5.2 and Figure 5.6.

5.3.4 Wetlands of national and international significance

The PMST database search did not identify any Ramsar wetlands included on the List of Wetlands of International Importance developed under the Ramsar convention as having potential to occur within or in proximity to the wildlife buffer. The closest Ramsar wetlands are the Towra Point Estuarine Wetlands, located 45 km to the east of the airport runway and directly across Botany Bay from Sydney (Kingsford Smith) Airport. The Sydney (Kingsford Smith) Airport is likely to affect the wetlands and associated species to a much greater degree than any possible impact that may occur from the Western Sydney International (Nancy-Bird Walton) Airport. No direct impacts to any national or international significant wetlands would occur.

The extent of national and internationally significant wetlands in respect to the project are depicted in Figure 5.2.

Figure 5.5
Important habitat and foraging habitat



- Legend**
- WSI Runway
 - Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - Important Habitat - Swift Parrot
 - Important Habitat - Regent Honeyeater
 - Important Habitat - Migratory Shorebirds
 - GHFF Foraging Habitat
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours
- Biodiversity values**
- Nationally Important Flying-fox Camp
 - Other Flying-fox Camp



0 5 10
km

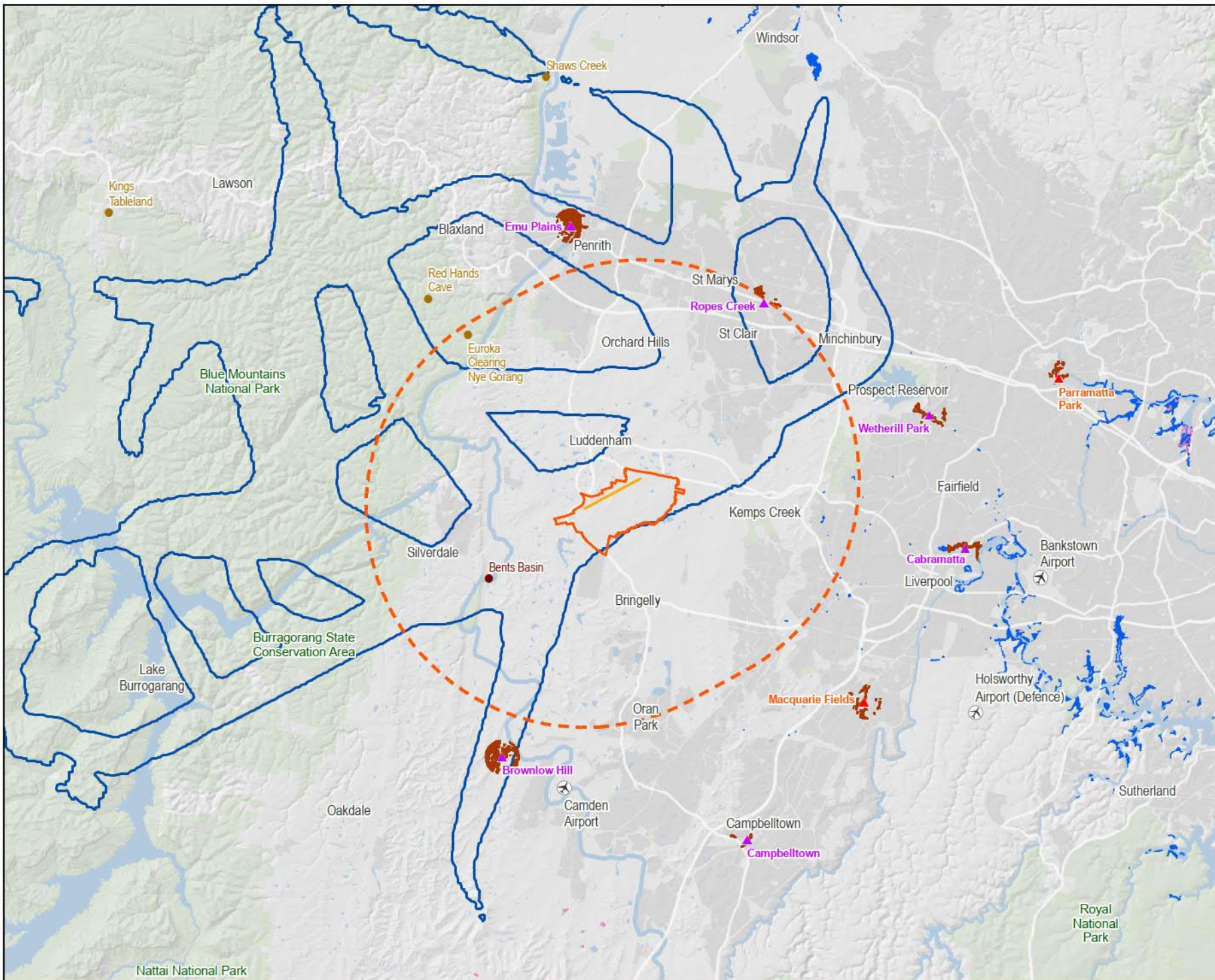
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Data sources - DTSDIC, DCS, Geoscience Australia
EPA, WEIR, Carrivick, 10 OpenStreetMap contributors, and the GIS user community
Aerial: USGS, NOAA, NASA, CSIRO, NICTA, NLS, CSIRO, Geospatial Services, GDA, GIS and the GIS User Community

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Figure 5.6

Wetland values



Legend

- WSI Runway
- Western Sydney International (Nancy-Bird Walton) Airport land boundary
- Important Wetlands
- SEPP Coastal Wetlands
- Aboriginal Places raised during consultation (NPW Act)
- Site of Aboriginal significance
- Assessment zones
 - Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours
- Biodiversity values
 - Nationally Important Flying-fox Camp
 - Other Flying-fox Camp



0 5 10 km
Coordinate system: GDA 1994 NSW Lambert
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5.3.5 Local and regional wildlife corridors

Wildlife corridors can be defined as ‘retained and/or restored systems of (linear) habitat which, at a minimum enhances connectivity of wildlife populations and may help them overcome the main consequences of habitat fragmentation’ (Wilson and Lindenmayer 1995). Corridors can provide ecological functions at a variety of spatial and temporal scales from daily foraging movements of individuals to broad-scale genetic gradients across biogeographical regions.

Corridors serve a number of different functions in terms of conservation including:

- providing increased foraging area for wide-ranging species
- providing cover for movement between habitat patches, and enhancing the movement of animals through sub-optimal habitats
- reducing genetic isolation
- facilitating access to a mix of habitats and successional stages to those species which require them for different activities (for example, foraging or breeding)
- providing refuge from disturbances such as fire
- providing habitat in itself
- linking wildlife populations and maintaining immigration and recolonization between otherwise isolated patches. This in turn may help reduce the risk of population extinction.

The functionality of wildlife corridors for different fauna (that is the degree to which a corridor fulfils the above mentioned roles) will depend on a range of factors including dispersal behaviour, mode of movement (for example flying, crawling, hopping, et cetera), predation risk, and how these interact with landscape attributes (for example topography, vegetation cover and density) (Recher, Shields et al. 1987). In most cases this will differ between species, so that not all corridors will function equally well for all species. Inter-specific interactions, such as competition and/or predation, can also affect corridor function differently in different species (Catteral, Green et al. 1991).

The wildlife buffer occurs within a generally open, highly degraded landscape comprised of agricultural pastures as well as land occupied by residential and urban development which is intersected by occasional patches of moderately to highly disturbed vegetation that form part of local and regional wildlife corridors. The exception to this is along the western boundary of the wildlife buffer where it intersects with the Great Dividing Range.

Key local and regional wildlife corridors which occur in the locality include:

- **Biodiversity Investment Map (BIO Map) Cumberland Subregion Regional Corridors:** identified priority core habitat connectivity areas and corridors where the protection and management of native vegetation is likely to maximise benefits to biodiversity within the Cumberland subregion and other connected habitat elements. These were established under the NSW Government’s \$40 million Green Corridors program which identified priority areas (Biosis 2021, Department of Planning and Environment 2022).
- **Cumberland Plain Priority Conservation Lands:** identified by the Department of Environment, Climate Change and Water (now DPE) in the Cumberland Plain as representing the best remaining opportunities in the region to maximise long-term biodiversity benefits the highest priority for future efforts to conserve the threatened biodiversity of the region. They cover approximately 25,566 ha and are contributing most to the long-term recovery and maintenance of threatened biodiversity (Department of Environment Climate Change and Water 2010, Department of Environment Climate Change and Water 2011).

These corridors are largely confined to linear areas of riparian remnant vegetation that intersect a landscape which is otherwise cleared and fragmented. Other small to medium patches of remnant vegetation within the assessment zone (mostly confined to the large parcel of Defence land at Orchard Hills) are also identified in these wildlife corridor layers.

There are considerable areas of these local and regional wildlife corridors that occur within the assessment zones.

A summary of the extent of these corridors mapped within the assessment zones is provided in Table 5.4 and depicted in respect to the Airport Site in Figure 5.2 and Figure 5.7.

Table 5.4 Regional wildlife corridors within the assessment zones

Regional wildlife corridor	Extent within wildlife buffer (ha)	Flying-fox camps and buffers (ha)	Extent within noise contours (ha)	Extent within assessment zones (ha)*
BIO Map Cumberland Subregion Regional Corridors	7,882.23	109.11	6,935.00	40,288.68
Priority Conservation Lands	3,058.76	6.64	3,543.79	25,514.56

*Equates to the flight path buffers

Outside of these regional wildlife corridors, the Great Dividing Range (along which the GBMA exists), is a key national wildlife corridor. The GBMA contributes significantly to this containing large remnant tracts of high condition vegetation that creates connectivity with other remnants along the east coast and into central parts of NSW. Whilst this area provides key habitat for hundreds and thousands of native species populations, it also facilitates their movement naturally at a broad and likely pre-settlement scale.

5.3.6 WSI environmental conservation initiatives

To mitigate potential impacts on habitat fragmentation the Stage 1 Development retained 117.1 ha of native vegetation around the perimeter of the Airport Site. This area is known as the 'environmental conservation zone' (ECZ) and will remain undeveloped and managed for biodiversity conservation through the Land Use Plan detailed in the Airport Plan. The ECZ includes large areas of Cumberland Plain Woodland, riparian habitats along Badgerys Creek, Duncans Creek and Oaky Creek as well as large areas of land which will be revegetated.

As part of the Stage 1 Development Biodiversity Offset Delivery Plan approximately 978.83 ha of land at the Defence Establishment Orchard Hills was set aside as a biodiversity offset to compensate for the project's residual impacts on biodiversity. The site is being managed under by the Department of Defence under a Memorandum of Understanding and in accordance with the Orchard Hills Offset Area Offset Plan (GHD 2022).

The entirety of these conservation initiatives occurs within the wildlife buffer and their areas form part of the local and regional wildlife corridors and values captured in Section 5.3.5. Figure 5.2 and Figure 5.7 illustrate the extent of the ECZ and Orchard Hills offset property in respect to the project and wildlife buffer.

5.3.7 Wildlife attractants

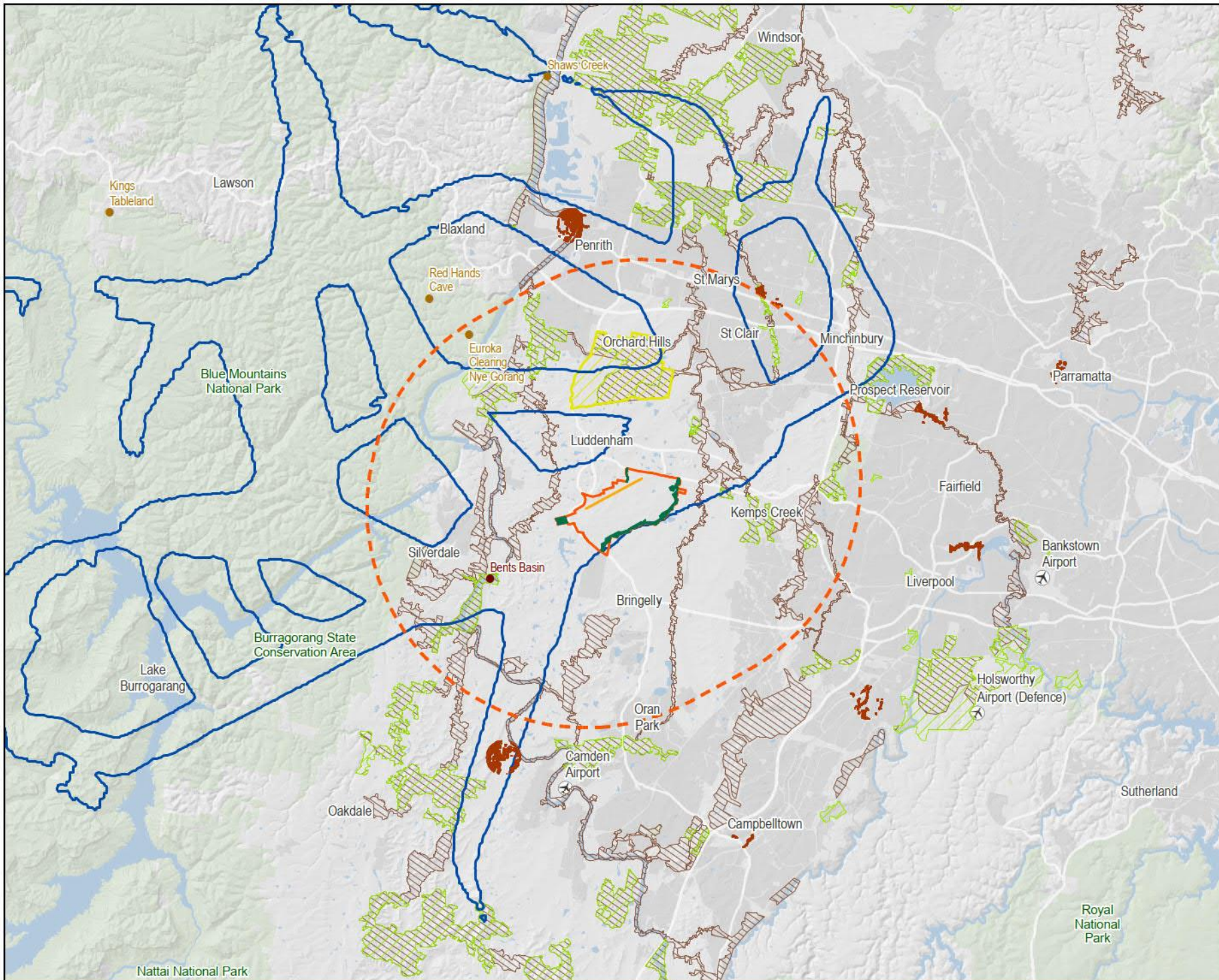
Wildlife attractants identified as potential risk contributors for the project include all biodiversity values and other land uses (such as permanent basins, ponds, non-native ecosystems, and waste management facilities, flying-fox camps and Ibis colonies) with potential to provide suitable habitat within a 13 km buffer of the runway in accordance with the ICAO guidelines (the wildlife buffer). There were 58 sites identified as mapped in Appendix F of Wildlife Strike Risk Assessment (Technical paper 5).

Technical paper 5 also identifies 15 additional sites outside the wildlife buffer that also act as wildlife attractants based on wildlife present and capacity of the species utilising these sites to travel more than the 13 km to access foraging and roosting/breeding habitat. These sites included:

- 7 Flying-fox camps
- Ibis colonies at Lake Gillawarna and Mount Annan
- Prospect Reservoir and Werombi Road Pond
- waste management facilities including Weatherill Park Resource Recovery, Spring Farm Landfill and Fairfield City Council Resource Recover
- Nurranginy Reserve.

Figure 5.7

Local and regional wildlife corridors



- Legend**
- WSI Runway
 - Western Sydney International (Nancy-Bird Walton) Airport land boundary
 - Orchard Hills offset area (indicative boundary only)
 - Ecological Conservation Zone at WSI along Badgersy's Creek
 - Cumberland Plain Priority Conservation Lands
 - BioMap Cumberland Subregion Regional Corridors
 - Aboriginal Places raised during consultation (NPW Act)
 - Site of Aboriginal significance
- Assessment zones**
- Wildlife buffer
 - Flying-fox camps and buffers
 - Noise contours



0 5 10 km
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5.4 Nationally listed threatened species and ecological communities

5.4.1 Threatened ecological communities

The PMST search identified 15 threatened ecological communities listed under the EPBC Act that are known or predicted to occur within the wildlife buffer. Of these, 10 are considered to have a moderate to high likelihood of occurring based on the broadscale vegetation mapping (Department of Planning and Environment 2022) and the likelihood of occurrence assessment (Table 5.5). Although these threatened ecological communities are likely to occur, none are considered candidate communities requiring further assessment. This was determined as the project would not directly impact any of these communities as the project is limited to the above airspaces (that is, no vegetation or habitats will be removed) and indirect impacts will be negligible. As such, these threatened ecological communities have not been considered further in this report.

A further 20 EPBC Act listed threatened ecological communities were predicted to occur across the remainder of the assessment zone. Impacts on threatened ecological communities within these areas are expected to be negligible due to their location in relation to the proposed flight paths and the altitudes at which aircraft would be. As these communities occur outside the project's zone of influence, impacts to these entities were considered negligible and deemed to not require further assessment.

While the impacts to threatened ecological communities would be negligible, the assessment considers the impacts to fauna species and their habitats.

The PMST search conducted for the assessment zones which details all threatened ecological communities predicted to occur is provided in Appendix A.

Table 5.5 Candidate EPBC Act listed threatened ecological communities within the wildlife buffer

Common name	EPBC Act Status	Likelihood of occurring	Extent within wildlife buffer (ha) ¹	Extent of wildlife buffer within GBMA (ha) ¹
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	High – broadscale mapping (DPE 2022) identifies an associated PCT (PCT 3629)	85.68	0.46
Coastal Swamp Oak (Casuarina glauca) Forest of the New South Wales and South East Queensland ecological community	Endangered	High – broadscale mapping (DPE 2022) identifies an associated PCT (PCT 4023)	295.14	–
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Low – although contains areas <20 m ASL, no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Low – no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–

Common name	EPBC Act Status	Likelihood of occurring	Extent within wildlife buffer (ha) ¹	Extent of wildlife buffer within GBMA (ha) ¹
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	High – broadscale mapping (DPE 2022) identifies an associated PCT (PCT 3448)	618.62	–
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	High – broadscale mapping (DPE 2022) identifies 2 associated PCTs (PCT 3319 and PCT 3320)	9,177.71	1.95
Elderslie Banksia Scrub Forest in the Sydney Basin Bioregion	Critically Endangered	Moderate – no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Low – no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	High – broadscale mapping (DPE 2022) identifies 5 associated PCTs (PCT 3145, PCT 3258, PCT 4024, PCT 4025 and PCT 4058)	3,411.57	1.37
Shale Sandstone Transition Forest in the Sydney Basin Bioregion	Critically Endangered	High – broadscale mapping (DPE 2022) identifies an associated PCT (PCT 3321)	2,651.20	432.29
Temperate Highland Peat Swamps on Sandstone	Endangered	High – broadscale mapping (DPE 2022) identifies an associated PCT (PCT 3929)	9.38	9.29
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	High – broadscale mapping (DPE 2022) identifies 2 associated PCTs (PCT 3140 and PCT 3262)	607.57	109.14
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Low – no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	High – broadscale mapping (DPE 2022) identifies 2 associated PCTs (PCT 3110 and PCT 3318)	359.11	–
White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Low – no associated PCTs mapped by broadscale mapping (DPE 2022)	–	–
Total area (ha)			17,215.98	554.50

1. Based on NSW State Vegetation Type Map (Department of Planning and Environment 2022). No field validation of the NSW State Vegetation Type Map has been completed and therefore not all areas identified here may meet the EPBC Act listed threatened ecology communities.

5.4.2 Threatened fauna species

The database searches identified 92 threatened fauna species listed under the EPBC Act that are known or predicted to occur within the study area and wildlife buffer. Of these, 16 are considered to have a moderate to high likelihood of occurring or utilising the habitats available within the assessment zone and determined as candidate species requiring further assessment as they are considered to have potential to be impacted upon by the project (Table 5.6). An additional species, Red Knot, has been included as it has a high likelihood of occurring outside the wildlife buffer but within the assessment zone.

A detailed description of these candidate threatened fauna species characteristics, suitable and preferred habitat within the assessment zone and status under the EPBC Act is provided in Appendix B.

Table 5.6 Candidate EPBC Act listed threatened fauna species

Common name	Scientific name	EPBC Act Status	Likelihood of occurrence within assessment zone	Likelihood of occurrence within wildlife buffer
Alaskan Bar-tailed Godwit	<i>Limosa lapponica baueri</i>	Vulnerable	High	Moderate
Australian Painted Snipe	<i>Sternula nereis nereis</i>	Endangered	High	Moderate
Australasian Bittern	<i>Botaurus poiciloptilus</i>	Endangered	High	High
Curlew Sandpiper	<i>Calidris ferruginea</i>	Critically Endangered	High	Moderate
Eastern Curlew	<i>Numenius madagascariensis</i>	Critically Endangered	High	Moderate
Eastern Hooded Plover	<i>Thinornis cucullatus cucullatus</i>	Vulnerable	High	Moderate
Gang Gang Cockatoo	<i>Callocephalon fimbriatum</i>	Endangered	High	Moderate
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Vulnerable	High	Moderate
Great Knot	<i>Calidris tenuirostris</i>	Critically Endangered	High	Moderate
Grey-Headed Flying Fox	<i>Pteropus poliocephalus</i>	Vulnerable	High	High
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Vulnerable	High	High
Painted Honeyeater	<i>Grantiella picta</i>	Vulnerable	High	High
Red Knot	<i>Calidris canutus</i>	Endangered	High	Low
Regent Honeyeater	<i>Anthochaera phrygia</i>	Critically Endangered	High	Moderate
South -eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami lathami</i>	Vulnerable	High	Moderate
Swift Parrot	<i>Lathamus discolor</i>	Critically Endangered	High	Moderate
White -throated Needletail	<i>Hirundapus caudacutus</i>	Vulnerable	High	Moderate

5.4.3 Threatened flora species

The database searches identified 46 threatened flora species listed under the EPBC Act that are known or predicted to occur within the wildlife buffer. Of these, 17 are considered to have a moderate to high likelihood of occurring and utilising habitats available (Appendix B) and the likelihood of occurrence assessment. Although these species are likely to occur within the wildlife buffer, none are considered candidate species requiring further assessment. Similar to threatened ecological communities, this was determined as the project would not directly impact any of these species as the impacts will be limited to airspaces (that is, no vegetation or habitats will be removed) and indirect impacts will be negligible. As such, they have not been considered further in this report.

A further 147 EPBC Act listed threatened flora species were predicted to occur across the remainder of the assessment zones by the PMST search. Impacts on threatened plants within these areas are expected to be negligible due to their location in relation to the proposed flight paths and the altitudes at which aircraft would be. As these species occur outside the project's zone of influence, impacts to these entities were considered negligible and deemed to not require further assessment.

The PMST search conducted for the assessment zone which details all EPBC Act listed threatened flora species to occur is provided in Appendix A.

5.4.4 Migratory species

The desktop assessment identified 79 Migratory fauna species listed under the EPBC Act that are known or predicted to occur within the study area and wildlife buffer. Of these, 28 are considered to have a moderate to high likelihood of occurring or utilising habitats available within the assessment zone and have been determined as candidate species requiring further assessment as they are considered to have potential to be impacted upon by the project (Table 5.7). An additional species, Red Knot, has been included as it has a high likelihood of occurring outside the wildlife buffer but within the assessment zone.

A detailed description of these candidate Migratory fauna species characteristics, suitable and preferred habitat within the assessment zone and status under the EPBC Act is provided in Appendix B.

Table 5.7 Candidate EPBC Act listed Migratory species

Common name	Scientific name	EPBC Act status	Likelihood of occurrence in assessment zones	Likelihood of occurrence in wildlife buffer
Bar-tailed Godwit	<i>Limosa lapponica</i>	Migratory	High	Moderate
Black-faced Monarch	<i>Monarcha melanopsis</i>	Migratory	High	Moderate
Black-tailed Godwit	<i>Limosa limosa</i>	Migratory	High	Moderate
Caspian Tern	<i>Hydroprogne caspia</i>	Migratory	High	Moderate
Common Greenshank	<i>Tringa nebularia</i>	Migratory	High	Moderate
Common Sandpiper	<i>Actitis hypoleucos</i>	Migratory	High	Moderate
Curlew Sandpiper	<i>Calidris ferruginea</i>	Migratory	High	Moderate
Double Banded Plover	<i>Charadrius bicinctus</i>	Migratory	High	Moderate
Eastern Curlew	<i>Numenius madagascariensis</i>	Migratory	High	Moderate
Fork-tailed Swift	<i>Apus pacificus</i>	Migratory	High	Moderate
Glossy Ibis	<i>Plegadis falcinellus</i>	Migratory	High	High
Great Knot	<i>Calidris tenuirostris</i>	Migratory	High	Moderate

Common name	Scientific name	EPBC Act status	Likelihood of occurrence in assessment zones	Likelihood of occurrence in wildlife buffer
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Migratory	High	Moderate
Grey-tailed Tattler	<i>Tringa brevipes</i>	Migratory	High	Moderate
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Migratory	High	Moderate
Lathams Snipe	<i>Gallinago hardwickii</i>	Migratory	High	Moderate
Little Curlew	<i>Numenius minutus</i>	Migratory	High	Moderate
Marsh Sandpiper	<i>Tringa stagnatilis</i>	Migratory	High	Moderate
Oriental Plover	<i>Charadrius veredus</i>	Migratory	High	Moderate
Osprey	<i>Pandion haliaetus</i>	Migratory	High	High
Pacific Golden Plover	<i>Pluvialis fulva</i>	Migratory	High	Moderate
Pectoral Sandpiper	<i>Calidris melanotos</i>	Migratory	High	Moderate
Red Knot	<i>Calidris canutus</i>	Migratory	High	Low
Red-necked Stint	<i>Calidris ruficollis</i>	Migratory	High	Moderate
Rufous Fantail	<i>Rhipidura rufifrons</i>	Migratory	High	High
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	Migratory	High	Moderate
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	Migratory	High	High
White-throated Needletail	<i>Hirundapus caudacutus</i>	Migratory	High	Moderate
Wood Sandpiper	<i>Tringa glareola</i>	Migratory	High	Moderate

5.5 Altitudinal range of aircraft

Figure 1.3 to Figure 1.7 provide a series of figures which depict the altitude ranges of each WSI flight path during the day and night. The aircraft altitudinal ranges can be categorised into the following:

- 0 to 1,000 ft (0 to 300 m) AGL: take-off and wheels up (96% of flying-fox strikes recorded at or below 1,000 ft (300 m) AGL (Parsons, Blair et al. 2008)
- >1,000 to 3,500 ft (>300 to 1 km) AGL: initial ascent (3,500 ft (1 km)) AGL is the height at which 93% strikes occur at or below (Dolbeer 2011) – species could include Fork-tailed Swift
- >3,500 to 10,000 ft (> 1 km to 3 km) AGL: final ascent to cruising altitude – thermaling species such as Australian Pelican and Wedge-tailed Eagle
- >10,000 to 20,000 ft (>3 km to 6 km) AGL: cruising and maximum altitude.

The altitude figures show that aircraft take off and ascend relatively quickly in the scale of the assessment zones and that aircraft take-off and ascend primarily within the wildlife buffer assessment zone and the immediately adjoining environs. Approximately 93% of any aerial strikes to birds or flying-foxes are most likely to occur within these zones (Parsons, Blair et al. 2008, Dolbeer 2011).

Chapter 6 Facilitated changes

Airspace changes within the Sydney Basin airspace are required prior to the opening of WSI in 2026 to ensure the safe and efficient use of airspace once WSI's single runway operations commence. These changes are required to enable changes to vertical and lateral flight path profiles for aircraft arriving and departing from other neighbouring airports such as Sydney Kingsford-Smith Airport (KSA), Bankstown airport (BWU) and the Royal Australian Airforce (RAAF) Base Richmond (Richmond) to maintain safe separation of aircraft.

The facilitated changes will include:

- changes to KSA STARs
- changes to KSA SIDs and the introduction of Bankstown SIDs and STARs i.e. changes to Bankstown flight paths, which may result in areas not currently overflown being overflown by Bankstown flights
- changes to Richmond SIDs and STARs
- Visual Flight Rule (VFR) changes which will include VFR flights being moved out of the way so that airspace can be cleared in anticipation of WSI flights.

The Sydney Basin airspace refers to the airspace area within the Greater Sydney region, bordered by Sutherland and Bargo in the south, Lake Macquarie and the Hawkesbury River in the north and Mt Victoria in the west. It encompasses an extensive network of flight paths associated with existing airports, Defence facilities, recreational aviation activities (gliders, ballooning and parachuting), emergency aviation activities (for example, medical or bushfire), helicopter activity and transiting flights.

The Sydney Basin airspace is the most complex and busiest in Australia. In 2019 there were more than 710,000 air traffic movements in the Sydney Basin airspace. The actual flight tracks of individual aircraft within the Sydney Basin airspace are recorded by Airservices Australia using information from surveillance radars operated by air traffic control. Most parts of the Sydney Basin, including much of the GBMA, currently experience some level of aircraft overflight during the day. The level of existing aircraft activity within the Sydney Basin airspace is evident in reviewing actual flight tracks flown by aircraft from KSA over one a day period in 2019 (refer to Figure 6.1 below).

As shown in Figure 6.1, most of the Greater Sydney region, including much of the GBMA, is currently already overflown by a range of aircraft associated with existing airports including KSA (being the dominant large aircraft activity) in addition to BWU, Camden and RAAF Base Richmond airports.

It is anticipated that the facilitated changes will not significantly impact biodiversity values as they will occur within areas already subject to routine flight paths associated with the KSA, BWU and RAAF Base Richmond airports (refer to Figure 6.1). An exception to this is the changes to BWU flight paths which may result in some areas being overflown that have not been previously overflown. Despite this, these flight paths occur in areas which are heavily disturbed in nature and are unlikely to introduce further risk or impacts than that assessed in Chapter 7.

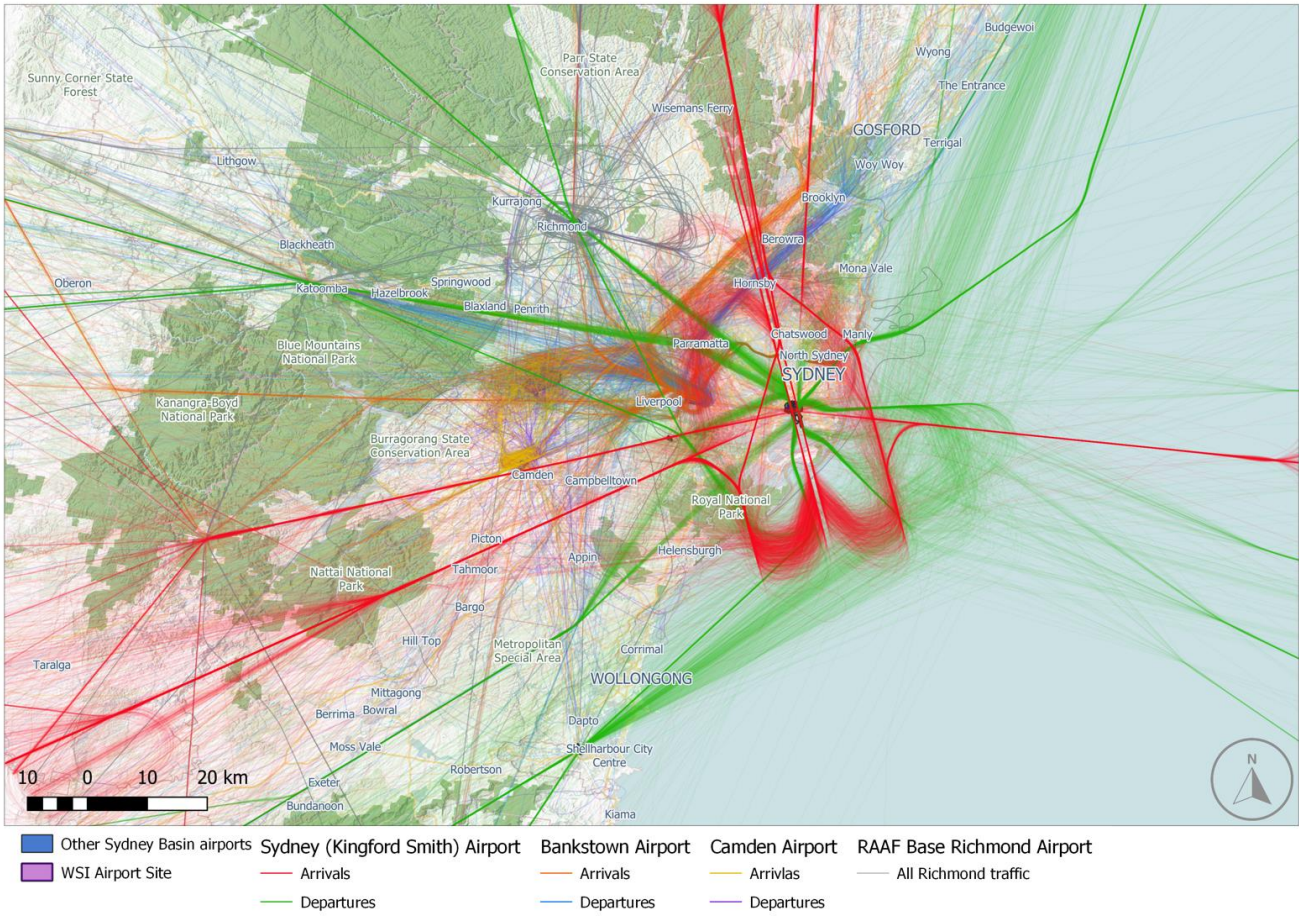


Figure 6.1 One week sample of flight track activity in the Sydney Basin (in March 2019)

Chapter 7 Impact assessment, including design scenarios

7.1 Design scenarios summary

It is expected that the first full year in which WSI and its flight paths will be in operation is 2027. From 2027 the WSI operations will be expanded incrementally to handle up to 37 MAP and 226,000 ATM by around 2055.

To assess the project's future impacts on the environment the EIS has developed 2 operational scenarios which are summarised below in Table 7.1. For the purposes of assessing impacts on MNES biodiversity entities this report will describe and assess the impacts associated with the worst-case scenario represented by the 2055 (operating close to capacity) operational scenario. The 2055 operational scenario considers all impacts relating to the project when it is expected to operate at capacity.

The proposed flight paths for the project are illustrated in Figure 1.3 to Figure 1.7.

Table 7.1 WSI operational scenario summary

Design scenario	Representative year	ATM per year (passenger and freight ATMs)	ATM per day (passenger and freight ATMs)	MAP	Assessment type and where it is addressed in this report
Early years of operation	2033	80,000	282	10	Not assessed – 2055 scenario used for biodiversity assessment
Operating close to capacity	2055	226,000	688	37	Quantitative – Chapter 7

7.2 Impact overview

Impacts associated with the project are considered to be similar in nature to the operation airspace impacts assessed in the 2016 EIS Biodiversity Assessment (GHD 2016).

As summarised in Table 7.2 most impacts associated with the project would be minor or negligible in severity and largely limited to indirect impacts except for intermittent wildlife strike.

Impacts of the WSI flightpaths would be limited to airspace and no direct impacts on vegetation or fauna habitats would occur. Wildlife may be temporarily interrupted by the project but would likely become habituated and continue to use habitats in the assessment zones over time.

Table 7.2 Impact summary

Impact	Nature	Timeframe of impact	Extent of impact	Impact severity
Wildlife strike	Direct – intermittent	Ongoing	Known, unpredictable/irreversible	Minor
Noise	Indirect – intermittent/continuous	Ongoing	Known – nocturnal and diurnal periods	Minor
Light spill	Indirect – intermittent	Ongoing	Known – limited to nocturnal hours only	Negligible
Air quality	Indirect – intermittent/continuous	Ongoing	Known – nocturnal and diurnal periods	Negligible
Water quality	Indirect – intermittent/continuous	Ongoing	Known – nocturnal and diurnal periods	Negligible
Fuel jettisoning	Indirect – intermittent/rare	Temporary	Unpredictable however scarce in occurrence (limited to emergency situations) and localised	Negligible

7.3 Direct impacts – wildlife strike

7.3.1 Overview

Direct impacts associated with the project are limited to wildlife strike leading to potential injury or mortality of fauna species. The impacts associated with this impact are described in detail in Technical paper 5.

Wildlife strike potential and risk are directly linked to the habitat values present within the vicinity of the WSI which would attract species to the location, for example roosting and foraging opportunities. Within the wildlife buffer the key habitat values providing the highest risk contributors include several waterbodies and the Elizabeth Drive Resource Recovery Facility. The Western Sydney Aerotropolis would also increase tree canopy cover to 40%, enhance riparian zones and wetlands and generally increase biodiversity values across the area which will further attract wildlife.

Technical paper 5 identified that the species with the highest overall risk of being impacted by wildlife strike are mammal and bird species, not listed as threatened or Migratory under the EPBC Act, that commonly occur within the locality such as Eastern Grey Kangaroos and waterfowl. The report does however identify one threatened (Grey-headed Flying-fox) and one Migratory (Glossy Ibis) species as having potential to be affected (Avisure 2022). Additional threatened and Migratory species considered to have a moderate to high likelihood of being affected by the project are summarised in Section 1.1.

Whilst some species are likely to be struck on occasion by aircraft, these impacts will be minimised by implementing the recommended mitigation measures proposed in Technical paper 5. Residual wildlife strike impact impacts are unlikely to be of a magnitude that would threaten the viability of local populations of any species.

7.3.2 Flying-foxes

As a group, flying-foxes are particularly susceptible to wildlife strike due to their large body mass and their tendency to fly out from camps in large groups which increases the risk of multi-strike events. The highest risk for flying-foxes is being struck whilst enroute to and from foraging and roosting sites within the locality of WSI.

Around 96% of flying-fox collisions occur below 1,000 ft (300 m) AGL, with most strikes occurring below 500 ft (150 m) AGL (Parsons, Blair et al. 2008). Further, flying-foxes¹ were reported as being the most struck fauna species group at Australian airports between 2008 and 2017 (1,240 strikes nationally) (Australian Transport Safety Bureau 2019). This indicates that these species have a higher risk of wildlife strike within the flight paths of airports (Avisure 2022).

As of October 2022, surveys conducted for the Wildlife Strike Risk Assessment recorded no flying-foxes using WSI airspace as part of the 4 field survey sessions completed (in July, August, September and October 2022). These surveys were completed during early morning, middle of the day, late afternoon, and post-dusk over a single day at 15 survey points within the Airport Site (Avisure 2022).

Survey limitations (4 surveys over 4 months using human observation from static locations) mean the use of WSI airspace by flying foxes cannot be excluded as flying-foxes (likely comprised of Grey-headed Flying-fox and other non-threatened flying-fox species) were observed in the fly-out surveys from the 8 flying-fox camps monitored in the study area. Due to this, existing available information relating to impacts to flying-foxes from other airports in the Sydney Basin have been used to assess the impacts of the project on these species.

The impacts of the project on the flying-fox behaviour, reproduction and nutritional status and the overall population is difficult to predict without long term baseline studies of movement and foraging ecology. Past strike data from Sydney (Kingsford Smith) Airport and Bankstown Airport, which are surrounded by similar foraging and roosting habitats, can be used to provide an indication of future WSI wildlife strike impacts. Technical paper 5 details that over the past 5 years around 75 flying-foxes (including an estimated 13 Grey-headed Flying-foxes listed as Vulnerable under the EPBC Act) have been struck by aircraft arriving and departing from the Sydney (Kingsford Smith) Airport. This averages out to around 15 flying-fox strikes a year. It is estimated that around 4% of this (or 2–3 individuals) is comprised of Grey-headed Flying-fox individuals. At Bankstown Airport 2 flying-foxes have been recorded as being struck over the past 5 years, none of these were recorded as Grey-headed Flying-foxes. It should be noted that there is high potential that additional Grey-headed Flying-fox strike at KSA occurs amongst the data for unidentified flying foxes, however the overall strike rate is still relatively low compared to overall populations of flying-foxes in these areas.

Aircraft wildlife strike typically results in the mortality of a flying-fox. Despite this, a strike event is usually limited to a single individual being hit. For species that disperse in flocks, such as the Grey-headed Flying-fox, there is the rare occasion when more than one individual may be hit. Based on past strike data however it has been observed that these events are still limited to only a couple of individuals being hit (Avisure 2022).

KSA and BWU occur within the Sydney Basin and are surrounded by similar foraging and roosting habitats.

Past strike data and trends from these airports can be used to provide an indication of future WSI wildlife strike impacts. As detailed in the Wildlife Strike Risk Assessment, over the past 5 years KSA has reported the following ² (Avisure 2022):

- Around 75 flying-foxes (both threatened and non-threatened species) were struck by aircraft arriving and departing the KSA. This averages out to around 15 flying-fox individuals being struck on an annual basis, which equates to approximately 1.2% of the total strikes nationally.
- Of the above, 13 individuals were recorded as Grey-headed Flying-foxes. This averages out to around 2–3 individuals being struck on an annual basis, which equates to approximately 1% of total strikes nationally. It should be noted that there is high potential that additional Grey-headed Flying-fox strike at KSA occurs amongst the data for unidentified flying foxes, however the overall strike rate is still relatively low compared to overall populations of flying-foxes in these areas.

¹ Includes data where species was reported as fruit bat, bat and flying-fox.

² There are significant limitations in the ATSB strike data with species identification. More than 90% of the flying-fox strikes reported during this period were reported as 'Unidentified Flying-fox' or 'Unidentified Bat' and it is likely that some of these strikes involved Grey-headed Flying-foxes.

At BWU 2 flying-foxes have been recorded as being struck over the past 5 years, none of these were identified as Grey-headed Flying-foxes.

The limited use of WSI airspace by flying-foxes observed to date (Avisure 2022) and the low mortality rate of the species at other Sydney based airports indicate that wildlife strike impacts are likely to be possible, but the impact would be low.

7.3.3 Ibis

There are multiple Ibis species which may utilise wildlife attractants within the locality of the project which place them at risk of wildlife strike. These Ibis species include the Straw-necked Ibis, Australian White Ibis and the Glossy Ibis, the latter of which is listed as a Migratory species under the EPBC Act.

Similar to the flying-foxes these species are particularly susceptible to wildlife strike due to their large body mass, their tendency to fly out from areas of suitable habitat in large groups and that they frequently inhabit suitable habitat in aircraft movement areas. The highest risk for Ibis species is being struck whilst enroute to and from key foraging and roosting sites within the locality of WSI such as the Australian White Ibis breeding colonies at Lake Gillawarna and Mount Annan and Ibis foraging sites at Kemps Creek Resource Recovery Park and Duncans Creek as identified in Technical paper 5.

Surveys conducted for the Wildlife Strike Risk Assessment recorded high numbers of Australian White Ibis and Straw-necked Ibis transitioning through the WSI airspace representing the 2 most observed species during the diurnal airside surveys. This is likely attributable to the abundance of food resources throughout the region. Australian White Ibis contributed to 62% of the total flyovers during surveys completed between July and October 2022. The Glossy Ibis has also been previously observed within the airside area (on-airport) of WSI (refer to Technical paper 5), approximately 30 individuals of this species were recorded in 2020.

Due to the above the Australian White Ibis and Straw-necked Ibis were both identified as having a high risk of wildlife strike. Based on past wildlife strike data from other Sydney Basin airports, these species have historically been recorded to be less susceptible to aircraft strike than Flying-foxes (Australian Transport Safety Bureau 2019). The low mortality rate at other Sydney based airports indicate that wildlife strike impacts to these species are likely to be possible, but the impact would be low.

7.3.4 Additional species

Other species identified at being risk of wildlife strike impacts include numerous native and introduced mammal, bird and bat species such as the Eastern Grey Kangaroo, microchiropteran bats, waterfowl, raptors and migratory birds. While these other species are likely to be struck on occasion by aircraft, these impacts would be minimised by implementing the recommended mitigation measures proposed in Technical paper 5. In addition, landuse controls and requirements have been set in the SEPP Western Sydney Parklands and associated DCP for the Aerotropolis, which would assist in managing the risk of wildlife strike.

In addition, according to Technical paper 5 while strikes above 3,500 ft (1 km) AGL can occur with thermaling species such as Australian Pelican and Wedge-tailed Eagle, the frequency of high-altitude strikes is comparatively low. It is estimated that approximately 7% of wildlife strikes occur above this altitude (Dolbeer 2011). This suggests that wildlife strike associated with the project would be largely limited to the wildlife buffer however it is possible that it may occasionally occur to thermaling species within the greater assessment zone. This impact, however, would be low.

Impacts are unlikely to be of a magnitude that would threaten the viability of local populations of any species.

7.4 Indirect impacts

7.4.1 Aircraft noise

Alterations to existing noise would occur during the operation of the project's flight paths. The nature of noise and potential noise from aircraft flight operations is among the most significant of the environmental impacts associated with airports. Potential noise impacts on the environment are described in Technical paper 2 and those impacts specific to wildlife are detailed in Technical paper 5. Key impacts of noise on wildlife that have been observed include (Ecosure 2021):

- behavioural changes such as avoidance or dispersal from areas affected by noise
- communication interference such as hindering or masking of signals
- physiological impacts such as elevated levels of stress hormones that may affect breeding
- hearing loss.

There is limited research of aircraft noise impacts on each individual species likely to occur within airspace or utilise habitat below the flight paths. A review of current research however has identified the following specific wildlife responses to anthropogenic noise that can be used to indicate potential impacts aircraft noise may have on biodiversity due to the project:

- Past research in wildlife responses to noise have shown large variability between species and individuals at different locations even between individuals in the same population, making multi-species-based risk assessments difficult (Busnel and Fletcher 1978, Radle 2007, Duquette, Loss et al. 2021).
- Some species are more susceptible to disturbance from noise than others due to their auditory capabilities, social structure, life history patterns and habitat. Further some species may develop a tolerance when overflight are frequent or regular but others do not (Shannon, McKenna et al. 2016).
- Noise has been found to generally play a minor role as a disturbance factor however in combination with additional optical stimuli can cause a reaction in fauna. Aircraft noise made by jets and sonic booms sometimes cause startle responses however mostly do not result in severe consequences, when they do react to aircraft noise it is often due to previous experience. It is noted that the aircraft operating at WSI will not break the sound barrier or create sonic booms. The reaction of individuals and populations to the effects of noise are still largely unknown (Kempf and Huppopp 1996).
- Despite studies observing behaviour changes in wildlife in response to noise, others have observed considerable behavioural plasticity in urban environments exposed to similar noise level extents. Cumulative evidence shows many taxa, including bird, amphibian and mammal species, have altered their call and call periods in response to the predictability of noise patterns produced by aircraft (Fuller, Irvine et al. 2007, Gill and Brumm 2014, Dominoni, Greif et al. 2016, Dorado-correa, Rodriguez-Rocha et al. 2016, Sierro, Schloesing et al. 2017, Linley, Kostoglou et al. 2018). Australian Magpies have exhibited significant tolerance towards aircraft noise, as shown in the study by Linley, Kostoglou et al. (2018). The study outlined patterns of responses that are consistent with anti-predator behaviour, meaning Australian Magpies are able to distinguish between stimuli that is produced from vehicles and aircraft and adapt accordingly. This is primarily due to an increased tolerance from repeated exposure. Avisure has implemented a number of airport wildlife management programs and the data collected from these programs supports this behaviour (2022).
- Aircraft noise could affect birds' ability to hear environmental signals and vocal cues (i.e., auditory masking) linked to predator detection, vocalisations, foraging, reproduction and reduce the available transmission distance (Lohr, Wright et al. 2003, Pepper, Nascarella et al. 2003). Conversely, this acoustic masking can also deter predators in noisy environment (Bonson 2012) which may encourage wildlife to inhabit and tolerate noisy environments such as airports and their surrounds.

- Some studies have found that bird species have adapted the timing and frequency of calls including mating signals and time budget allocations in response to varying noise associated with airports compared to their non-urban counterparts (Blickley and Patricelli 2011, Blickley, Blackwood et al. 2012, Zollinger, Podos et al. 2012, Mateus, Carrilho et al. 2015, Dominoni, Greif et al. 2016)
- Avisure has recorded a number of urban adapted species successfully breeding and roosting on and close to airports (e.g., Masked Lapwing (*Vanellus miles*), Australian Magpie (*Gymnorhina tibicen*), Australian White Ibis (*Threskiornis moluccus*), Wood Duck (*Chenonetta jubata*), Plumed Whistling-Duck (*Dendrocygna eytoni*), Fairy Martin (*Petrochelidon ariel*), Osprey (*Pandion haliaetus*)).
- Pepper, Nascarella et al. (2003) notes a study that observed no negative impacts when they tested the disturbance rate of helicopter noise on the Mexican Spotted Owl (*Strix occidentalis lucida*). Another study found that Peregrine Falcons (*Falco peregrinus*) are tolerant of aircraft noise levels between 80 and 87 dB(A), however low-level aircraft triggered a flight response and lead to nest abandonment and reproductive failure (Ellis, Ellis et al. 1991). Further, some studies suggest that some *Branta* and *Anser* species in North America have poorer tolerance to rotary-wing noise compared to fixed-wing aircraft (Avisure 2022).
- As human-caused noise pollution dominates modern ecosystems, wildlife has developed strategies, that have been widely observed and documented, to reduce the masking effect of noise pollution. These strategies include increasing the amplitude of their call to increase the signal-to-noise ratio, changing delivery time of signals to avoid temporal overlap, or in the instance of being exposed to chronic low-frequency noise some species may increase the frequency of their signals. A case of wildlife demonstrating these phenomena was documented in the study by Kruger and Du Preez (2016), which investigated the effect of airplane noise on the Critically Endangered Pickersgill's Reed Frog. It was found when exposed to high intensity airplane flyby noise (reaching thresholds beyond 110 dB(A)), males increased calling effort during and after flyby relative to pre-stimulus call rates (Basner, Babisch et al. 2014, Gill, Job et al. 2015, Kruger and Du Preez 2016).
- Several studies examined the potential impact of aircraft on development and parental provisioning, which found no significant difference in behaviour or body condition between those developing in rural areas and those developing next to an airport runway (Wolfenden, Slabbekoorn et al. 2019, Redondo, Muriel et al. 2021).
- It has been estimated that the noise level at airports range from 55 to 110 dB(A), depending on airport scale, number of flights, and the type of aircraft (Mato and Mufuruki 1999, Wang, Gao et al. 2022, 2022). Literature on wildlife response to low-altitude aircraft and helicopters report a threshold of approximately 90 - 115 dB(A) for a variety of animals (Barber, Burdett et al. 2011). Literature based on 20 years of international research documenting the effects of anthropogenic noise suggests that the range of noise levels, including aircraft noise, reported to induce annoyance in humans and trigger responses in terrestrial wildlife are similar i.e. between 40 and 100 dB(A) (Shannon, McKenna et al. 2016).
- Pepper, Nascarella et al. (2003) states the most important consideration with regard to aircraft noise and wildlife is proximity to the airport (where the highest noise impacts are) and frequency of overflights. Furthermore, wildlife previously exposed to noise may be less affected than those who have not, and the time it takes for wildlife to adapt to noise is species-specific. This indicates that noise level impacts are likely to be concentrated in proximity to the Airport Site, for short intermittent periods of time and affect those species which utilise habitats in these locations.
- Noise level generated by aircraft depends on aircraft engine type (propeller, jet), size (B737, C172) and aircraft altitude (Airservices Australia 2022).
- Wildlife can respond to noise disturbance by fleeing, increased alertness, lower reproductive success and changes in vocal behaviour (Pepper, Nascarella et al. 2003, Alquezar and Maceedo 2019).
- The Grey-headed Flying-fox (*Pteropus poliocephalus*) show a resistance to noise disturbance (Coffey 2014), however because noise disturbance is a tool often used to relocate flying-foxes from camps, much more research into the impacts of aircraft noise on camp selection, camp dynamics, breeding success, impacts on population health etc., is needed.

- Pepper, Nascarella et al. (2003) notes a study that showed raptors non-responsive to aircraft when >500 m away. Anecdotal evidence from Avisure supports this and suggests that raptors, in general, are largely non-responsive to aircraft even when less than 500 m away. When airborne, raptors are focused on their foraging target and are less concerned about detecting predators. This is considered a contributing factor to their relatively high strike frequency at Australian airports.
- Waterfowl (e.g. ducks) spend less than 1.4% of their time responding to aircraft (e.g. alert response, fleeing) and the energetic cost to the population is apparently low (Pepper, Nascarella et al. 2003).
- There are few studies that examine the effect of noise on insectivorous bats (suborder Microchiroptera), and none that consider the impacts of aircraft noise, however Bonson (2012) suggest that urban noise can potentially mask echolocation calls. Le Roux and Waas (2012) showed aircraft noise did not have any impact on Long-tailed Bats (*Chalinolobus tuberculatus*).
- Anthropogenic noise has been proven in some instances to induce increases in stress related hormone levels and vigilance behaviour and changes in parent-offspring communication (Kight, Saha et al. 2002, Goudie and Jones 2004, Rich and Romero 2005, Barber, Burdett et al. 2011, Wolfenden, Slabbekoorn et al. 2019)
- Research into the effects of noise on disturbance to individual animals, their habitat and the ecosystems in which they reside, is required to determine safe levels of exposure to protect wildlife values, for management of anthropofaunal conflict and for sustaining animal productivity (Brown 2001).

WSI will operate 24-hours a day, 7 days a week. Therefore, it has potential to impact both diurnal and nocturnal species. Noise would be generated by aircraft taking-off, ascending and cruising as various altitudes along the WSI flight paths. Whilst noise generated from airports is a common source of anthropogenic noise the periods of noise are highly predictable, with a sudden peak when aircraft arrive and depart (Mato and Mufuruki 1999, Pepper, Nascarella et al. 2003, Alquezar and Maceedo 2019, Wang, Gao et al. 2022, 2022) with departing aircraft louder than arriving, and long-range heavy aircraft louder for longer because of the slower climb (e.g. A380, B747) (Airservices Australia 2022). Further, it has been found that the lateral distance between aircraft and wildlife is an important parameter when predicting animal behavioural responses to aircraft noise exposure. Impacts are typically highest on species in proximity to the airport where the higher intensity noise levels are concentrated (Delaney, Grub et al. , Ward, Tockner et al. 1999, Pater, Grubb et al. 2009).

Given this, it is anticipated that most noise related impacts on biodiversity would be concentrated within the wildlife buffer to a lesser degree on areas outside the wildlife buffer below the 2055 N60 24-hour and N70 24-hour noise contours which are depicted in Figure 5.2, and to its lowest degree beyond these noise contours. Most other noise impacts outside these locations would likely be minor or negligible given existing noise levels associated with the existing environment including other aircraft flights operating within the Sydney Basin airspace as described and illustrated in Chapter 6. As a general principle species considered most likely to be impacted by the project's aircraft noise would be those that occur or utilise habitats in proximity to the Airport Site and those less tolerant of changes to noise. For example, BSRs such as some biodiversity within the GBMA which will be directly overflown at altitudes of between 2,000 – 10,000 ft (610 m – 3 km) AGL. Noise impacts on the GBMA are described in more detail in Section 7.8.3.

Aircraft operating at WSI will include both jet and non-jet aircraft. The level of noise generated will depend on aircraft engine type (propeller, jet), size (B737, C172), way the aircraft is flown, aircraft settings, rate of climb, aircraft altitude and meteorological conditions (Airservices Australia 2022). As mentioned in Technical paper 1, jet engines can exceed 150 dB(A) during departure however this decreases as the aircraft increase in altitude and transition into cruising mode generally generating less than 60 dB(A) once they exceed 10,000 ft (3 km) AGL. Further, aircraft operating at WSI will not break the sound barrier or create sonic booms. The approximate altitude and distance from the airport at which aircraft reach certain noise levels is provided below:

- take-off, wheels up and initial ascent (0 to 3,500 ft (0 to 1 km) AGL): jet engines can reach over 150 dB(A) during take-off
- final ascent to cruising altitude (>3,500 to 10,000 ft (> 1 km to 3 km) AGL): aircraft usually reach noise levels of between 70 to 80 dB(A) during this period (based on L_{max} values presented in the Aircraft Noise Technical paper)
- cruising and maximum altitude (>10,000 to 20,000 ft (>3 km to 6 km) AGL): typically aircraft at altitudes above 10,000 ft (3 km) AGL generally produce less than 60 dB(A) (Airbiz 2022).

Existing ambient noise levels within the vicinity of the Airport Site would be influenced by surrounding land uses including roads, agriculture and other aircraft operating in the airspace within the locality. A review of fortnightly arrival and departure routes from KSA (June 2017) and monthly flight paths from BWU (May 2017) indicate that the entirety of the assessment zone is already overflown to varying degrees by aircraft operating within the Sydney Basin airspace, assuming a 2 km buffer was applied to allow for deviations due to weather conditions, pilot techniques and variations in aircraft performance.

Given the above, biodiversity values in the region are already subject to current low to moderate levels of ambient anthropogenic noise generated by aircraft. Literature suggests that some species are susceptible to disturbance from noise and will become habituated to the change over time whilst others less tolerant may be displaced because of the constant aircraft noise. It is likely that species present have already become habituated to current levels of aircraft noise and some species may have already relocated into adjacent habitat due to vegetation clearing associated with Stage 1 development.

Most of the habitats within the locality of the airport have been heavily modified and fragmented. Most of the remnant vegetation that remains occur as linear patches of vegetation along riparian areas that form corridors to adjoining larger remnants. The exception to this is to the west where the subject site encroaches on the GBMA. Given this, the key biodiversity values likely to be affected by aircraft noise include but are not limited to:

- Wildlife corridors – noise from the project would not cause substantive indirect impacts to wildlife corridors. The values of present wildlife corridors provide connectivity between remnants throughout the wildlife buffer and broader region would remain and continue to function so that fauna species would still be able to disperse between remnants throughout the region.
- Orchard Hills Offset Area – the offset area for the Stage 1 Development is located within the wildlife buffer and will be directly overflown at an altitude of approximately 3,500 to 5,000 ft (1–1.5 km) AGL, experiencing noise levels of around 70–80 dB(A) (the sound of a washing machine) in a single event. The overflight will only occur during nocturnal hours when Runway 05 is in operation. No direct impacts would occur on the vegetation and associated habitats present and therefore wildlife connectivity values of the site would remain and continue to function. Although noise may have minor impacts on some species that utilise habitats within this area, species present are likely to adapt to changes in noise levels and continue using habitats present given the site is already located in an area subject to routine flight paths associated with the Sydney Basin airspace and that the site is surrounded by highly disturbed areas with poorer habitat. Given this, impacts are likely to be low.
- Important habitat for Regent Honeyeater and Swift Parrot (approximately 149.37 ha and 2,671.75 ha mapped within the 2055 N60 and N70 24-hour noise contours respectively) - although there is no research on the impacts of noise on these species, research on other birds and opportunistic blossom specialists such as flying-foxes suggest that these species may be impacted by aircraft noise (refer to literature review above). Potential impacts could include masking of calls, stress inducement or lead to avoidance of areas immediately adjacent the airport where noise is the loudest. Despite impacts being possible, impacts are predicted to be low as both species are known to use highly modified habitats within urban areas subject to varying levels of anthropogenic noise and no habitat would be directly removed by the project. Further, aircraft would typically be too high at locations where flight paths intersect areas of mapped important habitat to affect them. Flight paths occur at least 1,500 ft (0.5 km) AGL above mapped important habitat for the Swift Parrot (approximately 80 dB(A) in a single event, or the sound of a hair drier) and 8,000 ft (2.4 km) AGL above important habitat mapped for the Regent Honeyeater (approximately 60 dB(A) in a single event, or a normal conversation at 1 m). The noise that these species would be subjected to would occur as single events rather than as a constant change.
- Important habitat for migratory shorebirds – mapped habitat for migratory shorebirds is located well outside of the wildlife buffer and is closer to the Sydney coastline where the airport at KSA is more likely to be a much stronger influencing factor. In addition, the Towra Point Estuarine Wetlands that support migratory shorebirds are directly opposite KSA Sydney Airport on Botany Bay and any shorebirds are more likely to be affected by the operations of that airport.

- Flying-fox camps and foraging resources – these species are likely to show resistance to noise disturbance as they have adapted well to urban environments (Coffey 2014). Aircraft would typically fly at altitudes of greater than 3,000 ft (1 km) AGL equating to approximately 70 dB(A) (the sound of a washing machine) in a single event over flying-fox camps. Further no habitat would directly be impacted and an abundance of foraging habitat for the species would continue to exist within the region (1,120,209.30 ha mapped within the assessment zones) and nationally Important flying-fox camps are located outside of the wildlife buffer. Although noise may have minor impacts on the species, they are considered likely to continue using habitats present within the locality, especially based on their presence in proximity to other airports throughout the Sydney Basin and their general known tolerance of urban environments.
- Protected wetland habitats (including internationally significant, SEPP Coastal Wetlands and those protected under Ramsar) – these habitats are largely absent from the wildlife buffer except for a few small areas towards Cecil Hills. These areas occur surrounding heavily populated areas which would be subject to substantial existing anthropogenic noise levels. Further, most flight paths do not pass over these areas except for those that typically exceed 8,000 ft (2.4 km) AGL, equating to approximately 60 dB(A) in a single event (or a normal conversation at 1 m). These noise levels are unlikely to impact fauna within these habitats, which are also already adapted to urban environments and disturbance.
- GBMA (refer to Section 7.8 for further details).
- Commonwealth Heritage Places – the Orchard Hills Cumberland Plain Woodland and Shale Woodland Llandilo Commonwealth Heritage Places occur within the flight path buffers of the project. Potential noise Impacts on the Orchard Hills Cumberland Plain Woodland would be consistent with those described above for the Orchard Hills Offset Area. The Shale Woodland Llandilo Commonwealth Heritage Place is located outside the wildlife buffer but within the flight path buffer and will be directly overflown at an altitude of approximately 7,000 to 8,000 ft (2.1 km to 2.4 km) AGL, experiencing noise levels of around 60 dB(A) in a single event (or a normal conversation at 1 m). The overflight will occur during both diurnal and nocturnal hours when Runway 05 and Runway 23 are in operation. No direct impacts would occur on the vegetation and associated habitats present and therefore wildlife connectivity values of the site would remain and continue to function. Similarly, to the Orchard Hills Offset Area, although noise may have minor impacts on some species that utilise habitats within, species present are likely to adapt to changes in noise levels and continue using habitats present given the site is already located in an area subject to routine flight paths associated with the Sydney Basin airspace and that the site is surrounded by highly disturbed areas with poorer habitat. Given this, impacts are likely to be low on Commonwealth Heritage Places.
- Suitable habitat for numerous native animal species including:
 - Urban adapted species such as Masked Lapwing, Australian Magpie, Australian White Ibis, Wood Duck, Plumed Whistling-Duck, Fairy Martin and Osprey which are likely to adapt to changes in noise levels (Avisure 2022).
 - Waterfowl species, of which a few are identified of wildlife strike risk (Avisure 2022), are likely to minimally affected based on literature that identified waterfowl spent less than 1.4% of their time responding to aircraft (Pepper, Nascarella et al. 2003).
 - Raptors such as White-bellied Sea-eagle and Little Eagle which may abandon nest sites near the airport and relocate and breed in neighbouring areas. These impacts are likely to be localised and concentrated to areas immediately adjacent the Airport Site and within the wildlife buffer where noise levels will be highest based on research by Pepper, Nascarella et al. (2003) which found that raptors have been shown to be non-responsive to aircraft when >500 m away.
 - Some bird and amphibian species may be subject to masking affects, whilst others may be subject to behavioural changes (avoidance/displacement) or physiological impacts such as induced stress that could affect breeding.
 - Microbat echolocation and listening for prep may be masked by aircraft noise however impacts are likely to be minimal (Stauber 2006, Le Roux and Waas 2012).

In summary, impacts associated with noise and vibration will be highest where aircraft generate the most noise which is generally when aircraft are flying low or taking off/landing. Therefore, most noise relating impacts would be limited to the wildlife buffer and particularly in close proximity to the runway/s.

Literature suggests that fauna species are likely to show varying responses to these impacts between species and individuals within populations. The noise generated by the aircraft may affect less-tolerant species which may relocate or be disrupted in response to the operation of the WSI. More noise tolerant species may also be initially affected by increases or changes to noise however are likely to become habituated over time and continue to use habitats within the assessment zone. The predicted noise levels are unlikely to result in changes at magnitude that would threaten the viability of local populations of any species. Further assessment on these impacts on MNES and the environment are provided in the SIAs in Appendix C.

7.4.2 Light pollution

Natural light conditions act as a stimulus that influence the behaviour and physiology of organisms (Blackwell, Devault et al. 2015). Artificial light, including sources associated with the project such as aircraft light, can have adverse impacts on wildlife. The key impacts associated with light spill are behavioural changes that may be critical for a species life cycle for example migration or breeding. Physiological changes such as delays in reproduction or feeding patterns may occur in response to changes in light levels (DEE 2020, Ecosure 2021). These changes can lead to some species being more vulnerable to predation, wildlife strike via disorientation or other disturbances.

Light from the project would be limited to lights on aircraft as they travel along the flight paths outside daylight hours. Technical paper 7 concluded that the magnitude of visual impacts at night (including light spill) would be experienced across a small portion of the urban area and would not contrast substantially with the surrounding landscape at night, resulting in a low magnitude of change. Within the intrinsically dark landscapes which experience minimal existing light and where biodiversity values could be most sensitive to changes in light, including large areas of the GBMA, the magnitude of change and impact has been assessed as being negligible in response to the project.

Lighting throughout the evening associated with the operational phase of the project may result in some minor impacts on nocturnal fauna less tolerant to or accustomed to light. Nocturnal species such as possums and bats may initially avoid the habitat in the wildlife buffer during nocturnal periods however they are likely to become habituated overtime and return to use habitats available in these locations. The magnitude of this impact would be negligible given the high level of light pollution already present in the locality and surrounds which has likely led to biodiversity being somewhat habituated to periodic light disturbance from human activity.

In summary, even though there may be a slight increase in light in the sky in these intrinsically dark landscapes, biodiversity is unlikely to be significantly affected by the project's operational light impacts.

7.4.3 Air quality

Aircraft operating along the flight paths would produce emissions that could result in local and regional reductions in air quality. The most important aircraft emission pollutants include oxides of nitrogen (NO_x) due to the transformation into nitrogen dioxide (NO_2) and ozone (O_3), and $\text{PM}_{2.5}$.

In terms of local air quality, Technical paper 2 found that elevated NO_2 levels are predicted to occur in 2055 and elevated levels would primarily occur to the north-west of the Airport Site aligning with the runway. The assessment however uses conservative assumptions, and actual NO_2 impacts are unlikely to be significant. The project's impact on the concentrations of all other assessed pollutants would be negligible (noting there are exceedances for $\text{PM}_{2.5}$ but these have no tangible impact). As it is likely there will be improvements in fuel efficiency (for aircraft and motor vehicles) and decreases in aircraft emissions in the future, no significant impacts on air quality are anticipated to arise.

Technical paper 2 found the regional air quality results aligned with those of local air quality for NO_2 in 2055 with any discernible increases NO_2 generally limited to a radius of approximately 5–6 kilometres of the airport (primarily attributable to aircraft near or at ground level, during take-off and landing).

For all other pollutants the impact of emissions from the project on the existing pollutant concentrations would be negligible and would be unlikely to be discernible above background concentrations.

The results also indicate that in the locations with the maximum ozone concentrations, the project makes no significant difference to the impact that would arise in any case without the project in 2055.

Habitats for wildlife in proximity to the Airport Site where air quality impacts would be largely concentrated are already highly disturbed and likely to be subject to similar emission types associated with urban development and other aircraft. Any alterations to air quality would be temporary, localised and unlikely to impact biodiversity values. Ecosystems in the region would not however be directly impacted upon and impacts are unlikely to result in a long-term decline that would threaten the viability of any of these ecosystems.

7.4.4 Water quality

Aircraft pollutants are comprised of vapours, gases, and fine particles which are not expected to deposit to the ground. Despite this, there has been queries raised relating to the deposition of these pollutants and the potential for them to impact on water quality and subsequently aquatic ecosystems including those contained within the Orchard Hills Cumberland Plain Woodland Commonwealth Heritage Place which provide habitat for disturbance-sensitive macroinvertebrate species such as stoneflies, leptophlebiid mayflies and pollution-sensitive caddisflies.

Technical paper 12 estimated the deposition rates of the key pollutants relevant to project and their potential impacts on water quality using a highly conservative approach. It identified that aircraft pollutants likely to be generated are dominated by PM_{2.5} which essentially act like a gas in the atmosphere with little or no deposition. Due to this, it is expected that the deposition of pollutants to the ground are highly unlikely to ever occur. Technical paper 12 identified that the project's potential impacts on water quality would be negligible and so low that they would not be measurable.

Based on the results of Technical paper 12, aquatic habitats within proximity to the Airport Site (such as those within the Orchard Hills Cumberland Plain Woodland Commonwealth Heritage Place) are considered to be negligible and unlikely to impact on aquatic biodiversity values.

7.4.5 Fuel jettisoning

Fuel jettisoning (also known as fuel dumping) is only required in extremely rare circumstances in the event of an emergency and is only relevant for certain types of aircraft. Fuel jettisoning may introduce harmful contaminants into the sensitive environments within the study area such as native terrestrial and aquatic ecosystems, if not appropriately managed. If required, fuel dumping can be carried out safely and without any impacts at ground level when appropriate procedures are followed. Fuel jettisoning would occur in accordance with the Manual of Air Traffic Services (MATS) – Section 4.2.11 Fuel Dumping (Airservices Australia, 2023). Given the strict regulations associated with its implementation and the high evaporation rate of the fuel at high altitudes potential impacts would be negligible and unlikely to have an immediate or future impact on biodiversity values identified in this assessment.

For more detailed information on this issue please refer to Technical paper 2 and Technical paper 4.

7.5 International agreements, recovery plans and threat abatement plans relating to biodiversity protection

Australia has obligations under the following international agreements to which they are signatories:

- Biodiversity Convention, the Convention on Conservation of Nature in the South Pacific (Apia Convention)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The Apia Convention has been signed by 5 countries within the South Pacific with the main objective being to safeguard representative samples of:

- natural ecosystems of the South Pacific region
- superlative scenery
- striking geological formations
- regions and objects of aesthetic interest or historic, cultural or scientific value.

This safeguarding includes the creation of protected areas, making a commitment not to alter national parks, maintain lists of indigenous flora and fauna in danger of extinction and provide these species with protection. The project will not pose any danger to these values and no substantive direct impacts are likely to occur upon them.

CITES is an international agreement between governments that aims to ensure that the international trade in wildlife does not threaten wild populations of plants and animals. As the project does not involve international trade and would not breach the CITES agreement signed by Australia in 1976, it has not been considered further in this document.

A summary of the national recovery plans and threat abatement plans relevant to candidate species that need to be considered concurrently with the proposed action in accordance with the EIS Guidelines is provided in Table 7.3.

Table 7.3 National recovery plans and threat abatement plans relevant to candidate species

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Alaskan Bar-tailed Godwit	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements. Furthermore, there are no mapped Apia Convention protected areas within the wildlife buffer, therefore the project is unlikely to lead to detrimental impact on habitat protected for the species under the Apia Convention.
Australian painted Snipe	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements. Furthermore, there are no mapped Apia Convention protected areas within the wildlife buffer, therefore the project is unlikely to lead to detrimental impact on habitat protected for the species under the Apia Convention.
Australasian Bittern	There is no adopted or made Recovery Plan for this species	Threat abatement plan for predation by feral cats (Commonwealth of Australia 2015) Threat abatement plan for predation by the European red fox (Department of the Environment Water Heritage and the Arts 2008)	The threat abatement plans for this species document the impact of predation which arise from feral cat and fox. The proposed action pertaining to this EIS will not lead to a change in the pre-existing distribution and density of these species and therefore, will not be inconsistent with the management details outlined in the plans.

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Curlew Sandpiper	Recovery Plan not required, for <i>Calidris ferruginea</i> as the approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats	No Threat Abatement Plan has been identified as being relevant for this species	<p>Although no recovery plan is required for this species, the conservation advice includes the main objectives in Australia as:</p> <ul style="list-style-type: none"> • achieve a stable or increasing population • maintain and enhance important habitat • disturbance at key roosting and feeding sites reduced • raise awareness of curlew sandpiper within the local community. <p>The proposed action is unlikely to result in any direct conflicts to these objectives. The design of the flightpaths will not cause a decline in the population size or cause detriment to important habitats. At the point where planes reach the coastal habitat utilised by this species they will be at a sufficient altitude not to cause impacts to the habitat or identified roosting and foraging areas. It is therefore considered that the proposed action remains consistent with the Apia Convention and relevant recovery and threat abatement plans.</p>
Eastern Curlew	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	<p>As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements.</p> <p>The Wildlife Conservation Plan for Migratory Shorebirds, published by the Commonwealth of Australia (2015) outlines a vision of Ecologically sustainable populations of migratory shorebirds remain distributed across their range and diversity of habitats in Australia, and throughout the East Asian-Australasian Flyway. This vision will be achieved through:</p> <ul style="list-style-type: none"> • protection of important habitats for migratory shorebirds has occurred throughout the EAAF • wetland habitats in Australia, on which migratory shorebirds depend, are protected and conserved • anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated • knowledge gaps in migratory shorebird ecology in Australia are identified and addressed to inform decision makers, land managers and the public. <p>The Management Plan aligns with the same objectives of the Apia Convention. The proposed action will not impact of the protection of important habitats. Although anthropogenic threats will occur from the proposed action, the flightpath design models that aircrafts will be of a sufficient altitude around core habitat (coastal) to not result in direct or indirect impacts. It is therefore considered that the proposed action remains consistent with the Apia Convention.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Eastern Hooded Plover	There is no adopted or made Recovery Plan for this species	Recovery Plan not required, as significant research and management actions are being undertaken at national, state and local levels. Conservation advice provides sufficient direction to implement priority actions and mitigate against key threats	<p>In New South Wales the species is managed at a State level through the Threatened Shorebird Recovery Program. The main objectives are:</p> <ul style="list-style-type: none"> • achieve stable numbers of adults in the populations • improve breeding success • maintain, enhance and restore habitat. <p>The proposed action will not result in direct or indirect impact against these objectives and therefore, will not result in detrimental impacts on the species recovery. Predominately, the success of the Recovery Program relies on direct in-situ management actions and the proposed action occurring in the airspace will result in not limited these in-situ actions. Furthermore, within the Study Area, there are no cited ‘important populations’ (which are all based in Vic, SA and Tasmania) as outlined in the species Conservation Advice and thus ensure compliance with the Apia Convention.</p>
Gang-gang Cockatoo	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements. Furthermore, there are no mapped Apia Convention protected areas within the wildlife buffer, therefore the project is unlikely to lead to detrimental impact on habitat protected for the species under the Apia Convention.

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Great Knot	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	<p>As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements.</p> <p>The Wildlife Conservation Plan for Migratory Shorebirds, published by the Commonwealth of Australia (2015) outlines a vision of Ecologically sustainable populations of migratory shorebirds remain distributed across their range and diversity of habitats in Australia, and throughout the East Asian-Australasian Flyway. This vision will be achieved through:</p> <ul style="list-style-type: none"> • protection of important habitats for migratory shorebirds has occurred throughout the EAAF • wetland habitats in Australia, on which migratory shorebirds depend, are protected and conserved • anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated • knowledge gaps in migratory shorebird ecology in Australia are identified and addressed to inform decision makers, land managers and the public. <p>The Management Plan aligns with the same objectives of the Apia Convention. The proposed action will not impact of the protection of important habitats. Although anthropogenic threats will occur from the proposed action, the flightpath design models that aircrafts will be of a sufficient altitude around core habitat (coastal) to not result in direct or indirect impacts. It is therefore considered that the proposed action remains consistent with the Apia Convention.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Greater Sand Plover	There is no adopted or made Recovery Plan for this species	No Threat Abatement Plan has been identified as being relevant for this species	<p>As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements.</p> <p>The Wildlife Conservation Plan for Migratory Shorebirds, published by the Commonwealth of Australia (2015) outlines a vision of Ecologically sustainable populations of migratory shorebirds remain distributed across their range and diversity of habitats in Australia, and throughout the East Asian-Australasian Flyway. This vision will be achieved through:</p> <ul style="list-style-type: none"> • protection of important habitats for migratory shorebirds has occurred throughout the EAAF • wetland habitats in Australia, on which migratory shorebirds depend, are protected and conserved • anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated • knowledge gaps in migratory shorebird ecology in Australia are identified and addressed to inform decision makers, land managers and the public. <p>The Management Plan aligns with the same objectives of the Apia Convention. The proposed action will not impact of the protection of important habitats. Although anthropogenic threats will occur from the proposed action, the flightpath design models that aircrafts will be of a sufficient altitude around core habitat (coastal) to not result in direct or indirect impacts. It is therefore considered that the proposed action remains consistent with the Apia Convention.</p>
Grey-headed Flying-fox	National Recovery Plan for the Grey-headed Flying-fox <i>Pteropus poliocephalus</i> (Department of Agriculture Water and the Environment 2021)	No Threat Abatement Plan has been identified as being relevant for this species	<p>The National Recovery Plan for the Grey-headed Flying-fox '<i>Pteropus poliocephalus</i>' (Department of Agriculture Water and the Environment 2021) outlines the following actions to improve the national population trend of this species:</p> <ul style="list-style-type: none"> • identify, protect and increase key foraging and roosting habitat • improve the community's capacity to coexist with flying-foxes • increase awareness about flying-foxes, the threats they face and the important ecosystem services they provide as seed dispersers and pollinators. <p>The proposed action may interfere with foraging and roosting areas through indirect impacts including noise and light pollution associated to aircraft flight paths and altitude. These indirect impacts are considered to be minimal and therefore will unlikely impact the prescribed recovery plan for this species. It is therefore considered that the proposed action remains consistent with the Apia Convention and relevant recovery and threat abatement plans.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Large-eared Pied-bat	National recovery plan for the large-eared pied bat <i>Chalinolobus dwyeri</i> (Department of Environment and Resource Management 2011)	No Threat Abatement Plan has been identified as being relevant for this species	<p>The National recovery plan for the large-eared pied bat <i>Chalinolobus dwyeri</i> (Department of Environment and Resource Management 2011) outline the following actions to assist in the conservation of the species:</p> <ul style="list-style-type: none"> • protect and prevent impacts to habitat • develop conservation covenants on lands with maternity roosts or high value foraging habitat • development disturbance and management guidelines • manage recreational activities near known or potential roosts • reduce the use of pesticides • undertake surveys of habitat affected by fire and establish fire prescriptions for areas of known breeding habitat • control introduced species and reduce impacts of grazing • stakeholder engagement and community engagement to support the specie conservation • undertake surveys and monitoring to further increase the knowledge regarding the species. <p>The proposed action may interfere with foraging and roosting areas through indirect impacts including noise and light pollution associated to aircraft flight paths and altitude. These indirect impacts are considered to be minimal and therefore will unlikely impact the prescribed recovery plan for this species. It is therefore considered that the proposed action remains consistent with the relevant recovery and threat abatement plans.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Painted Honeyeater	National Recovery Plan for the Painted Honeyeater (<i>Grantiella picta</i>) (Commonwealth of Australia 2021)	No Threat Abatement Plan has been identified as being relevant for this species	<p>The long-term vision of the recovery plan is to increase the population in size to such level that the species is no longer considered a threatened species. The main strategies which underpin this vision is:</p> <ul style="list-style-type: none"> • protect, manage and restore Painted Honeyeater breeding and foraging habitats at the local, regional and landscape scales • monitor, reduce and manage threats and sources of mortality • develop and apply techniques to measure changes in population trajectory in order to measure the success of recovery actions • improve understanding of habitat use at a landscape scale in order to better target protection and restoration measures • engage local communities and stakeholders in Painted Honeyeater conservation. • coordinate, review and report on recovery progress. <p>The recovery plan aligns with the same objectives of the Apia Convention. The proposed action will not impact of the protection of important habitats or alter the existing land use. Although the flightpaths do extend over suitable habitat for the species, it is considered the aircrafts will be at a suitable elevation to not cause direct conflict to the species (mortality) or indirect impacts such as noise pollution. It is therefore considered that the proposed action remains consistent with the Apia Convention and relevant recovery and threat abatement plans.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Red Knot	Recovery Plan not required, approved conservation advice provides sufficient direction to implement priority actions and mitigate against key threats	No Threat Abatement Plan has been identified as being relevant for this species	<p>As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements.</p> <p>The Conservation Advice (Threatened Species Scientific Committee 2016) and the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia 2015) outlines similar objectives the aid in the recovery of the species, these include:</p> <ul style="list-style-type: none"> • work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites • protect important habitat in Australia • support initiatives to improve habitat management at key sites • maintain and improve protection of roosting and feeding sites in Australia • advocate for the creation and restoration of foraging and roosting sites in Australia • incorporate requirements for red knot into coastal planning and management • manage important sites to identify, control and reduce the spread of invasive species • manage disturbance at important sites which are subject to anthropogenic disturbance when red knot is present. <p>The Conservation Advice and Management Plan aligns with the same objectives of the Apia Convention. The proposed action will not impact of the protection of important habitats. Although anthropogenic threats will occur from the proposed action, the flightpath design models that aircrafts will be of a sufficient altitude around core habitat (coastal) to not result in direct or indirect impacts. It is therefore considered that the proposed action remains consistent with the Apia Convention and the Conservation Advice which support species recovery.</p>

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Regent Honeyeater	National Recovery Plan for the Regent Honeyeater (<i>Anthochaera phrygia</i>) (Department of the Environment 2016)	Threat abatement plan for competition and land degradation by rabbits (Department of the Environment and Energy 2016)	<p>The recovery strategies outlined in Regent Honeyeater Recovery Plan include:</p> <ul style="list-style-type: none"> • improve the extent and quality of regent honeyeater habitat • bolster the wild population with captive-bred birds until the wild population becomes self-sustaining • increase understanding of the size, structure, trajectory and viability of the wild population • maintain and increase community awareness, understanding and involvement in the recovery program. <p>As the proposed action will not have a direct impact on the species (i.e., habitat clearing) there is no requirement under this action to improve the extent of habitat for the Regent Honeyeater.</p> <p>The threat abatement plans for this species document the impact of land degradation and competition which arise from rabbits. The proposed action pertaining to this EIS will not lead to a change in the pre-existing distribution and density of these species and therefore, will not be inconsistent with the management details outlined in the plans.</p>
South-eastern Glossy Black-Cockatoo	<p>There is no adopted or made Recovery Plan for this species.</p> <p>On the 24 July 2022 it was confirmed a recovery plan is required for this species. At the time of this EIS production, the plan has not been completed and published.</p>	No Threat Abatement Plan has been identified as being relevant for this species	As there are no prescribed recovery or threat abatement plans for this species, the proposed action will not be directly conflicting with agreements. Furthermore, there are no mapped Apia Convention protected areas within the wildlife buffer, therefore the project is unlikely to lead to detrimental impact on habitat protected for the species under the Apia Convention.

Species	Recovery Plan	Threat Abatement Plan	Summary of consistency
Swift Parrot	National Recovery Plan for the Swift Parrot (<i>Lathamus discolor</i>) (Saunders 2011)	Threat abatement plan for predation by feral cats (Commonwealth of Australia 2015)	<p>The National Recovery Plan outlined the following actions to promote the recovery of this species:</p> <ul style="list-style-type: none"> • identify the extent and quality of habitat • manage and protect swift parrot habitat at the landscape scale • monitor and manage the impact of collisions, competition and disease • monitor population and habitat. <p>Based on the potential ecological impacts of the proposed action on the Swift Parrot it is unlikely the proposed action would be in conflict with the recovery actions outlined above.</p> <p>The threat abatement plans for this species document the impact of predation which arise from feral cats. The proposed action pertaining to this EIS will not lead to a change in the pre-existing distribution and density of these species and therefore, will not be inconsistent with the management details outlined in the plans.</p>
White-throated Needletail	Recovery Plan not required, an approved Conservation Advice for the species provides sufficient direction to implement priority actions, mitigate against key threats and enable recovery	No Threat Abatement Plan has been identified as being relevant for this species	<p>The primary conservation actions which will promote the recovery of this species in Australia, as outlined in the Conservation Advice Threatened Species Scientific Committee (2019), include:</p> <ul style="list-style-type: none"> • work with governments in East Asia to minimise destruction of key breeding habitats • important habitats in Australia are identified and protected. <p>The proposed action will not impact on important habitats that provides aerial insects for the species. It is therefore considered that the proposed action remains consistent with International agreements including the Apia Convention, and the Conservation Advice which support species recovery.</p>

7.6 International agreements protecting Migratory species

Migratory species listed under the EPBC Act are protected under the following international agreements:

- The Bonn Convention
- China-Australia Migratory Bird Agreement
- Japan-Australia Migratory Bird Agreement
- International Agreement – Republic of Korea-Australia Migratory Bird Agreement
- any international agreement approved under subsection 209(4) of the EPBC Act.

Australia migratory bird agreements provide for the protection and conservation of migratory birds and their important habitats, protection from take or trade except under limited circumstances, the exchange of information, and building cooperative relationships. A summary of Australia’s bilateral agreements is provided in Table 7.4.

Table 7.4 Australia’s bilateral agreements and the objectives

Bilateral Agreement	Objectives
CAMBA	<ul style="list-style-type: none"> • Each Contracting Party shall prohibit the taking of migratory birds and their eggs. However, exceptions to that prohibition may be permitted in accordance with the laws and regulations in force in each country • Each Contracting Party shall prohibit any sale, purchase or exchange of migratory birds or their eggs, whether they are alive or dead, or of the products thereof or their parts (exceptions apply) • Each Contracting Party shall encourage exchanges of data and publications regarding research on migratory birds. • The Contracting Parties shall encourage the formulation of joint research programs on migratory birds. • Each Contracting Party shall encourage the conservation of migratory birds, especially those species in danger of extinction. • Each Contracting Party shall endeavour, in accordance with its laws and regulations in force, to: <ul style="list-style-type: none"> – establish sanctuaries and other facilities for the management and protection of migratory birds and also of their environment; and – take appropriate measures to preserve and enhance the environment of migratory birds. In particular, each Contracting Party shall: – seek means to prevent damage to migratory birds and their environment, and – endeavour to take such measures as may be necessary to restrict or prevent the importation and introduction of animals and plants which are hazardous to the preservation of migratory birds and their environment.

Bilateral Agreement	Objectives
JAMBA	<ul style="list-style-type: none"> • Each Government shall prohibit the taking of migratory birds or their eggs. However, exceptions to the prohibition of taking may be permitted in accordance with the laws and regulations in force in each country • Each Government shall prohibit any sale, purchase or exchange of migratory birds or their eggs, whether they are alive or dead (with exceptions) • Each Government shall take special protective measures, as appropriate, for the preservation of species or subspecies of birds which are in danger of extinction. • The 2 Governments shall exchange data and publications regarding research on migratory birds and birds in danger of extinction. • Each Governments shall encourage the formulation of joint research programs on migratory birds and birds in danger of extinction. • Each Government shall encourage the conservation of migratory birds and birds in danger of extinction. • Each Government shall endeavour to establish sanctuaries and other facilities for the management and protection of migratory birds and birds in danger of extinction and also of their environment. • Each Government shall endeavour to take appropriate measures to preserve and enhance the environment of birds protected under the provisions of this Agreement.
ROKAMBA	<ul style="list-style-type: none"> • Each Party shall prohibit the taking of migratory birds and their eggs except in the following cases and in accordance with the laws and regulations in force in each country • Each Party shall prohibit any sale, purchase or exchange of migratory birds or their eggs, whether they are alive or dead, or of the products thereof or their parts (exceptions apply) • Each Party may establish seasons and define hunting grounds for hunting migratory birds, taking into account the maintenance of annual reproduction required for the survival of those birds. • The Parties shall encourage the exchange of data and publications regarding research on migratory birds. • Each Party shall encourage the formulation of joint research programs on migratory birds. • Each Party shall encourage the conservation of migratory birds. • Each Party shall encourage the formulation of joint programs to raise awareness of migratory bird conservation. • Each Party shall endeavour to manage and conserve the habitat of migratory birds through activities such as the designation of conservation areas in its territory. • Each Party shall endeavour to take the appropriate measures to conserve and improve the environment of birds protected under Article 1 of this Agreement. In particular, it shall: <ul style="list-style-type: none"> – seek means to prevent damage to such birds and their environment; – endeavour to take measures to control the impact of invasive animals and plants on the conservation of such birds and their environment; and – endeavour to participate in regional cooperative activities for the conservation of migratory birds in the Asia-Pacific region.

In addition to the bilateral migratory bird agreements, Australia has also agreed to the following international agreements:

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
- Ramsar Convention on Wetlands
- East Asian - Australasian Flyway Partnership.

The East Asian - Australasian Flyway Partnership is a Ramsar initiative which forms a voluntary collaboration of effort focusing on protecting migratory waterbirds, their habitat and the livelihoods of people dependent on them. The objective of this partnership aligns with those objectives cited in the separate bilateral agreements (CAMBA, JAMBA, ROKAMBA, Bonn Convention and Ramsar Convention on Wetlands).

To streamline this assessment, we have considered the following key objectives from this partnership, which we consider encompass all the objectives under the bilateral and multilateral agreements, these include:

1. Develop the Flyway Network of sites of international importance for the conservation of migratory waterbirds, building on the achievements of the Asia-Pacific Migratory Waterbird Conservation Strategy networks.
2. Enhance communication, education and public awareness of the values of migratory waterbirds and their habitats.
3. Enhance flyway research and monitoring activities, build knowledge and promote exchange of information on waterbirds and their habitats.
4. Build the habitat and waterbird management capacity of natural resource managers, decision makers and local stakeholders.
5. Develop, especially for priority species and habitats, flyway wide approaches to enhance the conservation status of migratory waterbirds.

It is considered that objectives 2, 3 and 4 focuses primarily on stakeholder engagement and therefore, is not pertinent to the proposed action. The main impacts which could arise from the proposed action is the direct (and indirect) effects on habitats and species and therefore, Objective 1 and 5 has been considered relevant for appraisal against Australia's obligations under the bilateral agreement.

In accordance with Statement 3.21 of *Industry Guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species* (Commonwealth of Australia 2017) it is cited that important habitats in Australia for migratory shorebirds under the EPBC Act include those recognised as nationally or internationally important. According to this approach (which follows the Ramsar Convention criteria), wetland habitat should be considered internationally important if it regularly supports:

- 1 per cent of the individuals in a population of one species or subspecies of waterbird or
- a total abundance of at least 20,000 waterbirds.

Nationally important habitat for migratory shorebirds can be defined using a similar approach to these international criteria, i.e. if it regularly supports:

- 0.1 per cent of the flyway population of a single species of migratory shorebird or
- 2000 migratory shorebirds or
- 15 migratory shorebird species.

The closest internationally important site and important wetland (Towra Point Estuarine Wetlands) occurs more than 35 km to the east of the airport. It should be noted that 2 of the eastern flightpaths occur within 6 km north of the same wetland. However, this wetland is outside the wildlife buffer (within 13 km of the airport) whereby the elevation of aircrafts at this point will be more than 3,500 ft (1 km) AGL. It is predicted that when the aircraft is in proximity of the wetland, the altitude should be in excess of 10,000 ft (3 km) ASL. In addition, the Towra Point Estuarine Wetlands is directly opposite KSA Sydney Airport on Botany Bay and any shorebirds are more likely to be affected by the operations of that airport.

Within the wildlife buffer, there are no habitats which meet any of the criteria for nationally or internationally important habitat. Furthermore, within the wildlife buffer there is no core coastal habitat which is more commonly utilised as foraging and roosting areas by migratory species which migrate through the East Asian – Australasian Flyway.

The conservation advice documents, recovery plans and threat abatement plan for migratory species delivered in accordance with the EPBC Act aligns with Objective 5 of the agreement. The proposed action will be assessed in accordance with these documents as part of the Significant Impact Assessment for migratory birds.

In conclusion, the proposed action does not raise inconsistencies with Australia's obligations under the various migratory bird agreements.

7.7 Bushfire impacts

The 'Black Summer' bushfires of spring and summer 2019-2020 were catastrophic and unprecedented. The GBMA was one of the worst affected areas with approximately 855,310 ha, equivalent to around 80% of the GBMA, burnt. More than half of this area was subjected to moderate to extreme fire severities which had large impacts on the biodiversity within the GBMA and surrounds. Impacts of the fires were largely due to the drought, fire and shortage of food, shelter and water following the fire event (Smith 2021).

The extent and severity of the Black Summer fires were mapped by DPIE (2020) to assess the effects of the fire on biodiversity and landscape values (Department of Planning Industry and Environment 2020). A summary of the categories used to describe and classify the severity of areas burnt by the Black Summer fires is provided in Table 7.5.

Table 7.5 also provides an overview of the extent of areas within the project assessment zone which were affected by the 2019-2020 fires.

In 2020 DPIE used the fire extent and severity mapping to assess the status of ecological condition, carry capacity and persistence of ecosystems across NSW postfire compared to their initial assessment in 2013 as part of the NSW Biodiversity Outlook Report. The analysis identified that in fire affected areas:

- ecological condition had decreased by 39% since 2013 which reflects the immediate post-fire effects on vegetation condition, regeneration and growth in subsequent years will be captured as part of future assessments
- ecological carrying capacity had decreased by 39% since 2013 which reflects the immediate post-fire effects on vegetation condition. Regeneration and growth in subsequent years will be captured as part of future assessments by DPIE
- ecological persistence had decreased by 4% since 2013 which reflect the loss of unique diversity which may increase in a post-fire environment (Department of Planning Industry and Environment 2020).

Fauna species within areas subject to the 2019-2020 bushfires may have relocated or dispersed into similar neighbouring habitat with the study area. As the bushfire affected areas recover and habitats regenerates these species will likely disperse back into the burnt areas.

In considering the above and the nature of the project's impacts it is considered unlikely that the project would compound impacts on biodiversity associated with the 2019-2020 bushfires. As there will be no direct on-ground impacts, direct impacts would largely be limited to occasional wildlife strike and indirect impacts would be negligible to low, it is unlikely that the project would affect immediate or long-term post-fire recovery within these areas.

Table 7.5 Extent affected by the Black Summer 2019-2020 bushfires

Severity class	Description	Percentage foliage fire affected	Extent within wildlife buffer (ha)	Extent within flying-fox camps and buffers (ha)	Extent within noise contours (ha)	Extent within the total assessment zone (ha)*	Affected extent of assessment zone in GBMA (ha)
Unburnt	Canopy and understorey both unburnt	0% canopy and understorey burnt	61,266.98	319.50	63,862.83	1,550,085.73	101,614.44
Low	Burnt understorey with unburnt canopy	>10% burnt canopy >90% green canopy	1,108.17	–	7,160.19	172,678.49	108,922.39
Moderate	Partial canopy scorch	20-90% canopy scorched	326.18	–	7,237.28	231,604.03	156,347.56
High	Complete canopy scorch (with or without canopy consumption)	>90% canopy scorched <50% canopy consumed	97.92	–	5,886.28	137,662.44	102,166.25
Extreme	Complete canopy consumption	>50% canopy biomass consumed	5.02	–	3,605.37	92,921.61	61,367.75
Total area affected by 2019-2020 bush fires (ha)			62,804.27	319.50	87,751.94	2,184,952.30	532,427.39

*Equates to the flight path buffers

7.8 Impacts on GBMA biodiversity values

The GBMA is identified as a WHP and National Heritage place under the EPBC Act. The proposed action may have an impact on the biodiversity attributes within the GBMA resulting from wildlife strike, potential changes to air and water quality, aircraft crashes and changes to existing noise and air quality levels.

7.8.1 Wildlife strike

Impacts relating to wildlife strike are addressed in Technical paper 5 and summarised in Section 7.3 of this report. Wildlife strike impacts within the GBMA would be minimal and limited to species which occur at high altitudes >1,000 ft (> 300 m) AGL along the project's flight paths (refer to Figure 1.3 to Figure 1.7). Although some species that utilise the GBMA (including Grey-headed Flying-fox and a range of bird species) may be at risk from aircraft wildlife strike the impacts associated with the proposed action are likely to be minor, infrequent and rare.

7.8.2 Air crashes

It is very unlikely but there is a chance that over the lifespan of the WSI an aircraft crash could occur within the GBMA (Eddowes 2022). In this circumstance impacts would be largely localised and include vegetation removal, mortality of plants and animals, introduction/spread of chemicals and potential bush fire events. In the event of a bush fire or chemical spill impacts could spread and affect larger areas. The low risk of an aircraft crashing could impact biodiversity attributes within the GBMA such as rare and locally endemic species but is unlikely to reduce the diversity of eucalypt species for which the site was listed.

7.8.3 Aircraft noise

Potential noise impacts to biodiversity values associated with the GBMA are consistent with those described in Section 7.4.1. Specific noise impacts associated with the project are also described in Technical paper 5.

Areas of the GBMA will be directly overflown at altitudes of between 2,000–10,000 ft (610 m to 3 km) AGL. It is anticipated that noise levels associated with the WSI flight paths that intersect the GBMA would range between 50–65 dBA.

Existing ambient noise levels within areas of the GBMA located within the wildlife buffer would be minimal and largely limited to noise generated from existing roads and urban development. In proximity to the Nepean River the GBMA would also be subject to noise generated by boats and recreation users. The area is also exposed to noise generated by light aircraft, helicopters and at higher altitudes commercial aircraft similar to those aircraft that would use the flight paths subject to this assessment. As such, the GBMA biodiversity attributes are already subject to current low and regular levels of ambient anthropogenic noise.

Although the peak noise levels associated with direct overflight of the GBMA may temporarily disturb some species, flight path associated with WSI would generally be at least 1,500 feet AGL or more at most locations in the GBMA, with noise levels not expected to exceed around 70 dBA (based on the L_{amax} value presented in the Aircraft Noise Technical Paper). Therefore, these intermittent and irregular noise levels are unlikely to substantially disturb fauna within the GBMA, or affect the habitats of these fauna and acclimatisation to the new noise patterns is highly likely.

BSRs within the GBMA which may be susceptible to alterations in current noise levels include:

- Regent Honeyeater important habitat – as described in Section 7.4.1 this species has potential to be susceptible to noise impacts such as masking of calls, stress inducement or lead to avoidance of areas. The flight paths where they intersect with this habitat however typically exceed 8,000 ft (2.4 km) AGL and occur outside the noise contours and therefore are likely to be negligible. As such, these areas are unlikely to be affected by the noise generated by the project.
- Flying-fox foraging resources – as described in Section 7.4.1.

Large remnant intact areas of vegetation and associated habitats for numerous flora and fauna species – there will be no direct impacts on these habitats. As mentioned above, flight paths throughout the GBMA airspace would typically exceed 1,500 ft (460 m) AGL, with noise levels not expected to exceed around 70 dBA (based on the value presented in Technical paper 1). Further, most parts of the Sydney Basin, including much of the Greater Blue Mountains, already currently experience varying levels of aircraft noise generated by a range of aircraft associated with existing airports including KSA (being the dominant activity) in addition to BWU, Camden and RAAF Base Richmond airports (refer to Chapter 6 and Figure 6.1).

In summary, noise may indirectly result in some impacts, however given the altitudes at which aircraft will be flying at the points at which they have the potential to impact on the GBMA, these impacts are not considered to present a threat to the biodiversity values contained within. Increases or changes to existing noise levels associated with the project within the GBMA would be largely limited to areas that fall within the noise and vibration contours and the predicted noise levels are unlikely to be of a magnitude that would threaten the viability of biodiversity attributes within the GBMA.

7.8.4 Air quality

Potential air quality impacts to biodiversity attributes associated with the GBMA are consistent with those described in Section 7.4.3. Essentially this means that elevated NO₂ levels are predicted to occur in 2055 and elevated levels would primarily occur to the north-west of the Airport Site aligning with the runway. The assessment however uses conservative assumptions, and actual NO₂ impacts are unlikely. The project's impact on the concentrations of all other assessed pollutants would be negligible (noting there are exceedances for PM_{2.5} but these have no tangible impact). As it is likely there will be improvements in fuel efficiency (for aircraft and motor vehicles) and decreases in aircraft emissions in the future, no significant impacts on air quality are anticipated to arise. This is particularly the case for the GBMA given that any appreciable impacts would appear to be focused on and around the Airport Site on the Cumberland Plain and not further afield in the more elevated Blue Mountains region that the GBMA sits within.

7.8.5 Water quality

Potential water quality impacts to aquatic biodiversity attributes associated with the GBMA are consistent with those described in Section 7.4.4. Essentially this means that impacts on aquatic ecosystems are considered to be negligible and unlikely to impact on aquatic biodiversity values contained within the GBMA.

7.8.6 Evaluating impacts on GBMA

Potential impacts associated with the project on GBMA biodiversity values were further assessed against the assessment matrix in the *Guidance and Toolkit for impact assessments in a World Heritage Context* (UNESCO, 2022a). The assessment concluded that the project is likely to have a negligible to minor negative impact on biodiversity values associated with the GBMA (Table 7.6).

Table 7.6 Impact identification and assessment matrix on GBMA biodiversity values

Element of proposed action	Attribute	Description of potential impacts	Frequency of action	Duration of action	Reversibility of action	Reversibility of change to the attribute	Longevity of change to the attribute	Degree of change to the attribute	Quality of change to the attribute	Severity significance category
Operation of WSI flight paths	Native plant and animal species (including threatened species)	Wildlife strike	Intermittent – occasional	Long-term	Irreversible	Irreversible	Permanent	Some	Negative	Minor negative impact
		Air crashes	Unlikely – rare	Short-term	Reversible	Reversible	Temporary	Some	Negative	Minor negative impact
	Important and significant natural habitats for in-situ conservation of biological diversity Outstanding examples representing significant on-going ecological and biological processes in the evolution and development	Noise	Intermittent/continuous	Long-term	Irreversible	Irreversible	Permanent	Some	Negative	Negligible
		Air quality – fuel jettisoning	Impulsive	Short-term	Reversible	Reversible	Temporary	Negligible	Negative	Negligible
		Water quality	Intermittent/continuous	Short-term	Reversible	Reversible	Temporary	Negligible	Negative	Negligible
		Light spill	Intermittent	Long-term	Irreversible	Irreversible	Permanent	Negligible	Negative	Negligible

Chapter 8 Cumulative impacts

Cumulative impacts have the potential to occur when impacts from a project interact or overlap with impacts from other projects. These impacts can potentially result in a larger overall effect (positive or negative) on the environment and biodiversity within.

Recent and proposed changes in planning, such as that occurring within the broader Aerotropolis precinct, would result in impacts to biodiversity, where land uses will intensify over time as the Aerotropolis transitions into a city. Potential cumulative impacts on biodiversity associated with the WSI Airspace and Flight Path Design and other planned and potential projects in the locality include:

- incremental increases in potential wildlife injury or mortality due to wildlife strike, a detailed discussion on cumulative impacts relating to wildlife strike is provided in Technical paper 5
- incremental increases of noise and light exposure that may disrupt species within the locality for example lead to species relocating or alter species behaviour and communication
- alterations to air and water quality and contributions to greenhouse gas emissions.

Direct impacts associated with the project will be restricted to airspaces within the greater Sydney region.

Given the size of the study area and operational timeframes of the project, other relevant projects or developments considered likely to contribute to cumulative impacts have been restricted to those of sufficient scale to contribute materially to cumulative impacts at a regional level with similar or overlapping spatial or temporal characteristics. A list of major projects and strategic developments considered for cumulative impacts is provided in Chapter 22 (Cumulative impacts) of the Draft EIS.

Potential cumulative impacts on biodiversity would be exacerbated by the significant projects and developments in the vicinity of WSI, the broader Western Sydney area (including growth areas) and other developments within the Sydney Basin Bioregion.

The Stage 1 Development of WSI has been approved and is limited to single runway operations. It will handle up to 10 million annual passengers and around 81,000 air traffic movements per year by 2033 including freight operations. The approval provides for the construction of the aerodrome (including the single runway), terminal and landside layout and facilities, and ground infrastructure such as the instrument landing systems (ILS) and high intensity approach lighting (HIAL) arrays. Construction of the Stage 1 Development commenced in 2018. These impacts are primarily limited to direct impacts on the ground and in terms of cumulative impacts the indirect impacts overlapping with the airspace impacts such as noise, air and light impacts are negligible in the local and regional context.

The Western Sydney strategic assessment is a collaboration between the Australian and NSW Governments with the aim of safeguarding protected matters from the impacts of development within Western Sydney. Under the Western Sydney strategic assessment, the NSW Government is seeking approval for development in nominated growth areas and transport corridors. Development as a result of the implementation of the strategic assessment will likely increase in pressures on the same cumulative (indirect) impacts discussed here such as air quality, water quality, noise and light. Ongoing development of the region will lead to additional cumulative impacts, that are as yet unplanned and undefined and are therefore not quantifiable, but will nonetheless increase pressures on biodiversity in the region. In a cumulative sense it is considered that a higher level of planning of development in Western Sydney will however lead to better conservation outcomes and less “ad-hoc” and unregulated cumulative impacts.

Although there are several other recent and proposed projects in the locality that will incrementally exacerbate impacts on biodiversity there are existing flight paths over the study area that generate similar impacts. Biodiversity values within the study area have been historically overflown to varying degrees by aircraft associated with KSA, Bankstown and Camden Airports as well as military flights from RAAF Base Richmond and Holsworthy Airfield. The study area is also likely to be intermittently overflown by recreational and light aircraft in transit from private airstrips. As such, biodiversity within the region is already subject to varying degrees of impacts relevant to the WSI.

Furthermore, impacts on biodiversity generated by most planned and proposed projects in the locality will be limited to on-ground impacts. These impacts include but are not limited to the direct removal of vegetation and the habitat it provides, introduction and spread of invasive species, barriers and habitat fragmentation, erosion and sedimentation which are largely not consistent with the impacts associated with the project. Despite this however the project is likely to incrementally increase wildlife strike, noise, light and alter air and water quality within the region. As existing aircraft operations and infrastructure occur throughout most of the Sydney Basin, including areas around the Airport Site, the project is likely to contribute to cumulative impacts on biodiversity within the locality.

The EPBC Act lists the 'Loss of climatic habitat caused by anthropogenic emissions of greenhouse gases' as a Key Threatening Process (KTP). This KTP includes 'reductions in the bioclimatic range within which a given species or ecological community exists due to emissions induced by human activities of greenhouse gases' (Threatened Species Scientific Committee 2001). The project has potential to contribute to long term climate change impacts via the production of greenhouse gases.

Technical paper 3 identifies that the emissions from aircraft engines during all phases of flight alter the atmospheric concentration of greenhouse gases and that climate change is an existential risk to aviation and WSI. The KTP lists several ecosystem types which are affected by anthropogenic greenhouse gases including wetlands and temperate forests which occur within the study area. These ecosystems will not be directly impacted upon by the project and are tolerant of seasonal climatic fluctuations. Although species within these ecosystems show resilience to harsh and variable environmental conditions such as bushfire and drought this resilience is being tested by the extension and severity of these environmental conditions in response to climate change (Nolan, Leigh et al. 2021).

Impacts associated with the project are being avoided and minimised wherever possible however many of the residual impacts are outside the control of the Department and WSI.

Chapter 9 Significant impact assessments

Impacts on biodiversity values and the environment require assessment following the Australian Government's significant impact guidelines which include:

- MNES Significant impact guideline 1.1 (Department of the Environment 2013)
- Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2 (Department of Sustainability Environment Water Population and Communities 2013).

SIAs were completed in accordance with the Australian Government's significant impact guidelines for all MNES biodiversity entities and the environment determined as having potential to be impacted upon by the project. The outcomes of the SIAs completed are summarised below in Section 9.1 and Section 9.2. The SIAs are provided in Appendix C.

9.1 Threatened and Migratory species

The SIAs completed for all threatened and Migratory candidate species concluded that the project is unlikely to have a significant impact on threatened or Migratory species listed under the EPBC Act (Table 9.1). The SIAs identified that there is unlikely to be a significant impact on these species as:

- Direct impacts would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer.
- Indirect impacts are unlikely to result in the loss or significant modification of habitats or populations as:
 - potential noise impacts are unlikely to result in changes that would alter fauna species behaviour or use of habitats available
 - potential changes in light spill. air quality and water quality are likely to be negligible.
- Given the extent of potential impacts and biodiversity values within the region already being exposed to varying degrees of these impacts the proposed action is unlikely to lead to a long-term reduction in the size of a population, reduce the area of occupancy of a population or, adversely affect critical habitat to a species, nor would the project fragment a population in two, disrupt the breeding cycle of a population, introduce invasive species or pathogens that may cause a species to decline, impact on habitat to the extent that it would cause a species to decline, or significantly interfere with recovery plans actions.

Table 9.1 Outcome of SIAs completed for MNES biodiversity entities

Scientific name	Common name	EPBC Act status	SIA determination	Impact severity category	Does species have an EPBC recovery plan?
Alaskan Bar-tailed Godwit	<i>Limosa lapponica baueri</i>	Vulnerable	Non-significant impact	Minor	No
Australian Painted Snipe	<i>Sternula nereis nereis</i>	Endangered	Non-significant impact	Minor	No
Australasian Bittern	<i>Botaurus poiciloptilus</i>	Endangered	Non-significant impact	Minor	No
Bar-tailed Godwit	<i>Limosa lapponica</i>	Migratory	Non-significant impact	Minor	No
Black-faced Monarch	<i>Monarcha melanopsis</i>	Migratory	Non-significant impact	Minor	No
Black-tailed Godwit	<i>Limosa limosa</i>	Migratory	Non-significant impact	Minor	No

Scientific name	Common name	EPBC Act status	SIA determination	Impact severity category	Does species have an EPBC recovery plan?
Caspian Tern	<i>Hydroprogne caspia</i>	Migratory	Non-significant impact	Minor	No
Common Greenshank	<i>Tringa nebularia</i>	Migratory	Non-significant impact	Minor	No
Common Sandpiper	<i>Actitis hypoleucos</i>	Migratory	Non-significant impact	Minor	No
Curlew Sandpiper	<i>Calidris ferruginea</i>	Critically Endangered, Migratory	Non-significant impact	Minor	No
Double Banded Plover	<i>Charadrius bicinctus</i>	Migratory	Non-significant impact	Minor	No
Eastern Curlew	<i>Numenius madagascariensis</i>	Critically Endangered	Non-significant impact	Minor	No
Eastern Hooded Plover	<i>Thinornis cucullatus cucullatus</i>	Vulnerable	Non-significant impact	Minor	No
Fork-tailed Swift	<i>Apus pacificus</i>	Migratory	Non-significant impact	Minor	No
Gang Gang Cockatoo	<i>Callocephalon fimbriatum</i>	Endangered	Non-significant impact	Minor	No
Glossy Ibis	<i>Plegadis falcinellus</i>	Migratory	Non-significant impact	Minor	No
Great Knot	<i>Calidris tenuirostris</i>	Migratory	Non-significant impact	Minor	No
Greater Sand Plover	<i>Charadrius leschenaultii</i>	Vulnerable, Migratory	Non-significant impact	Minor	No
Great Knot	<i>Calidris tenuirostris</i>	Critically Endangered	Non-significant impact	Minor	No
Grey-Headed Flying Fox	<i>Pteropus poliocephalus</i>	Vulnerable	Non-significant impact	Minor	Yes
Grey-tailed Tattler	<i>Tringa brevipes</i>	Migratory	Non-significant impact	Minor	No
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Migratory	Non-significant impact	Minor	No
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Vulnerable	Non-significant impact	Minor	No
Latham's Snipe	<i>Gallinago hardwickii</i>	Migratory	Non-significant impact	Minor	No
Little Curlew	<i>Numenius minutus</i>	Migratory	Non-significant impact	Minor	No
Marsh Sandpiper	<i>Tringa stagnatilis</i>	Migratory	Non-significant impact	Minor	No
Oriental Plover	<i>Charadrius veredus</i>	Migratory	Non-significant impact	Minor	No
Osprey	<i>Pandion haliaetus</i>	Migratory	Non-significant impact	Minor	No
Pacific Golden Plover	<i>Pluvialis fulva</i>	Migratory	Non-significant impact	Minor	No

Scientific name	Common name	EPBC Act status	SIA determination	Impact severity category	Does species have an EPBC recovery plan?
Painted Honeyeater	<i>Grantiella picta</i>	Vulnerable	Non-significant impact	Minor	Yes
Pectoral Sandpiper	<i>Calidiris melanotos</i>	Migratory	Non-significant impact	Minor	No
Red Knot	<i>Calidiris canutus</i>	Endangered, Migratory	Non-significant impact	Minor	No
Red-necked Stint	<i>Calidiris ruficollis</i>	Migratory	Non-significant impact	Minor	No
Regent Honeyeater	<i>Anthochaera phrygia</i>	Critically Endangered	Non-significant impact	Minor	Yes
Rufous Fantail	<i>Rhipidura rufifrons</i>	Migratory	Non-significant impact	Minor	No
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	Migratory	Non-significant impact	Minor	No
Sharp-tailed Sandpiper	<i>Calidiris acuminata</i>	Migratory	Non-significant impact	Minor	No
South -eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami lathami</i>	Vulnerable	Non-significant impact	Minor	No
Swift Parrot	<i>Lathamus discolor</i>	Critically Endangered	Non-significant impact	Minor	Yes
White -throated Needletail	<i>Hirundapus caudacutus</i>	Vulnerable, Migratory	Non-significant impact	Minor	No
Wood Sandpiper	<i>Tringa glareola</i>	Migratory	Non-significant impact	Minor	No

9.2 GBMA

A SIA was completed to determine whether the proposed action would be likely to have a significant impact on biodiversity attributes associated with the GBMA. The SIA identified that there is unlikely to be a significant impact on the GBMA biodiversity attributes as:

- There will be no direct impact on the biodiversity attributes within the GBMA.
- Indirect impacts are unlikely to result in the loss or significant modification of biological diversity or biological process within the GBMA for which it was listed as:
 - potential wildlife strike impacts on fauna within the GBMA are only likely to be minor, infrequent, rare and limited to a small number of bird species which occur at altitudes greater than 1,000 ft (300 m) AGL
 - potential noise impacts are unlikely to result in changes that would alter fauna species behaviour or use of habitats available
 - potential changes in air and water quality are likely to be negligible.

Further, it is noted that Chapter 23 of the (Matters of National Environmental Significance) concluded that the project would not significantly alter any national parks, including the GBMA.

Impacts to other attributes associated within the GBMA are assessed in Technical paper 14 for example Aboriginal and historic cultural values, geodiversity, water production, wilderness, recreation and natural beauty.

9.3 National Heritage and Commonwealth Heritage Places

The National Heritage place determined to be of particular relevance to the project is the GBWA and this is assessed in Section 9.2.

The Commonwealth Heritage Places determined to be of particular relevance to the project are:

- Orchard Hills Cumberland Plain Woodland
- Shale Woodland Llandilo.

Importantly, as part of the Stage 1 Development Biodiversity Offset Delivery Plan, approximately 978.83 ha of land at the Defence Establishment Orchard Hills was set aside as a biodiversity offset to compensate for the project's residual impacts on biodiversity. The site is being managed under by the Department of Defence under a Memorandum of Understanding and in accordance with the Orchard Hills Offset Area Offset Plan (GHD 2022).

For both of these properties there is unlikely to be a significant impact on the biodiversity attributes as:

- There will be no direct impact on the biodiversity attributes.
- Indirect impacts are unlikely to result in the loss or significant modification of biological diversity or biological process within these properties as:
 - potential wildlife strike impacts on fauna are only likely to be minor, infrequent, rare and limited to a small number of bird species which occur at altitudes greater than 1,000 ft (300 m) AGL
 - potential noise impacts are unlikely to result in changes that would alter fauna species behaviour or use of habitats available
 - potential changes in air quality and water quality are likely to be negligible.

This is consistent with the evaluation of impacts to GBWA and the whole of the environment.

9.4 Whole of the environment – plants and animals

A SIA was completed to determine whether the proposed action would likely lead to a significant impact on the environment, specifically to plants and animals in accordance with the criterion in 'Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2' (Department of Sustainability Environment Water Population and Communities 2013). The SIAs identified that there is unlikely to be a significant impact on native plant or animal species due to the following:

- Direct impacts would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This direct impact would likely be minor, infrequent and largely limited to airspaces within the region.
- Air and water quality impacts are likely to be negligible and proposed action will not involve controlled burning activities that could harm native plants or animals.
- Given the extent and nature of potential impacts and similar impacts already existing within this area to varying degrees, the proposed action is unlikely to lead to a long-term decrease in or threaten the viability of a native plant or animal species population, displace or substantially limit the movement of a species, lead to the introduction of invasive species or reduce or fragment available habitat.

As summary of the assessment is provided in Table 9.2 and Table 9.3. The detailed SIA is provided in Appendix C.

Table 9.2 Whole of the environment SIA summary of impacts on plants

SIA guideline criteria	Likelihood of significant impact	Severity of impact	Justification
Is there a real chance or possibility that the action will:			
Involve medium or large-scale native vegetation clearance	Unlikely	Negligible	The proposed action will not involve the direct clearing of vegetation, it will be limited to airspace.
Involve any clearance of any vegetation containing a listed threatened species which is likely to result in a long-term decline in a population or which threatens the viability of the species	Unlikely	Negligible	No direct impacts on threatened species are anticipated as the proposed action will be limited to airspace and no direct vegetation removal will occur.
Introduce potentially invasive species	Unlikely	Negligible	The proposed action would not lead to the introduction of potentially invasive species.
Involve the use of chemicals which substantially stunt the growth of native vegetation, or	Unlikely	Negligible	Chemical use will be limited to that required to operate aircraft. It is not anticipated that these would stunt the growth of native vegetation.
involve large-scale controlled burning or any controlled burning in sensitive areas, including areas which contain listed threatened species?	Unlikely	Negligible	The proposed action will not involve burning.
Assessment determination	Unlikely to be a significant impact on plants.		

Table 9.3 Whole of the environment SIA summary of impacts on animals

SIA guideline criteria	Likelihood of significant impact	Severity of impact	Justification
Is there a real chance or possibility that the action will:			
Cause a long-term decrease in, or threaten the viability of, a native animal population or populations, through death, injury or other harm to individuals	Unlikely	Minor	The proposed action will not involve the direct clearing of vegetation or associated fauna habitat. Direct impacts to fauna species would be limited to occasional wildlife strike to fauna species that use airspace within the flight paths. Indirect impacts associated with noise may disturb some fauna species within proximity to the Airport Site.
Displace or substantially limit the movement or dispersal of native animal populations	Unlikely	Minor	Proposed action’s impact would be limited to airspace and as such fauna species most likely to be impacted are bird and bat species which are highly mobile. As such, the proposed action is unlikely to limit the dispersal of native fauna populations. Indirect impacts associated with noise may disturb some fauna species within proximity to the Airport Site.
Substantially reduce or fragment available habitat for native species	Unlikely	Negligible	The proposed action will not involve the direct clearing of vegetation, it will be limited to airspace.
Reduce or fragment available habitat for listed threatened species which is likely to displace a population, result in a long-term decline in a population, or threaten the viability of the species	Unlikely	Negligible	The proposed action will not involve the direct clearing or fragmentation of vegetation or associated fauna habitat.
Introduce exotic species which will substantially reduce habitat or resources for native species, or	Unlikely	Negligible	The proposed action would not lead to the introduction of potentially invasive species.
Undertake large-scale controlled burning or any controlled burning in areas containing listed threatened species?	Unlikely	Negligible	The proposed action will not involve burning.
Assessment determination	Unlikely to be a significant impact on animals.		

Chapter 10 Management and mitigation measures

A key aspect of managing biodiversity is through the application of the ‘avoid, minimise, mitigate and offset’ hierarchy as follows:

- avoid and minimise impacts on biodiversity as a priority
- mitigate impacts where avoidance or minimization is not feasible or practicable given the circumstance
- offset where residual impacts are unavoidable in accordance with the relevant offset guidelines.

A description of how this hierarchy has been applied to the project is provided below.

10.1 Avoid and minimise

The development of the preliminary airspace and flight path design is described in Chapter 6 (Project development and alternatives) of the Draft EIS. This included the avoidance and minimisation of impacts to biodiversity through:

- early consideration of environmental constraints in the planning phase, including the GBMA and associated sensitive receptors/wilderness areas, as input into the initial concept design options
- implementation of wildlife hazard safeguards prior to and during the operation of the project such as the Western Sydney Aerotropolis Development Control Plan 2 (DCP 2) (Department of Planning NSW, 2022) (as detailed in Section 6.5.1 of Technical paper 5). This is a requirement of others (for example Western Sydney Airport Company Limited, developers and consent authorities) outside of the airspace and flight path approval process.

Not all potential impacts associated with the project could be reasonably avoided or minimised due to the nature and extent of the project, other airport flight paths requirements and the design specifications required to safely operate aircraft associated with the WSI.

10.2 Project specific mitigation measures

10.2.1 Existing management

Chapter 8 of Technical paper 5 provides mitigation measures in relation to wildlife management. These include off-airport requirements to mitigate wildlife strike risk for aircraft operating in and out of WSI in land use planning instruments, along with recommendations and guidelines detailed in NASF Guideline C.

Of key importance is the implementation of monitoring programs which underpin all wildlife hazard mitigation and airport safeguarding and is therefore highly recommended. Robust standardised monitoring programs that regularly collect meaningful data will inform decisions relating to wildlife management programs, identify emerging risks, and determine wildlife activity trends over time.

As impacts to wildlife strikes and management of wildlife buffers have been considered in Technical paper 4 and Technical paper 6: Land use and planning (Technical paper 6) respectively, there are no other project specific mitigations related to biodiversity. The key measures identified as part of these papers are summarised in Section 10.2.2.

10.2.2 Dependencies and interactions with other mitigation measures

Mitigation measures outlined elsewhere throughout the Draft EIS are relevant to the minimisation and management of biodiversity impacts. These relate to:

- Technical paper 4 - specifically those to manage potential wildlife strike impacts, including the requirement to:
 - continue to liaise with planning authorities on matters related to the development of, or modifications to, off-airport land uses that have the potential to attract hazardous numbers or types of wildlife
 - establish a WSI Wildlife Hazard Management Committee that will contribute to the preparation of regional species management programs.

These measures are supported by a proposed bird and bat monitoring program to monitor for the presence of wildlife on the WSI site and in vicinity of WSI in accordance with Civil Aviation Safety Regulations (CASR) Part 139 Manual of Standards (MOS) requirements and NASF Guideline C.

- Technical paper 6, specifically those related to wildlife buffers - including the requirement to:
 - liaise with State and local government agencies to establish mechanisms that will identify land uses and prevent the creation of land uses that would cause hazardous wildlife attraction within the wildlife buffers
 - negotiate with State and local government agencies and land owners if required on agreed action plans for monitoring and, where necessary, reducing wildlife attraction to areas in the vicinity of WSI.

10.3 Biodiversity offsets

The EPBC Act Environmental Offset Policy (Department of Sustainability Environment Water Population and Communities 2012) states that for *'assessments under the EPBC Act, offsets are only required if residual impacts are significant' or 'could reasonably be avoided or mitigated.'*

Residual impacts associated with the project would include occasional aircraft strike and alterations to existing noise, light, air quality and water quality values. These cannot be avoided or minimised due to the nature and extent of the project, other airport flight path requirements and design specifications required to safely operate aircraft associated with the WSI.

SIAs have been completed in accordance with the Australian Government's significant impact guideline 1.1 and 1.2 (Department of Sustainability Environment Water Population and Communities 2013, Department of the Environment 2013) (refer to Chapter 9 and Appendix C). The outcomes of these SIAs confirmed that the project is not likely to have a significant impact on MNES biodiversity entities or the environment as the severity of these impacts will be either minor or negligible.

As the project is not likely to have significant impacts the project is not obligated to provide offsets in accordance with the EPBC Act Environmental Offset Policy (Department of Sustainability Environment Water Population and Communities 2012).

In addition, to mitigate potential impacts on habitat fragmentation the Stage 1 Development retained 117.1 ha of native vegetation around the perimeter of the Airport Site. This area is known as the 'environmental conservation zone' (ECZ) and will remain undeveloped and managed for biodiversity conservation through the Land Use Plan detailed in the Airport Plan. The ECZ includes large areas of Cumberland Plain Woodland, riparian habitats along Badgerys Creek, Duncans Creek and Oak Creek as well as large areas of land which will be revegetated. The entirety of the ECZ occurs within the wildlife buffer.

As part of the Stage 1 Development Biodiversity Offset Delivery Plan, approximately 978.83 ha of land at the Defence Establishment Orchard Hills was set aside as an offset to compensate for the project's residual impacts on biodiversity. The site is being managed under by the Department of Defence under a Memorandum of Understanding and in accordance with the Orchard Hills Offset Area Offset Plan (GHD 2022). The entirety of the offset area occurs within the wildlife buffer. The Biodiversity Offset Delivery Plan takes into account specific species (such as the Southern Myotis (*Myotis macropus* roosting habitat), the Cumberland Land Snail (*Meridolum corneovirens*) and various species of flora.

Both the ECZ and Orchard Hills Offset Areas include a range of biodiversity values and form part of local and regional wildlife corridors. These values are encompassed in the above sections. Figure 5.1 and Figure 5.5 illustrate the extent of the ECZ and Orchard Hills offset property in respect to the project.

No additional biodiversity offsets are considered to be warranted for the negligible and minor impacts of the airspace project. The biodiversity offsets already provided for Stage 1 are considered to be adequate for all components of the airport.

Chapter 11 Conclusion

This report has provided an assessment of the project's impacts on biodiversity. The assessment concluded that impacts relating to the project on biodiversity would be minor or negligible on biodiversity values and unlikely to be of a magnitude that would result in a significant impact on any MNES or the environment (plants and animals). This was deduced due to the following:

- Direct impacts would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. Direct impacts would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer.
- Indirect impacts are unlikely to result in the loss or significant modification of habitats or populations as:
 - potential noise impacts are unlikely to result in substantial changes that would alter fauna species behaviour or use of habitats available
 - potential changes in light spill and air quality and water quality are likely to be negligible.
- Given the extent of potential impacts and biodiversity values within the region already being exposed to varying degrees of these impacts the proposed action is unlikely to lead to a long-term reduction in the size of a population, reduce the area of occupancy of a population, adversely affect critical habitat to a species, fragment a population in two, disrupt the breeding cycle of a population, introduce invasive species or pathogens that may cause a species to decline, impact on habitat to the extent that it would cause a species to decline or significantly interfere with recovery plans actions.

As the WSI Airspace and Flight Path Design is unlikely to have a significant impact on biodiversity values protected under the EPBC Act, including biodiversity attributes associated with the GBMA. As such, in accordance with the EPBC Act Environmental Offset Policy the project is not obligated to provide offsets for impacts on biodiversity.

The project will not breach or raise inconsistencies with any of Australia's obligations under the various biodiversity related international agreements to which it is a signatory.

The assessment identified that the Airspace and Flight Path Design is unlikely to compound impacts on biodiversity associated with the 2019–2020 bushfires. The 'Black Summer' bushfires of spring and summer 2019–2020 were catastrophic and unprecedented which lead to large impacts on biodiversity within the GBMA and surrounds. Given the nature and extent of the project's impacts it is considered unlikely to compound impacts on biodiversity affected by these bushfires as there will be no direct on-ground impacts and impacts will largely be limited to occasional wildlife strike. It is unlikely that the project would affect immediate or long-term post-fire recovery within areas affected by the Black Summer bushfires.

Technical paper 5 provides mitigation measures in relation to wildlife management. These include off-airport requirements to mitigate wildlife strike risk for aircraft operating in and out of WSI in land use planning instruments, along with recommendations and guidelines detailed in NASF Guideline C. Other mitigation measures and design safeguards detailed in the other technical papers for the project are also likely to further minimise impacts on biodiversity values. Of key importance is the implementation of monitoring programs which underpin all wildlife hazard mitigation and airport safeguarding and a bird and bat monitoring program is therefore proposed (refer to Technical paper 4). Robust standardised monitoring programs that regularly collect meaningful data will inform decisions relating to wildlife management programs, identify emerging risks, and determine wildlife activity trends over time.

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Appendix A

Data and document reviewed

A1 Information reviewed

A1.1 Documents

Table A.1 Documents reviewed

Document type	Document name	Source
EIS	Department of Infrastructure and Regional Development 2016 Western Sydney Airport Environmental Impact Statement	https://www.westernsydneyairport.gov.au/media-resources/resources/environmental-assessment
Assessment Report	GHD 2016 Western Sydney Airport EIS Biodiversity Assessment	https://www.westernsydneyairport.gov.au/sites/default/files/WSA-EIS-Volume-4-Appendix-K1-Biodiversity.pdf
Assessment Report	Avisure 2016 Western Sydney Airport EIS Preliminary Bird and Bat Strike Risk Assessment.	https://www.westernsydneyairport.gov.au/sites/default/files/WSA-EIS-Volume-4-Appendix-I-Bird-and-bat-strike.pdf
Assessment Report	Avisure 2022 Technical Paper – Wildlife Strike Risk Assessment	Avisure
Assessment Report	Airbiz 2022 Technical Report – Aircraft Noise	Airbiz
Assessment Report	Iris 2022 Technical Paper – Landscape and Visual Assessment	Iris
Assessment Report	Todoroski Air Sciences 2022 Technical Paper – Air Quality	Todoroski Air Sciences
Assessment Report	Eddowes 2022 Technical Paper – Hazards and Risk	Eddowes
Assessment Report	WSP 2022 Technical Paper – Greater Blue Mountains World Heritage Area	WSP
Assessment Report	Airbiz Technical Paper - Greenhouse Gas Emissions	Airbiz
Assessment Report	Biosis 2021 Cumberland Plain Assessment Report – Summary Report	https://www.planningportal.nsw.gov.au/sites/default/files/documents/2022/Cumberland-Plain-Assessment-Summary-Report-202208.pdf
Conservation Plan	DPIE 2022 The Cumberland Plain Conservation Plan – A conservation plan for Western Sydney to 2056	https://shared-drupal-s3fs.s3.ap-southeast-2.amazonaws.com/master-test/fapub_pdf/Lisa+Drupal+Documents/Cumberland-Plain-Conservation-Plan-202208.pdf

Document type	Document name	Source
Recovery Plan	DECCE 2011 Cumberland Plain Recovery Plan	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Recovery-plans/cumberland-plain-recovery-plan-100501.pdf
Policy statement	DoE 2015 Referral guideline for management actions in grey-headed and spectacled flying-fox camps - EPBC Act Policy Statement	https://www.dcceew.gov.au/sites/default/files/documents/referral-guideline-flying-fox-camps.pdf
Reference report	Ecosure 2021 A review of noise, light and dust impacts on grey-headed flying fox camps	https://www.dcceew.gov.au/sites/default/files/documents/review-grey-headed-flying-fox-camps.pdf
Methodology Report	DECCW 2010 Report on the methodology for identifying priority conservation lands on the Cumberland Plain	https://www.environment.nsw.gov.au/resources/threatenedspecies/20100502CumberlandPlainMethodologyReport.pdf
National recovery plans, threat abatement plans and conservation advice for MNES	DCCEEW - sourced from each Species Profile and Threats Database profile	http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

A1.2 Data

Table A.2 Data reviewed

Data type	Data name	Source
Spatial data	2055 N60 24-hour noise contours	Airbiz 2022
Spatial data	DPE 2022 Important habitat maps for threatened species	Sourced directly from DPE
Spatial data	DPE 2018 - State Environmental Planning Policy (Coastal Management) 2018	SEED - State Environmental Planning Policy (Coastal Management) 2018
Spatial data	DoEE 2017 Directory of Important Wetlands in Australia	SEED - https://datasets.seed.nsw.gov.au/dataset/directory-of-important-wetlands-in-australia
Spatial data	DPE 2012 Ramsar Wetlands of NSW	SEED - https://datasets.seed.nsw.gov.au/dataset/ramsar-wetlands-of-nsw0c113
Spatial data	DPE 2015 Cumberland Subregion BIO Map Biodiversity Corridors of Regional Significance	SEED - https://datasets.seed.nsw.gov.au/dataset/cumberland-and-subregion-bio-map-biodiversity-corridors-of-regional-significance38691
Spatial data	DPE 2019 Koala corridors in south-west Sydney	SEED - https://datasets.seed.nsw.gov.au/dataset/koala-corridors-in-south-west-sydney

Data type	Data name	Source
Spatial data	DPE 2022 NSW State Vegetation Type Map	SEED - https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map
Spatial data	DPE 2011 Cumberland Plain Priority Conservation Lands	SEED - https://datasets.seed.nsw.gov.au/dataset/cumberland-plain-priority-conservation-landsc5f52
Spatial data	DPE 2010 Grey-headed Flying-fox Camp Boundaries	SEED - https://datasets.seed.nsw.gov.au/dataset/grey-headed-flying-fox-camp-boundaries34415
Spatial data	DPE 2010 Grey-headed Flying-fox Foraging Habitat Vegetation Types (GRID)	SEED - https://datasets.seed.nsw.gov.au/dataset/grey-headed-flying-fox-foraging-habitat-veg-types-grid
Spatial data	DPE 2011 Grey-headed Flying-fox Foraging Habitat Ranking (Vector)	SEED - https://datasets.seed.nsw.gov.au/dataset/grey-headed-flying-fox-foraging-habitat-ranking-vector
Spatial data	DPE 2011 Grey-headed Flying-fox Foraging Habitat	SEED - https://datasets.seed.nsw.gov.au/dataset/grey-headed-flying-fox-foraging-habitat2f40a
Spatial data	DPE 2019 High Ecological Value Waterways and Water Dependent Ecosystems - GREATER SYDNEY REGION	SEED - https://datasets.seed.nsw.gov.au/dataset/hevwater-greater-sydney-region
Spatial data	DoEE 2017 Australia, World Heritage Areas	SEED - https://datasets.seed.nsw.gov.au/dataset/australia-a-world-heritage-areas
Spatial data	DPIE 2020 Fire Extent and Severity Mapping (FESM) 2019/20	SEED - https://datasets.seed.nsw.gov.au/dataset/fire-extent-and-severity-mapping-fesm-2019-20v
Government database search	DCCEEW 2022 EPBC Act Protected Matters Search Tool	https://pmst.awe.gov.au/#/map?lng=131.52832031250003&lat=-28.671310915880834&zoom=5&baseLayers=Imagery,ImageryLabels
Government database search	DPE 2022 BioNet Atlas of NSW Wildlife	https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx
Government spatial viewer	DCCEEW 2022 National Flying-fox monitoring viewer	https://www.environment.gov.au/webgis-framework/apps/ffc-wide/ffc-wide.jsf

A2 Legislation, regulations and guidance

Table A.3 Legislation, regulations and guidance reviewed

Type	Name	Source
Legislation	Commonwealth <i>Environment Protection and Biodiversity Act 1999</i>	https://www.legislation.gov.au/Details/C2016C00777
Legislation	NSW <i>Biodiversity Conservation Act 2016</i>	https://legislation.nsw.gov.au/view/html/inforce/current/act-2016-063
Legislation	NSW <i>Environmental Planning and Assessment Act 1979</i>	https://legislation.nsw.gov.au/view/html/inforce/current/act-1979-203
SEPP	NSW State Environmental Planning Policy (Resilience and Hazards) 2021	https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0730v
Assessment Report	Guidelines for the content of a draft EIS – Western Sydney International Airport airspace and flight path design (Reference: EPBC 2022/9143)	Sourced from DITRDCA
Commonwealth Guideline	SEWPaC 2012 EPBC Act Environmental Offset Policy	https://www.dcceew.gov.au/sites/default/files/documents/offsets-policy_2.pdf
Commonwealth Guideline	DoE 2013 Matters of National Environmental Significance Significant impact guidelines 1.1 EPBC Act	https://www.dcceew.gov.au/sites/default/files/documents/nes-guidelines_1.pdf
Commonwealth Guideline	SEWPaC 2013 Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies – Significant impact guidelines 1.2 EPBC Act	https://www.dcceew.gov.au/sites/default/files/documents/commonwealth-guidelines_1.pdf

A3 Bioregional landscape context of the study area

Table A.1 Key ecosystem characteristics of IBRA bioregions and subregions within the biodiversity study area

IBRA subregion	Vegetation	Geology	Landforms	Soils
Sydney Basin IBRA Bioregion				
Cumberland	Grey box, forest red gum, narrow-leaved ironbark woodland with some spotted gum on the shale hills. Hard-leaved scribbly gum, rough-barked apple and old man banksia on alluvial sands and gravels. Broad-leaved apple, cabbage gum and forest red gum with abundant swamp oak on river flats. Tall spike rush, and juncus with Parramatta red gum in lagoons and swamps.	Triassic Wianamatta Group shales and sandstones. A down-warped block on the coastal side of the Lapstone monocline. Intruded by a small number of volcanic vents and partly covered by Paleogene and Neogene river gravels and sands. Quaternary alluvium along the mains streams.	Low rolling hills and wide valleys in a rain shadow area below the Blue Mountains. At least 3 terrace levels evident in the gravel splays. Volcanics from low hills in the shale landscapes. Swamps and lagoons on the floodplain of the Nepean River.	Red and yellow texture contrast soils on slopes, becoming harsher and sometimes affected by salt in tributary valley floors. Pedal uniform red to brown clays on volcanics. Poor uniform stony soils, often with texture contrast profiles on older gravels, high quality loams on modern floodplain alluvium.
Wollemi	Red bloodwood, yellow bloodwood, rough-barked apple, smooth-barked apple, hard-leaved scribbly gum, and grey gum with diverse shrubs and heaths on plateau. Smooth-barked apple, Sydney peppermint, blue-leaved stringybark, and turpentine and gully rainforests in gullies and canyon heads. Ribbon gum and Blaxland's stringybark on basalt. River oak along main streams.	Hawkesbury Sandstone and equivalent quartz sandstones of Narrabeen Group, sub-horizontal bedding, strong vertical joint patterns. A few volcanic necks.	Highest part of the Blue Mountains. Sandstone plateau with benched rock outcrops. Creek directions controlled by jointing deep gorge of the Capertee and Wolgan rivers.	Thin sands or deep yellow earths on plateau, thin texture contrast soils on shale benches. Organic sands in swamps and joint crevices, boulder slope debris below cliffs, sandy alluvium in pockets along the streams. Red brown structured loams on basalts.

IBRA subregion	Vegetation	Geology	Landforms	Soils
Burraborang	Heath, shrubland and woodland with black ash, hard-leaved scribbly gum, Sydney peppermint and red bloodwood on sandstone similar to other parts of the Basin. Deane's gum, turpentine, blue-leaved stringybark immediately below escarpment passing to grey gum, narrow-leaved ironbark and thin-leaved stringybark on boulder slopes. River oak along main streams below the plateaux.	Permian and Triassic sandstones and shales on the western edge of the Basin. Limited basalt caps.	Rolling hills on a sandstone plateau with deep gorges and sandstone cliffs in Burraborang valley.	Rocky outcrops, texture contrast soils and uniform sands on sandstone. Boulder debris with sandy clay matrix below cliffs. Rich loams in alluvium.
Sydney Cataract	Red bloodwood and black ash woodland with abundant shrubs on sandstone with extensive gahnia, banksia in hanging swamps. Coastal dune sequence of tea-tree, coast wattle, smooth-barked apple, blackbutt and swamp mahogany on barrier system. Mangroves and salt marsh on Towra Point and up the Georges River estuary.	Hawkesbury Sandstone on the coastal edge of the Basin above the Illawarra escarpment. Quaternary sands and muds in Georges River and Botany Bay.	Sandstone plateau with shallow creeks flowing through hanging swamps in the highest parts ramping down to low hills in the Georges River and Botany Bay. Coastal cliffs north of the Illawarra. Large barrier system with beach, dunes, swamps, and estuary at Kurnell.	Deep sands and clayey sands with peat in hanging swamps, yellow earths on better drained sandstone ridges. Siliceous sands in younger dunes and well-developed podzols in older dunes. Organic sands in swamps and estuary.
Pittwater	Shale caps support tall forest of Sydney blue gum and blackbutt or turpentine and grey ironbark. Sandstone plateau; Sydney peppermint, smooth-barked apple, scribbly gum, red bloodwood, yellow bloodwood, with diverse shrubs and patches of heath. Blackbutt, turpentine, coachwood and water gum in deep sheltered gullies. Spotted gum, Deane's gum, bangalow palm, and forest oak on Narrabeen sandstone lower slopes. Banksia, tea-tree heath on dunes. Bangalay, swamp mahogany, cabbage tree palm, swamp oak, common reed and cumbungi in fresh swamps. Mangrove and saltmarsh communities in calm estuaries.	Hawkesbury Sandstone with thin ridge cappings of Ashfield Shale. Narrabeen Group sandstones exposed in valleys and along the coast. Quaternary coastal sands.	Hornsby plateau of quartz sandstone with occasional shale caps. Small beach, dune and lagoon barrier systems. Steep coastal cliffs and rock platforms.	Deep yellow earths or rocky outcrop on plateau tops. Uniform and texture contrast soils on sandstones and shale slopes. Loamy sands in alluvium along creeks, clean quartz sands with moderate shell content on beaches and frontal dunes. Organic sands and muds in estuaries.

IBRA subregion	Vegetation	Geology	Landforms	Soils
Yengo	Red bloodwood, yellow bloodwood, rough-barked apple, smooth-barked apple, hard-leaved scribbly gum, and grey gum with diverse shrubs and heaths on plateau. Smooth-barked apple, Sydney peppermint, blue-leaved stringybark, and turpentine with rainforest species in gullies. Hard-leaved scribbly gum, rough-barked apple and Parramatta red gum with sedge swamps on Mellong Range sand. River mangrove and grey mangrove along margins of upper Hawkesbury estuary, freshwater reed swamps with sedges and paperbarks.	Hawkesbury Sandstone, valleys incised to Narrabeen Group sandstone, a few volcanic necks and basalt caps, Quaternary sandy alluvium and high level sands on Mellong Range and Maroota. Quaternary muddy sands in Hawkesbury upper estuary.	Benched sandstone plateau with steep slopes into narrow valleys with low cliff lines on Narrabeen sandstone. Structurally controlled sub-rectangular drainage pattern. Northern end of Lapstone monocline controls Mellong Range. Hawkesbury River gorge cuts across the subregion, tributary streams dammed by levees form freshwater swamps adjacent to the river.	Shallow quartz sands on plateau, some areas of deep yellow earth and patches of Podsol development on sandstone benches and in all Cenozoic and Quaternary high-level sands. Texture contrast soils on shales, deep clean sands in alluvium. Red brown structured loams and clay loams on basalt.
Moss Vale	Tall forest of narrow-leaved peppermint, Sydney peppermint, monkey gum, black ash, messmate, coastal white box, and brown barrel on shale and basalts. Extensive sedgeland and hanging swamps on sandstone. Wingecarribee raised sphagnum bog. Sydney peppermint, narrow-leaved peppermint, and gully ash on trachyte domes.	Triassic Wianamatta Group shales, Paleogene and Neogene basalts and trachyte intrusions, large Quaternary peat swamp.	Shale and basalt plateau with rolling hills and shallow valleys. Very large peat swamp at Wingecarribee.	Structured red and red brown clay loams and loams, and loamy alluvium with high fertility. Areas of sandstone at the margins thin, waterlogged sandy soils. Organic peat in swamps. Stony slope debris on larger intrusions.

IBRA subregion	Vegetation	Geology	Landforms	Soils
Illawarra	Mixed warm temperate and subtropical rainforest complexes on rich shale soils and alluvium under the escarpment. Coachwood, native tamarind, cabbage tree palm, Port Jackson fig, cheese tree, with soft tree fern and rough tree fern understorey. Adjacent tall forests; Sydney peppermint, brown barrel, yellow stringybark coastal white box. Coastal dunes; coast wattle, tea-tree, banksia, and blackbutt. Common reed in fresh swamps and lakes, mangroves and limited saltmarsh in estuaries.	Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. Quaternary alluvium and coastal sands.	Vegetated cliff faces on coastal escarpment with waterfalls and steep streams. Bouldery debris slopes with sandy clay matrix and low hills and alluvial valleys on coastal ramp. Barrier systems at Lake Illawarra and Nowra.	Structured red and red brown loams and clay loams with some areas of mellow texture contrast soils. Fertility high and good water holding capacity. Siliceous sands on beaches and dunes, podzol profiles in older dunes, peaty sands and organic silts in swamps and estuaries.
Wyong	Smooth-barked apple, red bloodwood, brown stringybark, Sydney peppermint, spotted gum, bastard mahogany, northern grey ironbark and grey gum on hills and slopes. Prickly-leaved tea-tree and other shrubs with swamp mahogany, swamp oak, sedges and common reed on swampy creek flats. Open heath with banksia, tea-tree, coastal wattle, black she-oak and smooth-barked apple on barrier dunes. Limited areas of grey mangrove in entrances to coastal lakes.	Triassic Narrabeen sandstones, Quaternary estuarine fills, and coastal barrier complexes.	Coastal fall of the Sydney Basin, rolling hills and sandstone plateau outliers. Beach, dune and lagoon of coastal barriers interspaced with coastal cliffs and rock platforms.	Texture contrast soils of lithic sandstones and shales. Loamy sands alluvium along creeks clean quartz sands on beaches and frontal dunes, podsols in older hind dunes. Organic sands and muds in lagoons and swamps.

IBRA subregion	Vegetation	Geology	Landforms	Soils
South Eastern Highlands IBRA Bioregion				
Capertee Uplands	Woodlands support rough-barked apple, red stringybark, red box, yellow box, Blakely's red gum with shrubby understorey and wallaby grass in open valleys. Scribbly gum, red stringybark, red box and broad-leaved ironbark on talus slopes. Black ash and Sydney peppermint on sandstone peaks. Dwarf casuarina, tea tree, and sedge on pagoda margins.	Permian Shoalhaven Group conglomerates, sandstones, and shales with coal at the base of the Sydney Basin and exposure of underlying Devonian shale, siltstone or quartzite. Eastern margin of Narrabeen Group sandstone in cliffs. Small areas of hill top Paleogene and Neogene basalt.	Wide valleys, low-rolling hills below sandstone cliffs, isolated flat top mountains in the valleys formed as pinnacles or remnant pieces of plateau. Steep, bouldery debris slope below cliffs. Shoulder slopes with stone pillars or "pagodas" above steep canyons on tributary streams falling into gorges. Low gradient swampy stream lines.	Shallow stony texture contrast profiles, usually with gritty well drained A horizons, over tough yellow or grey poorly drained clays. Bouldery debris with clay matrix below cliffs (talus). Organic sands in swamps. Red brown structured loams on basalts.
Hill End	Yellow box, red box and Blakely's red gum on lower areas, red stringybark, broad-leaved peppermint and white gum on hills. Brown barrel in the east. Areas of white box. River oak along main streams.	Silurian and Devonian slates, sandstones and volcanics with numerous quartz veins. Steeply dipping, tightly folded sequence. Tertiary basalt caps with river gravels parallel to the main streams.	Plateau with hilly to mountainous edges into deep entrenched channels of Turon and Macquarie River cutting across the structural trends.	Mottled red and yellow texture contrast soils, with red earths.
Bathurst	Apple box, yellow box some white box and red stringybark. Ribbon gums on lower slopes and brown barrel in the east. Patches of black cypress pine in rocky outcrop areas. River oaks along streams.	Carboniferous granite with limited areas of Tertiary basalt caps and Quaternary sands along the Macquarie River.	Rounded hills in a granite basin surrounded by steep slopes on the contact margin. Outcrops with tors near margins. Chain of ponds streams in wide flat valley floors. Terrace alluvium along the Macquarie River.	Shallow red earths on ridges, yellow texture contrast soils on all slopes and deep coarse sands in alluvium.

IBRA subregion	Vegetation	Geology	Landforms	Soils
Oberon	Narrow-leaved peppermint, mountain gum and some snow gum on high areas. Apple box, yellow box, ribbon gum and Blakely's red gum in the west.	Fine grained Silurian and Devonian slates, shales and sandstones with Ordovician acid volcanics. Basalt caps and flows on highest crests.	Rounded and stepped hills of plateau, dendritic drainage pattern parallels basalts on crests and ridges.	Red and yellow texture contrast soils on slopes, well-structured deep red loams on basalt. Moderately fertile soils but cold environment.
Crookwell	Apple box, mountain gum with Blakely's red gum and yellow box. Red stringybark, white box, broad-leaved peppermint and mottled gum on stony ridges in the north. Small areas of Argyle apple.	Fine grained Ordovician and Silurian sedimentary rocks, with some granites. Tertiary basalts with buried river gravels along ridges well above present streams.	Hilly, with some rugged areas and deep valleys. Hill tops may be small plateaus or capped by basalt and showing inverted relief.	Red and yellow texture contrast soils, thin and stony on steep slopes. Stony brown structured loams on basalt.
Kanangra	Grey gum, Blaxland's stringybark on lower areas, and brown barrel, mountain gum, narrow-leaved peppermint and ribbon gum on higher areas. Patches of snow gum. High diversity swamps on Boyd Plateau with carex and tea tree, sphagnum bogs in streams.	Devonian sandstones with small areas of granite and fine-grained Silurian and Ordovician sediments at the edge of the Sydney Basin.	Ridges and small plateaus to 1200 m, deep valleys, swampy upper tributary floors, outcrops and tors on granite hills.	Red and yellow earths and structured loams. Well drained slopes, moderate fertility.
Bungonia	Mottled gum, broad-leaved peppermint, white gum, red stringybark and black ash forest and woodlands. Snow gum and snow grass in cold pockets. Black she-oak common as understorey and regeneration areas. Limited distribution of argyle apple.	Primarily fine-grained Palaeozoic sedimentary and meta-sedimentary rocks, with minor areas of acid volcanics and limestone. Areas of Tertiary river terrestrial sediments and low sand sheets in the south with very limited basalt.	Distinct plateau with very steep, deep margins on the Great Escarpment dropping into the Shoalhaven River. Strong linear ridges on resistant sandstones and volcanics, wide valleys with some cold air drainage and inverted tree lines.	Mostly yellow texture contrast soils some with harsh clay subsoils. Shallow structured organic loams on limestone and basalt, deep siliceous sands and clayey sands on tertiary sediments.

Sourced from: Australian Government's Bioregional Assessments (Australian Government 2019).

A4 Protected Matters Search Tool results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 14-Jun-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	6
National Heritage Places:	19
Wetlands of International Importance (Ramsar)	6
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	24
Listed Threatened Species:	238
Listed Migratory Species:	90

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	3705
Commonwealth Heritage Places:	89
Listed Marine Species:	119
Whales and Other Cetaceans:	35
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	116
Regional Forest Agreements:	2
Nationally Important Wetlands:	25
EPBC Act Referrals:	542
Key Ecological Features (Marine):	1
Biologically Important Areas:	22
Bioregional Assessments:	2
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Legal Status
Australian Convict Sites (Cockatoo Island Convict Site)	NSW	Declared property
Australian Convict Sites (Hyde Park Barracks)	NSW	Declared property
Australian Convict Sites (Old Government House and Domain)	NSW	Declared property
Australian Convict Sites (Old Great North Road)	NSW	Declared property
Greater Blue Mountains Area	NSW	Declared property
Sydney Opera House	NSW	Declared property

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status
Historic		
Bondi Beach	NSW	Listed place
Bondi Surf Pavilion	NSW	Within listed place
Centennial Park	NSW	Listed place
Cockatoo Island	NSW	Listed place
First Government House Site	NSW	Listed place
Governors' Domain and Civic Precinct	NSW	Listed place
Hyde Park Barracks	NSW	Listed place
Kamay Botany Bay: botanical collection sites	NSW	Listed place
Kurnell Peninsula Headland	NSW	Listed place
North Head - Sydney	NSW	Listed place
Old Government House and the Government Domain	NSW	Listed place
Old Great North Road	NSW	Listed place
Parramatta Female Factory and Institutions Precinct	NSW	Listed place
Sydney Harbour Bridge	NSW	Listed place

Name	State	Legal Status
Sydney Opera House	NSW	Listed place
Indigenous		
Cyprus Hellene Club - Australian Hall	NSW	Listed place
Natural		
Ku-ring-gai Chase National Park, Lion, Long and Spectacle Island Nature Reserves	NSW	Listed place
Royal National Park and Garawarra State Conservation Area	NSW	Listed place
The Greater Blue Mountains Area	NSW	Listed place

Wetlands of International Importance (Ramsar Wetlands) [\[Resource Information \]](#)

Ramsar Site Name	Proximity
Banrock station wetland complex	800 - 900km upstream from Ramsar site
Hattah-kulkyne lakes	600 - 700km upstream from Ramsar site
Riverland	800 - 900km upstream from Ramsar site
The coorong, and lakes alexandrina and albert wetland	900 - 1000km upstream from Ramsar site
The macquarie marshes	300 - 400km upstream from Ramsar site
Towra point nature reserve	Within Ramsar site

Commonwealth Marine Area [\[Resource Information \]](#)

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
EEZ and Territorial Sea

Listed Threatened Ecological Communities [\[Resource Information \]](#)

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

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Blue Gum High Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	Community likely to occur within area
Eastern Suburbs Banksia Scrub of the Sydney Region	Critically Endangered	Community likely to occur within area
Elderslie Banksia Scrub Forest in the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Illawarra and south coast lowland forest and woodland ecological community	Critically Endangered	Community likely to occur within area
Illawarra-Shoalhaven Subtropical Rainforest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area
Posidonia australis seagrass meadows of the Manning-Hawkesbury ecoregion	Endangered	Community likely to occur within area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area
Robertson Rainforest in the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area

Community Name	Threatened Category	Presence Text
Southern Highlands Shale Forest and Woodland in the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Temperate Highland Peat Swamps on Sandstone	Endangered	Community known to occur within area
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Community likely to occur within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species [[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area
<i>Calyptorhynchus lathami lathami</i> South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area
<i>Charadrius leschenaultii</i> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
<i>Charadrius mongolus</i> Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
<i>Climacteris picumnus victoriae</i> Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area
<i>Dasyornis brachypterus</i> Eastern Bristlebird [533]	Endangered	Species or species habitat known to occur within area
<i>Diomedea antipodensis</i> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea antipodensis gibsoni</i> Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea epomophora</i> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea exulans</i> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea sanfordi</i> Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat known to occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area
Pterodroma heraldica Herald Petrel [66973]	Critically Endangered	Species or species habitat likely to occur within area
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

CRUSTACEAN

Scientific Name	Threatened Category	Presence Text
Euastacus dharawalus Fitzroy Falls Spiny Crayfish [83143]	Critically Endangered	Species or species habitat known to occur within area
FISH		
Bidyanus bidyanus Silver Perch, Bidyan [76155]	Critically Endangered	Species or species habitat may occur within area
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area
Hoplostethus atlanticus Orange Roughy, Deep-sea Perch, Red Roughy [68455]	Conservation Dependent	Species or species habitat likely to occur within area
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Translocated population known to occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat known to occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area
Rexea solandri (eastern Australian population) Eastern Gemfish [76339]	Conservation Dependent	Species or species habitat likely to occur within area
Serirolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area
FROG		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat known to occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area
Litoria booroolongensis Booroolong Frog [1844]	Endangered	Species or species habitat known to occur within area
Litoria littlejohni Littlejohn's Tree Frog, Heath Frog [64733]	Endangered	Species or species habitat known to occur within area
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat may occur within area
Litoria watsoni Watson's Tree Frog [91509]	Endangered	Species or species habitat likely to occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat known to occur within area
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Vulnerable	Species or species habitat known to occur within area
INSECT		
Austrocordulia leonardi Sydney Hawk Dragonfly [84741]	Endangered	Species or species habitat known to occur within area
Keyacris scurra Key's Matchstick Grasshopper [89739]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Paralucia spinifera Bathurst Copper Butterfly, Purple Copper Butterfly, Bathurst Copper, Bathurst Copper Wing, Bathurst-Lithgow Copper, Purple Copper [26335]	Vulnerable	Species or species habitat known to occur within area
Synemon plana Golden Sun Moth [25234]	Vulnerable	Species or species habitat may occur within area
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (southeastern) [68050]	Endangered	Species or species habitat known to occur within area
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat known to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus trisulcatus Long-nosed Potoroo (southern mainland) [86367]	Vulnerable	Species or species habitat known to occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
OTHER		
Dendronephthya australis Cauliflower Soft Coral [90325]	Endangered	Species or species habitat known to occur within area
PLANT		
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Acacia flocktoniae Flockton Wattle [3134]	Vulnerable	Species or species habitat known to occur within area
Acacia gordonii [5031]	Endangered	Species or species habitat known to occur within area
Acacia meiantha [55608]	Endangered	Species or species habitat known to occur within area
Acacia pubescens Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat known to occur within area
Acacia terminalis subsp. terminalis MS Sunshine Wattle (Sydney region) [88882]	Endangered	Species or species habitat known to occur within area
Acrophyllum australe [3983]	Vulnerable	Species or species habitat known to occur within area
Allocasuarina glareicola [21932]	Endangered	Migration route known to occur within area
Allocasuarina portuensis Nielsen Park She-oak [21937]	Endangered	Species or species habitat known to occur within area
Asterolasia elegans [56780]	Endangered	Species or species habitat known to occur within area
Astrotricha crassifolia Thick-leaf Star-hair [10352]	Vulnerable	Species or species habitat known to occur within area
Baloskion longipes Dense Cord-rush [68511]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Boronia deanei Deane's Boronia [8397]	Vulnerable	Species or species habitat known to occur within area
Bossiaea oligosperma [10059]	Vulnerable	Species or species habitat known to occur within area
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Callistemon megalongensis Megalong Valley Bottlebrush [85098]	Critically Endangered	Species or species habitat known to occur within area
Callistemon purpurascens a bottlebrush [88226]	Critically Endangered	Species or species habitat known to occur within area
Calochilus pulchellus Pretty Beard Orchid, Pretty Beard-orchid [84677]	Endangered	Species or species habitat may occur within area
Commersonia prostrata Dwarf Kerrawang [87152]	Endangered	Species or species habitat known to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat known to occur within area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat known to occur within area
Daphnandra johnsonii Illawarra Socketwood [67186]	Endangered	Species or species habitat likely to occur within area
Darwinia biflora [14619]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Deyeuxia appressa [7438]	Endangered	Species or species habitat likely to occur within area
Diuris aequalis Buttercup Doubletail [21588]	Endangered	Species or species habitat known to occur within area
Diuris praecox Newcastle Doubletail [55086]	Vulnerable	Species or species habitat known to occur within area
Dodonaea procumbens Trailing Hop-bush [12149]	Vulnerable	Species or species habitat may occur within area
Epacris hamiltonii [8700]	Endangered	Species or species habitat known to occur within area
Epacris sparsa [16450]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus aggregata Black Gum [20890]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus benthamii Camden White Gum, Nepean River Gum [2821]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus copulans [56225]	Endangered	Species or species habitat known to occur within area
Eucalyptus glaucina Slaty Red Gum [5670]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Eucalyptus macarthurii Camden Woollybutt, Paddys River Box [7827]	Endangered	Species or species habitat known to occur within area
Eucalyptus pulverulenta Silver-leaved Mountain Gum, Silver-leaved Gum [21537]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus robertsonii subsp. hemisphaerica Robertson's Peppermint [56223]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus sp. Cattai (Gregson s.n., 28 Aug 1954) [89499]	Critically Endangered	Species or species habitat known to occur within area
Eucalyptus sp. Howes Swamp Creek (M.Doherty 26) [82281]	Endangered	Species or species habitat known to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Euphrasia bowdeniae [21521]	Vulnerable	Species or species habitat known to occur within area
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat known to occur within area
Gentiana wingecarribiensis Wingecarribee Gentian [18033]	Endangered	Species or species habitat known to occur within area
Grevillea caleyi Caley's Grevillea [9683]	Critically Endangered	Species or species habitat known to occur within area
Grevillea molyneuxii [22052]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area
Grevillea raybrownii [65665]	Vulnerable	Species or species habitat known to occur within area
Grevillea rivularis Carrington Falls Grevillea [2953]	Critically Endangered	Species or species habitat known to occur within area
Grevillea shiressii [19186]	Vulnerable	Species or species habitat known to occur within area
Hakea dohertyi Kowmung Hakea [66701]	Endangered	Species or species habitat known to occur within area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat known to occur within area
Haloragodendron lucasii Hal [6480]	Endangered	Species or species habitat known to occur within area
Helichrysum calvertianum [5702]	Vulnerable	Species or species habitat known to occur within area
Hibbertia puberula subsp. glabrescens [86645]	Critically Endangered	Species or species habitat known to occur within area
Hibbertia spanantha Julian's Hibbertia [88475]	Critically Endangered	Species or species habitat known to occur within area
Homoranthus darwinioides [12974]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Irenepharsus trypherus Delicate Cress, Illawarra Irene [14664]	Endangered	Species or species habitat known to occur within area
Isopogon fletcheri Fletcher's Drumsticks [19980]	Vulnerable	Species or species habitat known to occur within area
Kunzea cambagei [11420]	Vulnerable	Species or species habitat known to occur within area
Kunzea rupestris [8798]	Vulnerable	Species or species habitat likely to occur within area
Lasiopetalum joyceae [20311]	Vulnerable	Species or species habitat known to occur within area
Leionema lachnaeoides [64924]	Endangered	Species or species habitat known to occur within area
Lepidium aschersonii Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area
Leptospermum deanei Deane's Tea-tree [21777]	Vulnerable	Species or species habitat known to occur within area
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat likely to occur within area
Leucopogon exolasius Woronora Beard-heath [14251]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat known to occur within area
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat known to occur within area
Micromyrtus blakelyi [6870]	Vulnerable	Species or species habitat likely to occur within area
Micromyrtus minutiflora [11485]	Vulnerable	Species or species habitat known to occur within area
Microtis angusii Angus's Onion Orchid [64530]	Endangered	Species or species habitat known to occur within area
Olearia cordata [6710]	Vulnerable	Species or species habitat known to occur within area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat known to occur within area
Persoonia acerosa Needle Geebung [7232]	Vulnerable	Species or species habitat known to occur within area
Persoonia bargoensis Bargo Geebung [56267]	Vulnerable	Species or species habitat known to occur within area
Persoonia glaucescens Mittagong Geebung [12770]	Vulnerable	Species or species habitat known to occur within area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Persoonia marginata Clandulla Geebung [10852]	Vulnerable	Species or species habitat known to occur within area
Persoonia mollis subsp. maxima [56075]	Endangered	Species or species habitat known to occur within area
Persoonia mollis subsp. revoluta [56094]	Vulnerable	Species or species habitat known to occur within area
Persoonia nutans Nodding Geebung [18119]	Endangered	Species or species habitat known to occur within area
Persoonia oxycoccoides [16114]	Endangered	Species or species habitat known to occur within area
Pherosphaera fitzgeraldii Dwarf Mountain Pine [40324]	Endangered	Species or species habitat known to occur within area
Phyllota humifusa Dwarf Phyllota [10133]	Vulnerable	Species or species habitat known to occur within area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat known to occur within area
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat known to occur within area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat known to occur within area
Pomaderris cotoneaster Cotoneaster Pomaderris [2043]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Pomaderris pallida Pale Pomaderris [13684]	Vulnerable	Species or species habitat may occur within area
Pomaderris sericea Bent Pomaderris [9597]	Vulnerable	Species or species habitat likely to occur within area
Pomaderris walshii Carrington Falls Pomaderris [84704]	Critically Endangered	Species or species habitat known to occur within area
Prasophyllum affine Jervis Bay Leek Orchid, Culburra Leek-orchid, Kinghorn Point Leek-orchid [2210]	Endangered	Species or species habitat known to occur within area
Prasophyllum fuscum Tawny Leek-orchid, Slaty Leek-orchid [19455]	Vulnerable	Species or species habitat known to occur within area
Prasophyllum petilum Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Prostanthera askania Tranquillity Mintbush, Tranquillity Mintbush [64958]	Endangered	Species or species habitat known to occur within area
Prostanthera cryptandroides subsp. cryptandroides Wollemi Mint-bush [68496]	Vulnerable	Species or species habitat may occur within area
Prostanthera densa Villous Mintbush [12233]	Vulnerable	Species or species habitat known to occur within area
Prostanthera junonis Somersby Mintbush [64960]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Prostanthera marifolia Seaforth Mintbush [7555]	Critically Endangered	Species or species habitat known to occur within area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat known to occur within area
Pterostylis pulchella Pretty Greenhood [6448]	Vulnerable	Species or species habitat known to occur within area
Pterostylis saxicola Sydney Plains Greenhood [64537]	Endangered	Species or species habitat known to occur within area
Pterostylis sp. Botany Bay (A.Bishop J221/1-13) Botany Bay Bearded Greenhood, Botany Bay Bearded Orchid [64965]	Endangered	Species or species habitat likely to occur within area
Pultenaea aristata [18062]	Vulnerable	Species or species habitat likely to occur within area
Pultenaea glabra Smooth Bush-pea, Swamp Bush-pea [11887]	Vulnerable	Species or species habitat known to occur within area
Pultenaea parrisiae [56699]	Vulnerable	Species or species habitat may occur within area
Pultenaea parviflora [19380]	Vulnerable	Species or species habitat known to occur within area
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat known to occur within area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known to occur within area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat may occur within area
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area
Tetraloche juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area
Thelymitra adorata Wyong Sun Orchid [84724]	Critically Endangered	Species or species habitat may occur within area
Thelymitra kangaloonica Kangaloon Sun Orchid [81861]	Critically Endangered	Species or species habitat known to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat known to occur within area
Trachymene scapigera Mountain Trachymene [9367]	Endangered	Species or species habitat known to occur within area
Velleia perfoliata [17190]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Wollemia nobilis Wollemi Pine [64545]	Critically Endangered	Species or species habitat likely to occur within area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat known to occur within area
Zieria covenyi Coveny's Zieria [56732]	Endangered	Species or species habitat known to occur within area
Zieria granulata Hill Zieria, Hilly Zieria, Illawarra Zieria [17147]	Endangered	Species or species habitat likely to occur within area
Zieria involucrata [3087]	Vulnerable	Species or species habitat known to occur within area
Zieria murphyi Velvet Zieria [4634]	Vulnerable	Species or species habitat known to occur within area
REPTILE		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Eulamprus leuraensis Blue Mountains Water Skink [59199]	Endangered	Species or species habitat known to occur within area
Hoplocephalus bungaroides Broad-headed Snake [1182]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Tymanocryptis mccartneyi Bathurst Grassland Earless Dragon [90478]	Critically Endangered	Species or species habitat may occur within area
SHARK		
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Centrophorus harrisoni Harrisson's Dogfish, Endeavour Dogfish, Dumb Gulper Shark, Harrison's Deepsea Dogfish [68444]	Conservation Dependent	Species or species habitat likely to occur within area
Centrophorus uyato listed as Centrophorus zeehaani Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

SNAIL

Meridolum maryae Maroubra Woodland Snail, Maroubra Land Snail [89884]	Endangered	Species or species habitat known to occur within area
Pommerhelix duralensis Dural Land Snail [85268]	Endangered	Species or species habitat known to occur within area

Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Ardenna grisea Sooty Shearwater [82651]		Breeding known to occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Ardenna tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
<i>Calonectris leucomelas</i> Streaked Shearwater [1077]		Species or species habitat known to occur within area
<i>Diomedea antipodensis</i> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea epomophora</i> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea exulans</i> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea sanfordi</i> Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
<i>Fregata ariel</i> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
<i>Fregata minor</i> Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
<i>Macronectes giganteus</i> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<i>Macronectes halli</i> Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<i>Phaethon lepturus</i> White-tailed Tropicbird [1014]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Migratory Marine Species

Scientific Name	Threatened Category	Presence Text
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Foraging, feeding or related behaviour known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa incana Wandering Tattler [831]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands [\[Resource Information \]](#)

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

Commonwealth Land Name	State
Australian Academy of Science Commonwealth Land - Australian Academy of Science [12031]	NSW
Australian National University Commonwealth Land - Australian National University [13156]	NSW
Australian Wool Testing Authority Limited Commonwealth Land - Australian Wool Testing Authority Limited [14537]	NSW
Commonwealth Bank of Australia Commonwealth Land - Commonwealth Bank of Australia [14407]	NSW
Commonwealth Land - Commonwealth Bank of Australia [13909]	NSW
Commonwealth Land - Commonwealth Bank of Australia [12162]	NSW
Commonwealth Land - Commonwealth Bank of Australia [12174]	NSW
Commonwealth Land - Commonwealth Bank of Australia [12173]	NSW

Commonwealth Land Name	State
Commonwealth Land - Commonwealth Bank of Australia [16064]	NSW
Commonwealth Land - Commonwealth Bank of Australia [13158]	NSW
Commonwealth Land - Commonwealth Bank of Australia [14406]	NSW
Commonwealth Land - Commonwealth Bank of Australia [14408]	NSW
Commonwealth Land - Commonwealth Bank of Australia [14331]	NSW
Commonwealth Land - Commonwealth Bank of Australia [13959]	NSW
Commonwealth Land - Commonwealth Bank of Australia [12459]	NSW
Commonwealth Land - Commonwealth Bank of Australia [12454]	NSW
Commonwealth Trading Bank of Australia	
Commonwealth Land - Commonwealth Trading Bank of Australia [12381]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12382]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [13043]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12203]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12113]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12383]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14323]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12723]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [13209]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14325]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14322]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [13347]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14503]	NSW

Commonwealth Land Name	State
Commonwealth Land - Commonwealth Trading Bank of Australia [12111]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [13346]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [11738]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [16450]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12350]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12366]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12367]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12202]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14477]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12224]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12222]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [14337]	NSW
Commonwealth Land - Commonwealth Trading Bank of Australia [12384]	NSW
Communications, Information Technology and the Arts - Australian Broadcasting Corporation	
Commonwealth Land - Australian Broadcasting Commission [13113]	NSW
Commonwealth Land - Australian Broadcasting Commission [13112]	NSW
Commonwealth Land - Australian Broadcasting Commission [13116]	NSW
Commonwealth Land - Australian Broadcasting Commission [15605]	NSW
Commonwealth Land - Australian Broadcasting Corporation [15511]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13111]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13110]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13117]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Broadcasting Corporation [13114]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13115]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13107]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13106]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13108]	NSW
Commonwealth Land - Australian Broadcasting Corporation [13109]	NSW
Commonwealth Land - Australian Broadcasting Corporation [15606]	NSW
Commonwealth Land - Australian Broadcasting Corporation [15607]	NSW
Communications, Information Technology and the Arts - Australian Postal Corporation	
Commonwealth Land - Australian Postal Commission [12363]	NSW
Commonwealth Land - Australian Postal Commission [14495]	NSW
Commonwealth Land - Australian Postal Commission [13228]	NSW
Commonwealth Land - Australian Postal Commission [14594]	NSW
Commonwealth Land - Australian Postal Commission [13153]	NSW
Commonwealth Land - Australian Postal Commission [13091]	NSW
Commonwealth Land - Australian Postal Commission [13192]	NSW
Commonwealth Land - Australian Postal Commission [13118]	NSW
Commonwealth Land - Australian Postal Commission [13022]	NSW
Commonwealth Land - Australian Postal Commission [13131]	NSW
Commonwealth Land - Australian Postal Commission [13134]	NSW
Commonwealth Land - Australian Postal Commission [13224]	NSW
Commonwealth Land - Australian Postal Commission [14426]	NSW
Commonwealth Land - Australian Postal Commission [14328]	NSW
Commonwealth Land - Australian Postal Commission [12125]	NSW
Commonwealth Land - Australian Postal Commission [14348]	NSW
Commonwealth Land - Australian Postal Commission [13002]	NSW
Commonwealth Land - Australian Postal Commission [13121]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Postal Commission [13193]	NSW
Commonwealth Land - Australian Postal Commission [14280]	NSW
Commonwealth Land - Australian Postal Commission [14284]	NSW
Commonwealth Land - Australian Postal Commission [13094]	NSW
Commonwealth Land - Australian Postal Commission [13099]	NSW
Commonwealth Land - Australian Postal Commission [13291]	NSW
Commonwealth Land - Australian Postal Commission [12055]	NSW
Commonwealth Land - Australian Postal Commission [12112]	NSW
Commonwealth Land - Australian Postal Commission [12815]	NSW
Commonwealth Land - Australian Postal Commission [13104]	NSW
Commonwealth Land - Australian Postal Commission [16431]	NSW
Commonwealth Land - Australian Postal Commission [13215]	NSW
Commonwealth Land - Australian Postal Commission [13055]	NSW
Commonwealth Land - Australian Postal Commission [11776]	NSW
Commonwealth Land - Australian Postal Commission [11772]	NSW
Commonwealth Land - Australian Postal Commission [16363]	NSW
Commonwealth Land - Australian Postal Commission [12153]	NSW
Commonwealth Land - Australian Postal Commission [13290]	NSW
Commonwealth Land - Australian Postal Commission [14324]	NSW
Commonwealth Land - Australian Postal Commission [14326]	NSW
Commonwealth Land - Australian Postal Commission [13195]	NSW
Commonwealth Land - Australian Postal Commission [14329]	NSW
Commonwealth Land - Australian Postal Commission [13924]	NSW
Commonwealth Land - Australian Postal Commission [14384]	NSW
Commonwealth Land - Australian Postal Commission [13923]	NSW
Commonwealth Land - Australian Postal Commission [14366]	NSW
Commonwealth Land - Australian Postal Commission [13047]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Postal Commission [13040]	NSW
Commonwealth Land - Australian Postal Commission [14391]	NSW
Commonwealth Land - Australian Postal Commission [12888]	NSW
Commonwealth Land - Australian Postal Commission [13922]	NSW
Commonwealth Land - Australian Postal Commission [14338]	NSW
Commonwealth Land - Australian Postal Commission [13350]	NSW
Commonwealth Land - Australian Postal Commission [13164]	NSW
Commonwealth Land - Australian Postal Commission [15698]	NSW
Commonwealth Land - Australian Postal Commission [13910]	NSW
Commonwealth Land - Australian Postal Commission [12205]	NSW
Commonwealth Land - Australian Postal Commission [13925]	NSW
Commonwealth Land - Australian Postal Commission [13864]	NSW
Commonwealth Land - Australian Postal Commission [13137]	NSW
Commonwealth Land - Australian Postal Commission [14473]	NSW
Commonwealth Land - Australian Postal Commission [14350]	NSW
Commonwealth Land - Australian Postal Commission [14355]	NSW
Commonwealth Land - Australian Postal Commission [12225]	NSW
Commonwealth Land - Australian Postal Commission [14504]	NSW
Commonwealth Land - Australian Postal Commission [15537]	NSW
Commonwealth Land - Australian Postal Commission [15538]	NSW
Commonwealth Land - Australian Postal Commission [12995]	NSW
Commonwealth Land - Australian Postal Commission [13039]	NSW
Commonwealth Land - Australian Postal Commission [13845]	NSW
Commonwealth Land - Australian Postal Commission [13239]	NSW
Commonwealth Land - Australian Postal Commission [12078]	NSW
Commonwealth Land - Australian Postal Corporation [12176]	NSW
Commonwealth Land - Australian Postal Corporation [12746]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Postal Corporation [16174]	NSW
Commonwealth Land - Australian Postal Corporation [14422]	NSW
Commonwealth Land - Australian Postal Corporation [14342]	NSW
Commonwealth Land - Australian Postal Corporation [14343]	NSW
Commonwealth Land - Australian Postal Corporation [13152]	NSW
Commonwealth Land - Australian Postal Corporation [12073]	NSW
Commonwealth Land - Australian Postal Corporation [16525]	NSW
Commonwealth Land - Australian Postal Corporation [13214]	NSW
Commonwealth Land - Australian Postal Corporation [16021]	NSW
Commonwealth Land - Australian Postal Corporation [14602]	NSW
Commonwealth Land - Australian Postal Corporation [12227]	NSW
Commonwealth Land - Australian Postal Corporation [16471]	NSW
Commonwealth Land - Australian Postal Corporation [16051]	NSW
Commonwealth Land - Australian Postal Corporation [16164]	NSW
Commonwealth Land - Australian Postal Corporation [11771]	NSW
Commonwealth Land - Australian Postal Corporation [15604]	NSW
Commonwealth Land - Australian Postal Corporation [12819]	NSW
Commonwealth Land - Australian Postal Corporation [15603]	NSW
Commonwealth Land - Australian Postal Corporation [15898]	NSW
Commonwealth Land - Australian Postal Corporation [14421]	NSW
Commonwealth Land - Australian Postal Corporation [14274]	NSW
Commonwealth Land - Australian Postal Corporation [12207]	NSW
Commonwealth Land - Australian Postal Corporation [12226]	NSW
Commonwealth Land - Australian Postal Corporation [12997]	NSW
Commonwealth Land - Australian Postal Corporation [14618]	NSW
Commonwealth Land - Australian Postal Corporation [14619]	NSW
Commonwealth Land - Australian Postal Corporation [16009]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Postal Corporation [12072]	NSW
Commonwealth Land - Australia Post [15591]	NSW
Communications, Information Technology and the Arts - Telstra Corporation Limited	
Commonwealth Land - Australian & Overseas Telecommunications Corporation [14458]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [13155]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [13000]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [15900]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [11843]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [16072]	NSW
Commonwealth Land - Australian & Overseas Telecommunications Corporation [14359]	NSW
Commonwealth Land - Australian Telecommunications Commission [12737]	NSW
Commonwealth Land - Australian Telecommunications Commission [16444]	NSW
Commonwealth Land - Australian Telecommunications Commission [15700]	NSW
Commonwealth Land - Australian Telecommunications Commission [15705]	NSW
Commonwealth Land - Australian Telecommunications Commission [12733]	NSW
Commonwealth Land - Australian Telecommunications Commission [12730]	NSW
Commonwealth Land - Australian Telecommunications Commission [14381]	NSW
Commonwealth Land - Australian Telecommunications Commission [12178]	NSW
Commonwealth Land - Australian Telecommunications Commission [12177]	NSW
Commonwealth Land - Australian Telecommunications Commission [14599]	NSW
Commonwealth Land - Australian Telecommunications Commission [12573]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [14496]	NSW
Commonwealth Land - Australian Telecommunications Commission [14494]	NSW
Commonwealth Land - Australian Telecommunications Commission [12066]	NSW
Commonwealth Land - Australian Telecommunications Commission [13970]	NSW
Commonwealth Land - Australian Telecommunications Commission [12753]	NSW
Commonwealth Land - Australian Telecommunications Commission [12199]	NSW
Commonwealth Land - Australian Telecommunications Commission [12064]	NSW
Commonwealth Land - Australian Telecommunications Commission [12757]	NSW
Commonwealth Land - Australian Telecommunications Commission [12069]	NSW
Commonwealth Land - Australian Telecommunications Commission [12351]	NSW
Commonwealth Land - Australian Telecommunications Commission [16125]	NSW
Commonwealth Land - Australian Telecommunications Commission [14598]	NSW
Commonwealth Land - Australian Telecommunications Commission [14597]	NSW
Commonwealth Land - Australian Telecommunications Commission [12476]	NSW
Commonwealth Land - Australian Telecommunications Commission [13154]	NSW
Commonwealth Land - Australian Telecommunications Commission [14628]	NSW
Commonwealth Land - Australian Telecommunications Commission [13119]	NSW
Commonwealth Land - Australian Telecommunications Commission [11739]	NSW
Commonwealth Land - Australian Telecommunications Commission [12058]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [12405]	NSW
Commonwealth Land - Australian Telecommunications Commission [15500]	NSW
Commonwealth Land - Australian Telecommunications Commission [12738]	NSW
Commonwealth Land - Australian Telecommunications Commission [16564]	NSW
Commonwealth Land - Australian Telecommunications Commission [13132]	NSW
Commonwealth Land - Australian Telecommunications Commission [13136]	NSW
Commonwealth Land - Australian Telecommunications Commission [13226]	NSW
Commonwealth Land - Australian Telecommunications Commission [13225]	NSW
Commonwealth Land - Australian Telecommunications Commission [13223]	NSW
Commonwealth Land - Australian Telecommunications Commission [13221]	NSW
Commonwealth Land - Australian Telecommunications Commission [12124]	NSW
Commonwealth Land - Australian Telecommunications Commission [12120]	NSW
Commonwealth Land - Australian Telecommunications Commission [14405]	NSW
Commonwealth Land - Australian Telecommunications Commission [14404]	NSW
Commonwealth Land - Australian Telecommunications Commission [14409]	NSW
Commonwealth Land - Australian Telecommunications Commission [14402]	NSW
Commonwealth Land - Australian Telecommunications Commission [12011]	NSW
Commonwealth Land - Australian Telecommunications Commission [11768]	NSW
Commonwealth Land - Australian Telecommunications Commission [14600]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [11761]	NSW
Commonwealth Land - Australian Telecommunications Commission [12368]	NSW
Commonwealth Land - Australian Telecommunications Commission [11769]	NSW
Commonwealth Land - Australian Telecommunications Commission [13194]	NSW
Commonwealth Land - Australian Telecommunications Commission [13969]	NSW
Commonwealth Land - Australian Telecommunications Commission [13965]	NSW
Commonwealth Land - Australian Telecommunications Commission [12152]	NSW
Commonwealth Land - Australian Telecommunications Commission [13157]	NSW
Commonwealth Land - Australian Telecommunications Commission [12012]	NSW
Commonwealth Land - Australian Telecommunications Commission [13129]	NSW
Commonwealth Land - Australian Telecommunications Commission [13128]	NSW
Commonwealth Land - Australian Telecommunications Commission [12059]	NSW
Commonwealth Land - Australian Telecommunications Commission [12897]	NSW
Commonwealth Land - Australian Telecommunications Commission [11831]	NSW
Commonwealth Land - Australian Telecommunications Commission [13890]	NSW
Commonwealth Land - Australian Telecommunications Commission [16473]	NSW
Commonwealth Land - Australian Telecommunications Commission [14281]	NSW
Commonwealth Land - Australian Telecommunications Commission [11763]	NSW
Commonwealth Land - Australian Telecommunications Commission [14285]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [11762]	NSW
Commonwealth Land - Australian Telecommunications Commission [13093]	NSW
Commonwealth Land - Australian Telecommunications Commission [13092]	NSW
Commonwealth Land - Australian Telecommunications Commission [13097]	NSW
Commonwealth Land - Australian Telecommunications Commission [13095]	NSW
Commonwealth Land - Australian Telecommunications Commission [11837]	NSW
Commonwealth Land - Australian Telecommunications Commission [11830]	NSW
Commonwealth Land - Australian Telecommunications Commission [11839]	NSW
Commonwealth Land - Australian Telecommunications Commission [12474]	NSW
Commonwealth Land - Australian Telecommunications Commission [13921]	NSW
Commonwealth Land - Australian Telecommunications Commission [12695]	NSW
Commonwealth Land - Australian Telecommunications Commission [14443]	NSW
Commonwealth Land - Australian Telecommunications Commission [12102]	NSW
Commonwealth Land - Australian Telecommunications Commission [12104]	NSW
Commonwealth Land - Australian Telecommunications Commission [12108]	NSW
Commonwealth Land - Australian Telecommunications Commission [12109]	NSW
Commonwealth Land - Australian Telecommunications Commission [13455]	NSW
Commonwealth Land - Australian Telecommunications Commission [12215]	NSW
Commonwealth Land - Australian Telecommunications Commission [13293]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [12054]	NSW
Commonwealth Land - Australian Telecommunications Commission [11742]	NSW
Commonwealth Land - Australian Telecommunications Commission [14356]	NSW
Commonwealth Land - Australian Telecommunications Commission [12228]	NSW
Commonwealth Land - Australian Telecommunications Commission [12810]	NSW
Commonwealth Land - Australian Telecommunications Commission [13057]	NSW
Commonwealth Land - Australian Telecommunications Commission [14555]	NSW
Commonwealth Land - Australian Telecommunications Commission [13216]	NSW
Commonwealth Land - Australian Telecommunications Commission [13951]	NSW
Commonwealth Land - Australian Telecommunications Commission [16092]	NSW
Commonwealth Land - Australian Telecommunications Commission [12452]	NSW
Commonwealth Land - Australian Telecommunications Commission [14415]	NSW
Commonwealth Land - Australian Telecommunications Commission [14414]	NSW
Commonwealth Land - Australian Telecommunications Commission [14417]	NSW
Commonwealth Land - Australian Telecommunications Commission [12151]	NSW
Commonwealth Land - Australian Telecommunications Commission [16448]	NSW
Commonwealth Land - Australian Telecommunications Commission [12776]	NSW
Commonwealth Land - Australian Telecommunications Commission [14418]	NSW
Commonwealth Land - Australian Telecommunications Commission [14416]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [14229]	NSW
Commonwealth Land - Australian Telecommunications Commission [12343]	NSW
Commonwealth Land - Australian Telecommunications Commission [11845]	NSW
Commonwealth Land - Australian Telecommunications Commission [14327]	NSW
Commonwealth Land - Australian Telecommunications Commission [12818]	NSW
Commonwealth Land - Australian Telecommunications Commission [12736]	NSW
Commonwealth Land - Australian Telecommunications Commission [13926]	NSW
Commonwealth Land - Australian Telecommunications Commission [12827]	NSW
Commonwealth Land - Australian Telecommunications Commission [14463]	NSW
Commonwealth Land - Australian Telecommunications Commission [14279]	NSW
Commonwealth Land - Australian Telecommunications Commission [12103]	NSW
Commonwealth Land - Australian Telecommunications Commission [14484]	NSW
Commonwealth Land - Australian Telecommunications Commission [14485]	NSW
Commonwealth Land - Australian Telecommunications Commission [11838]	NSW
Commonwealth Land - Australian Telecommunications Commission [12156]	NSW
Commonwealth Land - Australian Telecommunications Commission [13222]	NSW
Commonwealth Land - Australian Telecommunications Commission [14388]	NSW
Commonwealth Land - Australian Telecommunications Commission [14383]	NSW
Commonwealth Land - Australian Telecommunications Commission [14428]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [12756]	NSW
Commonwealth Land - Australian Telecommunications Commission [12119]	NSW
Commonwealth Land - Australian Telecommunications Commission [12359]	NSW
Commonwealth Land - Australian Telecommunications Commission [12889]	NSW
Commonwealth Land - Australian Telecommunications Commission [11827]	NSW
Commonwealth Land - Australian Telecommunications Commission [13883]	NSW
Commonwealth Land - Australian Telecommunications Commission [13882]	NSW
Commonwealth Land - Australian Telecommunications Commission [11829]	NSW
Commonwealth Land - Australian Telecommunications Commission [13241]	NSW
Commonwealth Land - Australian Telecommunications Commission [13240]	NSW
Commonwealth Land - Australian Telecommunications Commission [11826]	NSW
Commonwealth Land - Australian Telecommunications Commission [12116]	NSW
Commonwealth Land - Australian Telecommunications Commission [12036]	NSW
Commonwealth Land - Australian Telecommunications Commission [13340]	NSW
Commonwealth Land - Australian Telecommunications Commission [13341]	NSW
Commonwealth Land - Australian Telecommunications Commission [13342]	NSW
Commonwealth Land - Australian Telecommunications Commission [16421]	NSW
Commonwealth Land - Australian Telecommunications Commission [13358]	NSW
Commonwealth Land - Australian Telecommunications Commission [12105]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [13162]	NSW
Commonwealth Land - Australian Telecommunications Commission [11842]	NSW
Commonwealth Land - Australian Telecommunications Commission [11844]	NSW
Commonwealth Land - Australian Telecommunications Commission [14529]	NSW
Commonwealth Land - Australian Telecommunications Commission [13912]	NSW
Commonwealth Land - Australian Telecommunications Commission [13913]	NSW
Commonwealth Land - Australian Telecommunications Commission [14278]	NSW
Commonwealth Land - Australian Telecommunications Commission [12422]	NSW
Commonwealth Land - Australian Telecommunications Commission [14276]	NSW
Commonwealth Land - Australian Telecommunications Commission [12423]	NSW
Commonwealth Land - Australian Telecommunications Commission [12026]	NSW
Commonwealth Land - Australian Telecommunications Commission [12421]	NSW
Commonwealth Land - Australian Telecommunications Commission [12357]	NSW
Commonwealth Land - Australian Telecommunications Commission [11836]	NSW
Commonwealth Land - Australian Telecommunications Commission [11892]	NSW
Commonwealth Land - Australian Telecommunications Commission [13014]	NSW
Commonwealth Land - Australian Telecommunications Commission [12354]	NSW
Commonwealth Land - Australian Telecommunications Commission [12353]	NSW
Commonwealth Land - Australian Telecommunications Commission [12361]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [12360]	NSW
Commonwealth Land - Australian Telecommunications Commission [12356]	NSW
Commonwealth Land - Australian Telecommunications Commission [12355]	NSW
Commonwealth Land - Australian Telecommunications Commission [12358]	NSW
Commonwealth Land - Australian Telecommunications Commission [12364]	NSW
Commonwealth Land - Australian Telecommunications Commission [13018]	NSW
Commonwealth Land - Australian Telecommunications Commission [12101]	NSW
Commonwealth Land - Australian Telecommunications Commission [12201]	NSW
Commonwealth Land - Australian Telecommunications Commission [12107]	NSW
Commonwealth Land - Australian Telecommunications Commission [12899]	NSW
Commonwealth Land - Australian Telecommunications Commission [16081]	NSW
Commonwealth Land - Australian Telecommunications Commission [12735]	NSW
Commonwealth Land - Australian Telecommunications Commission [12731]	NSW
Commonwealth Land - Australian Telecommunications Commission [12110]	NSW
Commonwealth Land - Australian Telecommunications Commission [13019]	NSW
Commonwealth Land - Australian Telecommunications Commission [13866]	NSW
Commonwealth Land - Australian Telecommunications Commission [12487]	NSW
Commonwealth Land - Australian Telecommunications Commission [12718]	NSW
Commonwealth Land - Australian Telecommunications Commission [12486]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Commission [14351]	NSW
Commonwealth Land - Australian Telecommunications Commission [11841]	NSW
Commonwealth Land - Australian Telecommunications Commission [12223]	NSW
Commonwealth Land - Australian Telecommunications Commission [12221]	NSW
Commonwealth Land - Australian Telecommunications Commission [11765]	NSW
Commonwealth Land - Australian Telecommunications Commission [11740]	NSW
Commonwealth Land - Australian Telecommunications Commission [15618]	NSW
Commonwealth Land - Australian Telecommunications Commission [12414]	NSW
Commonwealth Land - Australian Telecommunications Commission [12415]	NSW
Commonwealth Land - Australian Telecommunications Commission [12416]	NSW
Commonwealth Land - Australian Telecommunications Commission [12417]	NSW
Commonwealth Land - Australian Telecommunications Commission [12413]	NSW
Commonwealth Land - Australian Telecommunications Commission [12999]	NSW
Commonwealth Land - Australian Telecommunications Commission [13231]	NSW
Commonwealth Land - Australian Telecommunications Commission [14629]	NSW
Commonwealth Land - Australian Telecommunications Commission [14379]	NSW
Commonwealth Land - Australian Telecommunications Commission [14252]	NSW
Commonwealth Land - Australian Telecommunications Commission [12098]	NSW
Commonwealth Land - Australian Telecommunications Commission [12453]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Telecommunications Corporation [12175]	NSW
Commonwealth Land - Australian Telecommunications Corporation [12998]	NSW
Commonwealth Land - Australian Telecommunications Corporation [14596]	NSW
Commonwealth Land - Australian Telecommunications Corporation [13130]	NSW
Commonwealth Land - Australian Telecommunications Corporation [14601]	NSW
Commonwealth Land - Australian Telecommunications Corporation [12389]	NSW
Commonwealth Land - Australian Telecommunications Corporation [13503]	NSW
Commonwealth Land - Australian Telecommunications Corporation [13292]	NSW
Commonwealth Land - Australian Telecommunications Corporation [13343]	NSW
Commonwealth Land - Australian Telecommunications Corporation [11840]	NSW
Commonwealth Land - Australian Telecommunications Corporation [14286]	NSW
Commonwealth Land - Australian Telecommunications Corporation [12412]	NSW
Commonwealth Land - Overseas Telecommunications Commission (Australia) [13339]	NSW
Commonwealth Land - Telstra Corporation Limited [12836]	NSW
Commonwealth Land - Telstra Corporation Limited [12362]	NSW
Commonwealth Land - Telstra Corporation Limited [16252]	NSW
Commonwealth Land - Telstra Corporation Limited [12065]	NSW
Commonwealth Land - Telstra Corporation Limited [12039]	NSW
Commonwealth Land - Telstra Corporation Limited [14592]	NSW
Commonwealth Land - Telstra Corporation Limited [14340]	NSW
Commonwealth Land - Telstra Corporation Limited [12076]	NSW
Commonwealth Land - Telstra Corporation Limited [14349]	NSW

Commonwealth Land Name	State
Commonwealth Land - Telstra Corporation Limited [15504]	NSW
Commonwealth Land - Telstra Corporation Limited [15407]	NSW
Commonwealth Land - Telstra Corporation Limited [16529]	NSW
Commonwealth Land - Telstra Corporation Limited [14341]	NSW
Commonwealth Land - Telstra Corporation Limited [15733]	NSW
Commonwealth Land - Telstra Corporation Limited [11766]	NSW
Commonwealth Land - Telstra Corporation Limited [14333]	NSW
Commonwealth Land - Telstra Corporation Limited [15703]	NSW
Commonwealth Land - Telstra Corporation Limited [13891]	NSW
Commonwealth Land - Telstra Corporation Limited [13893]	NSW
Commonwealth Land - Telstra Corporation Limited [13894]	NSW
Commonwealth Land - Telstra Corporation Limited [14282]	NSW
Commonwealth Land - Telstra Corporation Limited [14283]	NSW
Commonwealth Land - Telstra Corporation Limited [14287]	NSW
Commonwealth Land - Telstra Corporation Limited [14228]	NSW
Commonwealth Land - Telstra Corporation Limited [13033]	NSW
Commonwealth Land - Telstra Corporation Limited [14227]	NSW
Commonwealth Land - Telstra Corporation Limited [12477]	NSW
Commonwealth Land - Telstra Corporation Limited [15880]	NSW
Commonwealth Land - Telstra Corporation Limited [15889]	NSW
Commonwealth Land - Telstra Corporation Limited [14442]	NSW
Commonwealth Land - Telstra Corporation Limited [14412]	NSW
Commonwealth Land - Telstra Corporation Limited [16342]	NSW
Commonwealth Land - Telstra Corporation Limited [14512]	NSW
Commonwealth Land - Telstra Corporation Limited [14511]	NSW
Commonwealth Land - Telstra Corporation Limited [13187]	NSW
Commonwealth Land - Telstra Corporation Limited [13100]	NSW

Commonwealth Land Name	State
Commonwealth Land - Telstra Corporation Limited [14410]	NSW
Commonwealth Land - Telstra Corporation Limited [12344]	NSW
Commonwealth Land - Telstra Corporation Limited [13213]	NSW
Commonwealth Land - Telstra Corporation Limited [12345]	NSW
Commonwealth Land - Telstra Corporation Limited [16419]	NSW
Commonwealth Land - Telstra Corporation Limited [12157]	NSW
Commonwealth Land - Telstra Corporation Limited [14385]	NSW
Commonwealth Land - Telstra Corporation Limited [14368]	NSW
Commonwealth Land - Telstra Corporation Limited [15966]	NSW
Commonwealth Land - Telstra Corporation Limited [13849]	NSW
Commonwealth Land - Telstra Corporation Limited [12115]	NSW
Commonwealth Land - Telstra Corporation Limited [12114]	NSW
Commonwealth Land - Telstra Corporation Limited [11846]	NSW
Commonwealth Land - Telstra Corporation Limited [16423]	NSW
Commonwealth Land - Telstra Corporation Limited [16422]	NSW
Commonwealth Land - Telstra Corporation Limited [16426]	NSW
Commonwealth Land - Telstra Corporation Limited [16424]	NSW
Commonwealth Land - Telstra Corporation Limited [16429]	NSW
Commonwealth Land - Telstra Corporation Limited [13962]	NSW
Commonwealth Land - Telstra Corporation Limited [13911]	NSW
Commonwealth Land - Telstra Corporation Limited [15188]	NSW
Commonwealth Land - Telstra Corporation Limited [14275]	NSW
Commonwealth Land - Telstra Corporation Limited [12204]	NSW
Commonwealth Land - Telstra Corporation Limited [12200]	NSW
Commonwealth Land - Telstra Corporation Limited [14530]	NSW
Commonwealth Land - Telstra Corporation Limited [12729]	NSW
Commonwealth Land - Telstra Corporation Limited [12732]	NSW

Commonwealth Land Name	State
Commonwealth Land - Telstra Corporation Limited [13860]	NSW
Commonwealth Land - Telstra Corporation Limited [13892]	NSW
Commonwealth Land - Telstra Corporation Limited [15669]	NSW
Commonwealth Land - Telstra Corporation Limited [14332]	NSW
Commonwealth Land - Telstra Corporation Limited [14339]	NSW
Commonwealth Land - Telstra Corporation Limited [14617]	NSW
Commonwealth Land - Telstra Corporation Limited [15445]	NSW
Commonwealth Land - Telstra Corporation Limited [11741]	NSW
Commonwealth Land - Telstra Corporation Limited [12996]	NSW
Commonwealth Land - Telstra Corporation Limited [11847]	NSW
Commonwealth Land - Telstra Corporation Limited [12075]	NSW
Commonwealth Land - Telstra Corporation Limited [14267]	NSW
Defence	
Commonwealth Land - Defence Service Homes Corporation [15946]	NSW
Commonwealth Land - Defence Service Homes Corporation [12165]	NSW
Commonwealth Land - Defence Service Homes Corporation [12167]	NSW
Commonwealth Land - Defence Service Homes Corporation [12163]	NSW
Commonwealth Land - Defence Service Homes Corporation [12161]	NSW
Commonwealth Land - Defence Service Homes Corporation [12168]	NSW
Commonwealth Land - Defence Service Homes Corporation [13876]	NSW
Commonwealth Land - Defence Service Homes Corporation [14527]	NSW
Commonwealth Land - Defence Service Homes Corporation [13064]	NSW
Commonwealth Land - Defence Service Homes Corporation [12029]	NSW
Commonwealth Land - Defence Service Homes Corporation [13877]	NSW
Commonwealth Land - Defence Service Homes Corporation [13042]	NSW
Commonwealth Land - Defence Service Homes Corporation [13003]	NSW
Commonwealth Land - Defence Service Homes Corporation [13005]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Service Homes Corporation [13220]	NSW
Commonwealth Land - Defence Service Homes Corporation [15411]	NSW
Commonwealth Land - Defence Service Homes Corporation [12164]	NSW
Commonwealth Land - Defence Service Homes Corporation [14363]	NSW
Commonwealth Land - Defence Service Homes Corporation [12817]	NSW
Commonwealth Land - Defence Service Homes Corporation [12217]	NSW
Commonwealth Land - Defence Service Homes Corporation [12106]	NSW
Commonwealth Land - Defence Service Homes Corporation [13875]	NSW
Commonwealth Land - Defence Service Homes Corporation [13874]	NSW
Commonwealth Land - Defence Service Homes Corporation [13870]	NSW
Commonwealth Land - Defence Service Homes Corporation [13871]	NSW
Commonwealth Land - Defence Service Homes Corporation [13872]	NSW
Commonwealth Land - Defence Service Homes Corporation [13873]	NSW
Commonwealth Land - Defence Service Homes Corporation [13879]	NSW
Commonwealth Land - Defence Service Homes Corporation [14510]	NSW
Commonwealth Land - Defence Service Homes Corporation [12816]	NSW
Commonwealth Land - Defence Service Homes Corporation [14579]	NSW
Commonwealth Land - Defence Service Homes Corporation [14561]	NSW
Commonwealth Land - Defence Service Homes Corporation [14505]	NSW
Commonwealth Land - Defence Service Homes Corporation [12160]	NSW
Commonwealth Land - Defence Service Homes Corporation [14231]	NSW
Commonwealth Land - Defence Service Homes Corporation [12824]	NSW
Commonwealth Land - Defence Service Homes Corporation [12820]	NSW
Commonwealth Land - Defence Service Homes Corporation [14562]	NSW
Commonwealth Land - Defence Service Homes Corporation [12155]	NSW
Commonwealth Land - Defence Service Homes Corporation [12154]	NSW
Commonwealth Land - Defence Service Homes Corporation [12159]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Service Homes Corporation [12158]	NSW
Commonwealth Land - Defence Service Homes Corporation [13054]	NSW
Commonwealth Land - Defence Service Homes Corporation [14360]	NSW
Commonwealth Land - Defence Service Homes Corporation [13041]	NSW
Commonwealth Land - Defence Service Homes Corporation [14590]	NSW
Commonwealth Land - Defence Service Homes Corporation [12117]	NSW
Commonwealth Land - Defence Service Homes Corporation [13068]	NSW
Commonwealth Land - Defence Service Homes Corporation [13211]	NSW
Commonwealth Land - Defence Service Homes Corporation [13065]	NSW
Commonwealth Land - Defence Service Homes Corporation [13066]	NSW
Commonwealth Land - Defence Service Homes Corporation [13067]	NSW
Commonwealth Land - Defence Service Homes Corporation [13010]	NSW
Commonwealth Land - Defence Service Homes Corporation [14546]	NSW
Commonwealth Land - Defence Service Homes Corporation [14573]	NSW
Commonwealth Land - Defence Service Homes Corporation [14621]	NSW
Commonwealth Land - Defence Service Homes Corporation [14624]	NSW
Commonwealth Land - Defence Service Homes Corporation [13869]	NSW
Commonwealth Land - Defence Service Homes Corporation [13210]	NSW
Commonwealth Land - Defence Service Homes Corporation [14357]	NSW
Commonwealth Land - Defence Service Homes Corporation [14572]	NSW
Commonwealth Land - Defence Service Homes Corporation [14509]	NSW
Commonwealth Land - Defence Service Homes Corporation [14352]	NSW
Commonwealth Land - Defence Service Homes Corporation [13846]	NSW
Commonwealth Land - Defence Service Homes Corporation & Alice Isabel Patterson [14377]	NSW
Commonwealth Land - Director of Defence Service Homes [14569]	NSW
Commonwealth Land - Director of Defence Service Homes [13208]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of Defence Service Homes [12709]	NSW
Commonwealth Land - Director of Defence Service Homes [14425]	NSW
Commonwealth Land - Director of Defence Service Homes [14620]	NSW
Commonwealth Land - Director of Defence Service Homes [14571]	NSW
Defence - 1/15 RNSWL - LANCER BARRACKS - PARRAMATTA [11122]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10152]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10155]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10165]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10153]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10151]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10159]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10158]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10150]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10154]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10156]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10157]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10164]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10168]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10169]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10167]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10163]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10160]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10162]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10161]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10166]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10149]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10173]	NSW

Commonwealth Land Name	State
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10170]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10171]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10172]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10175]	NSW
Defence - 1CAD ORCHARD HILLS KINGSWOOD [10174]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11107]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11099]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11098]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11105]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11100]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11102]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11101]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11108]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11104]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11106]	NSW
Defence - 21 CONST REGT - HABERFIELD DEPOT [11103]	NSW
Defence - ADFRU PARRAMATTA [10242]	NSW
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10240]	NSW
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10239]	NSW
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10235]	NSW
Defence - AIR HEADQUARTERS AUSTRALIA - GLENBROOK [10238]	NSW
Defence - AIRTC CAMDEN [10146]	NSW
Defence - AIRTC ST MARYS [10007]	NSW
Defence - AIRTC WOLLONGONG [10002]	NSW
Defence - AIRTC WOLLONGONG [10001]	NSW
Defence - BANKSMEADOW DEPOT (Sydney Workshop Company) [11117]	NSW

Commonwealth Land Name	State
Defence - BANKSMEADOW DEPOT (Sydney Workshop Company) [11116]	NSW
Defence - BLACKTOWN TRAINING DEPOT [10178]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10186]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10184]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10183]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10182]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10187]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10180]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10189]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10181]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10188]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10190]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10185]	NSW
Defence - BRINGELLY RADIO RECEIVING STATION [10179]	NSW
Defence - CAMP SAPPER-EAST HILLS (Lot 2) : CAMP SAPPER TRAINING AREA (Lot 1) [10236]	NSW
Defence - CAMP SAPPER-EAST HILLS (Lot 2) : CAMP SAPPER TRAINING AREA (Lot 1) [10237]	NSW
Defence - CHESTER HILL (NO 2 STORE DPT) [10010]	NSW
Defence - CHESTER HILL (NO 2 STORE DPT) [10011]	NSW
Defence - COCKATOO ISLAND DOCKYARD [10018]	NSW
Defence - CONCORD OFFICE ACCN [11093]	NSW
Defence - DEE WHY DEPOT [11095]	NSW
Defence - DEFENCE PLAZA SYDNEY [11179]	NSW
Defence - DEGAUSSING RANGE [10039]	NSW
Defence - DSTO PYRMONT - (SEE SITE 1177) [10015]	NSW
Defence - DSTO PYRMONT - (SEE SITE 1177) [10016]	NSW

Commonwealth Land Name	State
Defence - DSTO PYRMONT - (SEE SITE 1177) [10017]	NSW
Defence - EAST HILLS BARRACKS - OP SAFE HAVEN [10191]	NSW
Defence - ENDEAVOUR HOUSE - COOGEE [11172]	NSW
Defence - ERINA GRES DEPOT [10070]	NSW
Defence - FLEET BASE WHARVES [10024]	NSW
Defence - FLEET BASE WHARVES [10023]	NSW
Defence - FLEET BASE WHARVES [10021]	NSW
Defence - FLEET BASE WHARVES [10022]	NSW
Defence - FOREST LODGE (SYDNEY) TRG DEP [10071]	NSW
Defence - GARDEN ISLAND [10014]	NSW
Defence - GLADESVILLE TRAINING DEPOT [10012]	NSW
Defence - Graovac House [10147]	NSW
Defence - HMAS KUTTABUL (AC 30/5 Lot4 DP218946) [11074]	NSW
Defence - HMAS NIRIMBA [10030]	NSW
Defence - HMAS NIRIMBA [10031]	NSW
Defence - HMAS PENGUIN [11071]	NSW
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10040]	NSW
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10042]	NSW
Defence - HMAS PLATYPUS - SPDU FOR DISPOSAL [10041]	NSW
Defence - HMAS WATERHEN [10025]	NSW
Defence - HMAS WATSON [10029]	NSW
Defence - HURSTVILLE TRG DEP [11109]	NSW
Defence - HYDROGRAPHIC OFFICE [10234]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10194]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10193]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10199]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10198]	NSW

Commonwealth Land Name	State
Defence - INGLEBURN AREA (Bardia Barracks) [10197]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10196]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10192]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10195]	NSW
Defence - INGLEBURN AREA (Bardia Barracks) [10200]	NSW
Defence - JENNER BUILDING [10034]	NSW
Defence - KENSINGTON DEPOT [11110]	NSW
Defence - KISMET/HMAS KUTTABUL-POTTS PT [11173]	NSW
Defence - LADY GOWRIE HOUSE [10047]	NSW
Defence - LADY GOWRIE HOUSE [10045]	NSW
Defence - LADY GOWRIE HOUSE [10046]	NSW
Defence - LAKE ILLAWARRA CADET FACILITY [10241]	NSW
Defence - LEICHHARDT STORES DEPOT [11112]	NSW
Defence - LIDCOMBE MULTI-USER DEPOT [11114]	NSW
Defence - LIDCOMBE MULTI-USER DEPOT [11113]	NSW
Defence - LIDCOMBE MULTI-USER DEPOT [11115]	NSW
Defence - LITHGOW TRAINING DEPOT - SPDU FOR DISPOSAL [10060]	NSW
Defence - LONDONDERRY PARACHUTE DROP ZONE [10203]	NSW
Defence - LONDONDERRY RTS (Communication Station) [10202]	NSW
Defence - LONDONDERRY RTS (Communication Station) [10201]	NSW
Defence - MARITIME COMD CTRE-POTTS POINT ; BOMERAH/TARANA [10033]	NSW
Defence - MARITIME COMD CTRE-POTTS POINT ; BOMERAH/TARANA [10032]	NSW
Defence - MARITIME HEADQUARTERS [11178]	NSW
Defence - MARRANGAROO [10107]	NSW
Defence - MARRANGAROO [10106]	NSW
Defence - MARRANGAROO [10105]	NSW

Commonwealth Land Name	State
Defence - MARRANGAROO [10103]	NSW
Defence - MARRANGAROO [10101]	NSW
Defence - MARRANGAROO [10102]	NSW
Defence - MARRANGAROO [10100]	NSW
Defence - MARRANGAROO [10104]	NSW
Defence - MARRANGAROO [10108]	NSW
Defence - MATERIAL RESEARCH LAB [10013]	NSW
Defence - MERRYLANDS [10204]	NSW
Defence - MILLER'S POINT TRAINING DEPOT [11118]	NSW
Defence - MOOREBANK AREA INC SME [10205]	NSW
Defence - NEWINGTON [10599]	NSW
Defence - NEWINGTON [10410]	NSW
Defence - NEWINGTON [11070]	NSW
Defence - NEWINGTON [10824]	NSW
Defence - NEWINGTON [10743]	NSW
Defence - NEWINGTON [10822]	NSW
Defence - NEWINGTON [10850]	NSW
Defence - NEWINGTON [10859]	NSW
Defence - NEWINGTON [10858]	NSW
Defence - NEWINGTON [10854]	NSW
Defence - NEWINGTON [10480]	NSW
Defence - NEWINGTON [10851]	NSW
Defence - NEWINGTON [10574]	NSW
Defence - NEWINGTON [10274]	NSW
Defence - NEWINGTON [10396]	NSW
Defence - NEWINGTON [10397]	NSW
Defence - NEWINGTON [10394]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10395]	NSW
Defence - NEWINGTON [10398]	NSW
Defence - NEWINGTON [10393]	NSW
Defence - NEWINGTON [10572]	NSW
Defence - NEWINGTON [10392]	NSW
Defence - NEWINGTON [10391]	NSW
Defence - NEWINGTON [10577]	NSW
Defence - NEWINGTON [10326]	NSW
Defence - NEWINGTON [10327]	NSW
Defence - NEWINGTON [10742]	NSW
Defence - NEWINGTON [10320]	NSW
Defence - NEWINGTON [10322]	NSW
Defence - NEWINGTON [10888]	NSW
Defence - NEWINGTON [10881]	NSW
Defence - NEWINGTON [10674]	NSW
Defence - NEWINGTON [10675]	NSW
Defence - NEWINGTON [10684]	NSW
Defence - NEWINGTON [11069]	NSW
Defence - NEWINGTON [10671]	NSW
Defence - NEWINGTON [10883]	NSW
Defence - NEWINGTON [10884]	NSW
Defence - NEWINGTON [10887]	NSW
Defence - NEWINGTON [10886]	NSW
Defence - NEWINGTON [11046]	NSW
Defence - NEWINGTON [10360]	NSW
Defence - NEWINGTON [10848]	NSW
Defence - NEWINGTON [11030]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10567]	NSW
Defence - NEWINGTON [10299]	NSW
Defence - NEWINGTON [10733]	NSW
Defence - NEWINGTON [10807]	NSW
Defence - NEWINGTON [10809]	NSW
Defence - NEWINGTON [10803]	NSW
Defence - NEWINGTON [10805]	NSW
Defence - NEWINGTON [10804]	NSW
Defence - NEWINGTON [10841]	NSW
Defence - NEWINGTON [10840]	NSW
Defence - NEWINGTON [10843]	NSW
Defence - NEWINGTON [10842]	NSW
Defence - NEWINGTON [10331]	NSW
Defence - NEWINGTON [11048]	NSW
Defence - NEWINGTON [10815]	NSW
Defence - NEWINGTON [10818]	NSW
Defence - NEWINGTON [10594]	NSW
Defence - NEWINGTON [10817]	NSW
Defence - NEWINGTON [10814]	NSW
Defence - NEWINGTON [10369]	NSW
Defence - NEWINGTON [10857]	NSW
Defence - NEWINGTON [10595]	NSW
Defence - NEWINGTON [11043]	NSW
Defence - NEWINGTON [11040]	NSW
Defence - NEWINGTON [11042]	NSW
Defence - NEWINGTON [10909]	NSW
Defence - NEWINGTON [10482]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10349]	NSW
Defence - NEWINGTON [10795]	NSW
Defence - NEWINGTON [10764]	NSW
Defence - NEWINGTON [10427]	NSW
Defence - NEWINGTON [10980]	NSW
Defence - NEWINGTON [11045]	NSW
Defence - NEWINGTON [10565]	NSW
Defence - NEWINGTON [10485]	NSW
Defence - NEWINGTON [10561]	NSW
Defence - NEWINGTON [10875]	NSW
Defence - NEWINGTON [10487]	NSW
Defence - NEWINGTON [10481]	NSW
Defence - NEWINGTON [10473]	NSW
Defence - NEWINGTON [10900]	NSW
Defence - NEWINGTON [10361]	NSW
Defence - NEWINGTON [10288]	NSW
Defence - NEWINGTON [10961]	NSW
Defence - NEWINGTON [10924]	NSW
Defence - NEWINGTON [10922]	NSW
Defence - NEWINGTON [10289]	NSW
Defence - NEWINGTON [10920]	NSW
Defence - NEWINGTON [10874]	NSW
Defence - NEWINGTON [10928]	NSW
Defence - NEWINGTON [10926]	NSW
Defence - NEWINGTON [10333]	NSW
Defence - NEWINGTON [11028]	NSW
Defence - NEWINGTON [10691]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10994]	NSW
Defence - NEWINGTON [10852]	NSW
Defence - NEWINGTON [10938]	NSW
Defence - NEWINGTON [10521]	NSW
Defence - NEWINGTON [10465]	NSW
Defence - NEWINGTON [10426]	NSW
Defence - NEWINGTON [10981]	NSW
Defence - NEWINGTON [10778]	NSW
Defence - NEWINGTON [10828]	NSW
Defence - NEWINGTON [10718]	NSW
Defence - NEWINGTON [10525]	NSW
Defence - NEWINGTON [10984]	NSW
Defence - NEWINGTON [10802]	NSW
Defence - NEWINGTON [10422]	NSW
Defence - NEWINGTON [10963]	NSW
Defence - NEWINGTON [10463]	NSW
Defence - NEWINGTON [10781]	NSW
Defence - NEWINGTON [10983]	NSW
Defence - NEWINGTON [10462]	NSW
Defence - NEWINGTON [11039]	NSW
Defence - NEWINGTON [10468]	NSW
Defence - NEWINGTON [10608]	NSW
Defence - NEWINGTON [10823]	NSW
Defence - NEWINGTON [10800]	NSW
Defence - NEWINGTON [10460]	NSW
Defence - NEWINGTON [10783]	NSW
Defence - NEWINGTON [10466]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10467]	NSW
Defence - NEWINGTON [10526]	NSW
Defence - NEWINGTON [10816]	NSW
Defence - NEWINGTON [10962]	NSW
Defence - NEWINGTON [10448]	NSW
Defence - NEWINGTON [10446]	NSW
Defence - NEWINGTON [10449]	NSW
Defence - NEWINGTON [10634]	NSW
Defence - NEWINGTON [10447]	NSW
Defence - NEWINGTON [10443]	NSW
Defence - NEWINGTON [10445]	NSW
Defence - NEWINGTON [10672]	NSW
Defence - NEWINGTON [10635]	NSW
Defence - NEWINGTON [10249]	NSW
Defence - NEWINGTON [10248]	NSW
Defence - NEWINGTON [11034]	NSW
Defence - NEWINGTON [10280]	NSW
Defence - NEWINGTON [10779]	NSW
Defence - NEWINGTON [11035]	NSW
Defence - NEWINGTON [10278]	NSW
Defence - NEWINGTON [10860]	NSW
Defence - NEWINGTON [10282]	NSW
Defence - NEWINGTON [10283]	NSW
Defence - NEWINGTON [10533]	NSW
Defence - NEWINGTON [10281]	NSW
Defence - NEWINGTON [10538]	NSW
Defence - NEWINGTON [10631]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10287]	NSW
Defence - NEWINGTON [10286]	NSW
Defence - NEWINGTON [10539]	NSW
Defence - NEWINGTON [10285]	NSW
Defence - NEWINGTON [10264]	NSW
Defence - NEWINGTON [10531]	NSW
Defence - NEWINGTON [10636]	NSW
Defence - NEWINGTON [10537]	NSW
Defence - NEWINGTON [10247]	NSW
Defence - NEWINGTON [10646]	NSW
Defence - NEWINGTON [10244]	NSW
Defence - NEWINGTON [10532]	NSW
Defence - NEWINGTON [10243]	NSW
Defence - NEWINGTON [10440]	NSW
Defence - NEWINGTON [10441]	NSW
Defence - NEWINGTON [10245]	NSW
Defence - NEWINGTON [10265]	NSW
Defence - NEWINGTON [10267]	NSW
Defence - NEWINGTON [10268]	NSW
Defence - NEWINGTON [10469]	NSW
Defence - NEWINGTON [10263]	NSW
Defence - NEWINGTON [10262]	NSW
Defence - NEWINGTON [10266]	NSW
Defence - NEWINGTON [10261]	NSW
Defence - NEWINGTON [10688]	NSW
Defence - NEWINGTON [10689]	NSW
Defence - NEWINGTON [11037]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10343]	NSW
Defence - NEWINGTON [10269]	NSW
Defence - NEWINGTON [10863]	NSW
Defence - NEWINGTON [10947]	NSW
Defence - NEWINGTON [10687]	NSW
Defence - NEWINGTON [10681]	NSW
Defence - NEWINGTON [10685]	NSW
Defence - NEWINGTON [10666]	NSW
Defence - NEWINGTON [11032]	NSW
Defence - NEWINGTON [10442]	NSW
Defence - NEWINGTON [10435]	NSW
Defence - NEWINGTON [10968]	NSW
Defence - NEWINGTON [11009]	NSW
Defence - NEWINGTON [11054]	NSW
Defence - NEWINGTON [10717]	NSW
Defence - NEWINGTON [10323]	NSW
Defence - NEWINGTON [11019]	NSW
Defence - NEWINGTON [10344]	NSW
Defence - NEWINGTON [10954]	NSW
Defence - NEWINGTON [10965]	NSW
Defence - NEWINGTON [10408]	NSW
Defence - NEWINGTON [10964]	NSW
Defence - NEWINGTON [10966]	NSW
Defence - NEWINGTON [10967]	NSW
Defence - NEWINGTON [10960]	NSW
Defence - NEWINGTON [11058]	NSW
Defence - NEWINGTON [10253]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [11038]	NSW
Defence - NEWINGTON [10951]	NSW
Defence - NEWINGTON [10946]	NSW
Defence - NEWINGTON [10944]	NSW
Defence - NEWINGTON [10363]	NSW
Defence - NEWINGTON [11057]	NSW
Defence - NEWINGTON [10555]	NSW
Defence - NEWINGTON [10663]	NSW
Defence - NEWINGTON [11055]	NSW
Defence - NEWINGTON [10973]	NSW
Defence - NEWINGTON [10273]	NSW
Defence - NEWINGTON [10529]	NSW
Defence - NEWINGTON [10662]	NSW
Defence - NEWINGTON [10867]	NSW
Defence - NEWINGTON [10471]	NSW
Defence - NEWINGTON [10940]	NSW
Defence - NEWINGTON [10250]	NSW
Defence - NEWINGTON [10941]	NSW
Defence - NEWINGTON [10942]	NSW
Defence - NEWINGTON [10400]	NSW
Defence - NEWINGTON [10948]	NSW
Defence - NEWINGTON [10821]	NSW
Defence - NEWINGTON [10402]	NSW
Defence - NEWINGTON [10827]	NSW
Defence - NEWINGTON [10826]	NSW
Defence - NEWINGTON [10751]	NSW
Defence - NEWINGTON [10757]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10753]	NSW
Defence - NEWINGTON [10750]	NSW
Defence - NEWINGTON [10754]	NSW
Defence - NEWINGTON [10955]	NSW
Defence - NEWINGTON [11063]	NSW
Defence - NEWINGTON [11056]	NSW
Defence - NEWINGTON [11004]	NSW
Defence - NEWINGTON [11062]	NSW
Defence - NEWINGTON [11033]	NSW
Defence - NEWINGTON [11066]	NSW
Defence - NEWINGTON [10665]	NSW
Defence - NEWINGTON [11064]	NSW
Defence - NEWINGTON [10715]	NSW
Defence - NEWINGTON [10956]	NSW
Defence - NEWINGTON [10352]	NSW
Defence - NEWINGTON [10353]	NSW
Defence - NEWINGTON [10350]	NSW
Defence - NEWINGTON [10351]	NSW
Defence - NEWINGTON [10701]	NSW
Defence - NEWINGTON [10700]	NSW
Defence - NEWINGTON [10702]	NSW
Defence - NEWINGTON [10705]	NSW
Defence - NEWINGTON [10792]	NSW
Defence - NEWINGTON [10704]	NSW
Defence - NEWINGTON [10707]	NSW
Defence - NEWINGTON [10706]	NSW
Defence - NEWINGTON [10625]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10303]	NSW
Defence - NEWINGTON [10301]	NSW
Defence - NEWINGTON [10430]	NSW
Defence - NEWINGTON [10793]	NSW
Defence - NEWINGTON [10305]	NSW
Defence - NEWINGTON [10304]	NSW
Defence - NEWINGTON [10638]	NSW
Defence - NEWINGTON [10639]	NSW
Defence - NEWINGTON [10934]	NSW
Defence - NEWINGTON [10738]	NSW
Defence - NEWINGTON [10937]	NSW
Defence - NEWINGTON [10676]	NSW
Defence - NEWINGTON [10739]	NSW
Defence - NEWINGTON [10789]	NSW
Defence - NEWINGTON [10788]	NSW
Defence - NEWINGTON [10787]	NSW
Defence - NEWINGTON [10786]	NSW
Defence - NEWINGTON [10527]	NSW
Defence - NEWINGTON [10945]	NSW
Defence - NEWINGTON [10703]	NSW
Defence - NEWINGTON [10295]	NSW
Defence - NEWINGTON [10673]	NSW
Defence - NEWINGTON [10493]	NSW
Defence - NEWINGTON [10324]	NSW
Defence - NEWINGTON [10856]	NSW
Defence - NEWINGTON [10355]	NSW
Defence - NEWINGTON [10670]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10325]	NSW
Defence - NEWINGTON [10825]	NSW
Defence - NEWINGTON [10259]	NSW
Defence - NEWINGTON [11027]	NSW
Defence - NEWINGTON [10251]	NSW
Defence - NEWINGTON [10258]	NSW
Defence - NEWINGTON [10439]	NSW
Defence - NEWINGTON [10438]	NSW
Defence - NEWINGTON [10332]	NSW
Defence - NEWINGTON [10330]	NSW
Defence - NEWINGTON [10336]	NSW
Defence - NEWINGTON [10335]	NSW
Defence - NEWINGTON [10338]	NSW
Defence - NEWINGTON [10337]	NSW
Defence - NEWINGTON [10339]	NSW
Defence - NEWINGTON [10669]	NSW
Defence - NEWINGTON [10872]	NSW
Defence - NEWINGTON [10444]	NSW
Defence - NEWINGTON [10329]	NSW
Defence - NEWINGTON [10728]	NSW
Defence - NEWINGTON [10784]	NSW
Defence - NEWINGTON [10677]	NSW
Defence - NEWINGTON [10780]	NSW
Defence - NEWINGTON [10346]	NSW
Defence - NEWINGTON [10256]	NSW
Defence - NEWINGTON [10257]	NSW
Defence - NEWINGTON [10255]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [11001]	NSW
Defence - NEWINGTON [10710]	NSW
Defence - NEWINGTON [10522]	NSW
Defence - NEWINGTON [10523]	NSW
Defence - NEWINGTON [10812]	NSW
Defence - NEWINGTON [10483]	NSW
Defence - NEWINGTON [10813]	NSW
Defence - NEWINGTON [11003]	NSW
Defence - NEWINGTON [10694]	NSW
Defence - NEWINGTON [10740]	NSW
Defence - NEWINGTON [10746]	NSW
Defence - NEWINGTON [10744]	NSW
Defence - NEWINGTON [10745]	NSW
Defence - NEWINGTON [10952]	NSW
Defence - NEWINGTON [11067]	NSW
Defence - NEWINGTON [10658]	NSW
Defence - NEWINGTON [10545]	NSW
Defence - NEWINGTON [10546]	NSW
Defence - NEWINGTON [10540]	NSW
Defence - NEWINGTON [10549]	NSW
Defence - NEWINGTON [10543]	NSW
Defence - NEWINGTON [10544]	NSW
Defence - NEWINGTON [10541]	NSW
Defence - NEWINGTON [10542]	NSW
Defence - NEWINGTON [10548]	NSW
Defence - NEWINGTON [10660]	NSW
Defence - NEWINGTON [10695]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10696]	NSW
Defence - NEWINGTON [10692]	NSW
Defence - NEWINGTON [10604]	NSW
Defence - NEWINGTON [10873]	NSW
Defence - NEWINGTON [10711]	NSW
Defence - NEWINGTON [10714]	NSW
Defence - NEWINGTON [10499]	NSW
Defence - NEWINGTON [10713]	NSW
Defence - NEWINGTON [10889]	NSW
Defence - NEWINGTON [10776]	NSW
Defence - NEWINGTON [10716]	NSW
Defence - NEWINGTON [10461]	NSW
Defence - NEWINGTON [10761]	NSW
Defence - NEWINGTON [10768]	NSW
Defence - NEWINGTON [10769]	NSW
Defence - NEWINGTON [11017]	NSW
Defence - NEWINGTON [10587]	NSW
Defence - NEWINGTON [10885]	NSW
Defence - NEWINGTON [10882]	NSW
Defence - NEWINGTON [10328]	NSW
Defence - NEWINGTON [10630]	NSW
Defence - NEWINGTON [10536]	NSW
Defence - NEWINGTON [10656]	NSW
Defence - NEWINGTON [10978]	NSW
Defence - NEWINGTON [10372]	NSW
Defence - NEWINGTON [10419]	NSW
Defence - NEWINGTON [10379]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10959]	NSW
Defence - NEWINGTON [10950]	NSW
Defence - NEWINGTON [10501]	NSW
Defence - NEWINGTON [10502]	NSW
Defence - NEWINGTON [10507]	NSW
Defence - NEWINGTON [10500]	NSW
Defence - NEWINGTON [10505]	NSW
Defence - NEWINGTON [10506]	NSW
Defence - NEWINGTON [10504]	NSW
Defence - NEWINGTON [10503]	NSW
Defence - NEWINGTON [10420]	NSW
Defence - NEWINGTON [10347]	NSW
Defence - NEWINGTON [10925]	NSW
Defence - NEWINGTON [10612]	NSW
Defence - NEWINGTON [10732]	NSW
Defence - NEWINGTON [10436]	NSW
Defence - NEWINGTON [10437]	NSW
Defence - NEWINGTON [10727]	NSW
Defence - NEWINGTON [10791]	NSW
Defence - NEWINGTON [10596]	NSW
Defence - NEWINGTON [10923]	NSW
Defence - NEWINGTON [10597]	NSW
Defence - NEWINGTON [10535]	NSW
Defence - NEWINGTON [10979]	NSW
Defence - NEWINGTON [10334]	NSW
Defence - NEWINGTON [10270]	NSW
Defence - NEWINGTON [10272]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10729]	NSW
Defence - NEWINGTON [10930]	NSW
Defence - NEWINGTON [10592]	NSW
Defence - NEWINGTON [11051]	NSW
Defence - NEWINGTON [10390]	NSW
Defence - NEWINGTON [10957]	NSW
Defence - NEWINGTON [10903]	NSW
Defence - NEWINGTON [10648]	NSW
Defence - NEWINGTON [10906]	NSW
Defence - NEWINGTON [10907]	NSW
Defence - NEWINGTON [10908]	NSW
Defence - NEWINGTON [10668]	NSW
Defence - NEWINGTON [10870]	NSW
Defence - NEWINGTON [10902]	NSW
Defence - NEWINGTON [11007]	NSW
Defence - NEWINGTON [10357]	NSW
Defence - NEWINGTON [10869]	NSW
Defence - NEWINGTON [10723]	NSW
Defence - NEWINGTON [10799]	NSW
Defence - NEWINGTON [10929]	NSW
Defence - NEWINGTON [10496]	NSW
Defence - NEWINGTON [10491]	NSW
Defence - NEWINGTON [10490]	NSW
Defence - NEWINGTON [10498]	NSW
Defence - NEWINGTON [10495]	NSW
Defence - NEWINGTON [10413]	NSW
Defence - NEWINGTON [10958]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10653]	NSW
Defence - NEWINGTON [10652]	NSW
Defence - NEWINGTON [10655]	NSW
Defence - NEWINGTON [10654]	NSW
Defence - NEWINGTON [10832]	NSW
Defence - NEWINGTON [10833]	NSW
Defence - NEWINGTON [10830]	NSW
Defence - NEWINGTON [10831]	NSW
Defence - NEWINGTON [10492]	NSW
Defence - NEWINGTON [10838]	NSW
Defence - NEWINGTON [11026]	NSW
Defence - NEWINGTON [11041]	NSW
Defence - NEWINGTON [10837]	NSW
Defence - NEWINGTON [11024]	NSW
Defence - NEWINGTON [10835]	NSW
Defence - NEWINGTON [10834]	NSW
Defence - NEWINGTON [10836]	NSW
Defence - NEWINGTON [11029]	NSW
Defence - NEWINGTON [10969]	NSW
Defence - NEWINGTON [10797]	NSW
Defence - NEWINGTON [11053]	NSW
Defence - NEWINGTON [11036]	NSW
Defence - NEWINGTON [10341]	NSW
Defence - NEWINGTON [10515]	NSW
Defence - NEWINGTON [10758]	NSW
Defence - NEWINGTON [10316]	NSW
Defence - NEWINGTON [10782]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [11061]	NSW
Defence - NEWINGTON [10762]	NSW
Defence - NEWINGTON [10680]	NSW
Defence - NEWINGTON [10763]	NSW
Defence - NEWINGTON [10880]	NSW
Defence - NEWINGTON [10345]	NSW
Defence - NEWINGTON [10664]	NSW
Defence - NEWINGTON [10340]	NSW
Defence - NEWINGTON [10771]	NSW
Defence - NEWINGTON [10399]	NSW
Defence - NEWINGTON [10477]	NSW
Defence - NEWINGTON [10519]	NSW
Defence - NEWINGTON [10451]	NSW
Defence - NEWINGTON [10876]	NSW
Defence - NEWINGTON [10260]	NSW
Defence - NEWINGTON [10588]	NSW
Defence - NEWINGTON [10772]	NSW
Defence - NEWINGTON [10877]	NSW
Defence - NEWINGTON [10820]	NSW
Defence - NEWINGTON [10613]	NSW
Defence - NEWINGTON [10871]	NSW
Defence - NEWINGTON [10547]	NSW
Defence - NEWINGTON [10801]	NSW
Defence - NEWINGTON [10879]	NSW
Defence - NEWINGTON [10878]	NSW
Defence - NEWINGTON [10659]	NSW
Defence - NEWINGTON [10589]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10683]	NSW
Defence - NEWINGTON [10682]	NSW
Defence - NEWINGTON [10494]	NSW
Defence - NEWINGTON [10798]	NSW
Defence - NEWINGTON [10633]	NSW
Defence - NEWINGTON [10988]	NSW
Defence - NEWINGTON [10989]	NSW
Defence - NEWINGTON [10927]	NSW
Defence - NEWINGTON [10560]	NSW
Defence - NEWINGTON [10563]	NSW
Defence - NEWINGTON [10619]	NSW
Defence - NEWINGTON [10562]	NSW
Defence - NEWINGTON [10564]	NSW
Defence - NEWINGTON [10731]	NSW
Defence - NEWINGTON [10590]	NSW
Defence - NEWINGTON [10737]	NSW
Defence - NEWINGTON [10497]	NSW
Defence - NEWINGTON [10566]	NSW
Defence - NEWINGTON [10569]	NSW
Defence - NEWINGTON [10554]	NSW
Defence - NEWINGTON [10484]	NSW
Defence - NEWINGTON [11047]	NSW
Defence - NEWINGTON [10279]	NSW
Defence - NEWINGTON [10354]	NSW
Defence - NEWINGTON [10601]	NSW
Defence - NEWINGTON [10602]	NSW
Defence - NEWINGTON [10605]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10603]	NSW
Defence - NEWINGTON [10600]	NSW
Defence - NEWINGTON [10808]	NSW
Defence - NEWINGTON [10309]	NSW
Defence - NEWINGTON [10559]	NSW
Defence - NEWINGTON [10576]	NSW
Defence - NEWINGTON [11000]	NSW
Defence - NEWINGTON [10741]	NSW
Defence - NEWINGTON [10598]	NSW
Defence - NEWINGTON [10796]	NSW
Defence - NEWINGTON [10861]	NSW
Defence - NEWINGTON [10457]	NSW
Defence - NEWINGTON [10752]	NSW
Defence - NEWINGTON [11018]	NSW
Defence - NEWINGTON [10428]	NSW
Defence - NEWINGTON [10308]	NSW
Defence - NEWINGTON [10429]	NSW
Defence - NEWINGTON [10306]	NSW
Defence - NEWINGTON [10300]	NSW
Defence - NEWINGTON [10424]	NSW
Defence - NEWINGTON [10806]	NSW
Defence - NEWINGTON [10425]	NSW
Defence - NEWINGTON [10421]	NSW
Defence - NEWINGTON [10302]	NSW
Defence - NEWINGTON [10423]	NSW
Defence - NEWINGTON [10811]	NSW
Defence - NEWINGTON [10724]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [11015]	NSW
Defence - NEWINGTON [10864]	NSW
Defence - NEWINGTON [10708]	NSW
Defence - NEWINGTON [10709]	NSW
Defence - NEWINGTON [10725]	NSW
Defence - NEWINGTON [10726]	NSW
Defence - NEWINGTON [10254]	NSW
Defence - NEWINGTON [10748]	NSW
Defence - NEWINGTON [10342]	NSW
Defence - NEWINGTON [10558]	NSW
Defence - NEWINGTON [10667]	NSW
Defence - NEWINGTON [10735]	NSW
Defence - NEWINGTON [10734]	NSW
Defence - NEWINGTON [10794]	NSW
Defence - NEWINGTON [10736]	NSW
Defence - NEWINGTON [10418]	NSW
Defence - NEWINGTON [11044]	NSW
Defence - NEWINGTON [10417]	NSW
Defence - NEWINGTON [10414]	NSW
Defence - NEWINGTON [10411]	NSW
Defence - NEWINGTON [10661]	NSW
Defence - NEWINGTON [10416]	NSW
Defence - NEWINGTON [10412]	NSW
Defence - NEWINGTON [10720]	NSW
Defence - NEWINGTON [10626]	NSW
Defence - NEWINGTON [10721]	NSW
Defence - NEWINGTON [10759]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10747]	NSW
Defence - NEWINGTON [10722]	NSW
Defence - NEWINGTON [10454]	NSW
Defence - NEWINGTON [10518]	NSW
Defence - NEWINGTON [10767]	NSW
Defence - NEWINGTON [10459]	NSW
Defence - NEWINGTON [10511]	NSW
Defence - NEWINGTON [10510]	NSW
Defence - NEWINGTON [10513]	NSW
Defence - NEWINGTON [10512]	NSW
Defence - NEWINGTON [10516]	NSW
Defence - NEWINGTON [10514]	NSW
Defence - NEWINGTON [10517]	NSW
Defence - NEWINGTON [10556]	NSW
Defence - NEWINGTON [10865]	NSW
Defence - NEWINGTON [10552]	NSW
Defence - NEWINGTON [10623]	NSW
Defence - NEWINGTON [10578]	NSW
Defence - NEWINGTON [10298]	NSW
Defence - NEWINGTON [10621]	NSW
Defence - NEWINGTON [10620]	NSW
Defence - NEWINGTON [10624]	NSW
Defence - NEWINGTON [10297]	NSW
Defence - NEWINGTON [10627]	NSW
Defence - NEWINGTON [10348]	NSW
Defence - NEWINGTON [10573]	NSW
Defence - NEWINGTON [10579]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10575]	NSW
Defence - NEWINGTON [10570]	NSW
Defence - NEWINGTON [10571]	NSW
Defence - NEWINGTON [11014]	NSW
Defence - NEWINGTON [10403]	NSW
Defence - NEWINGTON [10406]	NSW
Defence - NEWINGTON [10407]	NSW
Defence - NEWINGTON [10401]	NSW
Defence - NEWINGTON [10405]	NSW
Defence - NEWINGTON [10409]	NSW
Defence - NEWINGTON [10632]	NSW
Defence - NEWINGTON [10749]	NSW
Defence - NEWINGTON [10453]	NSW
Defence - NEWINGTON [10291]	NSW
Defence - NEWINGTON [10520]	NSW
Defence - NEWINGTON [10385]	NSW
Defence - NEWINGTON [10649]	NSW
Defence - NEWINGTON [10551]	NSW
Defence - NEWINGTON [10641]	NSW
Defence - NEWINGTON [10550]	NSW
Defence - NEWINGTON [10642]	NSW
Defence - NEWINGTON [10553]	NSW
Defence - NEWINGTON [10643]	NSW
Defence - NEWINGTON [10644]	NSW
Defence - NEWINGTON [10645]	NSW
Defence - NEWINGTON [10557]	NSW
Defence - NEWINGTON [10647]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10640]	NSW
Defence - NEWINGTON [10755]	NSW
Defence - NEWINGTON [10618]	NSW
Defence - NEWINGTON [11025]	NSW
Defence - NEWINGTON [10389]	NSW
Defence - NEWINGTON [10678]	NSW
Defence - NEWINGTON [10524]	NSW
Defence - NEWINGTON [10614]	NSW
Defence - NEWINGTON [10580]	NSW
Defence - NEWINGTON [10586]	NSW
Defence - NEWINGTON [10585]	NSW
Defence - NEWINGTON [10584]	NSW
Defence - NEWINGTON [10785]	NSW
Defence - NEWINGTON [11060]	NSW
Defence - NEWINGTON [10368]	NSW
Defence - NEWINGTON [10367]	NSW
Defence - NEWINGTON [10366]	NSW
Defence - NEWINGTON [10364]	NSW
Defence - NEWINGTON [10365]	NSW
Defence - NEWINGTON [10679]	NSW
Defence - NEWINGTON [10271]	NSW
Defence - NEWINGTON [10362]	NSW
Defence - NEWINGTON [11005]	NSW
Defence - NEWINGTON [10987]	NSW
Defence - NEWINGTON [10388]	NSW
Defence - NEWINGTON [11008]	NSW
Defence - NEWINGTON [10581]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10534]	NSW
Defence - NEWINGTON [10415]	NSW
Defence - NEWINGTON [10296]	NSW
Defence - NEWINGTON [10293]	NSW
Defence - NEWINGTON [10294]	NSW
Defence - NEWINGTON [10292]	NSW
Defence - NEWINGTON [10290]	NSW
Defence - NEWINGTON [10637]	NSW
Defence - NEWINGTON [10284]	NSW
Defence - NEWINGTON [11065]	NSW
Defence - NEWINGTON [10489]	NSW
Defence - NEWINGTON [10314]	NSW
Defence - NEWINGTON [10488]	NSW
Defence - NEWINGTON [10765]	NSW
Defence - NEWINGTON [10775]	NSW
Defence - NEWINGTON [10452]	NSW
Defence - NEWINGTON [10455]	NSW
Defence - NEWINGTON [10773]	NSW
Defence - NEWINGTON [10456]	NSW
Defence - NEWINGTON [10358]	NSW
Defence - NEWINGTON [10458]	NSW
Defence - NEWINGTON [10450]	NSW
Defence - NEWINGTON [10690]	NSW
Defence - NEWINGTON [11002]	NSW
Defence - NEWINGTON [10866]	NSW
Defence - NEWINGTON [10387]	NSW
Defence - NEWINGTON [10528]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10770]	NSW
Defence - NEWINGTON [10382]	NSW
Defence - NEWINGTON [10383]	NSW
Defence - NEWINGTON [10380]	NSW
Defence - NEWINGTON [10381]	NSW
Defence - NEWINGTON [10386]	NSW
Defence - NEWINGTON [11011]	NSW
Defence - NEWINGTON [10756]	NSW
Defence - NEWINGTON [10915]	NSW
Defence - NEWINGTON [10914]	NSW
Defence - NEWINGTON [10917]	NSW
Defence - NEWINGTON [10916]	NSW
Defence - NEWINGTON [10913]	NSW
Defence - NEWINGTON [10910]	NSW
Defence - NEWINGTON [10912]	NSW
Defence - NEWINGTON [10404]	NSW
Defence - NEWINGTON [10760]	NSW
Defence - NEWINGTON [10894]	NSW
Defence - NEWINGTON [10896]	NSW
Defence - NEWINGTON [10622]	NSW
Defence - NEWINGTON [10434]	NSW
Defence - NEWINGTON [10790]	NSW
Defence - NEWINGTON [10982]	NSW
Defence - NEWINGTON [10774]	NSW
Defence - NEWINGTON [10693]	NSW
Defence - NEWINGTON [11016]	NSW
Defence - NEWINGTON [11059]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10359]	NSW
Defence - NEWINGTON [10593]	NSW
Defence - NEWINGTON [10999]	NSW
Defence - NEWINGTON [10995]	NSW
Defence - NEWINGTON [10996]	NSW
Defence - NEWINGTON [10997]	NSW
Defence - NEWINGTON [10993]	NSW
Defence - NEWINGTON [10991]	NSW
Defence - NEWINGTON [10990]	NSW
Defence - NEWINGTON [10615]	NSW
Defence - NEWINGTON [10616]	NSW
Defence - NEWINGTON [10246]	NSW
Defence - NEWINGTON [10617]	NSW
Defence - NEWINGTON [10829]	NSW
Defence - NEWINGTON [10610]	NSW
Defence - NEWINGTON [10611]	NSW
Defence - NEWINGTON [10839]	NSW
Defence - NEWINGTON [11050]	NSW
Defence - NEWINGTON [10998]	NSW
Defence - NEWINGTON [10977]	NSW
Defence - NEWINGTON [10974]	NSW
Defence - NEWINGTON [10975]	NSW
Defence - NEWINGTON [10905]	NSW
Defence - NEWINGTON [10855]	NSW
Defence - NEWINGTON [10431]	NSW
Defence - NEWINGTON [10868]	NSW
Defence - NEWINGTON [10712]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10307]	NSW
Defence - NEWINGTON [11023]	NSW
Defence - NEWINGTON [11022]	NSW
Defence - NEWINGTON [10953]	NSW
Defence - NEWINGTON [10252]	NSW
Defence - NEWINGTON [10719]	NSW
Defence - NEWINGTON [10893]	NSW
Defence - NEWINGTON [10890]	NSW
Defence - NEWINGTON [10895]	NSW
Defence - NEWINGTON [10432]	NSW
Defence - NEWINGTON [10892]	NSW
Defence - NEWINGTON [10374]	NSW
Defence - NEWINGTON [10898]	NSW
Defence - NEWINGTON [10891]	NSW
Defence - NEWINGTON [10985]	NSW
Defence - NEWINGTON [10970]	NSW
Defence - NEWINGTON [10897]	NSW
Defence - NEWINGTON [10657]	NSW
Defence - NEWINGTON [10862]	NSW
Defence - NEWINGTON [10777]	NSW
Defence - NEWINGTON [10356]	NSW
Defence - NEWINGTON [10933]	NSW
Defence - NEWINGTON [10628]	NSW
Defence - NEWINGTON [10846]	NSW
Defence - NEWINGTON [10844]	NSW
Defence - NEWINGTON [10847]	NSW
Defence - NEWINGTON [10766]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10845]	NSW
Defence - NEWINGTON [10849]	NSW
Defence - NEWINGTON [10629]	NSW
Defence - NEWINGTON [10698]	NSW
Defence - NEWINGTON [10699]	NSW
Defence - NEWINGTON [10971]	NSW
Defence - NEWINGTON [10686]	NSW
Defence - NEWINGTON [10976]	NSW
Defence - NEWINGTON [10972]	NSW
Defence - NEWINGTON [10931]	NSW
Defence - NEWINGTON [10932]	NSW
Defence - NEWINGTON [10936]	NSW
Defence - NEWINGTON [10939]	NSW
Defence - NEWINGTON [10935]	NSW
Defence - NEWINGTON [10433]	NSW
Defence - NEWINGTON [10606]	NSW
Defence - NEWINGTON [10853]	NSW
Defence - NEWINGTON [11068]	NSW
Defence - NEWINGTON [10986]	NSW
Defence - NEWINGTON [11052]	NSW
Defence - NEWINGTON [11021]	NSW
Defence - NEWINGTON [10607]	NSW
Defence - NEWINGTON [11006]	NSW
Defence - NEWINGTON [10899]	NSW
Defence - NEWINGTON [10904]	NSW
Defence - NEWINGTON [10478]	NSW
Defence - NEWINGTON [10697]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10949]	NSW
Defence - NEWINGTON [11012]	NSW
Defence - NEWINGTON [11049]	NSW
Defence - NEWINGTON [10901]	NSW
Defence - NEWINGTON [10530]	NSW
Defence - NEWINGTON [10384]	NSW
Defence - NEWINGTON [10378]	NSW
Defence - NEWINGTON [10375]	NSW
Defence - NEWINGTON [10376]	NSW
Defence - NEWINGTON [10819]	NSW
Defence - NEWINGTON [10911]	NSW
Defence - NEWINGTON [10370]	NSW
Defence - NEWINGTON [10377]	NSW
Defence - NEWINGTON [11013]	NSW
Defence - NEWINGTON [10371]	NSW
Defence - NEWINGTON [10319]	NSW
Defence - NEWINGTON [10312]	NSW
Defence - NEWINGTON [10318]	NSW
Defence - NEWINGTON [10311]	NSW
Defence - NEWINGTON [10918]	NSW
Defence - NEWINGTON [10313]	NSW
Defence - NEWINGTON [10919]	NSW
Defence - NEWINGTON [10651]	NSW
Defence - NEWINGTON [10315]	NSW
Defence - NEWINGTON [10317]	NSW
Defence - NEWINGTON [10650]	NSW
Defence - NEWINGTON [10921]	NSW

Commonwealth Land Name	State
Defence - NEWINGTON [10476]	NSW
Defence - NEWINGTON [10475]	NSW
Defence - NEWINGTON [10479]	NSW
Defence - NEWINGTON [10470]	NSW
Defence - NEWINGTON [10472]	NSW
Defence - NEWINGTON [10474]	NSW
Defence - NEWINGTON [10276]	NSW
Defence - NEWINGTON [10277]	NSW
Defence - NEWINGTON [10275]	NSW
Defence - NEWINGTON [10509]	NSW
Defence - NEWINGTON [10321]	NSW
Defence - NEWINGTON [10508]	NSW
Defence - NEWINGTON [10810]	NSW
Defence - NEWINGTON [10464]	NSW
Defence - NEWINGTON [10943]	NSW
Defence - NEWINGTON [11020]	NSW
Defence - NEWINGTON [10992]	NSW
Defence - NEWINGTON [10609]	NSW
Defence - NEWINGTON [10373]	NSW
Defence - NEWINGTON [10310]	NSW
Defence - NEWINGTON [11010]	NSW
Defence - NEWINGTON [10582]	NSW
Defence - NEWINGTON [10568]	NSW
Defence - NEWINGTON [10486]	NSW
Defence - NEWINGTON [10583]	NSW
Defence - NFI CHOWDER BAY (fuel depot) [10043]	NSW
Defence - NORTH SYDNEY - HYDRO OFFICE [11161]	NSW

Commonwealth Land Name	State
Defence - OXFORD ST SYDNEY [11164]	NSW
Defence - OXFORD ST SYDNEY [11169]	NSW
Defence - OXFORD ST SYDNEY [11168]	NSW
Defence - OXFORD ST SYDNEY [11166]	NSW
Defence - OXFORD ST SYDNEY [11165]	NSW
Defence - OXFORD ST SYDNEY [11167]	NSW
Defence - PARKVIEW BUILDING - SYDNEY [11170]	NSW
Defence - PENRITH DEPOT (Army Stores) [10207]	NSW
Defence - PENRITH DEPOT (Army Stores) [10208]	NSW
Defence - PENRITH DEPOT (Army Stores) [10206]	NSW
Defence - PITTWATER DIVING ANNEX (forms part of "RAN Torpedo Range") [10028]	NSW
Defence - PITTWATER DIVING ANNEX (forms part of "RAN Torpedo Range") [10026]	NSW
Defence - PITTWATER DIVING ANNEX (forms part of "RAN Torpedo Range") [10027]	NSW
Defence - PYMBLE MULTI-USER DEPOT [11123]	NSW
Defence - RAAF STORES DEPOT REGENTS PARK [10009]	NSW
Defence - RAAF STORES DEPOT REGENTS PARK [10008]	NSW
Defence - RANDWICK (CARRINGTON RD) [11134]	NSW
Defence - RANDWICK (CARRINGTON RD) [11133]	NSW
Defence - RANDWICK (CARRINGTON RD) [11132]	NSW
Defence - RANDWICK (CARRINGTON RD) [11135]	NSW
Defence - RANDWICK BARRACKS [11129]	NSW
Defence - RANDWICK BARRACKS [11128]	NSW
Defence - RANDWICK BARRACKS [11127]	NSW
Defence - RANDWICK BARRACKS [11124]	NSW
Defence - RANDWICK BARRACKS [11126]	NSW

Commonwealth Land Name	State
Defence - RANDWICK BARRACKS [11125]	NSW
Defence - RANDWICK BARRACKS [11130]	NSW
Defence - RANDWICK BARRACKS [11131]	NSW
Defence - RANDWICK FRENCHMANS TRG [11162]	NSW
Defence - RANDWICK FRENCHMANS TRG [11163]	NSW
Defence - RANMME (DEOH) [10176]	NSW
Defence - RANMME (DEOH) [10177]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10224]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10227]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10226]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10229]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10228]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10225]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10223]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10221]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10222]	NSW
Defence - RICHMOND - FUEL FARM, DENTAL, MEDICAL [10220]	NSW
Defence - RICHMOND - MIDDLE MARKER [11171]	NSW
Defence - RICHMOND - OUTER MARKER [10212]	NSW
Defence - RICHMOND - OUTER MARKER [10213]	NSW
Defence - RICHMOND RAAF BASE [10214]	NSW
Defence - RICHMOND RAAF BASE [10216]	NSW
Defence - RICHMOND RAAF BASE [10215]	NSW
Defence - RICHMOND RAAF BASE [10217]	NSW
Defence - RICHMOND RAAF BASE [10219]	NSW
Defence - RICHMOND RAAF BASE [10218]	NSW
Defence - ROCKDALE TRAINING DEPOT [11111]	NSW

Commonwealth Land Name	State
Defence - SIGNAL STRS DEPOT-KINGSWOOD [10209]	NSW
Defence - SIGNAL STRS DEPOT-KINGSWOOD [10210]	NSW
Defence - SPECTACLE ISLAND [10037]	NSW
Defence - SPECTACLE ISLAND [10036]	NSW
Defence - SPECTACLE ISLAND [10038]	NSW
Defence - SPECTACLE ISLAND [10035]	NSW
Defence - Suite 8, Library Plaza [10230]	NSW
Defence - SUTHERLAND MULTI-USER DEPOT [11136]	NSW
Defence - SYDNEY UNIVERSITY REGIMENT - DARLINGTON [11094]	NSW
Defence - THROSBY TRG DEPOT-PORT KEMBLA [10056]	NSW
Defence - TIMOR BARRACKS - DUNDAS [11096]	NSW
Defence - TIMOR BARRACKS - DUNDAS [11097]	NSW
Defence - TRAINING SHIP CONDAMINE [11073]	NSW
Defence - TRAINING SHIP CONDAMINE [11072]	NSW
Defence - TRESKO [10044]	NSW
Defence - TS ALBATROSS-WOLLONGONG [10148]	NSW
Defence - TS HAWKESBURY [10054]	NSW
Defence - VAUCLUSE TRAINING DEPOT [11137]	NSW
Defence - VICTORIA BARRACKS - PADDINGTON [11120]	NSW
Defence - VICTORIA BARRACKS - PADDINGTON [11121]	NSW
Defence - VICTORIA BARRACKS - PADDINGTON [11119]	NSW
Defence - VILLAWOOD - MOTOR REPAIR W/SHP (VILLAWOOD GEMS BASE) [10231]	NSW
Defence - WET BRIDGING SITE - CASULA [10211]	NSW
Defence - WILLOUGHBY TRG DEP [11139]	NSW
Defence - WILLOUGHBY TRG DEP [11156]	NSW
Defence - WILLOUGHBY TRG DEP [11155]	NSW

Commonwealth Land Name	State
Defence - WILLOUGHBY TRG DEP [11157]	NSW
Defence - WILLOUGHBY TRG DEP [11152]	NSW
Defence - WILLOUGHBY TRG DEP [11151]	NSW
Defence - WILLOUGHBY TRG DEP [11150]	NSW
Defence - WILLOUGHBY TRG DEP [11148]	NSW
Defence - WILLOUGHBY TRG DEP [11158]	NSW
Defence - WILLOUGHBY TRG DEP [11143]	NSW
Defence - WILLOUGHBY TRG DEP [11142]	NSW
Defence - WILLOUGHBY TRG DEP [11141]	NSW
Defence - WILLOUGHBY TRG DEP [11159]	NSW
Defence - WILLOUGHBY TRG DEP [11140]	NSW
Defence - WILLOUGHBY TRG DEP [11154]	NSW
Defence - WILLOUGHBY TRG DEP [11153]	NSW
Defence - WILLOUGHBY TRG DEP [11149]	NSW
Defence - WILLOUGHBY TRG DEP [11147]	NSW
Defence - WILLOUGHBY TRG DEP [11146]	NSW
Defence - WILLOUGHBY TRG DEP [11145]	NSW
Defence - WILLOUGHBY TRG DEP [11138]	NSW
Defence - WILLOUGHBY TRG DEP [11144]	NSW
Defence - WOLLONGONG MULTI-USER DEPOT [11209]	NSW
Defence - WOOLLOOMOOLOO CARPARK [11175]	NSW
Defence - WOOLLOOMOOLOO CARPARK [11177]	NSW
Defence - WOOLLOOMOOLOO CARPARK [11174]	NSW
Defence - WOOLLOOMOOLOO CARPARK [11176]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11090]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11092]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11091]	NSW

Commonwealth Land Name	State
Defence - ZETLAND NAVY SUPPLY CENTRE [11089]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11088]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11080]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11081]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11084]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11085]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11082]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11083]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11086]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11087]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11077]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11075]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11076]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11078]	NSW
Defence - ZETLAND NAVY SUPPLY CENTRE [11079]	NSW
Defence - Defence Housing Authority	
Commonwealth Land - Defence Housing Authority [13390]	NSW
Commonwealth Land - Defence Housing Authority [13392]	NSW
Commonwealth Land - Defence Housing Authority [13391]	NSW
Commonwealth Land - Defence Housing Authority [13394]	NSW
Commonwealth Land - Defence Housing Authority [13393]	NSW
Commonwealth Land - Defence Housing Authority [13396]	NSW
Commonwealth Land - Defence Housing Authority [13398]	NSW
Commonwealth Land - Defence Housing Authority [15498]	NSW
Commonwealth Land - Defence Housing Authority [12093]	NSW
Commonwealth Land - Defence Housing Authority [14209]	NSW
Commonwealth Land - Defence Housing Authority [13900]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13374]	NSW
Commonwealth Land - Defence Housing Authority [13901]	NSW
Commonwealth Land - Defence Housing Authority [15492]	NSW
Commonwealth Land - Defence Housing Authority [13905]	NSW
Commonwealth Land - Defence Housing Authority [15495]	NSW
Commonwealth Land - Defence Housing Authority [13902]	NSW
Commonwealth Land - Defence Housing Authority [14099]	NSW
Commonwealth Land - Defence Housing Authority [15491]	NSW
Commonwealth Land - Defence Housing Authority [13907]	NSW
Commonwealth Land - Defence Housing Authority [15493]	NSW
Commonwealth Land - Defence Housing Authority [13904]	NSW
Commonwealth Land - Defence Housing Authority [12095]	NSW
Commonwealth Land - Defence Housing Authority [15494]	NSW
Commonwealth Land - Defence Housing Authority [15497]	NSW
Commonwealth Land - Defence Housing Authority [16503]	NSW
Commonwealth Land - Defence Housing Authority [16502]	NSW
Commonwealth Land - Defence Housing Authority [16505]	NSW
Commonwealth Land - Defence Housing Authority [13671]	NSW
Commonwealth Land - Defence Housing Authority [16507]	NSW
Commonwealth Land - Defence Housing Authority [16506]	NSW
Commonwealth Land - Defence Housing Authority [13714]	NSW
Commonwealth Land - Defence Housing Authority [16509]	NSW
Commonwealth Land - Defence Housing Authority [16508]	NSW
Commonwealth Land - Defence Housing Authority [12838]	NSW
Commonwealth Land - Defence Housing Authority [12839]	NSW
Commonwealth Land - Defence Housing Authority [12834]	NSW
Commonwealth Land - Defence Housing Authority [12837]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12832]	NSW
Commonwealth Land - Defence Housing Authority [12835]	NSW
Commonwealth Land - Defence Housing Authority [12831]	NSW
Commonwealth Land - Defence Housing Authority [12830]	NSW
Commonwealth Land - Defence Housing Authority [12798]	NSW
Commonwealth Land - Defence Housing Authority [12744]	NSW
Commonwealth Land - Defence Housing Authority [14305]	NSW
Commonwealth Land - Defence Housing Authority [16181]	NSW
Commonwealth Land - Defence Housing Authority [15914]	NSW
Commonwealth Land - Defence Housing Authority [14303]	NSW
Commonwealth Land - Defence Housing Authority [16180]	NSW
Commonwealth Land - Defence Housing Authority [15912]	NSW
Commonwealth Land - Defence Housing Authority [14306]	NSW
Commonwealth Land - Defence Housing Authority [12741]	NSW
Commonwealth Land - Defence Housing Authority [15911]	NSW
Commonwealth Land - Defence Housing Authority [14307]	NSW
Commonwealth Land - Defence Housing Authority [12740]	NSW
Commonwealth Land - Defence Housing Authority [12189]	NSW
Commonwealth Land - Defence Housing Authority [14309]	NSW
Commonwealth Land - Defence Housing Authority [12188]	NSW
Commonwealth Land - Defence Housing Authority [16183]	NSW
Commonwealth Land - Defence Housing Authority [16182]	NSW
Commonwealth Land - Defence Housing Authority [16469]	NSW
Commonwealth Land - Defence Housing Authority [12743]	NSW
Commonwealth Land - Defence Housing Authority [12742]	NSW
Commonwealth Land - Defence Housing Authority [14300]	NSW
Commonwealth Land - Defence Housing Authority [15577]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12184]	NSW
Commonwealth Land - Defence Housing Authority [12186]	NSW
Commonwealth Land - Defence Housing Authority [13704]	NSW
Commonwealth Land - Defence Housing Authority [12181]	NSW
Commonwealth Land - Defence Housing Authority [13375]	NSW
Commonwealth Land - Defence Housing Authority [12183]	NSW
Commonwealth Land - Defence Housing Authority [12182]	NSW
Commonwealth Land - Defence Housing Authority [13906]	NSW
Commonwealth Land - Defence Housing Authority [13754]	NSW
Commonwealth Land - Defence Housing Authority [14308]	NSW
Commonwealth Land - Defence Housing Authority [13703]	NSW
Commonwealth Land - Defence Housing Authority [16187]	NSW
Commonwealth Land - Defence Housing Authority [16186]	NSW
Commonwealth Land - Defence Housing Authority [13204]	NSW
Commonwealth Land - Defence Housing Authority [12185]	NSW
Commonwealth Land - Defence Housing Authority [13480]	NSW
Commonwealth Land - Defence Housing Authority [13481]	NSW
Commonwealth Land - Defence Housing Authority [15675]	NSW
Commonwealth Land - Defence Housing Authority [15800]	NSW
Commonwealth Land - Defence Housing Authority [13482]	NSW
Commonwealth Land - Defence Housing Authority [13483]	NSW
Commonwealth Land - Defence Housing Authority [13499]	NSW
Commonwealth Land - Defence Housing Authority [12759]	NSW
Commonwealth Land - Defence Housing Authority [15913]	NSW
Commonwealth Land - Defence Housing Authority [15571]	NSW
Commonwealth Land - Defence Housing Authority [13485]	NSW
Commonwealth Land - Defence Housing Authority [14446]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14441]	NSW
Commonwealth Land - Defence Housing Authority [14289]	NSW
Commonwealth Land - Defence Housing Authority [15458]	NSW
Commonwealth Land - Defence Housing Authority [14142]	NSW
Commonwealth Land - Defence Housing Authority [12846]	NSW
Commonwealth Land - Defence Housing Authority [14144]	NSW
Commonwealth Land - Defence Housing Authority [13681]	NSW
Commonwealth Land - Defence Housing Authority [13036]	NSW
Commonwealth Land - Defence Housing Authority [14143]	NSW
Commonwealth Land - Defence Housing Authority [14118]	NSW
Commonwealth Land - Defence Housing Authority [12748]	NSW
Commonwealth Land - Defence Housing Authority [15837]	NSW
Commonwealth Land - Defence Housing Authority [15454]	NSW
Commonwealth Land - Defence Housing Authority [12745]	NSW
Commonwealth Land - Defence Housing Authority [16453]	NSW
Commonwealth Land - Defence Housing Authority [15457]	NSW
Commonwealth Land - Defence Housing Authority [15959]	NSW
Commonwealth Land - Defence Housing Authority [15807]	NSW
Commonwealth Land - Defence Housing Authority [14140]	NSW
Commonwealth Land - Defence Housing Authority [14141]	NSW
Commonwealth Land - Defence Housing Authority [13806]	NSW
Commonwealth Land - Defence Housing Authority [13809]	NSW
Commonwealth Land - Defence Housing Authority [13378]	NSW
Commonwealth Land - Defence Housing Authority [15808]	NSW
Commonwealth Land - Defence Housing Authority [13376]	NSW
Commonwealth Land - Defence Housing Authority [13377]	NSW
Commonwealth Land - Defence Housing Authority [14235]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14234]	NSW
Commonwealth Land - Defence Housing Authority [14237]	NSW
Commonwealth Land - Defence Housing Authority [14236]	NSW
Commonwealth Land - Defence Housing Authority [16061]	NSW
Commonwealth Land - Defence Housing Authority [16060]	NSW
Commonwealth Land - Defence Housing Authority [13600]	NSW
Commonwealth Land - Defence Housing Authority [13030]	NSW
Commonwealth Land - Defence Housing Authority [14196]	NSW
Commonwealth Land - Defence Housing Authority [14149]	NSW
Commonwealth Land - Defence Housing Authority [13800]	NSW
Commonwealth Land - Defence Housing Authority [16364]	NSW
Commonwealth Land - Defence Housing Authority [14147]	NSW
Commonwealth Land - Defence Housing Authority [14148]	NSW
Commonwealth Land - Defence Housing Authority [13802]	NSW
Commonwealth Land - Defence Housing Authority [12880]	NSW
Commonwealth Land - Defence Housing Authority [14145]	NSW
Commonwealth Land - Defence Housing Authority [14146]	NSW
Commonwealth Land - Defence Housing Authority [13579]	NSW
Commonwealth Land - Defence Housing Authority [15516]	NSW
Commonwealth Land - Defence Housing Authority [13576]	NSW
Commonwealth Land - Defence Housing Authority [16062]	NSW
Commonwealth Land - Defence Housing Authority [15149]	NSW
Commonwealth Land - Defence Housing Authority [13577]	NSW
Commonwealth Land - Defence Housing Authority [13049]	NSW
Commonwealth Land - Defence Housing Authority [13572]	NSW
Commonwealth Land - Defence Housing Authority [13570]	NSW
Commonwealth Land - Defence Housing Authority [13571]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14454]	NSW
Commonwealth Land - Defence Housing Authority [15671]	NSW
Commonwealth Land - Defence Housing Authority [14112]	NSW
Commonwealth Land - Defence Housing Authority [15809]	NSW
Commonwealth Land - Defence Housing Authority [13379]	NSW
Commonwealth Land - Defence Housing Authority [15147]	NSW
Commonwealth Land - Defence Housing Authority [15148]	NSW
Commonwealth Land - Defence Housing Authority [15144]	NSW
Commonwealth Land - Defence Housing Authority [15145]	NSW
Commonwealth Land - Defence Housing Authority [15142]	NSW
Commonwealth Land - Defence Housing Authority [15141]	NSW
Commonwealth Land - Defence Housing Authority [15787]	NSW
Commonwealth Land - Defence Housing Authority [15785]	NSW
Commonwealth Land - Defence Housing Authority [13416]	NSW
Commonwealth Land - Defence Housing Authority [13978]	NSW
Commonwealth Land - Defence Housing Authority [15780]	NSW
Commonwealth Land - Defence Housing Authority [15783]	NSW
Commonwealth Land - Defence Housing Authority [15781]	NSW
Commonwealth Land - Defence Housing Authority [16459]	NSW
Commonwealth Land - Defence Housing Authority [13974]	NSW
Commonwealth Land - Defence Housing Authority [15602]	NSW
Commonwealth Land - Defence Housing Authority [13979]	NSW
Commonwealth Land - Defence Housing Authority [12195]	NSW
Commonwealth Land - Defence Housing Authority [12194]	NSW
Commonwealth Land - Defence Housing Authority [13774]	NSW
Commonwealth Land - Defence Housing Authority [13973]	NSW
Commonwealth Land - Defence Housing Authority [13977]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12796]	NSW
Commonwealth Land - Defence Housing Authority [12797]	NSW
Commonwealth Land - Defence Housing Authority [12708]	NSW
Commonwealth Land - Defence Housing Authority [13976]	NSW
Commonwealth Land - Defence Housing Authority [12795]	NSW
Commonwealth Land - Defence Housing Authority [12191]	NSW
Commonwealth Land - Defence Housing Authority [12790]	NSW
Commonwealth Land - Defence Housing Authority [12196]	NSW
Commonwealth Land - Defence Housing Authority [12197]	NSW
Commonwealth Land - Defence Housing Authority [12799]	NSW
Commonwealth Land - Defence Housing Authority [15519]	NSW
Commonwealth Land - Defence Housing Authority [14297]	NSW
Commonwealth Land - Defence Housing Authority [12793]	NSW
Commonwealth Land - Defence Housing Authority [12792]	NSW
Commonwealth Land - Defence Housing Authority [12791]	NSW
Commonwealth Land - Defence Housing Authority [12198]	NSW
Commonwealth Land - Defence Housing Authority [12751]	NSW
Commonwealth Land - Defence Housing Authority [12190]	NSW
Commonwealth Land - Defence Housing Authority [12192]	NSW
Commonwealth Land - Defence Housing Authority [15566]	NSW
Commonwealth Land - Defence Housing Authority [12754]	NSW
Commonwealth Land - Defence Housing Authority [12062]	NSW
Commonwealth Land - Defence Housing Authority [12060]	NSW
Commonwealth Land - Defence Housing Authority [12063]	NSW
Commonwealth Land - Defence Housing Authority [15750]	NSW
Commonwealth Land - Defence Housing Authority [15751]	NSW
Commonwealth Land - Defence Housing Authority [12861]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15754]	NSW
Commonwealth Land - Defence Housing Authority [12665]	NSW
Commonwealth Land - Defence Housing Authority [12666]	NSW
Commonwealth Land - Defence Housing Authority [12668]	NSW
Commonwealth Land - Defence Housing Authority [12669]	NSW
Commonwealth Land - Defence Housing Authority [12088]	NSW
Commonwealth Land - Defence Housing Authority [12667]	NSW
Commonwealth Land - Defence Housing Authority [12867]	NSW
Commonwealth Land - Defence Housing Authority [12864]	NSW
Commonwealth Land - Defence Housing Authority [12865]	NSW
Commonwealth Land - Defence Housing Authority [13206]	NSW
Commonwealth Land - Defence Housing Authority [12868]	NSW
Commonwealth Land - Defence Housing Authority [15910]	NSW
Commonwealth Land - Defence Housing Authority [15918]	NSW
Commonwealth Land - Defence Housing Authority [12804]	NSW
Commonwealth Land - Defence Housing Authority [15756]	NSW
Commonwealth Land - Defence Housing Authority [13763]	NSW
Commonwealth Land - Defence Housing Authority [13787]	NSW
Commonwealth Land - Defence Housing Authority [16462]	NSW
Commonwealth Land - Defence Housing Authority [15757]	NSW
Commonwealth Land - Defence Housing Authority [13543]	NSW
Commonwealth Land - Defence Housing Authority [16189]	NSW
Commonwealth Land - Defence Housing Authority [14591]	NSW
Commonwealth Land - Defence Housing Authority [16302]	NSW
Commonwealth Land - Defence Housing Authority [15480]	NSW
Commonwealth Land - Defence Housing Authority [13690]	NSW
Commonwealth Land - Defence Housing Authority [12211]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12213]	NSW
Commonwealth Land - Defence Housing Authority [14157]	NSW
Commonwealth Land - Defence Housing Authority [13449]	NSW
Commonwealth Land - Defence Housing Authority [13780]	NSW
Commonwealth Land - Defence Housing Authority [15560]	NSW
Commonwealth Land - Defence Housing Authority [15561]	NSW
Commonwealth Land - Defence Housing Authority [15833]	NSW
Commonwealth Land - Defence Housing Authority [15832]	NSW
Commonwealth Land - Defence Housing Authority [15836]	NSW
Commonwealth Land - Defence Housing Authority [15835]	NSW
Commonwealth Land - Defence Housing Authority [13777]	NSW
Commonwealth Land - Defence Housing Authority [16045]	NSW
Commonwealth Land - Defence Housing Authority [13744]	NSW
Commonwealth Land - Defence Housing Authority [13627]	NSW
Commonwealth Land - Defence Housing Authority [13935]	NSW
Commonwealth Land - Defence Housing Authority [12084]	NSW
Commonwealth Land - Defence Housing Authority [12085]	NSW
Commonwealth Land - Defence Housing Authority [15711]	NSW
Commonwealth Land - Defence Housing Authority [12086]	NSW
Commonwealth Land - Defence Housing Authority [13625]	NSW
Commonwealth Land - Defence Housing Authority [12087]	NSW
Commonwealth Land - Defence Housing Authority [12080]	NSW
Commonwealth Land - Defence Housing Authority [12081]	NSW
Commonwealth Land - Defence Housing Authority [13188]	NSW
Commonwealth Land - Defence Housing Authority [12082]	NSW
Commonwealth Land - Defence Housing Authority [13939]	NSW
Commonwealth Land - Defence Housing Authority [13428]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13401]	NSW
Commonwealth Land - Defence Housing Authority [13402]	NSW
Commonwealth Land - Defence Housing Authority [13668]	NSW
Commonwealth Land - Defence Housing Authority [13406]	NSW
Commonwealth Land - Defence Housing Authority [13938]	NSW
Commonwealth Land - Defence Housing Authority [13529]	NSW
Commonwealth Land - Defence Housing Authority [13233]	NSW
Commonwealth Land - Defence Housing Authority [13400]	NSW
Commonwealth Land - Defence Housing Authority [13427]	NSW
Commonwealth Land - Defence Housing Authority [15712]	NSW
Commonwealth Land - Defence Housing Authority [13793]	NSW
Commonwealth Land - Defence Housing Authority [13426]	NSW
Commonwealth Land - Defence Housing Authority [14345]	NSW
Commonwealth Land - Defence Housing Authority [13740]	NSW
Commonwealth Land - Defence Housing Authority [13425]	NSW
Commonwealth Land - Defence Housing Authority [14344]	NSW
Commonwealth Land - Defence Housing Authority [13424]	NSW
Commonwealth Land - Defence Housing Authority [14347]	NSW
Commonwealth Land - Defence Housing Authority [13422]	NSW
Commonwealth Land - Defence Housing Authority [14346]	NSW
Commonwealth Land - Defence Housing Authority [13420]	NSW
Commonwealth Land - Defence Housing Authority [13423]	NSW
Commonwealth Land - Defence Housing Authority [13796]	NSW
Commonwealth Land - Defence Housing Authority [13620]	NSW
Commonwealth Land - Defence Housing Authority [13742]	NSW
Commonwealth Land - Defence Housing Authority [13794]	NSW
Commonwealth Land - Defence Housing Authority [13792]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13790]	NSW
Commonwealth Land - Defence Housing Authority [14115]	NSW
Commonwealth Land - Defence Housing Authority [15986]	NSW
Commonwealth Land - Defence Housing Authority [13799]	NSW
Commonwealth Land - Defence Housing Authority [15989]	NSW
Commonwealth Land - Defence Housing Authority [16467]	NSW
Commonwealth Land - Defence Housing Authority [15985]	NSW
Commonwealth Land - Defence Housing Authority [15988]	NSW
Commonwealth Land - Defence Housing Authority [15981]	NSW
Commonwealth Land - Defence Housing Authority [15983]	NSW
Commonwealth Land - Defence Housing Authority [13851]	NSW
Commonwealth Land - Defence Housing Authority [13852]	NSW
Commonwealth Land - Defence Housing Authority [15987]	NSW
Commonwealth Land - Defence Housing Authority [15980]	NSW
Commonwealth Land - Defence Housing Authority [15810]	NSW
Commonwealth Land - Defence Housing Authority [13930]	NSW
Commonwealth Land - Defence Housing Authority [15811]	NSW
Commonwealth Land - Defence Housing Authority [15522]	NSW
Commonwealth Land - Defence Housing Authority [15816]	NSW
Commonwealth Land - Defence Housing Authority [12209]	NSW
Commonwealth Land - Defence Housing Authority [12877]	NSW
Commonwealth Land - Defence Housing Authority [15814]	NSW
Commonwealth Land - Defence Housing Authority [15817]	NSW
Commonwealth Land - Defence Housing Authority [15521]	NSW
Commonwealth Land - Defence Housing Authority [15526]	NSW
Commonwealth Land - Defence Housing Authority [15815]	NSW
Commonwealth Land - Defence Housing Authority [15523]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13931]	NSW
Commonwealth Land - Defence Housing Authority [14117]	NSW
Commonwealth Land - Defence Housing Authority [14116]	NSW
Commonwealth Land - Defence Housing Authority [14119]	NSW
Commonwealth Land - Defence Housing Authority [13500]	NSW
Commonwealth Land - Defence Housing Authority [13421]	NSW
Commonwealth Land - Defence Housing Authority [12874]	NSW
Commonwealth Land - Defence Housing Authority [13932]	NSW
Commonwealth Land - Defence Housing Authority [14176]	NSW
Commonwealth Land - Defence Housing Authority [14174]	NSW
Commonwealth Land - Defence Housing Authority [14177]	NSW
Commonwealth Land - Defence Housing Authority [14172]	NSW
Commonwealth Land - Defence Housing Authority [14304]	NSW
Commonwealth Land - Defence Housing Authority [14175]	NSW
Commonwealth Land - Defence Housing Authority [16491]	NSW
Commonwealth Land - Defence Housing Authority [15893]	NSW
Commonwealth Land - Defence Housing Authority [13975]	NSW
Commonwealth Land - Defence Housing Authority [14173]	NSW
Commonwealth Land - Defence Housing Authority [14170]	NSW
Commonwealth Land - Defence Housing Authority [14459]	NSW
Commonwealth Land - Defence Housing Authority [13696]	NSW
Commonwealth Land - Defence Housing Authority [13429]	NSW
Commonwealth Land - Defence Housing Authority [13839]	NSW
Commonwealth Land - Defence Housing Authority [15529]	NSW
Commonwealth Land - Defence Housing Authority [16026]	NSW
Commonwealth Land - Defence Housing Authority [15524]	NSW
Commonwealth Land - Defence Housing Authority [15527]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15525]	NSW
Commonwealth Land - Defence Housing Authority [13687]	NSW
Commonwealth Land - Defence Housing Authority [13685]	NSW
Commonwealth Land - Defence Housing Authority [13486]	NSW
Commonwealth Land - Defence Housing Authority [13682]	NSW
Commonwealth Land - Defence Housing Authority [15998]	NSW
Commonwealth Land - Defence Housing Authority [13683]	NSW
Commonwealth Land - Defence Housing Authority [13680]	NSW
Commonwealth Land - Defence Housing Authority [15718]	NSW
Commonwealth Land - Defence Housing Authority [13688]	NSW
Commonwealth Land - Defence Housing Authority [13918]	NSW
Commonwealth Land - Defence Housing Authority [13628]	NSW
Commonwealth Land - Defence Housing Authority [13412]	NSW
Commonwealth Land - Defence Housing Authority [16354]	NSW
Commonwealth Land - Defence Housing Authority [12750]	NSW
Commonwealth Land - Defence Housing Authority [12698]	NSW
Commonwealth Land - Defence Housing Authority [13622]	NSW
Commonwealth Land - Defence Housing Authority [16466]	NSW
Commonwealth Land - Defence Housing Authority [14238]	NSW
Commonwealth Land - Defence Housing Authority [14239]	NSW
Commonwealth Land - Defence Housing Authority [13629]	NSW
Commonwealth Land - Defence Housing Authority [15874]	NSW
Commonwealth Land - Defence Housing Authority [13619]	NSW
Commonwealth Land - Defence Housing Authority [13626]	NSW
Commonwealth Land - Defence Housing Authority [12210]	NSW
Commonwealth Land - Defence Housing Authority [13624]	NSW
Commonwealth Land - Defence Housing Authority [13021]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13027]	NSW
Commonwealth Land - Defence Housing Authority [16544]	NSW
Commonwealth Land - Defence Housing Authority [13024]	NSW
Commonwealth Land - Defence Housing Authority [16547]	NSW
Commonwealth Land - Defence Housing Authority [13028]	NSW
Commonwealth Land - Defence Housing Authority [16542]	NSW
Commonwealth Land - Defence Housing Authority [13026]	NSW
Commonwealth Land - Defence Housing Authority [13605]	NSW
Commonwealth Land - Defence Housing Authority [13023]	NSW
Commonwealth Land - Defence Housing Authority [12840]	NSW
Commonwealth Land - Defence Housing Authority [13020]	NSW
Commonwealth Land - Defence Housing Authority [13025]	NSW
Commonwealth Land - Defence Housing Authority [12193]	NSW
Commonwealth Land - Defence Housing Authority [16541]	NSW
Commonwealth Land - Defence Housing Authority [13770]	NSW
Commonwealth Land - Defence Housing Authority [13616]	NSW
Commonwealth Land - Defence Housing Authority [16548]	NSW
Commonwealth Land - Defence Housing Authority [16549]	NSW
Commonwealth Land - Defence Housing Authority [13750]	NSW
Commonwealth Land - Defence Housing Authority [13756]	NSW
Commonwealth Land - Defence Housing Authority [13755]	NSW
Commonwealth Land - Defence Housing Authority [13751]	NSW
Commonwealth Land - Defence Housing Authority [15326]	NSW
Commonwealth Land - Defence Housing Authority [12843]	NSW
Commonwealth Land - Defence Housing Authority [15892]	NSW
Commonwealth Land - Defence Housing Authority [13771]	NSW
Commonwealth Land - Defence Housing Authority [16560]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13133]	NSW
Commonwealth Land - Defence Housing Authority [15839]	NSW
Commonwealth Land - Defence Housing Authority [15838]	NSW
Commonwealth Land - Defence Housing Authority [13853]	NSW
Commonwealth Land - Defence Housing Authority [13235]	NSW
Commonwealth Land - Defence Housing Authority [13135]	NSW
Commonwealth Land - Defence Housing Authority [15830]	NSW
Commonwealth Land - Defence Housing Authority [13713]	NSW
Commonwealth Land - Defence Housing Authority [13712]	NSW
Commonwealth Land - Defence Housing Authority [13719]	NSW
Commonwealth Land - Defence Housing Authority [13718]	NSW
Commonwealth Land - Defence Housing Authority [12672]	NSW
Commonwealth Land - Defence Housing Authority [13717]	NSW
Commonwealth Land - Defence Housing Authority [13716]	NSW
Commonwealth Land - Defence Housing Authority [13711]	NSW
Commonwealth Land - Defence Housing Authority [12671]	NSW
Commonwealth Land - Defence Housing Authority [13710]	NSW
Commonwealth Land - Defence Housing Authority [13007]	NSW
Commonwealth Land - Defence Housing Authority [14298]	NSW
Commonwealth Land - Defence Housing Authority [15843]	NSW
Commonwealth Land - Defence Housing Authority [13370]	NSW
Commonwealth Land - Defence Housing Authority [13006]	NSW
Commonwealth Land - Defence Housing Authority [14299]	NSW
Commonwealth Land - Defence Housing Authority [14462]	NSW
Commonwealth Land - Defence Housing Authority [12670]	NSW
Commonwealth Land - Defence Housing Authority [16460]	NSW
Commonwealth Land - Defence Housing Authority [13798]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12071]	NSW
Commonwealth Land - Defence Housing Authority [13191]	NSW
Commonwealth Land - Defence Housing Authority [13743]	NSW
Commonwealth Land - Defence Housing Authority [16521]	NSW
Commonwealth Land - Defence Housing Authority [16522]	NSW
Commonwealth Land - Defence Housing Authority [16523]	NSW
Commonwealth Land - Defence Housing Authority [13778]	NSW
Commonwealth Land - Defence Housing Authority [13009]	NSW
Commonwealth Land - Defence Housing Authority [13773]	NSW
Commonwealth Land - Defence Housing Authority [13772]	NSW
Commonwealth Land - Defence Housing Authority [13775]	NSW
Commonwealth Land - Defence Housing Authority [13776]	NSW
Commonwealth Land - Defence Housing Authority [13779]	NSW
Commonwealth Land - Defence Housing Authority [13963]	NSW
Commonwealth Land - Defence Housing Authority [13964]	NSW
Commonwealth Land - Defence Housing Authority [13961]	NSW
Commonwealth Land - Defence Housing Authority [12766]	NSW
Commonwealth Land - Defence Housing Authority [12767]	NSW
Commonwealth Land - Defence Housing Authority [12764]	NSW
Commonwealth Land - Defence Housing Authority [12765]	NSW
Commonwealth Land - Defence Housing Authority [12762]	NSW
Commonwealth Land - Defence Housing Authority [12763]	NSW
Commonwealth Land - Defence Housing Authority [12761]	NSW
Commonwealth Land - Defence Housing Authority [12760]	NSW
Commonwealth Land - Defence Housing Authority [12769]	NSW
Commonwealth Land - Defence Housing Authority [13497]	NSW
Commonwealth Land - Defence Housing Authority [12768]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13495]	NSW
Commonwealth Land - Defence Housing Authority [13496]	NSW
Commonwealth Land - Defence Housing Authority [12878]	NSW
Commonwealth Land - Defence Housing Authority [13207]	NSW
Commonwealth Land - Defence Housing Authority [16025]	NSW
Commonwealth Land - Defence Housing Authority [16027]	NSW
Commonwealth Land - Defence Housing Authority [13369]	NSW
Commonwealth Land - Defence Housing Authority [15552]	NSW
Commonwealth Land - Defence Housing Authority [15554]	NSW
Commonwealth Land - Defence Housing Authority [15553]	NSW
Commonwealth Land - Defence Housing Authority [15557]	NSW
Commonwealth Land - Defence Housing Authority [15556]	NSW
Commonwealth Land - Defence Housing Authority [13409]	NSW
Commonwealth Land - Defence Housing Authority [15417]	NSW
Commonwealth Land - Defence Housing Authority [15558]	NSW
Commonwealth Land - Defence Housing Authority [13936]	NSW
Commonwealth Land - Defence Housing Authority [13580]	NSW
Commonwealth Land - Defence Housing Authority [12876]	NSW
Commonwealth Land - Defence Housing Authority [12871]	NSW
Commonwealth Land - Defence Housing Authority [15551]	NSW
Commonwealth Land - Defence Housing Authority [15550]	NSW
Commonwealth Land - Defence Housing Authority [14114]	NSW
Commonwealth Land - Defence Housing Authority [14403]	NSW
Commonwealth Land - Defence Housing Authority [14111]	NSW
Commonwealth Land - Defence Housing Authority [14113]	NSW
Commonwealth Land - Defence Housing Authority [12870]	NSW
Commonwealth Land - Defence Housing Authority [14110]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12873]	NSW
Commonwealth Land - Defence Housing Authority [12872]	NSW
Commonwealth Land - Defence Housing Authority [15596]	NSW
Commonwealth Land - Defence Housing Authority [12703]	NSW
Commonwealth Land - Defence Housing Authority [12702]	NSW
Commonwealth Land - Defence Housing Authority [15982]	NSW
Commonwealth Land - Defence Housing Authority [12701]	NSW
Commonwealth Land - Defence Housing Authority [12700]	NSW
Commonwealth Land - Defence Housing Authority [12707]	NSW
Commonwealth Land - Defence Housing Authority [12706]	NSW
Commonwealth Land - Defence Housing Authority [13382]	NSW
Commonwealth Land - Defence Housing Authority [16552]	NSW
Commonwealth Land - Defence Housing Authority [14453]	NSW
Commonwealth Land - Defence Housing Authority [15636]	NSW
Commonwealth Land - Defence Housing Authority [12705]	NSW
Commonwealth Land - Defence Housing Authority [12875]	NSW
Commonwealth Land - Defence Housing Authority [13368]	NSW
Commonwealth Land - Defence Housing Authority [13127]	NSW
Commonwealth Land - Defence Housing Authority [15414]	NSW
Commonwealth Land - Defence Housing Authority [15637]	NSW
Commonwealth Land - Defence Housing Authority [12913]	NSW
Commonwealth Land - Defence Housing Authority [12704]	NSW
Commonwealth Land - Defence Housing Authority [13937]	NSW
Commonwealth Land - Defence Housing Authority [12912]	NSW
Commonwealth Land - Defence Housing Authority [13941]	NSW
Commonwealth Land - Defence Housing Authority [13942]	NSW
Commonwealth Land - Defence Housing Authority [13940]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13944]	NSW
Commonwealth Land - Defence Housing Authority [12910]	NSW
Commonwealth Land - Defence Housing Authority [12911]	NSW
Commonwealth Land - Defence Housing Authority [12914]	NSW
Commonwealth Land - Defence Housing Authority [14603]	NSW
Commonwealth Land - Defence Housing Authority [12915]	NSW
Commonwealth Land - Defence Housing Authority [13945]	NSW
Commonwealth Land - Defence Housing Authority [16028]	NSW
Commonwealth Land - Defence Housing Authority [16029]	NSW
Commonwealth Land - Defence Housing Authority [12785]	NSW
Commonwealth Land - Defence Housing Authority [16020]	NSW
Commonwealth Land - Defence Housing Authority [13544]	NSW
Commonwealth Land - Defence Housing Authority [15739]	NSW
Commonwealth Land - Defence Housing Authority [15948]	NSW
Commonwealth Land - Defence Housing Authority [16291]	NSW
Commonwealth Land - Defence Housing Authority [16273]	NSW
Commonwealth Land - Defence Housing Authority [11767]	NSW
Commonwealth Land - Defence Housing Authority [13197]	NSW
Commonwealth Land - Defence Housing Authority [14604]	NSW
Commonwealth Land - Defence Housing Authority [13956]	NSW
Commonwealth Land - Defence Housing Authority [12860]	NSW
Commonwealth Land - Defence Housing Authority [13664]	NSW
Commonwealth Land - Defence Housing Authority [16117]	NSW
Commonwealth Land - Defence Housing Authority [16056]	NSW
Commonwealth Land - Defence Housing Authority [15087]	NSW
Commonwealth Land - Defence Housing Authority [15646]	NSW
Commonwealth Land - Defence Housing Authority [15645]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15644]	NSW
Commonwealth Land - Defence Housing Authority [12683]	NSW
Commonwealth Land - Defence Housing Authority [13661]	NSW
Commonwealth Land - Defence Housing Authority [12687]	NSW
Commonwealth Land - Defence Housing Authority [12686]	NSW
Commonwealth Land - Defence Housing Authority [16058]	NSW
Commonwealth Land - Defence Housing Authority [12681]	NSW
Commonwealth Land - Defence Housing Authority [12680]	NSW
Commonwealth Land - Defence Housing Authority [13660]	NSW
Commonwealth Land - Defence Housing Authority [12685]	NSW
Commonwealth Land - Defence Housing Authority [12688]	NSW
Commonwealth Land - Defence Housing Authority [13667]	NSW
Commonwealth Land - Defence Housing Authority [12689]	NSW
Commonwealth Land - Defence Housing Authority [15647]	NSW
Commonwealth Land - Defence Housing Authority [15649]	NSW
Commonwealth Land - Defence Housing Authority [14457]	NSW
Commonwealth Land - Defence Housing Authority [15796]	NSW
Commonwealth Land - Defence Housing Authority [13715]	NSW
Commonwealth Land - Defence Housing Authority [13190]	NSW
Commonwealth Land - Defence Housing Authority [15487]	NSW
Commonwealth Land - Defence Housing Authority [15956]	NSW
Commonwealth Land - Defence Housing Authority [15481]	NSW
Commonwealth Land - Defence Housing Authority [15951]	NSW
Commonwealth Land - Defence Housing Authority [15489]	NSW
Commonwealth Land - Defence Housing Authority [15488]	NSW
Commonwealth Land - Defence Housing Authority [14330]	NSW
Commonwealth Land - Defence Housing Authority [13389]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13541]	NSW
Commonwealth Land - Defence Housing Authority [13547]	NSW
Commonwealth Land - Defence Housing Authority [13546]	NSW
Commonwealth Land - Defence Housing Authority [13540]	NSW
Commonwealth Land - Defence Housing Authority [13542]	NSW
Commonwealth Land - Defence Housing Authority [13804]	NSW
Commonwealth Land - Defence Housing Authority [13494]	NSW
Commonwealth Land - Defence Housing Authority [13493]	NSW
Commonwealth Land - Defence Housing Authority [12148]	NSW
Commonwealth Land - Defence Housing Authority [12149]	NSW
Commonwealth Land - Defence Housing Authority [12142]	NSW
Commonwealth Land - Defence Housing Authority [13838]	NSW
Commonwealth Land - Defence Housing Authority [15963]	NSW
Commonwealth Land - Defence Housing Authority [16496]	NSW
Commonwealth Land - Defence Housing Authority [15755]	NSW
Commonwealth Land - Defence Housing Authority [16497]	NSW
Commonwealth Land - Defence Housing Authority [13831]	NSW
Commonwealth Land - Defence Housing Authority [13830]	NSW
Commonwealth Land - Defence Housing Authority [13833]	NSW
Commonwealth Land - Defence Housing Authority [13832]	NSW
Commonwealth Land - Defence Housing Authority [13835]	NSW
Commonwealth Land - Defence Housing Authority [13834]	NSW
Commonwealth Land - Defence Housing Authority [13837]	NSW
Commonwealth Land - Defence Housing Authority [13836]	NSW
Commonwealth Land - Defence Housing Authority [13549]	NSW
Commonwealth Land - Defence Housing Authority [13548]	NSW
Commonwealth Land - Defence Housing Authority [15805]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15806]	NSW
Commonwealth Land - Defence Housing Authority [15804]	NSW
Commonwealth Land - Defence Housing Authority [13125]	NSW
Commonwealth Land - Defence Housing Authority [13126]	NSW
Commonwealth Land - Defence Housing Authority [13124]	NSW
Commonwealth Land - Defence Housing Authority [15803]	NSW
Commonwealth Land - Defence Housing Authority [15802]	NSW
Commonwealth Land - Defence Housing Authority [12898]	NSW
Commonwealth Land - Defence Housing Authority [13388]	NSW
Commonwealth Land - Defence Housing Authority [15576]	NSW
Commonwealth Land - Defence Housing Authority [14448]	NSW
Commonwealth Land - Defence Housing Authority [13568]	NSW
Commonwealth Land - Defence Housing Authority [15827]	NSW
Commonwealth Land - Defence Housing Authority [13569]	NSW
Commonwealth Land - Defence Housing Authority [15826]	NSW
Commonwealth Land - Defence Housing Authority [15821]	NSW
Commonwealth Land - Defence Housing Authority [13564]	NSW
Commonwealth Land - Defence Housing Authority [15820]	NSW
Commonwealth Land - Defence Housing Authority [13566]	NSW
Commonwealth Land - Defence Housing Authority [13567]	NSW
Commonwealth Land - Defence Housing Authority [13560]	NSW
Commonwealth Land - Defence Housing Authority [15825]	NSW
Commonwealth Land - Defence Housing Authority [13561]	NSW
Commonwealth Land - Defence Housing Authority [15824]	NSW
Commonwealth Land - Defence Housing Authority [13801]	NSW
Commonwealth Land - Defence Housing Authority [15822]	NSW
Commonwealth Land - Defence Housing Authority [13361]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16517]	NSW
Commonwealth Land - Defence Housing Authority [16516]	NSW
Commonwealth Land - Defence Housing Authority [16511]	NSW
Commonwealth Land - Defence Housing Authority [13384]	NSW
Commonwealth Land - Defence Housing Authority [13897]	NSW
Commonwealth Land - Defence Housing Authority [13386]	NSW
Commonwealth Land - Defence Housing Authority [16514]	NSW
Commonwealth Land - Defence Housing Authority [16515]	NSW
Commonwealth Land - Defence Housing Authority [13383]	NSW
Commonwealth Land - Defence Housing Authority [13380]	NSW
Commonwealth Land - Defence Housing Authority [13381]	NSW
Commonwealth Land - Defence Housing Authority [15829]	NSW
Commonwealth Land - Defence Housing Authority [15828]	NSW
Commonwealth Land - Defence Housing Authority [13895]	NSW
Commonwealth Land - Defence Housing Authority [13288]	NSW
Commonwealth Land - Defence Housing Authority [14319]	NSW
Commonwealth Land - Defence Housing Authority [13604]	NSW
Commonwealth Land - Defence Housing Authority [13515]	NSW
Commonwealth Land - Defence Housing Authority [15158]	NSW
Commonwealth Land - Defence Housing Authority [16478]	NSW
Commonwealth Land - Defence Housing Authority [14314]	NSW
Commonwealth Land - Defence Housing Authority [12141]	NSW
Commonwealth Land - Defence Housing Authority [14317]	NSW
Commonwealth Land - Defence Housing Authority [12140]	NSW
Commonwealth Land - Defence Housing Authority [13654]	NSW
Commonwealth Land - Defence Housing Authority [13655]	NSW
Commonwealth Land - Defence Housing Authority [13656]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16479]	NSW
Commonwealth Land - Defence Housing Authority [13657]	NSW
Commonwealth Land - Defence Housing Authority [13650]	NSW
Commonwealth Land - Defence Housing Authority [13651]	NSW
Commonwealth Land - Defence Housing Authority [13365]	NSW
Commonwealth Land - Defence Housing Authority [13899]	NSW
Commonwealth Land - Defence Housing Authority [13653]	NSW
Commonwealth Land - Defence Housing Authority [13898]	NSW
Commonwealth Land - Defence Housing Authority [12892]	NSW
Commonwealth Land - Defence Housing Authority [12891]	NSW
Commonwealth Land - Defence Housing Authority [12890]	NSW
Commonwealth Land - Defence Housing Authority [12896]	NSW
Commonwealth Land - Defence Housing Authority [12895]	NSW
Commonwealth Land - Defence Housing Authority [12894]	NSW
Commonwealth Land - Defence Housing Authority [13562]	NSW
Commonwealth Land - Defence Housing Authority [12893]	NSW
Commonwealth Land - Defence Housing Authority [13814]	NSW
Commonwealth Land - Defence Housing Authority [13815]	NSW
Commonwealth Land - Defence Housing Authority [16271]	NSW
Commonwealth Land - Defence Housing Authority [12067]	NSW
Commonwealth Land - Defence Housing Authority [16270]	NSW
Commonwealth Land - Defence Housing Authority [13818]	NSW
Commonwealth Land - Defence Housing Authority [13819]	NSW
Commonwealth Land - Defence Housing Authority [16276]	NSW
Commonwealth Land - Defence Housing Authority [16274]	NSW
Commonwealth Land - Defence Housing Authority [13563]	NSW
Commonwealth Land - Defence Housing Authority [16277]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15972]	NSW
Commonwealth Land - Defence Housing Authority [15973]	NSW
Commonwealth Land - Defence Housing Authority [15976]	NSW
Commonwealth Land - Defence Housing Authority [15974]	NSW
Commonwealth Land - Defence Housing Authority [14200]	NSW
Commonwealth Land - Defence Housing Authority [14208]	NSW
Commonwealth Land - Defence Housing Authority [14288]	NSW
Commonwealth Land - Defence Housing Authority [14204]	NSW
Commonwealth Land - Defence Housing Authority [14203]	NSW
Commonwealth Land - Defence Housing Authority [16470]	NSW
Commonwealth Land - Defence Housing Authority [13035]	NSW
Commonwealth Land - Defence Housing Authority [14202]	NSW
Commonwealth Land - Defence Housing Authority [14201]	NSW
Commonwealth Land - Defence Housing Authority [14315]	NSW
Commonwealth Land - Defence Housing Authority [14205]	NSW
Commonwealth Land - Defence Housing Authority [14206]	NSW
Commonwealth Land - Defence Housing Authority [14313]	NSW
Commonwealth Land - Defence Housing Authority [13638]	NSW
Commonwealth Land - Defence Housing Authority [14192]	NSW
Commonwealth Land - Defence Housing Authority [13728]	NSW
Commonwealth Land - Defence Housing Authority [14207]	NSW
Commonwealth Land - Defence Housing Authority [13236]	NSW
Commonwealth Land - Defence Housing Authority [15799]	NSW
Commonwealth Land - Defence Housing Authority [15559]	NSW
Commonwealth Land - Defence Housing Authority [13633]	NSW
Commonwealth Land - Defence Housing Authority [13448]	NSW
Commonwealth Land - Defence Housing Authority [13919]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13363]	NSW
Commonwealth Land - Defence Housing Authority [15975]	NSW
Commonwealth Land - Defence Housing Authority [13706]	NSW
Commonwealth Land - Defence Housing Authority [13511]	NSW
Commonwealth Land - Defence Housing Authority [13707]	NSW
Commonwealth Land - Defence Housing Authority [13739]	NSW
Commonwealth Land - Defence Housing Authority [16518]	NSW
Commonwealth Land - Defence Housing Authority [16512]	NSW
Commonwealth Land - Defence Housing Authority [15324]	NSW
Commonwealth Land - Defence Housing Authority [16510]	NSW
Commonwealth Land - Defence Housing Authority [16513]	NSW
Commonwealth Land - Defence Housing Authority [16519]	NSW
Commonwealth Land - Defence Housing Authority [13096]	NSW
Commonwealth Land - Defence Housing Authority [14223]	NSW
Commonwealth Land - Defence Housing Authority [14222]	NSW
Commonwealth Land - Defence Housing Authority [13709]	NSW
Commonwealth Land - Defence Housing Authority [13708]	NSW
Commonwealth Land - Defence Housing Authority [13032]	NSW
Commonwealth Land - Defence Housing Authority [16132]	NSW
Commonwealth Land - Defence Housing Authority [15150]	NSW
Commonwealth Land - Defence Housing Authority [13705]	NSW
Commonwealth Land - Defence Housing Authority [14221]	NSW
Commonwealth Land - Defence Housing Authority [13702]	NSW
Commonwealth Land - Defence Housing Authority [13701]	NSW
Commonwealth Land - Defence Housing Authority [14224]	NSW
Commonwealth Land - Defence Housing Authority [13700]	NSW
Commonwealth Land - Defence Housing Authority [14225]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16461]	NSW
Commonwealth Land - Defence Housing Authority [14220]	NSW
Commonwealth Land - Defence Housing Authority [13475]	NSW
Commonwealth Land - Defence Housing Authority [13472]	NSW
Commonwealth Land - Defence Housing Authority [13477]	NSW
Commonwealth Land - Defence Housing Authority [13474]	NSW
Commonwealth Land - Defence Housing Authority [13476]	NSW
Commonwealth Land - Defence Housing Authority [15316]	NSW
Commonwealth Land - Defence Housing Authority [13367]	NSW
Commonwealth Land - Defence Housing Authority [12694]	NSW
Commonwealth Land - Defence Housing Authority [12697]	NSW
Commonwealth Land - Defence Housing Authority [12693]	NSW
Commonwealth Land - Defence Housing Authority [12692]	NSW
Commonwealth Land - Defence Housing Authority [12696]	NSW
Commonwealth Land - Defence Housing Authority [12691]	NSW
Commonwealth Land - Defence Housing Authority [13692]	NSW
Commonwealth Land - Defence Housing Authority [13478]	NSW
Commonwealth Land - Defence Housing Authority [13479]	NSW
Commonwealth Land - Defence Housing Authority [13471]	NSW
Commonwealth Land - Defence Housing Authority [13470]	NSW
Commonwealth Land - Defence Housing Authority [15834]	NSW
Commonwealth Land - Defence Housing Authority [15887]	NSW
Commonwealth Land - Defence Housing Authority [15884]	NSW
Commonwealth Land - Defence Housing Authority [15885]	NSW
Commonwealth Land - Defence Housing Authority [13723]	NSW
Commonwealth Land - Defence Housing Authority [13689]	NSW
Commonwealth Land - Defence Housing Authority [14269]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15881]	NSW
Commonwealth Land - Defence Housing Authority [13720]	NSW
Commonwealth Land - Defence Housing Authority [15648]	NSW
Commonwealth Land - Defence Housing Authority [13658]	NSW
Commonwealth Land - Defence Housing Authority [13459]	NSW
Commonwealth Land - Defence Housing Authority [12118]	NSW
Commonwealth Land - Defence Housing Authority [13458]	NSW
Commonwealth Land - Defence Housing Authority [13453]	NSW
Commonwealth Land - Defence Housing Authority [12739]	NSW
Commonwealth Land - Defence Housing Authority [13452]	NSW
Commonwealth Land - Defence Housing Authority [13457]	NSW
Commonwealth Land - Defence Housing Authority [13454]	NSW
Commonwealth Land - Defence Housing Authority [14212]	NSW
Commonwealth Land - Defence Housing Authority [13501]	NSW
Commonwealth Land - Defence Housing Authority [13506]	NSW
Commonwealth Land - Defence Housing Authority [13507]	NSW
Commonwealth Land - Defence Housing Authority [13504]	NSW
Commonwealth Land - Defence Housing Authority [13505]	NSW
Commonwealth Land - Defence Housing Authority [13768]	NSW
Commonwealth Land - Defence Housing Authority [12212]	NSW
Commonwealth Land - Defence Housing Authority [13502]	NSW
Commonwealth Land - Defence Housing Authority [12214]	NSW
Commonwealth Land - Defence Housing Authority [16458]	NSW
Commonwealth Land - Defence Housing Authority [14535]	NSW
Commonwealth Land - Defence Housing Authority [12699]	NSW
Commonwealth Land - Defence Housing Authority [13509]	NSW
Commonwealth Land - Defence Housing Authority [14213]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15490]	NSW
Commonwealth Land - Defence Housing Authority [13508]	NSW
Commonwealth Land - Defence Housing Authority [12216]	NSW
Commonwealth Land - Defence Housing Authority [13344]	NSW
Commonwealth Land - Defence Housing Authority [14536]	NSW
Commonwealth Land - Defence Housing Authority [15848]	NSW
Commonwealth Land - Defence Housing Authority [15841]	NSW
Commonwealth Land - Defence Housing Authority [15847]	NSW
Commonwealth Land - Defence Housing Authority [15846]	NSW
Commonwealth Land - Defence Housing Authority [15840]	NSW
Commonwealth Land - Defence Housing Authority [15842]	NSW
Commonwealth Land - Defence Housing Authority [15845]	NSW
Commonwealth Land - Defence Housing Authority [15844]	NSW
Commonwealth Land - Defence Housing Authority [13678]	NSW
Commonwealth Land - Defence Housing Authority [13672]	NSW
Commonwealth Land - Defence Housing Authority [13673]	NSW
Commonwealth Land - Defence Housing Authority [13670]	NSW
Commonwealth Land - Defence Housing Authority [13679]	NSW
Commonwealth Land - Defence Housing Authority [13674]	NSW
Commonwealth Land - Defence Housing Authority [13675]	NSW
Commonwealth Land - Defence Housing Authority [13677]	NSW
Commonwealth Land - Defence Housing Authority [13185]	NSW
Commonwealth Land - Defence Housing Authority [13182]	NSW
Commonwealth Land - Defence Housing Authority [13183]	NSW
Commonwealth Land - Defence Housing Authority [13180]	NSW
Commonwealth Land - Defence Housing Authority [13181]	NSW
Commonwealth Land - Defence Housing Authority [15320]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13189]	NSW
Commonwealth Land - Defence Housing Authority [15496]	NSW
Commonwealth Land - Defence Housing Authority [14447]	NSW
Commonwealth Land - Defence Housing Authority [14295]	NSW
Commonwealth Land - Defence Housing Authority [13758]	NSW
Commonwealth Land - Defence Housing Authority [15321]	NSW
Commonwealth Land - Defence Housing Authority [16538]	NSW
Commonwealth Land - Defence Housing Authority [15322]	NSW
Commonwealth Land - Defence Housing Authority [15323]	NSW
Commonwealth Land - Defence Housing Authority [14634]	NSW
Commonwealth Land - Defence Housing Authority [12811]	NSW
Commonwealth Land - Defence Housing Authority [14635]	NSW
Commonwealth Land - Defence Housing Authority [15466]	NSW
Commonwealth Land - Defence Housing Authority [15818]	NSW
Commonwealth Land - Defence Housing Authority [14637]	NSW
Commonwealth Land - Defence Housing Authority [14636]	NSW
Commonwealth Land - Defence Housing Authority [14639]	NSW
Commonwealth Land - Defence Housing Authority [15413]	NSW
Commonwealth Land - Defence Housing Authority [12813]	NSW
Commonwealth Land - Defence Housing Authority [12812]	NSW
Commonwealth Land - Defence Housing Authority [12814]	NSW
Commonwealth Land - Defence Housing Authority [14638]	NSW
Commonwealth Land - Defence Housing Authority [14316]	NSW
Commonwealth Land - Defence Housing Authority [16286]	NSW
Commonwealth Land - Defence Housing Authority [15849]	NSW
Commonwealth Land - Defence Housing Authority [12794]	NSW
Commonwealth Land - Defence Housing Authority [13105]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14311]	NSW
Commonwealth Land - Defence Housing Authority [15213]	NSW
Commonwealth Land - Defence Housing Authority [13828]	NSW
Commonwealth Land - Defence Housing Authority [13747]	NSW
Commonwealth Land - Defence Housing Authority [16553]	NSW
Commonwealth Land - Defence Housing Authority [16554]	NSW
Commonwealth Land - Defence Housing Authority [16555]	NSW
Commonwealth Land - Defence Housing Authority [14218]	NSW
Commonwealth Land - Defence Housing Authority [15771]	NSW
Commonwealth Land - Defence Housing Authority [13829]	NSW
Commonwealth Land - Defence Housing Authority [13856]	NSW
Commonwealth Land - Defence Housing Authority [16550]	NSW
Commonwealth Land - Defence Housing Authority [16551]	NSW
Commonwealth Land - Defence Housing Authority [14128]	NSW
Commonwealth Land - Defence Housing Authority [14124]	NSW
Commonwealth Land - Defence Housing Authority [14127]	NSW
Commonwealth Land - Defence Housing Authority [14121]	NSW
Commonwealth Land - Defence Housing Authority [14126]	NSW
Commonwealth Land - Defence Housing Authority [13748]	NSW
Commonwealth Land - Defence Housing Authority [14123]	NSW
Commonwealth Land - Defence Housing Authority [14120]	NSW
Commonwealth Land - Defence Housing Authority [14122]	NSW
Commonwealth Land - Defence Housing Authority [13565]	NSW
Commonwealth Land - Defence Housing Authority [15468]	NSW
Commonwealth Land - Defence Housing Authority [13366]	NSW
Commonwealth Land - Defence Housing Authority [15462]	NSW
Commonwealth Land - Defence Housing Authority [15812]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14312]	NSW
Commonwealth Land - Defence Housing Authority [14129]	NSW
Commonwealth Land - Defence Housing Authority [13052]	NSW
Commonwealth Land - Defence Housing Authority [13746]	NSW
Commonwealth Land - Defence Housing Authority [15464]	NSW
Commonwealth Land - Defence Housing Authority [15467]	NSW
Commonwealth Land - Defence Housing Authority [13745]	NSW
Commonwealth Land - Defence Housing Authority [12779]	NSW
Commonwealth Land - Defence Housing Authority [13184]	NSW
Commonwealth Land - Defence Housing Authority [12690]	NSW
Commonwealth Land - Defence Housing Authority [14244]	NSW
Commonwealth Land - Defence Housing Authority [12758]	NSW
Commonwealth Land - Defence Housing Authority [16137]	NSW
Commonwealth Land - Defence Housing Authority [14246]	NSW
Commonwealth Land - Defence Housing Authority [14245]	NSW
Commonwealth Land - Defence Housing Authority [14240]	NSW
Commonwealth Land - Defence Housing Authority [13805]	NSW
Commonwealth Land - Defence Housing Authority [14247]	NSW
Commonwealth Land - Defence Housing Authority [15165]	NSW
Commonwealth Land - Defence Housing Authority [12770]	NSW
Commonwealth Land - Defence Housing Authority [16540]	NSW
Commonwealth Land - Defence Housing Authority [12778]	NSW
Commonwealth Land - Defence Housing Authority [13373]	NSW
Commonwealth Land - Defence Housing Authority [16546]	NSW
Commonwealth Land - Defence Housing Authority [13372]	NSW
Commonwealth Land - Defence Housing Authority [13371]	NSW
Commonwealth Land - Defence Housing Authority [13435]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12150]	NSW
Commonwealth Land - Defence Housing Authority [13430]	NSW
Commonwealth Land - Defence Housing Authority [16352]	NSW
Commonwealth Land - Defence Housing Authority [13431]	NSW
Commonwealth Land - Defence Housing Authority [13436]	NSW
Commonwealth Land - Defence Housing Authority [13434]	NSW
Commonwealth Land - Defence Housing Authority [12773]	NSW
Commonwealth Land - Defence Housing Authority [13808]	NSW
Commonwealth Land - Defence Housing Authority [15680]	NSW
Commonwealth Land - Defence Housing Authority [12775]	NSW
Commonwealth Land - Defence Housing Authority [15608]	NSW
Commonwealth Land - Defence Housing Authority [12772]	NSW
Commonwealth Land - Defence Housing Authority [12777]	NSW
Commonwealth Land - Defence Housing Authority [12774]	NSW
Commonwealth Land - Defence Housing Authority [13473]	NSW
Commonwealth Land - Defence Housing Authority [14419]	NSW
Commonwealth Land - Defence Housing Authority [16365]	NSW
Commonwealth Land - Defence Housing Authority [15162]	NSW
Commonwealth Land - Defence Housing Authority [16362]	NSW
Commonwealth Land - Defence Housing Authority [13699]	NSW
Commonwealth Land - Defence Housing Authority [13698]	NSW
Commonwealth Land - Defence Housing Authority [15977]	NSW
Commonwealth Land - Defence Housing Authority [15319]	NSW
Commonwealth Land - Defence Housing Authority [13573]	NSW
Commonwealth Land - Defence Housing Authority [13929]	NSW
Commonwealth Land - Defence Housing Authority [13433]	NSW
Commonwealth Land - Defence Housing Authority [13438]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13439]	NSW
Commonwealth Land - Defence Housing Authority [13575]	NSW
Commonwealth Land - Defence Housing Authority [13920]	NSW
Commonwealth Land - Defence Housing Authority [13813]	NSW
Commonwealth Land - Defence Housing Authority [16048]	NSW
Commonwealth Land - Defence Housing Authority [12879]	NSW
Commonwealth Land - Defence Housing Authority [13812]	NSW
Commonwealth Land - Defence Housing Authority [16437]	NSW
Commonwealth Land - Defence Housing Authority [16438]	NSW
Commonwealth Land - Defence Housing Authority [16046]	NSW
Commonwealth Land - Defence Housing Authority [16047]	NSW
Commonwealth Land - Defence Housing Authority [14455]	NSW
Commonwealth Land - Defence Housing Authority [15317]	NSW
Commonwealth Land - Defence Housing Authority [13693]	NSW
Commonwealth Land - Defence Housing Authority [13695]	NSW
Commonwealth Land - Defence Housing Authority [13694]	NSW
Commonwealth Land - Defence Housing Authority [13697]	NSW
Commonwealth Land - Defence Housing Authority [15168]	NSW
Commonwealth Land - Defence Housing Authority [14190]	NSW
Commonwealth Land - Defence Housing Authority [14191]	NSW
Commonwealth Land - Defence Housing Authority [14195]	NSW
Commonwealth Land - Defence Housing Authority [14194]	NSW
Commonwealth Land - Defence Housing Authority [14193]	NSW
Commonwealth Land - Defence Housing Authority [14197]	NSW
Commonwealth Land - Defence Housing Authority [12841]	NSW
Commonwealth Land - Defence Housing Authority [12842]	NSW
Commonwealth Land - Defence Housing Authority [12845]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12844]	NSW
Commonwealth Land - Defence Housing Authority [13928]	NSW
Commonwealth Land - Defence Housing Authority [13534]	NSW
Commonwealth Land - Defence Housing Authority [13432]	NSW
Commonwealth Land - Defence Housing Authority [14320]	NSW
Commonwealth Land - Defence Housing Authority [14321]	NSW
Commonwealth Land - Defence Housing Authority [12907]	NSW
Commonwealth Land - Defence Housing Authority [12909]	NSW
Commonwealth Land - Defence Housing Authority [12908]	NSW
Commonwealth Land - Defence Housing Authority [12905]	NSW
Commonwealth Land - Defence Housing Authority [12904]	NSW
Commonwealth Land - Defence Housing Authority [12903]	NSW
Commonwealth Land - Defence Housing Authority [12900]	NSW
Commonwealth Land - Defence Housing Authority [12902]	NSW
Commonwealth Land - Defence Housing Authority [12901]	NSW
Commonwealth Land - Defence Housing Authority [12906]	NSW
Commonwealth Land - Defence Housing Authority [14242]	NSW
Commonwealth Land - Defence Housing Authority [13450]	NSW
Commonwealth Land - Defence Housing Authority [15584]	NSW
Commonwealth Land - Defence Housing Authority [12849]	NSW
Commonwealth Land - Defence Housing Authority [14641]	NSW
Commonwealth Land - Defence Housing Authority [14640]	NSW
Commonwealth Land - Defence Housing Authority [14642]	NSW
Commonwealth Land - Defence Housing Authority [13437]	NSW
Commonwealth Land - Defence Housing Authority [15038]	NSW
Commonwealth Land - Defence Housing Authority [16543]	NSW
Commonwealth Land - Defence Housing Authority [13735]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15921]	NSW
Commonwealth Land - Defence Housing Authority [13927]	NSW
Commonwealth Land - Defence Housing Authority [15922]	NSW
Commonwealth Land - Defence Housing Authority [16013]	NSW
Commonwealth Land - Defence Housing Authority [16012]	NSW
Commonwealth Land - Defence Housing Authority [12208]	NSW
Commonwealth Land - Defence Housing Authority [14217]	NSW
Commonwealth Land - Defence Housing Authority [14216]	NSW
Commonwealth Land - Defence Housing Authority [14211]	NSW
Commonwealth Land - Defence Housing Authority [14210]	NSW
Commonwealth Land - Defence Housing Authority [12829]	NSW
Commonwealth Land - Defence Housing Authority [15886]	NSW
Commonwealth Land - Defence Housing Authority [16489]	NSW
Commonwealth Land - Defence Housing Authority [14215]	NSW
Commonwealth Land - Defence Housing Authority [14214]	NSW
Commonwealth Land - Defence Housing Authority [12823]	NSW
Commonwealth Land - Defence Housing Authority [14186]	NSW
Commonwealth Land - Defence Housing Authority [16143]	NSW
Commonwealth Land - Defence Housing Authority [16142]	NSW
Commonwealth Land - Defence Housing Authority [15555]	NSW
Commonwealth Land - Defence Housing Authority [12727]	NSW
Commonwealth Land - Defence Housing Authority [12726]	NSW
Commonwealth Land - Defence Housing Authority [16145]	NSW
Commonwealth Land - Defence Housing Authority [12728]	NSW
Commonwealth Land - Defence Housing Authority [12725]	NSW
Commonwealth Land - Defence Housing Authority [12724]	NSW
Commonwealth Land - Defence Housing Authority [14467]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16146]	NSW
Commonwealth Land - Defence Housing Authority [12720]	NSW
Commonwealth Land - Defence Housing Authority [12722]	NSW
Commonwealth Land - Defence Housing Authority [13857]	NSW
Commonwealth Land - Defence Housing Authority [13855]	NSW
Commonwealth Land - Defence Housing Authority [14468]	NSW
Commonwealth Land - Defence Housing Authority [14243]	NSW
Commonwealth Land - Defence Housing Authority [14248]	NSW
Commonwealth Land - Defence Housing Authority [14249]	NSW
Commonwealth Land - Defence Housing Authority [15683]	NSW
Commonwealth Land - Defence Housing Authority [13200]	NSW
Commonwealth Land - Defence Housing Authority [14469]	NSW
Commonwealth Land - Defence Housing Authority [15573]	NSW
Commonwealth Land - Defence Housing Authority [14461]	NSW
Commonwealth Land - Defence Housing Authority [14464]	NSW
Commonwealth Land - Defence Housing Authority [13203]	NSW
Commonwealth Land - Defence Housing Authority [15565]	NSW
Commonwealth Land - Defence Housing Authority [15869]	NSW
Commonwealth Land - Defence Housing Authority [15868]	NSW
Commonwealth Land - Defence Housing Authority [13201]	NSW
Commonwealth Land - Defence Housing Authority [11775]	NSW
Commonwealth Land - Defence Housing Authority [13854]	NSW
Commonwealth Land - Defence Housing Authority [15562]	NSW
Commonwealth Land - Defence Housing Authority [15867]	NSW
Commonwealth Land - Defence Housing Authority [15866]	NSW
Commonwealth Land - Defence Housing Authority [13522]	NSW
Commonwealth Land - Defence Housing Authority [15865]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15173]	NSW
Commonwealth Land - Defence Housing Authority [13850]	NSW
Commonwealth Land - Defence Housing Authority [15172]	NSW
Commonwealth Land - Defence Housing Authority [13524]	NSW
Commonwealth Land - Defence Housing Authority [13523]	NSW
Commonwealth Land - Defence Housing Authority [13526]	NSW
Commonwealth Land - Defence Housing Authority [13525]	NSW
Commonwealth Land - Defence Housing Authority [13554]	NSW
Commonwealth Land - Defence Housing Authority [13557]	NSW
Commonwealth Land - Defence Housing Authority [13556]	NSW
Commonwealth Land - Defence Housing Authority [13816]	NSW
Commonwealth Land - Defence Housing Authority [16267]	NSW
Commonwealth Land - Defence Housing Authority [13635]	NSW
Commonwealth Land - Defence Housing Authority [15770]	NSW
Commonwealth Land - Defence Housing Authority [16268]	NSW
Commonwealth Land - Defence Housing Authority [15775]	NSW
Commonwealth Land - Defence Housing Authority [15774]	NSW
Commonwealth Land - Defence Housing Authority [15773]	NSW
Commonwealth Land - Defence Housing Authority [15772]	NSW
Commonwealth Land - Defence Housing Authority [13559]	NSW
Commonwealth Land - Defence Housing Authority [13558]	NSW
Commonwealth Land - Defence Housing Authority [13551]	NSW
Commonwealth Land - Defence Housing Authority [13960]	NSW
Commonwealth Land - Defence Housing Authority [15779]	NSW
Commonwealth Land - Defence Housing Authority [13783]	NSW
Commonwealth Land - Defence Housing Authority [13555]	NSW
Commonwealth Land - Defence Housing Authority [15776]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13552]	NSW
Commonwealth Land - Defence Housing Authority [13553]	NSW
Commonwealth Land - Defence Housing Authority [15778]	NSW
Commonwealth Land - Defence Housing Authority [13550]	NSW
Commonwealth Land - Defence Housing Authority [15777]	NSW
Commonwealth Land - Defence Housing Authority [13634]	NSW
Commonwealth Land - Defence Housing Authority [13443]	NSW
Commonwealth Land - Defence Housing Authority [16269]	NSW
Commonwealth Land - Defence Housing Authority [13827]	NSW
Commonwealth Land - Defence Housing Authority [16504]	NSW
Commonwealth Land - Defence Housing Authority [16468]	NSW
Commonwealth Land - Defence Housing Authority [16465]	NSW
Commonwealth Land - Defence Housing Authority [16464]	NSW
Commonwealth Land - Defence Housing Authority [13186]	NSW
Commonwealth Land - Defence Housing Authority [16463]	NSW
Commonwealth Land - Defence Housing Authority [15896]	NSW
Commonwealth Land - Defence Housing Authority [13725]	NSW
Commonwealth Land - Defence Housing Authority [15575]	NSW
Commonwealth Land - Defence Housing Authority [15895]	NSW
Commonwealth Land - Defence Housing Authority [13484]	NSW
Commonwealth Land - Defence Housing Authority [13729]	NSW
Commonwealth Land - Defence Housing Authority [14380]	NSW
Commonwealth Land - Defence Housing Authority [13726]	NSW
Commonwealth Land - Defence Housing Authority [12883]	NSW
Commonwealth Land - Defence Housing Authority [13724]	NSW
Commonwealth Land - Defence Housing Authority [13632]	NSW
Commonwealth Land - Defence Housing Authority [13727]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12179]	NSW
Commonwealth Land - Defence Housing Authority [13487]	NSW
Commonwealth Land - Defence Housing Authority [14187]	NSW
Commonwealth Land - Defence Housing Authority [12881]	NSW
Commonwealth Land - Defence Housing Authority [12882]	NSW
Commonwealth Land - Defence Housing Authority [13721]	NSW
Commonwealth Land - Defence Housing Authority [13601]	NSW
Commonwealth Land - Defence Housing Authority [14180]	NSW
Commonwealth Land - Defence Housing Authority [13603]	NSW
Commonwealth Land - Defence Housing Authority [14362]	NSW
Commonwealth Land - Defence Housing Authority [14181]	NSW
Commonwealth Land - Defence Housing Authority [12854]	NSW
Commonwealth Land - Defence Housing Authority [14161]	NSW
Commonwealth Land - Defence Housing Authority [13053]	NSW
Commonwealth Land - Defence Housing Authority [13051]	NSW
Commonwealth Land - Defence Housing Authority [14183]	NSW
Commonwealth Land - Defence Housing Authority [13387]	NSW
Commonwealth Land - Defence Housing Authority [13602]	NSW
Commonwealth Land - Defence Housing Authority [13607]	NSW
Commonwealth Land - Defence Housing Authority [13606]	NSW
Commonwealth Land - Defence Housing Authority [13609]	NSW
Commonwealth Land - Defence Housing Authority [13957]	NSW
Commonwealth Land - Defence Housing Authority [13608]	NSW
Commonwealth Land - Defence Housing Authority [15469]	NSW
Commonwealth Land - Defence Housing Authority [14539]	NSW
Commonwealth Land - Defence Housing Authority [12755]	NSW
Commonwealth Land - Defence Housing Authority [14171]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14167]	NSW
Commonwealth Land - Defence Housing Authority [15944]	NSW
Commonwealth Land - Defence Housing Authority [15964]	NSW
Commonwealth Land - Defence Housing Authority [15969]	NSW
Commonwealth Land - Defence Housing Authority [14152]	NSW
Commonwealth Land - Defence Housing Authority [13617]	NSW
Commonwealth Land - Defence Housing Authority [13757]	NSW
Commonwealth Land - Defence Housing Authority [14153]	NSW
Commonwealth Land - Defence Housing Authority [13614]	NSW
Commonwealth Land - Defence Housing Authority [13008]	NSW
Commonwealth Land - Defence Housing Authority [13615]	NSW
Commonwealth Land - Defence Housing Authority [14318]	NSW
Commonwealth Land - Defence Housing Authority [14264]	NSW
Commonwealth Land - Defence Housing Authority [13044]	NSW
Commonwealth Land - Defence Housing Authority [15945]	NSW
Commonwealth Land - Defence Housing Authority [13045]	NSW
Commonwealth Land - Defence Housing Authority [13046]	NSW
Commonwealth Land - Defence Housing Authority [14150]	NSW
Commonwealth Land - Defence Housing Authority [14156]	NSW
Commonwealth Land - Defence Housing Authority [13618]	NSW
Commonwealth Land - Defence Housing Authority [14241]	NSW
Commonwealth Land - Defence Housing Authority [14151]	NSW
Commonwealth Land - Defence Housing Authority [14159]	NSW
Commonwealth Land - Defence Housing Authority [14158]	NSW
Commonwealth Land - Defence Housing Authority [14155]	NSW
Commonwealth Land - Defence Housing Authority [14154]	NSW
Commonwealth Land - Defence Housing Authority [14292]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13733]	NSW
Commonwealth Land - Defence Housing Authority [13730]	NSW
Commonwealth Land - Defence Housing Authority [13731]	NSW
Commonwealth Land - Defence Housing Authority [13736]	NSW
Commonwealth Land - Defence Housing Authority [13734]	NSW
Commonwealth Land - Defence Housing Authority [14456]	NSW
Commonwealth Land - Defence Housing Authority [13488]	NSW
Commonwealth Land - Defence Housing Authority [15860]	NSW
Commonwealth Land - Defence Housing Authority [15861]	NSW
Commonwealth Land - Defence Housing Authority [13489]	NSW
Commonwealth Land - Defence Housing Authority [15862]	NSW
Commonwealth Land - Defence Housing Authority [13527]	NSW
Commonwealth Land - Defence Housing Authority [15863]	NSW
Commonwealth Land - Defence Housing Authority [15864]	NSW
Commonwealth Land - Defence Housing Authority [15568]	NSW
Commonwealth Land - Defence Housing Authority [13385]	NSW
Commonwealth Land - Defence Housing Authority [13732]	NSW
Commonwealth Land - Defence Housing Authority [13738]	NSW
Commonwealth Land - Defence Housing Authority [14178]	NSW
Commonwealth Land - Defence Housing Authority [14179]	NSW
Commonwealth Land - Defence Housing Authority [15782]	NSW
Commonwealth Land - Defence Housing Authority [13752]	NSW
Commonwealth Land - Defence Housing Authority [12172]	NSW
Commonwealth Land - Defence Housing Authority [13528]	NSW
Commonwealth Land - Defence Housing Authority [13807]	NSW
Commonwealth Land - Defence Housing Authority [14021]	NSW
Commonwealth Land - Defence Housing Authority [12886]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12887]	NSW
Commonwealth Land - Defence Housing Authority [15581]	NSW
Commonwealth Land - Defence Housing Authority [12884]	NSW
Commonwealth Land - Defence Housing Authority [12885]	NSW
Commonwealth Land - Defence Housing Authority [13611]	NSW
Commonwealth Land - Defence Housing Authority [13610]	NSW
Commonwealth Land - Defence Housing Authority [13613]	NSW
Commonwealth Land - Defence Housing Authority [13612]	NSW
Commonwealth Land - Defence Housing Authority [14260]	NSW
Commonwealth Land - Defence Housing Authority [13089]	NSW
Commonwealth Land - Defence Housing Authority [15583]	NSW
Commonwealth Land - Defence Housing Authority [15582]	NSW
Commonwealth Land - Defence Housing Authority [15585]	NSW
Commonwealth Land - Defence Housing Authority [13084]	NSW
Commonwealth Land - Defence Housing Authority [13631]	NSW
Commonwealth Land - Defence Housing Authority [15175]	NSW
Commonwealth Land - Defence Housing Authority [15166]	NSW
Commonwealth Land - Defence Housing Authority [13202]	NSW
Commonwealth Land - Defence Housing Authority [15855]	NSW
Commonwealth Land - Defence Housing Authority [15174]	NSW
Commonwealth Land - Defence Housing Authority [15854]	NSW
Commonwealth Land - Defence Housing Authority [15171]	NSW
Commonwealth Land - Defence Housing Authority [15857]	NSW
Commonwealth Land - Defence Housing Authority [15170]	NSW
Commonwealth Land - Defence Housing Authority [15856]	NSW
Commonwealth Land - Defence Housing Authority [16144]	NSW
Commonwealth Land - Defence Housing Authority [16147]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15852]	NSW
Commonwealth Land - Defence Housing Authority [16141]	NSW
Commonwealth Land - Defence Housing Authority [15853]	NSW
Commonwealth Land - Defence Housing Authority [15851]	NSW
Commonwealth Land - Defence Housing Authority [16140]	NSW
Commonwealth Land - Defence Housing Authority [15859]	NSW
Commonwealth Land - Defence Housing Authority [13749]	NSW
Commonwealth Land - Defence Housing Authority [13646]	NSW
Commonwealth Land - Defence Housing Authority [13647]	NSW
Commonwealth Land - Defence Housing Authority [13640]	NSW
Commonwealth Land - Defence Housing Authority [13641]	NSW
Commonwealth Land - Defence Housing Authority [13645]	NSW
Commonwealth Land - Defence Housing Authority [13643]	NSW
Commonwealth Land - Defence Housing Authority [13642]	NSW
Commonwealth Land - Defence Housing Authority [13648]	NSW
Commonwealth Land - Defence Housing Authority [13649]	NSW
Commonwealth Land - Defence Housing Authority [12137]	NSW
Commonwealth Land - Defence Housing Authority [15325]	NSW
Commonwealth Land - Defence Housing Authority [13460]	NSW
Commonwealth Land - Defence Housing Authority [13521]	NSW
Commonwealth Land - Defence Housing Authority [13520]	NSW
Commonwealth Land - Defence Housing Authority [13636]	NSW
Commonwealth Land - Defence Housing Authority [13637]	NSW
Commonwealth Land - Defence Housing Authority [13630]	NSW
Commonwealth Land - Defence Housing Authority [15875]	NSW
Commonwealth Land - Defence Housing Authority [12187]	NSW
Commonwealth Land - Defence Housing Authority [15878]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15871]	NSW
Commonwealth Land - Defence Housing Authority [15876]	NSW
Commonwealth Land - Defence Housing Authority [15877]	NSW
Commonwealth Land - Defence Housing Authority [15873]	NSW
Commonwealth Land - Defence Housing Authority [13510]	NSW
Commonwealth Land - Defence Housing Authority [15819]	NSW
Commonwealth Land - Defence Housing Authority [13512]	NSW
Commonwealth Land - Defence Housing Authority [13198]	NSW
Commonwealth Land - Defence Housing Authority [13663]	NSW
Commonwealth Land - Defence Housing Authority [12994]	NSW
Commonwealth Land - Defence Housing Authority [13196]	NSW
Commonwealth Land - Defence Housing Authority [13662]	NSW
Commonwealth Land - Defence Housing Authority [13665]	NSW
Commonwealth Land - Defence Housing Authority [13903]	NSW
Commonwealth Land - Defence Housing Authority [13445]	NSW
Commonwealth Land - Defence Housing Authority [13583]	NSW
Commonwealth Land - Defence Housing Authority [13446]	NSW
Commonwealth Land - Defence Housing Authority [13447]	NSW
Commonwealth Land - Defence Housing Authority [13545]	NSW
Commonwealth Land - Defence Housing Authority [16353]	NSW
Commonwealth Land - Defence Housing Authority [16357]	NSW
Commonwealth Land - Defence Housing Authority [15463]	NSW
Commonwealth Land - Defence Housing Authority [14254]	NSW
Commonwealth Land - Defence Housing Authority [14261]	NSW
Commonwealth Land - Defence Housing Authority [16355]	NSW
Commonwealth Land - Defence Housing Authority [16356]	NSW
Commonwealth Land - Defence Housing Authority [16457]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13349]	NSW
Commonwealth Land - Defence Housing Authority [16455]	NSW
Commonwealth Land - Defence Housing Authority [16456]	NSW
Commonwealth Land - Defence Housing Authority [13345]	NSW
Commonwealth Land - Defence Housing Authority [13348]	NSW
Commonwealth Land - Defence Housing Authority [13357]	NSW
Commonwealth Land - Defence Housing Authority [13356]	NSW
Commonwealth Land - Defence Housing Authority [14268]	NSW
Commonwealth Land - Defence Housing Authority [12682]	NSW
Commonwealth Land - Defence Housing Authority [15512]	NSW
Commonwealth Land - Defence Housing Authority [13355]	NSW
Commonwealth Land - Defence Housing Authority [13354]	NSW
Commonwealth Land - Defence Housing Authority [16454]	NSW
Commonwealth Land - Defence Housing Authority [13590]	NSW
Commonwealth Land - Defence Housing Authority [13593]	NSW
Commonwealth Land - Defence Housing Authority [13592]	NSW
Commonwealth Land - Defence Housing Authority [14251]	NSW
Commonwealth Land - Defence Housing Authority [13599]	NSW
Commonwealth Land - Defence Housing Authority [14259]	NSW
Commonwealth Land - Defence Housing Authority [13598]	NSW
Commonwealth Land - Defence Housing Authority [13166]	NSW
Commonwealth Land - Defence Housing Authority [14250]	NSW
Commonwealth Land - Defence Housing Authority [13353]	NSW
Commonwealth Land - Defence Housing Authority [13492]	NSW
Commonwealth Land - Defence Housing Authority [13582]	NSW
Commonwealth Land - Defence Housing Authority [14258]	NSW
Commonwealth Land - Defence Housing Authority [13351]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13167]	NSW
Commonwealth Land - Defence Housing Authority [13591]	NSW
Commonwealth Land - Defence Housing Authority [13597]	NSW
Commonwealth Land - Defence Housing Authority [13177]	NSW
Commonwealth Land - Defence Housing Authority [15039]	NSW
Commonwealth Land - Defence Housing Authority [16341]	NSW
Commonwealth Land - Defence Housing Authority [13171]	NSW
Commonwealth Land - Defence Housing Authority [13170]	NSW
Commonwealth Land - Defence Housing Authority [15578]	NSW
Commonwealth Land - Defence Housing Authority [13595]	NSW
Commonwealth Land - Defence Housing Authority [13594]	NSW
Commonwealth Land - Defence Housing Authority [13589]	NSW
Commonwealth Land - Defence Housing Authority [13588]	NSW
Commonwealth Land - Defence Housing Authority [13587]	NSW
Commonwealth Land - Defence Housing Authority [13584]	NSW
Commonwealth Land - Defence Housing Authority [13178]	NSW
Commonwealth Land - Defence Housing Authority [13581]	NSW
Commonwealth Land - Defence Housing Authority [13179]	NSW
Commonwealth Land - Defence Housing Authority [13586]	NSW
Commonwealth Land - Defence Housing Authority [13585]	NSW
Commonwealth Land - Defence Housing Authority [15455]	NSW
Commonwealth Land - Defence Housing Authority [15143]	NSW
Commonwealth Land - Defence Housing Authority [15902]	NSW
Commonwealth Land - Defence Housing Authority [14296]	NSW
Commonwealth Land - Defence Housing Authority [13753]	NSW
Commonwealth Land - Defence Housing Authority [14290]	NSW
Commonwealth Land - Defence Housing Authority [12061]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13760]	NSW
Commonwealth Land - Defence Housing Authority [13765]	NSW
Commonwealth Land - Defence Housing Authority [13451]	NSW
Commonwealth Land - Defence Housing Authority [15441]	NSW
Commonwealth Land - Defence Housing Authority [13766]	NSW
Commonwealth Land - Defence Housing Authority [13769]	NSW
Commonwealth Land - Defence Housing Authority [13764]	NSW
Commonwealth Land - Defence Housing Authority [13767]	NSW
Commonwealth Land - Defence Housing Authority [15790]	NSW
Commonwealth Land - Defence Housing Authority [13169]	NSW
Commonwealth Land - Defence Housing Authority [14271]	NSW
Commonwealth Land - Defence Housing Authority [16539]	NSW
Commonwealth Land - Defence Housing Authority [15456]	NSW
Commonwealth Land - Defence Housing Authority [13168]	NSW
Commonwealth Land - Defence Housing Authority [15823]	NSW
Commonwealth Land - Defence Housing Authority [13916]	NSW
Commonwealth Land - Defence Housing Authority [13914]	NSW
Commonwealth Land - Defence Housing Authority [15579]	NSW
Commonwealth Land - Defence Housing Authority [15146]	NSW
Commonwealth Land - Defence Housing Authority [16537]	NSW
Commonwealth Land - Defence Housing Authority [12828]	NSW
Commonwealth Land - Defence Housing Authority [16488]	NSW
Commonwealth Land - Defence Housing Authority [14272]	NSW
Commonwealth Land - Defence Housing Authority [15574]	NSW
Commonwealth Land - Defence Housing Authority [14273]	NSW
Commonwealth Land - Defence Housing Authority [14270]	NSW
Commonwealth Land - Defence Housing Authority [15789]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16185]	NSW
Commonwealth Land - Defence Housing Authority [13012]	NSW
Commonwealth Land - Defence Housing Authority [13011]	NSW
Commonwealth Land - Defence Housing Authority [13596]	NSW
Commonwealth Land - Defence Housing Authority [14411]	NSW
Commonwealth Land - Defence Housing Authority [15486]	NSW
Commonwealth Land - Defence Housing Authority [15788]	NSW
Commonwealth Land - Defence Housing Authority [15471]	NSW
Commonwealth Land - Defence Housing Authority [15470]	NSW
Commonwealth Land - Defence Housing Authority [15473]	NSW
Commonwealth Land - Defence Housing Authority [15472]	NSW
Commonwealth Land - Defence Housing Authority [15475]	NSW
Commonwealth Land - Defence Housing Authority [15474]	NSW
Commonwealth Land - Defence Housing Authority [15477]	NSW
Commonwealth Land - Defence Housing Authority [15476]	NSW
Commonwealth Land - Defence Housing Authority [14138]	NSW
Commonwealth Land - Defence Housing Authority [13574]	NSW
Commonwealth Land - Defence Housing Authority [14521]	NSW
Commonwealth Land - Defence Housing Authority [15786]	NSW
Commonwealth Land - Defence Housing Authority [13174]	NSW
Commonwealth Land - Defence Housing Authority [14522]	NSW
Commonwealth Land - Defence Housing Authority [15784]	NSW
Commonwealth Land - Defence Housing Authority [14470]	NSW
Commonwealth Land - Defence Housing Authority [15528]	NSW
Commonwealth Land - Defence Housing Authority [14449]	NSW
Commonwealth Land - Defence Housing Authority [15850]	NSW
Commonwealth Land - Defence Housing Authority [13498]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14139]	NSW
Commonwealth Land - Defence Housing Authority [14131]	NSW
Commonwealth Land - Defence Housing Authority [14133]	NSW
Commonwealth Land - Defence Housing Authority [14132]	NSW
Commonwealth Land - Defence Housing Authority [14134]	NSW
Commonwealth Land - Defence Housing Authority [14137]	NSW
Commonwealth Land - Defence Housing Authority [14136]	NSW
Commonwealth Land - Defence Housing Authority [12863]	NSW
Commonwealth Land - Defence Housing Authority [13795]	NSW
Commonwealth Land - Defence Housing Authority [15753]	NSW
Commonwealth Land - Defence Housing Authority [12684]	NSW
Commonwealth Land - Defence Housing Authority [15479]	NSW
Commonwealth Land - Defence Housing Authority [15478]	NSW
Commonwealth Land - Defence Housing Authority [13212]	NSW
Commonwealth Land - Defence Housing Authority [13811]	NSW
Commonwealth Land - Defence Housing Authority [16086]	NSW
Commonwealth Land - Defence Housing Authority [16087]	NSW
Commonwealth Land - Defence Housing Authority [13791]	NSW
Commonwealth Land - Defence Housing Authority [12805]	NSW
Commonwealth Land - Defence Housing Authority [12806]	NSW
Commonwealth Land - Defence Housing Authority [12800]	NSW
Commonwealth Land - Defence Housing Authority [12801]	NSW
Commonwealth Land - Defence Housing Authority [15813]	NSW
Commonwealth Land - Defence Housing Authority [13364]	NSW
Commonwealth Land - Defence Housing Authority [12809]	NSW
Commonwealth Land - Defence Housing Authority [13797]	NSW
Commonwealth Land - Defence Housing Authority [13490]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [14130]	NSW
Commonwealth Land - Defence Housing Authority [12803]	NSW
Commonwealth Land - Defence Housing Authority [12808]	NSW
Commonwealth Land - Defence Housing Authority [12802]	NSW
Commonwealth Land - Defence Housing Authority [13404]	NSW
Commonwealth Land - Defence Housing Authority [15691]	NSW
Commonwealth Land - Defence Housing Authority [15693]	NSW
Commonwealth Land - Defence Housing Authority [15665]	NSW
Commonwealth Land - Defence Housing Authority [15668]	NSW
Commonwealth Land - Defence Housing Authority [13029]	NSW
Commonwealth Land - Defence Housing Authority [16088]	NSW
Commonwealth Land - Defence Housing Authority [15667]	NSW
Commonwealth Land - Defence Housing Authority [15664]	NSW
Commonwealth Land - Defence Housing Authority [13810]	NSW
Commonwealth Land - Defence Housing Authority [16083]	NSW
Commonwealth Land - Defence Housing Authority [16002]	NSW
Commonwealth Land - Defence Housing Authority [13722]	NSW
Commonwealth Land - Defence Housing Authority [13817]	NSW
Commonwealth Land - Defence Housing Authority [13578]	NSW
Commonwealth Land - Defence Housing Authority [15666]	NSW
Commonwealth Land - Defence Housing Authority [14182]	NSW
Commonwealth Land - Defence Housing Authority [14185]	NSW
Commonwealth Land - Defence Housing Authority [13762]	NSW
Commonwealth Land - Defence Housing Authority [14184]	NSW
Commonwealth Land - Defence Housing Authority [14219]	NSW
Commonwealth Land - Defence Housing Authority [13761]	NSW
Commonwealth Land - Defence Housing Authority [16138]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [16139]	NSW
Commonwealth Land - Defence Housing Authority [13676]	NSW
Commonwealth Land - Defence Housing Authority [16487]	NSW
Commonwealth Land - Defence Housing Authority [12719]	NSW
Commonwealth Land - Defence Housing Authority [16136]	NSW
Commonwealth Land - Defence Housing Authority [14188]	NSW
Commonwealth Land - Defence Housing Authority [14189]	NSW
Commonwealth Land - Defence Housing Authority [16133]	NSW
Commonwealth Land - Defence Housing Authority [16134]	NSW
Commonwealth Land - Defence Housing Authority [16135]	NSW
Commonwealth Land - Defence Housing Authority [12869]	NSW
Commonwealth Land - Defence Housing Authority [12714]	NSW
Commonwealth Land - Defence Housing Authority [15858]	NSW
Commonwealth Land - Defence Housing Authority [13737]	NSW
Commonwealth Land - Defence Housing Authority [12715]	NSW
Commonwealth Land - Defence Housing Authority [16093]	NSW
Commonwealth Land - Defence Housing Authority [14450]	NSW
Commonwealth Land - Defence Housing Authority [14135]	NSW
Commonwealth Land - Defence Housing Authority [13516]	NSW
Commonwealth Land - Defence Housing Authority [13517]	NSW
Commonwealth Land - Defence Housing Authority [13513]	NSW
Commonwealth Land - Defence Housing Authority [13519]	NSW
Commonwealth Land - Defence Housing Authority [13514]	NSW
Commonwealth Land - Defence Housing Authority [13518]	NSW
Commonwealth Land - Defence Housing Authority [14125]	NSW
Commonwealth Land - Defence Housing Authority [13867]	NSW
Commonwealth Land - Defence Housing Authority [15831]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15567]	NSW
Commonwealth Land - Defence Housing Authority [12717]	NSW
Commonwealth Land - Defence Housing Authority [12716]	NSW
Commonwealth Land - Defence Housing Authority [12712]	NSW
Commonwealth Land - Defence Housing Authority [12713]	NSW
Commonwealth Land - Defence Housing Authority [12710]	NSW
Commonwealth Land - Defence Housing Authority [12711]	NSW
Commonwealth Land - Defence Housing Authority [13176]	NSW
Commonwealth Land - Defence Housing Authority [12866]	NSW
Commonwealth Land - Defence Housing Authority [13175]	NSW
Commonwealth Land - Defence Housing Authority [15160]	NSW
Commonwealth Land - Defence Housing Authority [15161]	NSW
Commonwealth Land - Defence Housing Authority [15164]	NSW
Commonwealth Land - Defence Housing Authority [14109]	NSW
Commonwealth Land - Defence Housing Authority [15870]	NSW
Commonwealth Land - Defence Housing Authority [16085]	NSW
Commonwealth Land - Defence Housing Authority [13037]	NSW
Commonwealth Land - Defence Housing Authority [14108]	NSW
Commonwealth Land - Defence Housing Authority [15163]	NSW
Commonwealth Land - Defence Housing Authority [13686]	NSW
Commonwealth Land - Defence Housing Authority [15766]	NSW
Commonwealth Land - Defence Housing Authority [15767]	NSW
Commonwealth Land - Defence Housing Authority [15764]	NSW
Commonwealth Land - Defence Housing Authority [15765]	NSW
Commonwealth Land - Defence Housing Authority [15752]	NSW
Commonwealth Land - Defence Housing Authority [16082]	NSW
Commonwealth Land - Defence Housing Authority [15762]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15763]	NSW
Commonwealth Land - Defence Housing Authority [15769]	NSW
Commonwealth Land - Defence Housing Authority [13491]	NSW
Commonwealth Land - Defence Housing Authority [15768]	NSW
Commonwealth Land - Defence Housing Authority [13896]	NSW
Commonwealth Land - Defence Housing Authority [12862]	NSW
Commonwealth Land - Defence Housing Authority [14165]	NSW
Commonwealth Land - Defence Housing Authority [13741]	NSW
Commonwealth Land - Defence Housing Authority [14164]	NSW
Commonwealth Land - Defence Housing Authority [15423]	NSW
Commonwealth Land - Defence Housing Authority [14160]	NSW
Commonwealth Land - Defence Housing Authority [13405]	NSW
Commonwealth Land - Defence Housing Authority [14163]	NSW
Commonwealth Land - Defence Housing Authority [16272]	NSW
Commonwealth Land - Defence Housing Authority [14162]	NSW
Commonwealth Land - Defence Housing Authority [14169]	NSW
Commonwealth Land - Defence Housing Authority [14168]	NSW
Commonwealth Land - Defence Housing Authority [15424]	NSW
Commonwealth Land - Defence Housing Authority [13440]	NSW
Commonwealth Land - Defence Housing Authority [12077]	NSW
Commonwealth Land - Defence Housing Authority [13289]	NSW
Commonwealth Land - Defence Housing Authority [13172]	NSW
Commonwealth Land - Defence Housing Authority [15643]	NSW
Commonwealth Land - Defence Housing Authority [13444]	NSW
Commonwealth Land - Defence Housing Authority [13759]	NSW
Commonwealth Land - Defence Housing Authority [13441]	NSW
Commonwealth Land - Defence Housing Authority [15520]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13399]	NSW
Commonwealth Land - Defence Housing Authority [16545]	NSW
Commonwealth Land - Defence Housing Authority [13286]	NSW
Commonwealth Land - Defence Housing Authority [15517]	NSW
Commonwealth Land - Defence Housing Authority [15513]	NSW
Commonwealth Land - Defence Housing Authority [16480]	NSW
Commonwealth Land - Defence Housing Authority [15514]	NSW
Commonwealth Land - Defence Housing Authority [15515]	NSW
Commonwealth Land - Defence Housing Authority [12138]	NSW
Commonwealth Land - Defence Housing Authority [13659]	NSW
Commonwealth Land - Defence Housing Authority [13666]	NSW
Commonwealth Land - Defence Housing Authority [12139]	NSW
Commonwealth Land - Defence Housing Authority [16275]	NSW
Commonwealth Land - Defence Housing Authority [14166]	NSW
Commonwealth Land - Defence Housing Authority [13652]	NSW
Commonwealth Land - Defence Housing Authority [16122]	NSW
Commonwealth Land - Defence Housing Authority [12136]	NSW
Commonwealth Land - Defence Housing Authority [13621]	NSW
Commonwealth Land - Defence Housing Authority [15518]	NSW
Commonwealth Land - Defence Housing Authority [13532]	NSW
Commonwealth Land - Defence Housing Authority [13533]	NSW
Commonwealth Land - Defence Housing Authority [13539]	NSW
Commonwealth Land - Defence Housing Authority [16163]	NSW
Commonwealth Land - Defence Housing Authority [14616]	NSW
Commonwealth Land - Defence Housing Authority [13535]	NSW
Commonwealth Land - Defence Housing Authority [13536]	NSW
Commonwealth Land - Defence Housing Authority [13530]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [13531]	NSW
Commonwealth Land - Defence Housing Authority [13038]	NSW
Commonwealth Land - Defence Housing Authority [13684]	NSW
Commonwealth Land - Defence Housing Authority [13943]	NSW
Commonwealth Land - Defence Housing Authority [13403]	NSW
Commonwealth Land - Defence Housing Authority [13842]	NSW
Commonwealth Land - Defence Housing Authority [13843]	NSW
Commonwealth Land - Defence Housing Authority [15749]	NSW
Commonwealth Land - Defence Housing Authority [13844]	NSW
Commonwealth Land - Defence Housing Authority [13840]	NSW
Commonwealth Land - Defence Housing Authority [13841]	NSW
Commonwealth Land - Defence Housing Authority [13639]	NSW
Commonwealth Land - Defence Housing Authority [15743]	NSW
Commonwealth Land - Defence Housing Authority [14615]	NSW
Commonwealth Land - Defence Housing Authority [16004]	NSW
Commonwealth Land - Defence Housing Authority [16005]	NSW
Commonwealth Land - Defence Housing Authority [16001]	NSW
Commonwealth Land - Defence Housing Authority [16003]	NSW
Commonwealth Land - Defence Housing Authority [13644]	NSW
Commonwealth Land - Defence Housing Authority [16000]	NSW
Commonwealth Land - Defence Housing Authority [15619]	NSW
Commonwealth Land - Defence Housing Authority [15615]	NSW
Commonwealth Land - Defence Housing Authority [13415]	NSW
Commonwealth Land - Defence Housing Authority [13414]	NSW
Commonwealth Land - Defence Housing Authority [13413]	NSW
Commonwealth Land - Defence Housing Authority [13411]	NSW
Commonwealth Land - Defence Housing Authority [13410]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12858]	NSW
Commonwealth Land - Defence Housing Authority [12859]	NSW
Commonwealth Land - Defence Housing Authority [16007]	NSW
Commonwealth Land - Defence Housing Authority [14253]	NSW
Commonwealth Land - Defence Housing Authority [15580]	NSW
Commonwealth Land - Defence Housing Authority [12852]	NSW
Commonwealth Land - Defence Housing Authority [12853]	NSW
Commonwealth Land - Defence Housing Authority [14294]	NSW
Commonwealth Land - Defence Housing Authority [12856]	NSW
Commonwealth Land - Defence Housing Authority [12855]	NSW
Commonwealth Land - Defence Housing Authority [12851]	NSW
Commonwealth Land - Defence Housing Authority [12857]	NSW
Commonwealth Land - Defence Housing Authority [15801]	NSW
Commonwealth Land - Defence Housing Authority [15167]	NSW
Commonwealth Land - Defence Housing Authority [14199]	NSW
Commonwealth Land - Defence Housing Authority [14277]	NSW
Commonwealth Land - Defence Housing Authority [13238]	NSW
Commonwealth Land - Defence Housing Authority [12833]	NSW
Commonwealth Land - Defence Housing Authority [13050]	NSW
Commonwealth Land - Defence Housing Authority [14198]	NSW
Commonwealth Land - Defence Housing Authority [15672]	NSW
Commonwealth Land - Defence Housing Authority [14257]	NSW
Commonwealth Land - Defence Housing Authority [14226]	NSW
Commonwealth Land - Defence Housing Authority [14256]	NSW
Commonwealth Land - Defence Housing Authority [15997]	NSW
Commonwealth Land - Defence Housing Authority [15999]	NSW
Commonwealth Land - Defence Housing Authority [14255]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [15996]	NSW
Commonwealth Land - Defence Housing Authority [15995]	NSW
Commonwealth Land - Defence Housing Authority [15994]	NSW
Commonwealth Land - Defence Housing Authority [15992]	NSW
Commonwealth Land - Defence Housing Authority [15993]	NSW
Commonwealth Land - Defence Housing Authority [15990]	NSW
Commonwealth Land - Defence Housing Authority [15991]	NSW
Commonwealth Land - Defence Housing Authority [15984]	NSW
Commonwealth Land - Defence Housing Authority [15159]	NSW
Commonwealth Land - Defence Housing Authority [15154]	NSW
Commonwealth Land - Defence Housing Authority [15155]	NSW
Commonwealth Land - Defence Housing Authority [15156]	NSW
Commonwealth Land - Defence Housing Authority [15157]	NSW
Commonwealth Land - Defence Housing Authority [15151]	NSW
Commonwealth Land - Defence Housing Authority [15153]	NSW
Commonwealth Land - Defence Housing Authority [15152]	NSW
Commonwealth Land - Defence Housing Authority [15798]	NSW
Commonwealth Land - Defence Housing Authority [12784]	NSW
Commonwealth Land - Defence Housing Authority [15794]	NSW
Commonwealth Land - Defence Housing Authority [15795]	NSW
Commonwealth Land - Defence Housing Authority [15791]	NSW
Commonwealth Land - Defence Housing Authority [15797]	NSW
Commonwealth Land - Defence Housing Authority [12786]	NSW
Commonwealth Land - Defence Housing Authority [12787]	NSW
Commonwealth Land - Defence Housing Authority [12788]	NSW
Commonwealth Land - Defence Housing Authority [12789]	NSW
Commonwealth Land - Defence Housing Authority [12780]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12781]	NSW
Commonwealth Land - Defence Housing Authority [12782]	NSW
Commonwealth Land - Defence Housing Authority [12783]	NSW
Commonwealth Land - Defence Housing Authority [12079]	NSW
Commonwealth Land - Defence Housing Authority [12673]	NSW
Commonwealth Land - Defence Housing Authority [12074]	NSW
Commonwealth Land - Defence Housing Authority [12070]	NSW
Commonwealth Land - Defence Housing Authority [13205]	NSW
Commonwealth Land - Defence Housing Authority [12679]	NSW
Commonwealth Land - Defence Housing Authority [12678]	NSW
Commonwealth Land - Defence Housing Authority [12099]	NSW
Commonwealth Land - Defence Housing Authority [13933]	NSW
Commonwealth Land - Defence Housing Authority [12675]	NSW
Commonwealth Land - Defence Housing Authority [12674]	NSW
Commonwealth Land - Defence Housing Authority [12677]	NSW
Commonwealth Land - Defence Housing Authority [12676]	NSW
Commonwealth Land - Defence Housing Authority [14302]	NSW
Commonwealth Land - Defence Housing Authority [14293]	NSW
Commonwealth Land - Defence Housing Authority [13786]	NSW
Commonwealth Land - Defence Housing Authority [13788]	NSW
Commonwealth Land - Defence Housing Authority [13789]	NSW
Commonwealth Land - Defence Housing Authority [13234]	NSW
Commonwealth Land - Defence Housing Authority [12097]	NSW
Commonwealth Land - Defence Housing Authority [12096]	NSW
Commonwealth Land - Defence Housing Authority [14266]	NSW
Commonwealth Land - Defence Housing Authority [12094]	NSW
Commonwealth Land - Defence Housing Authority [14265]	NSW

Commonwealth Land Name	State
Commonwealth Land - Defence Housing Authority [12091]	NSW
Commonwealth Land - Defence Housing Authority [14262]	NSW
Commonwealth Land - Defence Housing Authority [12090]	NSW
Commonwealth Land - Defence Housing Authority [14263]	NSW
Commonwealth Land - Defence Housing Authority [13419]	NSW
Commonwealth Land - Defence Housing Authority [16300]	NSW
Commonwealth Land - Defence Housing Authority [13417]	NSW
Commonwealth Land - Defence Housing Authority [13418]	NSW
Commonwealth Land - Defence Housing Authority [14291]	NSW
Commonwealth Land - Defence Housing Authority [13781]	NSW
Commonwealth Land - Defence Housing Authority [13782]	NSW
Commonwealth Land - Defence Housing Authority [13199]	NSW
Commonwealth Land - Defence Housing Authority [13232]	NSW
Commonwealth Land - Defence Housing Authority [15598]	NSW
Commonwealth Land - Defence Housing Authority [15590]	NSW
Commonwealth Land - Defence Housing Authority [13784]	NSW
Commonwealth Land - Defence Housing Authority [15597]	NSW
Commonwealth Land - Defence Housing Authority [13785]	NSW
Commonwealth Land - Defence Housing Authority [15549]	NSW
Commonwealth Land - Deputy Director of War Service Homes [14566]	NSW
Commonwealth Land - Director of War Service Homes [14563]	NSW
Commonwealth Land - Director of War Service Homes [12180]	NSW
Commonwealth Land - Director of War Service Homes [12166]	NSW
Commonwealth Land - Director of War Service Homes [14564]	NSW
Commonwealth Land - Director of War Service Homes [12171]	NSW
Commonwealth Land - Director of War Service Homes [14479]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [12169]	NSW
Commonwealth Land - Director of War Service Homes [14575]	NSW
Commonwealth Land - Director of War Service Homes [14233]	NSW
Commonwealth Land - Director of War Service Homes [14232]	NSW
Commonwealth Land - Director of War Service Homes [14565]	NSW
Commonwealth Land - Director of War Service Homes [13048]	NSW
Commonwealth Land - Director of War Service Homes [14497]	NSW
Commonwealth Land - Director of War Service Homes [14493]	NSW
Commonwealth Land - Director of War Service Homes [14492]	NSW
Commonwealth Land - Director of War Service Homes [14568]	NSW
Commonwealth Land - Director of War Service Homes [14554]	NSW
Commonwealth Land - Director of War Service Homes [12089]	NSW
Commonwealth Land - Director of War Service Homes [14514]	NSW
Commonwealth Land - Director of War Service Homes [14595]	NSW
Commonwealth Land - Director of War Service Homes [14578]	NSW
Commonwealth Land - Director of War Service Homes [14593]	NSW
Commonwealth Land - Director of War Service Homes [13060]	NSW
Commonwealth Land - Director of War Service Homes [13061]	NSW
Commonwealth Land - Director of War Service Homes [14557]	NSW
Commonwealth Land - Director of War Service Homes [12083]	NSW
Commonwealth Land - Director of War Service Homes [13079]	NSW
Commonwealth Land - Director of War Service Homes [13074]	NSW
Commonwealth Land - Director of War Service Homes [14576]	NSW
Commonwealth Land - Director of War Service Homes [13230]	NSW
Commonwealth Land - Director of War Service Homes [12030]	NSW
Commonwealth Land - Director of War Service Homes [14513]	NSW
Commonwealth Land - Director of War Service Homes [14567]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [14413]	NSW
Commonwealth Land - Director of War Service Homes [14552]	NSW
Commonwealth Land - Director of War Service Homes [13004]	NSW
Commonwealth Land - Director of War Service Homes [13237]	NSW
Commonwealth Land - Director of War Service Homes [14427]	NSW
Commonwealth Land - Director of War Service Homes [13071]	NSW
Commonwealth Land - Director of War Service Homes [14541]	NSW
Commonwealth Land - Director of War Service Homes [11773]	NSW
Commonwealth Land - Director of War Service Homes [14540]	NSW
Commonwealth Land - Director of War Service Homes [14549]	NSW
Commonwealth Land - Director of War Service Homes [14543]	NSW
Commonwealth Land - Director of War Service Homes [13090]	NSW
Commonwealth Land - Director of War Service Homes [14500]	NSW
Commonwealth Land - Director of War Service Homes [12451]	NSW
Commonwealth Land - Director of War Service Homes [13456]	NSW
Commonwealth Land - Director of War Service Homes [13878]	NSW
Commonwealth Land - Director of War Service Homes [14533]	NSW
Commonwealth Land - Director of War Service Homes [14531]	NSW
Commonwealth Land - Director of War Service Homes [14534]	NSW
Commonwealth Land - Director of War Service Homes [14516]	NSW
Commonwealth Land - Director of War Service Homes [14553]	NSW
Commonwealth Land - Director of War Service Homes [13915]	NSW
Commonwealth Land - Director of War Service Homes [16556]	NSW
Commonwealth Land - Director of War Service Homes [14556]	NSW
Commonwealth Land - Director of War Service Homes [14424]	NSW
Commonwealth Land - Director of War Service Homes [14574]	NSW
Commonwealth Land - Director of War Service Homes [14577]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [14570]	NSW
Commonwealth Land - Director of War Service Homes [14551]	NSW
Commonwealth Land - Director of War Service Homes [11774]	NSW
Commonwealth Land - Director of War Service Homes [11770]	NSW
Commonwealth Land - Director of War Service Homes [14550]	NSW
Commonwealth Land - Director of War Service Homes [14545]	NSW
Commonwealth Land - Director of War Service Homes [14423]	NSW
Commonwealth Land - Director of War Service Homes [12847]	NSW
Commonwealth Land - Director of War Service Homes [12848]	NSW
Commonwealth Land - Director of War Service Homes [12068]	NSW
Commonwealth Land - Director of War Service Homes [14517]	NSW
Commonwealth Land - Director of War Service Homes [14515]	NSW
Commonwealth Land - Director of War Service Homes [12825]	NSW
Commonwealth Land - Director of War Service Homes [12826]	NSW
Commonwealth Land - Director of War Service Homes [12206]	NSW
Commonwealth Land - Director of War Service Homes [12821]	NSW
Commonwealth Land - Director of War Service Homes [14483]	NSW
Commonwealth Land - Director of War Service Homes [14361]	NSW
Commonwealth Land - Director of War Service Homes [14542]	NSW
Commonwealth Land - Director of War Service Homes [13056]	NSW
Commonwealth Land - Director of War Service Homes [14558]	NSW
Commonwealth Land - Director of War Service Homes [13359]	NSW
Commonwealth Land - Director of War Service Homes [13059]	NSW
Commonwealth Land - Director of War Service Homes [14532]	NSW
Commonwealth Land - Director of War Service Homes [12822]	NSW
Commonwealth Land - Director of War Service Homes [14544]	NSW
Commonwealth Land - Director of War Service Homes [12170]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [12100]	NSW
Commonwealth Land - Director of War Service Homes [14367]	NSW
Commonwealth Land - Director of War Service Homes [13058]	NSW
Commonwealth Land - Director of War Service Homes [14358]	NSW
Commonwealth Land - Director of War Service Homes [14548]	NSW
Commonwealth Land - Director of War Service Homes [13088]	NSW
Commonwealth Land - Director of War Service Homes [13087]	NSW
Commonwealth Land - Director of War Service Homes [13086]	NSW
Commonwealth Land - Director of War Service Homes [13080]	NSW
Commonwealth Land - Director of War Service Homes [13081]	NSW
Commonwealth Land - Director of War Service Homes [13082]	NSW
Commonwealth Land - Director of War Service Homes [13083]	NSW
Commonwealth Land - Director of War Service Homes [13085]	NSW
Commonwealth Land - Director of War Service Homes [11828]	NSW
Commonwealth Land - Director of War Service Homes [14480]	NSW
Commonwealth Land - Director of War Service Homes [13884]	NSW
Commonwealth Land - Director of War Service Homes [13886]	NSW
Commonwealth Land - Director of War Service Homes [13881]	NSW
Commonwealth Land - Director of War Service Homes [13880]	NSW
Commonwealth Land - Director of War Service Homes [13889]	NSW
Commonwealth Land - Director of War Service Homes [13888]	NSW
Commonwealth Land - Director of War Service Homes [14518]	NSW
Commonwealth Land - Director of War Service Homes [14519]	NSW
Commonwealth Land - Director of War Service Homes [12032]	NSW
Commonwealth Land - Director of War Service Homes [12028]	NSW
Commonwealth Land - Director of War Service Homes [14502]	NSW
Commonwealth Land - Director of War Service Homes [14560]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [14559]	NSW
Commonwealth Land - Director of War Service Homes [11764]	NSW
Commonwealth Land - Director of War Service Homes [13917]	NSW
Commonwealth Land - Director of War Service Homes [13062]	NSW
Commonwealth Land - Director of War Service Homes [13063]	NSW
Commonwealth Land - Director of War Service Homes [14520]	NSW
Commonwealth Land - Director of War Service Homes [14523]	NSW
Commonwealth Land - Director of War Service Homes [14525]	NSW
Commonwealth Land - Director of War Service Homes [14524]	NSW
Commonwealth Land - Director of War Service Homes [14526]	NSW
Commonwealth Land - Director of War Service Homes [14528]	NSW
Commonwealth Land - Director of War Service Homes [14623]	NSW
Commonwealth Land - Director of War Service Homes [14583]	NSW
Commonwealth Land - Director of War Service Homes [14582]	NSW
Commonwealth Land - Director of War Service Homes [14501]	NSW
Commonwealth Land - Director of War Service Homes [14586]	NSW
Commonwealth Land - Director of War Service Homes [12807]	NSW
Commonwealth Land - Director of War Service Homes [14622]	NSW
Commonwealth Land - Director of War Service Homes [14587]	NSW
Commonwealth Land - Director of War Service Homes [14585]	NSW
Commonwealth Land - Director of War Service Homes [14588]	NSW
Commonwealth Land - Director of War Service Homes [14589]	NSW
Commonwealth Land - Director of War Service Homes [13887]	NSW
Commonwealth Land - Director of War Service Homes [13865]	NSW
Commonwealth Land - Director of War Service Homes [12027]	NSW
Commonwealth Land - Director of War Service Homes [13862]	NSW
Commonwealth Land - Director of War Service Homes [13863]	NSW

Commonwealth Land Name	State
Commonwealth Land - Director of War Service Homes [13861]	NSW
Commonwealth Land - Director of War Service Homes [14474]	NSW
Commonwealth Land - Director of War Service Homes [14498]	NSW
Commonwealth Land - Director of War Service Homes [14581]	NSW
Commonwealth Land - Director of War Service Homes [14584]	NSW
Commonwealth Land - Director of War Service Homes [14507]	NSW
Commonwealth Land - Director of War Service Homes [14506]	NSW
Commonwealth Land - Director of War Service Homes [14547]	NSW
Commonwealth Land - Director of War Service Homes [14508]	NSW
Commonwealth Land - Director of War Service Homes [14478]	NSW
Commonwealth Land - Director of War Service Homes [16563]	NSW
Commonwealth Land - Director of War Service Homes [14580]	NSW
Commonwealth Land - Director of War Service Homes [13868]	NSW
Commonwealth Land - Director of War Service Homes [14499]	NSW
Commonwealth Land - Director of War Service Homes [13077]	NSW
Commonwealth Land - Director of War Service Homes [13076]	NSW
Commonwealth Land - Director of War Service Homes [13075]	NSW
Commonwealth Land - Director of War Service Homes [13072]	NSW
Commonwealth Land - Director of War Service Homes [13073]	NSW
Commonwealth Land - Director of War Service Homes [12092]	NSW
Commonwealth Land - War Service Homes Commissioner [13015]	NSW
Education, Science and Training - Australian Nuclear Science and Technology Organisation	
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15506]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15917]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15916]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12126]	NSW

Commonwealth Land Name	State
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12127]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12146]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12147]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12143]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12144]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12145]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12129]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12128]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15938]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15939]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12131]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12130]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12133]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12132]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12135]	NSW
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12134]	NSW
Education, Science and Training - CSIRO	
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14609]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14606]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14605]	NSW

Commonwealth Land Name	State
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14607]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14608]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [15954]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16152]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [13069]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16536]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16535]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16155]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16154]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16156]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [16153]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14611]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14612]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14613]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14614]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [13070]	NSW
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [14610]	NSW
Transport and Regional Services - Airservices Australia	
Commonwealth Land - Airservices Australia [14230]	NSW
Commonwealth Land - Airservices Australia [11743]	NSW
Commonwealth Land - Airservices Australia [12420]	NSW

Commonwealth Land Name	State
Commonwealth Land - Airservices Australia [12057]	NSW
Commonwealth Land - Airservices Australia [12916]	NSW
Commonwealth Land - Airservices Australia [12850]	NSW
Commonwealth Land - Airservices Australia [14465]	NSW
Commonwealth Land - Airservices Australia [13098]	NSW
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Commonwealth Heritage Places			[Resource Information]
Name	State	Status	
Historic			
Admiralty House and Lodge	NSW	Listed place	

Name	State	Status
Admiralty House Garden and Fortifications	NSW	Listed place
Army Cottage with return verandah	NSW	Listed place
Bankstown Airport Air Traffic Control Tower	NSW	Listed place
Barracks Block	NSW	Listed place
Barracks Group HMAS Watson	NSW	Listed place
Batteries A83 and C9A	NSW	Listed place
Battery B42	NSW	Listed place
Battery for Five Guns	NSW	Listed place
Biloela Group	NSW	Listed place
Bondi Beach Post Office	NSW	Listed place
Botany Post Office	NSW	Listed place
Buildings 31 and 32	NSW	Listed place
Buildings MQVB16 and VB56	NSW	Listed place
Buildings VB13, 15, 16 & 17	NSW	Listed place
Buildings VB41, 45 & 53	NSW	Listed place
Buildings VB60 and VB62	NSW	Listed place
Buildings VB69, 75 & 76 including Garden	NSW	Listed place
Buildings VB83, 84, 85, 87 & 89	NSW	Listed place
Buildings VB90, 91, 91A & 92	NSW	Listed place
Building VB1 and Parade Ground	NSW	Listed place
Building VB2 Guard House	NSW	Listed place
Camden Post Office	NSW	Listed place
Cape Baily Lighthouse	NSW	Listed place
Chain and Anchor Store (former)	NSW	Listed place
Chowder Bay Barracks Group	NSW	Listed place
Cliff House	NSW	Listed place
Cockatoo Island Industrial Conservation Area	NSW	Listed place

Name	State	Status
Commonwealth Avenue Defence Housing	NSW	Listed place
Cottage at Macquarie Lighthouse	NSW	Listed place
Cronulla Post Office	NSW	Listed place
Customs Marine Centre	NSW	Listed place
Defence site - Georges Heights and Middle Head	NSW	Listed place
Factory	NSW	Listed place
Fitzroy Dock	NSW	Listed place
Garden Island Precinct	NSW	Listed place
Gazebo	NSW	Listed place
General Post Office	NSW	Listed place
Golf Clubhouse (former)	NSW	Listed place
Headquarters 8th Brigade Precinct	NSW	Listed place
Headquarters Training Command Precinct	NSW	Listed place
HMAS Penguin	NSW	Listed place
Kirribilli House	NSW	Listed place
Kirribilli House Garden & Grounds	NSW	Listed place
Lancer Barracks	NSW	Listed place
Lancer Barracks Precinct	NSW	Listed place
Macquarie Lighthouse	NSW	Listed place
Macquarie Lighthouse Group	NSW	Listed place
Macquarie Lighthouse Surrounding Wall	NSW	Listed place
Marine Biological Station (former)	NSW	Listed place
Marrickville Post Office	NSW	Listed place
Mess Hall (former)	NSW	Listed place
Military Guard Room	NSW	Listed place
Military Road Framework - Defence Land	NSW	Listed place

Name	State	Status
Naval Store	NSW	Listed place
Navy Refuelling Depot and Caretakers House	NSW	Listed place
North Base Trig Station	NSW	Listed place
North Head Artillery Barracks	NSW	Listed place
North Sydney Post Office	NSW	Listed place
Office Building	NSW	Listed place
Officers Mess, HQ Training Command	NSW	Listed place
Old Army / Internment Camp Group Holsworthy	NSW	Listed place
Paddington Post Office	NSW	Listed place
Power House / Pump House	NSW	Listed place
Prison Barracks Precinct	NSW	Listed place
Pyrmont Post Office	NSW	Listed place
RAAF Base Richmond	NSW	Listed place
Reserve Bank	NSW	Listed place
Residences Group	NSW	Listed place
Rigging Shed and Chapel	NSW	Listed place
School of Musketry and Officers Mess, Randwick Army Barracks	NSW	Listed place
Shark Point Battery	NSW	Listed place
Snapper Island	NSW	Listed place
Spectacle Island Explosives Complex	NSW	Listed place
Sutherland Dock	NSW	Listed place
Sydney Airport Air Traffic Control Tower	NSW	Listed place
Sydney Customs House (former)	NSW	Listed place
Ten Terminal Regiment Headquarters and AusAid Training Centre	NSW	Listed place
Thirty Terminal Squadron Precinct	NSW	Listed place

Name	State	Status
Underground Grain Silos	NSW	Listed place
Victoria Barracks Perimeter Wall and Gates	NSW	Listed place
Victoria Barracks Precinct	NSW	Listed place
Victoria Barracks Squash Courts	NSW	Listed place
Villawood Immigration Centre	NSW	Listed place
Woolwich Dock	NSW	Listed place

Indigenous

Cubbitch Barta National Estate Area	NSW	Listed place
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Natural

Malabar Headland	NSW	Listed place
Orchard Hills Cumberland Plain Woodland	NSW	Listed place
Shale Woodland Llandilo	NSW	Listed place

Listed Marine Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
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Bird

[Actitis hypoleucos](#)

Common Sandpiper [59309]

Species or species habitat known to occur within area

[Anous stolidus](#)

Common Noddy [825]

Species or species habitat likely to occur within area

[Apus pacificus](#)

Fork-tailed Swift [678]

Species or species habitat likely to occur within area overfly marine area

[Ardenna carneipes as Puffinus carneipes](#)

Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]

Foraging, feeding or related behaviour likely to occur within area

[Ardenna grisea as Puffinus griseus](#)

Sooty Shearwater [82651]

Breeding known to occur within area

[Ardenna pacifica as Puffinus pacificus](#)

Wedge-tailed Shearwater [84292]

Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna tenuirostris as Puffinus tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Eudyptula minor Little Penguin [1085]		Breeding known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Larus dominicanus Kelp Gull [809]		Breeding known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding known to occur within area overfly marine area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pelagodroma marina White-faced Storm-Petrel [1016]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Foraging, feeding or related behaviour known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area overfly marine area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area
Stercorarius skua as Catharacta skua Great Skua [823]		Species or species habitat may occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding known to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa incana as Heteroscelus incanus Wandering Tattler [831]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area overfly marine area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Cosmocampus howensis Lord Howe Pipefish [66208]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside- down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat known to occur within area
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area
Kimblaeus bassensis Trawl Pipefish, Bass Strait Pipefish [66247]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Mammal		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Reptile		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and Other Cetaceans [[Resource Information](#)]

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Berardius arnuxii Arnoux's Beaked Whale [70]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lissodelphis peronii Southern Right Whale Dolphin [44]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Mesoplodon bowdoini Andrew's Beaked Whale [73]		Species or species habitat may occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area
Mesoplodon mirus True's Beaked Whale [54]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat likely to occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
102 Rosedale Road	NRS Addition - Gazettal in Progress	NSW
Abercrombie River	National Park	NSW
Agnes Banks	Nature Reserve	NSW

Protected Area Name	Reserve Type	State
Bangadilly	National Park	NSW
Bargo	State Conservation Area	NSW
Bargo River	State Conservation Area	NSW
Barrenjoey	Aquatic Reserve	NSW
Bents Basin	State Conservation Area	NSW
Berkeley	Nature Reserve	NSW
Berowra Valley	National Park	NSW
Berowra Valley	Regional Park	NSW
Birds Rock	Flora Reserve	NSW
Blue Mountains	National Park	NSW
Boat Harbour	Aquatic Reserve	NSW
Bouddi	National Park	NSW
Brisbane Water	National Park	NSW
Bronte-Coogee	Aquatic Reserve	NSW
Budderoo	National Park	NSW
Burratorang	State Conservation Area	NSW
Bushrangers Bay	Aquatic Reserve	NSW
Cabbage Tree Bay	Aquatic Reserve	NSW
Cape Banks	Aquatic Reserve	NSW
Castlereagh	Nature Reserve	NSW
Cattai	National Park	NSW
Cecil Hoskins	Nature Reserve	NSW
Cockle Bay	Nature Reserve	NSW
Comleroy	Flora Reserve	NSW
Dalrymple-Hay	Nature Reserve	NSW

Protected Area Name	Reserve Type	State
Dharawal	National Park	NSW
Dharawal	Nature Reserve	NSW
Dharawal	State Conservation Area	NSW
Dharug	National Park	NSW
Dural	Nature Reserve	NSW
Edmondson	Regional Park	NSW
Evans Crown	Nature Reserve	NSW
Five Islands	Nature Reserve	NSW
Gandangara	State Conservation Area	NSW
Garawarra	State Conservation Area	NSW
Gardens of Stone	State Conservation Area	NSW
Gardens of Stone	National Park	NSW
Garigal	National Park	NSW
Georges River	National Park	NSW
Gosford Coastal Open Space System	NRS Addition - Gazettal in Progress	NSW
Gulguer	Nature Reserve	NSW
Guula Ngurra	National Park	NSW
Heathcote	National Park	NSW
Illawarra Escarpment	State Conservation Area	NSW
Jellore	Flora Reserve	NSW
Jenolan	Karst Conservation Reserve	NSW
Jiliby	State Conservation Area	NSW
Joadja	Nature Reserve	NSW
Kamay Botany Bay	National Park	NSW

Protected Area Name	Reserve Type	State
Kanangra-Boyd	National Park	NSW
Kemps Creek	Nature Reserve	NSW
Koolewong	Flora Reserve	NSW
Ku-ring-gai Chase	National Park	NSW
Lane Cove	National Park	NSW
Leacock	Regional Park	NSW
Lion Island	Nature Reserve	NSW
Long Island	Nature Reserve	NSW
Long Reef	Aquatic Reserve	NSW
Macquarie Pass	State Conservation Area	NSW
Macquarie Pass	National Park	NSW
Malabar Headland	National Park	NSW
Mares Forest	National Park	NSW
Maroota Ridge	State Conservation Area	NSW
Marramarra	National Park	NSW
Marrangaroo	National Park	NSW
Morton	National Park	NSW
Mulgoa	Nature Reserve	NSW
Muogamarra	Nature Reserve	NSW
Narrabeen	Aquatic Reserve	NSW
Nattai	National Park	NSW
Nattai	State Conservation Area	NSW
Newington	Nature Reserve	NSW
Ngula Bulgarabang	Regional Park	NSW
North Head	Private Nature Reserve	NSW

Protected Area Name	Reserve Type	State
North Sydney Harbour	Aquatic Reserve	NSW
Palm Grove	Nature Reserve	NSW
Parr	State Conservation Area	NSW
Parramatta River	Regional Park	NSW
Pelican Island	Nature Reserve	NSW
Pitt Town	Nature Reserve	NSW
Popran	National Park	NSW
Prospect	Nature Reserve	NSW
Rileys Island	Nature Reserve	NSW
Robertson	Nature Reserve	NSW
Rouse Hill	Regional Park	NSW
Royal	National Park	NSW
Saratoga Island	Nature Reserve	NSW
Scheyville	National Park	NSW
Shiprock	Aquatic Reserve	NSW
Snow Gum	Flora Reserve	NSW
Spectacle Island	Nature Reserve	NSW
Sydney Harbour	National Park	NSW
Thirlmere Lakes	National Park	NSW
Towra Point	Nature Reserve	NSW
Towra Point	Aquatic Reserve	NSW
Upper Nepean	State Conservation Area	NSW
Wallumatta	Nature Reserve	NSW
Wamberal Lagoon	Nature Reserve	NSW
Wambina	Nature Reserve	NSW
Wianamatta	Nature Reserve	NSW

Protected Area Name	Reserve Type	State
Wianamatta	Regional Park	NSW
Wiarborough	Nature Reserve	NSW
William Howe	Regional Park	NSW
Windsor Downs	Nature Reserve	NSW
Wollemi	National Park	NSW
Wolli Creek	Regional Park	NSW
Wollondilly River	Nature Reserve	NSW
Wombeyan	Karst Conservation Reserve	NSW
Wyrabalong	National Park	NSW
Yellomundee	Regional Park	NSW
Yengo	National Park	NSW
Yerranderie	Regional Park	NSW
Yerranderie	State Conservation Area	NSW

Regional Forest Agreements [\[Resource Information \]](#)

Note that all areas with completed RFAs have been included.

RFA Name	State
North East NSW RFA	New South Wales
Southern RFA	New South Wales

Nationally Important Wetlands [\[Resource Information \]](#)

Wetland Name	State
Avoca Lagoon	NSW
Bicentennial Park	NSW
Blue Mountains Sedge Swamps	NSW
Botany Wetlands	NSW
Boyd Plateau Bogs	NSW
Brisbane Water Estuary	NSW
Cockrone Lagoon	NSW

Wetland Name	State
Coomaditchy Lagoon	NSW
Eve St. Marsh, Arncliffe	NSW
Five Islands Nature Reserve	NSW
Killalea Lagoon	NSW
Lake Illawarra	NSW
Liverpool Military Training Area	NSW
Longneck Lagoon	NSW
Lowbidgee Floodplain	NSW
Minnamurra River Estuary	NSW
Newington Wetlands	NSW
O'Hares Creek Catchment	NSW
Pitt Town Lagoon	NSW
Terrigal Lagoon	NSW
Thirlmere Lakes	NSW
Towra Point Estuarine Wetlands	NSW
Voyager Point	NSW
Wamberal Lagoon	NSW
Wingecarribee Swamp	NSW

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Agricultural Development - Jordan Avenue Glossodia, NSW	2011/6078		Assessment
Albion Park Rail Bypass, NSW	2017/7909		Post-Approval
Angus Place West	2022/09270		Assessment
Calderwood Mod 4	2021/8981		Post-Approval
Construction of three buildings in Parramatta Justice Precinct, Parramatta, NSW	2014/7330		Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Dendrobium Mine extension, Cordeaux Rd, Mount Kembla, NSW	2017/7855		Assessment
Dendrobium Mine Extension Project	2021/9115		Completed
Dunmore Hard Rock Quarry Modification 13	2022/09319		Assessment
Eastern Creek Business Hub Stage 3	2020/8715		Approval
Great Western Highway upgrade - Blackheath to Little Hartley	2022/09399		Assessment
Hume Coal Project, NSW	2015/7526		Completed
Kamay Ferry Wharves Project	2020/8825		Post-Approval
Lake Lyell Pumped Hydro Energy Storage Project	2022/09445		Assessment
Legacy Mineral Sands Remediation and Disposal	2022/09355		Completed
Macarthur Gardens North residential development, Macarthur, NSW	2017/8029		Post-Approval
Mt Gilead Stage 2 Residential Development	2019/8587		Assessment
Multipurpose development	2002/751		Completed
Parramatta Light Rail Stage 2	2022/09300		Assessment
Phase A HIFAR Decommissioning	2022/09352		Completed
Release 31 - Test 2 - TO BE WITHDRAWN	2023/09515		Completed
Renovation and additions to the Robertson Hotel	2023/09467		Completed
Upper Nepean (Kangaloon) Groundwater Borefield	2006/3209		Approval
Upper South Creek Advanced Water Recycling Centre	2020/8816		Post-Approval
Wilton Shearer Avenue Road and Stormwater Infrastructure	2022/09276		Assessment

Controlled action

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
418 Withers Road Subdivision of lot 1020 & 1022	2010/5578	Controlled Action	Post-Approval
Airds and Bradbury Renewal Project	2011/6169	Controlled Action	Post-Approval
Albion Park Quarry Extraction Area Stage 7 Extension	2020/8871	Controlled Action	Assessment Approach
Angus Place Mine Extension Project, New South Wales	2013/6889	Controlled Action	Completed
Australian Institute of Police Management Facilities Upgrade	2006/2746	Controlled Action	Post-Approval
Bingara Gorge staged residential development, NSW	2014/7400	Controlled Action	Post-Approval
Chapman Street Residential Development	2019/8552	Controlled Action	Post-Approval
Clearing of vegetation for several facilities, Bargo, NSW	2009/5058	Controlled Action	Completed
Coalpac Consolidation Project- open cut mine	2010/5776	Controlled Action	Completed
Commercial development, 132 Marsden Street, Parramatta, NSW	2019/8447	Controlled Action	Completed
Commercial development, Lot 9 and Lot 21 Mile End Road, Rouse Hill, NSW	2018/8294	Controlled Action	Post-Approval
Concept Plan Proposal for residential and commercial development of UTS Kuring-	2008/4083	Controlled Action	Post-Approval
Conrad and Keirle Roads Residential Subdivision	2000/78	Controlled Action	Post-Approval
Consolidation of Existing Operations, Continuation of Underground Mining and Upgrade of Facilities a	2009/5142	Controlled Action	Completed
Construct an integrated residential development, NSW	2013/6910	Controlled Action	Post-Approval
Construction and operation of the Westconnex New M5, Sydney, NSW	2015/7520	Controlled Action	Post-Approval
Construction and Operation of Western Sydney Airport, Badgerys Creek, NSW	2014/7391	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Construction of a 15 storey office tower at the Parramatta Justice Precinct, Parramatta, NSW	2014/7161	Controlled Action	Completed
construction of a regional scale stormwater detention basin, spillway and outlet	2011/5819	Controlled Action	Post-Approval
Construction of a ventilation shaft and access Road to service underground operations	2010/5722	Controlled Action	Post-Approval
Cook Cove Southern Precinct development, Sydney, NSW	2016/7767	Controlled Action	Post-Approval
Cooks Cove Development Project	2006/2685	Controlled Action	Post-Approval
Cross Street Residential Development	2019/8537	Controlled Action	Further Information Request
Demolition of an existing building and construction of a new building 5-9 Hunter Street, Parramatta	2014/7334	Controlled Action	Further Information Request
Dendrobium Coal Mining Project	2001/214	Controlled Action	Post-Approval
Develop 380 ha land for residential & commercial use, NSW	2014/7119	Controlled Action	Post-Approval
Development of an Aged Care Facility	2007/3660	Controlled Action	Post-Approval
Development of a Residential Care Facility, Middle Head, NSW	2014/7194	Controlled Action	Post-Approval
Development of a subdivision, Lot 3 Rickards Road, Castlereagh, NSW	2016/7833	Controlled Action	Post-Approval
Eastern Creek Business Hub, NSW	2012/6617	Controlled Action	Post-Approval
Emerald Hills residential & commercial estate development, Camden Valley Way, Leppington, NSW	2013/6999	Controlled Action	Post-Approval
Emirates Tourist Resort and associated facilities	2006/2567	Controlled Action	Post-Approval
Expansion of existing sand quarry operation, north of Windsor, NSW	2013/7028	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Expansion of Port Botany facilities	2002/543	Controlled Action	Post-Approval
Expansion of the NRE No. 1 Colliery Coal Mine in the Southern Coalfield of NSW	2013/6838	Controlled Action	Completed
Extension of subsurface longwall mining, Wonga West and Wonga East	2010/5786	Controlled Action	Completed
Extension of Underground Mining Operations at The Bulli Seam Operations	2010/5350	Controlled Action	Post-Approval
Garden Island Hammerhead Crane Proposed Removal, NSW	2012/6430	Controlled Action	Post-Approval
Glenfield Waste Services recycling facility, Glenfield, NSW	2015/7529	Controlled Action	Assessment Approach
Glenmore Park Stage 2 - 120 Lot Residential Development At Lot 1 DP222144	2004/1867	Controlled Action	Completed
Glenwood Residential Subdivision	2000/77	Controlled Action	Post-Approval
Great Western Highway Upgrade - Mount Victoria to Lithgow	2013/6804	Controlled Action	Post-Approval
Great Western Highway Upgrade - Section 1A, Lawson	2004/1898	Controlled Action	Completed
Haerses Road quarry extension, Maroota, NSW	2015/7608	Controlled Action	Post-Approval
Harrington Grove 900-Lot Residential Development	2009/4862	Controlled Action	Post-Approval
Hartley Quarry Stage 2, NSW	2013/6967	Controlled Action	Post-Approval
Increase in building height,29 Hunter Street, Old Government House precinct, Parramatta,NSW	2013/7063	Controlled Action	Completed
Industrial development on Lot 141 DP843899 and Lot 5 DP1094504, Erskine Park Emp	2006/3156	Controlled Action	Post-Approval
Jacaranda Ponds residential subdivision, Glossodia, NSW	2018/8246	Controlled Action	Post-Approval
Kables Sand Quarry Depth Extension	2003/934	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action Kellyville Precinct	2020/8828	Controlled Action	Post-Approval
Kemps Creek Warehouse, Logistics and Industrial Facilities Hub	2021/8926	Controlled Action	Post-Approval
Kurnell Sand Extraction and Backfilling Proposal	2002/631	Controlled Action	Completed
Light Horse Interchange Business Hub, Eastern Creek, NSW	2019/8395	Controlled Action	Post-Approval
Longwall mining of longwalls 415, 416, 417 at the existing Springvale Colliery	2011/5949	Controlled Action	Post-Approval
Longwall mining of Longwalls 910 & 900 W at Angus Place Colliery	2011/5952	Controlled Action	Post-Approval
Lot 102, Prestons ??? Industrial Warehouse Space	2021/9010	Controlled Action	Post-Approval
Lot 131 DP 2123, Rosebury Road, Kellyville, residential development	2003/1015	Controlled Action	Completed
Lyn Parade Extension	2004/1392	Controlled Action	Post-Approval
M12 Motorway Project, Luddenham, NSW	2018/8286	Controlled Action	Post-Approval
Modifications to V by Crown Development, Parramatta, NSW	2014/7331	Controlled Action	Post-Approval
Moorebank Avenue Realignment	2020/8839	Controlled Action	Post-Approval
Moorebank Intermodal Terminal Facility	2011/6229	Controlled Action	Post-Approval
Moorebank Intermodal Terminal Project	2011/6086	Controlled Action	Post-Approval
Moriah War Memorial College expansion	2002/575	Controlled Action	Post-Approval
Mt Gilead residential development, NSW	2015/7599	Controlled Action	Post-Approval
Multipurpose Development-rural residential, a motel and a golf course	2002/585	Controlled Action	Completed
Newnes Kaolin Friable Sandstone Mine Project	2002/620	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<u>Controlled action</u>			
North West Rail Link	2012/6360	Controlled Action	Post-Approval
Oakdale West Estate commercial development, NSW	2017/7952	Controlled Action	Post-Approval
Phase 2 of the Villawood Immigration Detention Facility Redevelopment Project	2011/5947	Controlled Action	Post-Approval
Pilot Offshore Artificial Reefs	2008/4176	Controlled Action	Post-Approval
Proposed Residential Development and Demolition of Existing Dwelling	2008/4155	Controlled Action	Completed
Redevelopment, Upgrade and Expansion of Wahroonga Estate	2008/4460	Controlled Action	Post-Approval
Relocation of Grey-Headed Flying-Fox Colony	2008/4646	Controlled Action	Post-Approval
Residential development	2015/7578	Controlled Action	Post-Approval
Residential Development	2013/6974	Controlled Action	Post-Approval
Residential development, 11 Jennifer Street, Little Bay, NSW	2018/8170	Controlled Action	Further Information Request
Residential development, 19 Tickle Drive, Thirlmere NSW	2018/8318	Controlled Action	Post-Approval
Residential development, 35 Denis Winston Drive, Doonside, NSW	2018/8203	Controlled Action	Further Information Request
Residential Development, Lots 13 & 14, Balmoral Road, Kellyville, NSW	2013/6884	Controlled Action	Post-Approval
Residential development, Lots 8-9 and Lot 2 Bronzewing St and Byron Road, Tahmoor, NSW	2016/7808	Controlled Action	Post-Approval
Residential Development, St Helens Park, NSW	2009/5015	Controlled Action	Further Information Request
Residential Development/Lot 102 DP 830738 Conrad Road	2001/518	Controlled Action	Completed
Residential development of Lot 12, DP 17431	2007/3455	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Residential Development of Lot 7 DP 270109 Eldon Green, West Pennant Hills	2010/5610	Controlled Action	Post-Approval
Residential Development of Lot G and H	2000/114	Controlled Action	Post-Approval
Residential Subdivision, 199 Range Road, Mittagong, NSW	2019/8440	Controlled Action	Post-Approval
Residential subdivision, Halcrows Road, Cattai, NSW	2016/7737	Controlled Action	Post-Approval
Residential subdivision, Lot 1, 1550 Burragorang Road, Oakdale, NSW	2016/7804	Controlled Action	Post-Approval
Residential subdivision, Lot 101 DP 785139 Crest Road, Albion Park, NSW	2017/8048	Controlled Action	Post-Approval
residential subdivision 5 residential allotments DP 270109	2005/2340	Controlled Action	Completed
Residential Subdivision- Buralow Road	2011/6108	Controlled Action	Further Information Request
Residential subdivision Lot 1 DP 588912 1-41 Marsh Road, Silverdale, NSW	2016/7684	Controlled Action	Post-Approval
Residential subdivision Lot 400 Strathyre Road, Prestons, NSW	2015/7627	Controlled Action	Post-Approval
Residential Subdivision Lot 446	2003/990	Controlled Action	Completed
Riverside Oaks Tourist Resort O'Briens Rd Cattai	2021/8952	Controlled Action	Further Information Request
Rooty Hill Concrete Batching Plant and associated facilities	2003/949	Controlled Action	Completed
Rural residential subdivision of Lot 447, Joalah Rd, Duffys Forest	2002/698	Controlled Action	Completed
Russell Vale Colliery Longwall 6 Mining, Wollongong NSW	2014/7259	Controlled Action	Post-Approval
Russell Vale Colliery Revised Underground Expansion Project	2020/8702	Controlled Action	Post-Approval
Russell Vale Colliery Underground Expansion Project, NSW	2014/7268	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Safety works along the Bells Line of road between Mt Tomah and Kurrajong Heights, NSW	2014/7346	Controlled Action	Post-Approval
Sale of surplus land at Ingleburn	2007/3567	Controlled Action	Post-Approval
Sand Extraction	2003/991	Controlled Action	Post-Approval
Sand Extraction Project Maroota 60 km north of Sydney CBD	2021/8913	Controlled Action	Assessment Approach
Sand Reclamation to Towra Beach	2003/1085	Controlled Action	Post-Approval
Service centre, 6 Honeman Close, Huntingwood, NSW	2018/8290	Controlled Action	Post-Approval
Sewage Transfer Scheme	2001/508	Controlled Action	Completed
Shell Clyde Terminal Expansion, Rosehill, NSW	2013/6878	Controlled Action	Post-Approval
Southern Han commercial development, Hunter and Macquarie Sts, Parramatta, NSW	2014/7359	Controlled Action	Further Information Request
Southern section of the Bonnie Doon Golf Course, Pagewood, NSW	2015/7479	Controlled Action	Completed
South Sydney Freight Rail Line	2005/2393	Controlled Action	Post-Approval
Springvale Longwall Mine Extension Project, NSW	2013/6881	Controlled Action	Post-Approval
Stage 2 Extension of the Pine Dale Coal Mine	2012/6326	Controlled Action	Completed
Stages 6-16 of a retirement village/Bellevue Road, Forresters Beach	2003/946	Controlled Action	Post-Approval
Subdivision of Lot 1 DP106143, 327-335 Burley Road, Horsley Park, NSW	2016/7744	Controlled Action	Post-Approval
Sydney Metro, Western Sydney Airport - St Marys to Elizabeth Drive	2020/8687	Controlled Action	Post-Approval
Sydney Opera House Building Renewal Program, NSW	2016/7825	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Sydney Opera House Building Renewal Program - Concert Hall and associated works	2017/7955	Controlled Action	Post-Approval
Tahmoor South longwall coal mining project, Southern Coalfields, NSW	2014/7162	Controlled Action	Completed
Tahmoor South Project, NSW	2017/8084	Controlled Action	Post-Approval
The Neubeck Coal Project, NSW	2013/6880	Controlled Action	Completed
The Northern Road upgrade - Mersey Rd, Bringelly to Glenmore Parkway, Glenmore Park, NSW	2016/7696	Controlled Action	Post-Approval
Twin Creeks Estate - stage 4 - 26 rural residential	2004/1495	Controlled Action	Post-Approval
Upgrade of Floodlighting for Night Sports Training	2009/4798	Controlled Action	Completed
Upgrade of surface facilities at NRE No.1 Colliery	2011/5891	Controlled Action	Post-Approval
Urban & recreational Development (El Caballo Blanco, Gledswood & Lakeside), Gledswood, NSW	2013/6979	Controlled Action	Post-Approval
V by Crown - Mixed Use Development Project, Parramatta, NSW	2013/6803	Controlled Action	Post-Approval
Vegetation Clearing North Pearl Estate section of Kahibah Creek	2003/997	Controlled Action	Post-Approval
Vehicle storage facility, Lot 1 Reddalls Rd, Kembla Grange NSW	2018/8192	Controlled Action	Post-Approval
Warragamba Dam Raising Project	2017/7940	Controlled Action	Assessment Approach
Western Sydney International Dragway	2002/720	Controlled Action	Completed
Widening three roads and construction of an access road to Bankstown Business Estate development	2016/7719	Controlled Action	Completed
Not controlled action			
132kV electricity transmission lines	2002/865	Not Controlled Action	Completed
14 residential lots on Lot 18 DP 1034206 & Lot 131 DP 2123,	2005/2230	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
<u>Rosebery Road</u>			
<u>18-hole, golf course development, west of Eastern Creek</u>	2004/1757	Not Controlled Action	Completed
<u>2A and 2B Mavis Street, Revesby</u>	2020/8665	Not Controlled Action	Completed
<u>356 Old Windsor Road, development of six industrial allotments and retention of native bushland</u>	2004/1465	Not Controlled Action	Completed
<u>ABC Gore Hill, Lanceley Place Site Redevelopment</u>	2002/908	Not Controlled Action	Completed
<u>ABC Proposed Sale of Property Commonwealth Land</u>	2020/8855	Not Controlled Action	Completed
<u>Adaptive reuse of George Street Gatehouse, Parramatta Regional Park, NSW</u>	2013/7015	Not Controlled Action	Completed
<u>Adaptive reuse of the Queens Road Gatehouse, Parramatta Park, NSW</u>	2015/7602	Not Controlled Action	Completed
<u>Admiralty House, Kirribilli, foreshore works, NSW</u>	2014/7357	Not Controlled Action	Completed
<u>Aldington Road Estate Industrial Development</u>	2021/8982	Not Controlled Action	Completed
<u>Angus Place Ventilation Facility Project, NSW</u>	2012/6414	Not Controlled Action	Completed
<u>APX-East sub-sea telecommunications & data cable system</u>	2014/7139	Not Controlled Action	Completed
<u>Artarmon Helipad Relocation</u>	2001/186	Not Controlled Action	Completed
<u>Australia Post Site Rehabilitation</u>	2002/609	Not Controlled Action	Completed
<u>Australia-USA Southern Cross NEXT fibre optic cable installation</u>	2019/8405	Not Controlled Action	Completed
<u>Blair Athol Residential Subdivision</u>	2001/198	Not Controlled Action	Completed
<u>Bodington Hospital Site Remediation</u>	2007/3606	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Boral Moorebank Quarry Rehabilitation	2000/115	Not Controlled Action	Completed
Botany Bay Cable Project	2007/3552	Not Controlled Action	Completed
Botany Rail Duplication	2019/8566	Not Controlled Action	Completed
BP/Mobil Pipeline to Kingsford Smith Airport	2000/104	Not Controlled Action	Completed
Bulk Earthworks (Stages 1A, 1B &1C)	2009/4998	Not Controlled Action	Completed
Bushfire risk reduction works Rookwood Cemetery	2007/3835	Not Controlled Action	Completed
Calderwood Clover Hill Estate Subdivision, Wollongong	2019/8542	Not Controlled Action	Completed
Calderwood Urban Development	2010/5381	Not Controlled Action	Completed
Carbon Black Plant Upgrade	2006/2785	Not Controlled Action	Completed
Central Coast Highway Upgrade from Ocean View Dve to Matcham Rd	2009/4815	Not Controlled Action	Completed
Change of use of existing room in research laboratory	2002/665	Not Controlled Action	Completed
Christ Catholic College - Loyola Campus - Building Construction and Redevelopment	2002/642	Not Controlled Action	Completed
Clarence Colliery Reject Emplacement Area VI, Clarence, NSW	2014/7230	Not Controlled Action	Completed
Clarence Water Transfer Scheme	2011/6165	Not Controlled Action	Completed
Claymore Urban Renewal Project	2011/6204	Not Controlled Action	Completed
Clearance of 6.3ha of Cumberland Plain Woodland for industrial subdivision cnr of Old Walgrove and W	2004/1445	Not Controlled Action	Completed
Clearance of 6ha Shale Plains Woodland	2004/1346	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Clearance of vegetation for Warehouse Units	2003/994	Not Controlled Action	Completed
Clyde Barging Facility, Grand Avenue, Rosehill, NSW	2018/8140	Not Controlled Action	Completed
Concrete Batching Plant and Associated Facilities	2005/2067	Not Controlled Action	Completed
Conrad Road Residential Subdivision	2001/320	Not Controlled Action	Completed
Conservation and Adaptive Use of Quarantine Station	2002/556	Not Controlled Action	Completed
Conservation Hut	2002/821	Not Controlled Action	Completed
construct access road and install underground water main	2005/2299	Not Controlled Action	Completed
Construct and operate an aerial adventure park	2012/6239	Not Controlled Action	Completed
Construction, operation and maintenance of a new zone substation	2011/5901	Not Controlled Action	Completed
Construction & operation of lead-in infrastructure for drinking water & wastewat	2009/4909	Not Controlled Action	Completed
Construction and Operation of the Parramatta Rail Link - between Parramatta and	2002/673	Not Controlled Action	Completed
Construction of Access Road to Mount Annan Botanic Garden	2010/5485	Not Controlled Action	Completed
construction of a crematorium and associated facilities	2011/5822	Not Controlled Action	Completed
Construction of a high-capacity fibre optic submarine cable	2006/2914	Not Controlled Action	Completed
Construction of a new rail track deviation of Main Southern Railway at Tahmoor	2011/5794	Not Controlled Action	Completed
Construction of a playing field and associated facilities	2004/1798	Not Controlled Action	Completed
construction of a road linking Newbridge Road and Nuwarra Road	2004/1843	Not Controlled Action	Completed
Construction of a temporary film set, Malabar Headlands	2007/3939	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Construction of Dwelling - Lot 12 DP 18351	2002/767	Not Controlled Action	Completed
construction of four dwellings and associated facilities	2005/2396	Not Controlled Action	Completed
Construction of holiday cabins	2002/689	Not Controlled Action	Completed
Construction of Nuclear Materials Store, Lucas Heights	2008/4459	Not Controlled Action	Completed
Construction of Pipelines and Reservoirs at Ingleburn Army Camp as Part of the H	2009/4844	Not Controlled Action	Completed
Construction Of Two New Fuel Processing Plants On Existing Site	2003/1243	Not Controlled Action	Completed
Continental slope research/mid-NSW/Commonwealth Waters	2006/3026	Not Controlled Action	Completed
Cox's Creek Reserve	2001/409	Not Controlled Action	Completed
Currawong Beach residential development adjoining Ku-ring-gai Chase National Par	2008/3988	Not Controlled Action	Completed
Decommissioning of Army Depot, Haberfield	2001/217	Not Controlled Action	Completed
Decommissioning of Moata Research Reactor	2008/4615	Not Controlled Action	Completed
Decommissioning of NMC and Camperdown Facility	2010/5645	Not Controlled Action	Completed
Decommissioning of the Australia Post Mail Distribution Centre	2002/612	Not Controlled Action	Completed
Demobilisation of Lot 3001, Moorebank Intermodal Terminal, Liverpool, Sydney	2014/7152	Not Controlled Action	Completed
Demolition and Removal of Two Naval Cottages	2008/4373	Not Controlled Action	Completed
Demolition and replacement of footbridge	2002/643	Not Controlled Action	Completed
Demolition of Ablutions Block, Snapper Island, NSW	2018/8303	Not Controlled Action	Completed
Demolition of redundant buildings at the Villawood Immigration Detention Centre	2001/403	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Demolition of the existing club house and construction of a new club house	2009/4932	Not Controlled Action	Completed
Development of a car & truck parking area at the Boral site	2011/6134	Not Controlled Action	Completed
Development of an Intermodal Terminal for containerised freight at the former En	2002/622	Not Controlled Action	Completed
Development of a residential subdivision	2010/5731	Not Controlled Action	Completed
Development of a Retirement Village	2009/4746	Not Controlled Action	Completed
Development of Rouse Hill Anglican College	2001/157	Not Controlled Action	Completed
development of stages 1 - 5 of a retirement village	2003/945	Not Controlled Action	Completed
Development of Surplus Land at the Potts Hill Reservoirs Site for Residential an	2009/4962	Not Controlled Action	Completed
Development within Caddens Release Area	2010/5429	Not Controlled Action	Completed
Dog swimming area	2002/870	Not Controlled Action	Completed
Drainage renewal works	2013/6993	Not Controlled Action	Completed
Duke Cogeneration Plant Port Kembla	2001/179	Not Controlled Action	Completed
Duplication of the single rail line between Quakers Hill & Vineyard	2009/4872	Not Controlled Action	Completed
Echo Point Visitor Information Centre, Katoomba, NSW	2018/8200	Not Controlled Action	Completed
Electricity Substation at Old Wallgrove Road	2005/2220	Not Controlled Action	Completed
Enfield Industrial Subdivision	2007/3727	Not Controlled Action	Completed
Environmental monitoring activities at the Angus Place Colliery	2011/6018	Not Controlled Action	Completed
Environmental Monitoring Activities at the existing Springvale Colliery	2009/5258	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Environmental monitoring activities at the Springvale Colliery	2011/6017	Not Controlled Action	Completed
Environmental Works	2001/396	Not Controlled Action	Completed
Erection of a dwelling and associated access and infrastructure, 19 Tidswell Str	2003/1078	Not Controlled Action	Completed
Expansion of the existing underground Clarence Colliery to include partial extra	2009/4882	Not Controlled Action	Completed
Extension of Hale Street to Foreshore Road and Associated Works	2008/4035	Not Controlled Action	Completed
Extension of Hill Top Rifle Range	2009/4718	Not Controlled Action	Completed
Extension of Mt Piper Power Station, Mt Piper, NSW	2009/5049	Not Controlled Action	Completed
Extension to Lucas Heights production building	2003/1114	Not Controlled Action	Completed
Factory Unit construction Hamley Rd	2002/606	Not Controlled Action	Completed
Feature Film Production currently titles "Stealth" at Mt Hay Blue Mountain Natio	2004/1414	Not Controlled Action	Completed
Fitout works, 4th Floor, Sydney Customs House, 31 Alfred Street	2004/1449	Not Controlled Action	Completed
Former CSIRO Clunies Ross Research Station	2002/803	Not Controlled Action	Completed
Fuel Reduction Proposal Redfield Road, East Killara	2003/1238	Not Controlled Action	Completed
Fyfe Road, Rouse Hill Residential Subdivision	2002/831	Not Controlled Action	Completed
Garden Island ADI Warehouse	2000/69	Not Controlled Action	Completed
Gardens Precinct Stage 1 landscaping works, Parramatta, NSW	2015/7443	Not Controlled Action	Completed
gas main installation from Eastern Creek to Erskine Park	2005/2235	Not Controlled Action	Completed
Georges River Program 2	2003/999	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Gore Hill Conservation Management Plan	2000/109	Not Controlled Action	Completed
Green Valley NSW residential development	2003/1236	Not Controlled Action	Completed
Greenway Park Stage 3 residential subdivision	2004/1622	Not Controlled Action	Completed
Hard rock quarry	2002/814	Not Controlled Action	Completed
hazard reduction burn	2003/1181	Not Controlled Action	Completed
Highland Source Project	2010/5697	Not Controlled Action	Completed
Holsworthy Redevelopment Project Program of Works	2004/1391	Not Controlled Action	Completed
Hoxton Park Residential development	2011/6103	Not Controlled Action	Completed
Huntingwood Industrial Estate Development	2002/834	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Increase of Road Access to 24 Hours a Day 7 Days a Week	2008/4206	Not Controlled Action	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed
Industrial development of 24.8ha, including access road from Lenore Lane	2005/2326	Not Controlled Action	Completed
Industrial Subdivision	2004/1859	Not Controlled Action	Completed
Industrial Subdivision, 262-276 Captain Cook Drive	2004/1899	Not Controlled Action	Completed
Installation of Sydney-Guam Submarine Cable	2007/3848	Not Controlled Action	Completed
Installation of viewing platform	2005/2138	Not Controlled Action	Completed
Install Window Air-Conditioning Unit to Building 2, 361 Milperra Rd, Bankstown, NSW	2013/7107	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Internal Modifications to Reserve Bank of Australia	2008/4431	Not Controlled Action	Completed
Invincible Colliery Modification and Cullen Bullen Valley Mine Modification, Cullen Bullen, NSW	2014/7147	Not Controlled Action	Completed
Ivanhoe Estate Redevelopment, Macquarie Park, NSW	2019/8455	Not Controlled Action	Completed
Japan-Guam-Australia Sunshine Coast Branch Marine Cable Route Survey (JGA) QLD	2018/8373	Not Controlled Action	Completed
Kimbriki resource recovery project	2010/5761	Not Controlled Action	Completed
Kimbriki Resource Recovery Project	2011/6150	Not Controlled Action	Completed
Lake Illawarra entrance works, Stage 2	2004/1696	Not Controlled Action	Completed
Library Building and Underground Car Park Development - Corner of Alpha Street n	2001/483	Not Controlled Action	Completed
Little Bay Residential Subdivision	2002/873	Not Controlled Action	Completed
Lot 2 Foreshore Drive, in-filling pit, Port Kembla, NSW	2018/8374	Not Controlled Action	Completed
Lot 43 Fyfe Road Residential Subdivision	2002/838	Not Controlled Action	Completed
Lots 24 & 25 Kierle Road Residential Subdivision, Kellyville	2001/335	Not Controlled Action	Completed
Lucas Heights Resource Recovery Park Projects, Illawarra Highway, Lucas Heights NSW	2015/7432	Not Controlled Action	Completed
Lucas Heights Waste Treatment and Packaging Building	2001/342	Not Controlled Action	Completed
M2 Motorway Upgrade	2010/5329	Not Controlled Action	Completed
Marrangaroo Quarry extraction extension, 4km NW Lthgow, NSW	2014/7297	Not Controlled Action	Completed
Metropolitan coal project - continuataion, upgrade and extension of underground m	2008/4519	Not Controlled Action	Completed
Mixed Used Residential Development	2012/6358	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Mobile Engine Test Stand replacement	2002/882	Not Controlled Action	Completed
Mountain View Classrooms Construction	2001/306	Not Controlled Action	Completed
Mt Piper Power Station Ash Placement Project	2010/5506	Not Controlled Action	Completed
Multi User Depot	2002/562	Not Controlled Action	Completed
No. 387 Blacktown Road Housing Development/EPBC 2000-92	2000/92	Not Controlled Action	Completed
Northwest Transitways Project	2002/796	Not Controlled Action	Completed
Noxious weed removal, Anzac Rifle Range	2002/761	Not Controlled Action	Completed
Noxious weed removal and controlled burn	2003/1272	Not Controlled Action	Completed
Noxious Weed Removal at Anzac Rifle Range	2004/1336	Not Controlled Action	Completed
Oakhurst Residential Subdivision	2000/41	Not Controlled Action	Completed
Old Post Office Road, Cattai	2020/8695	Not Controlled Action	Completed
Operation Of A Heliport	2010/5433	Not Controlled Action	Completed
Optus mobiles telecommunications base station facility, BlueScope Steel, Lot 1 Five Islands Rd, Port	2013/7014	Not Controlled Action	Completed
Orchard Hills Water Filtration Plant	2001/373	Not Controlled Action	Completed
Overhead cover for heritage vehicles, Lancer Barracks, Parramatta	2018/8199	Not Controlled Action	Completed
Parramatta Light Rail (Stage 1) - Westmead to Carlingford, via Parramatta CBD	2017/7966	Not Controlled Action	Completed
Parramatta North Urban Redevelopment Project, NSW	2014/7378	Not Controlled Action	Completed
Piezometer Installation at the Existing Clarence Colliery	2009/5147	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Placement of fill excavated from the site for the Replacement Research Reactor	2001/405	Not Controlled Action	Completed
Playing Field Upgrade Cedar Road	2011/5950	Not Controlled Action	Completed
Precinct 9, Tallowood Hills Estate	2001/173	Not Controlled Action	Completed
Proposed Alternative Municipal Waste Treatment Facility	2008/4357	Not Controlled Action	Completed
Proposed industrial Developments Bragham Drive, Eastern Creek	2012/6383	Not Controlled Action	Completed
Proposed Rezoning of land at 60 Wallgrove Rd, Minchinbury, NSW	2009/5012	Not Controlled Action	Completed
Proposed third rail track and associated infrastructure	2013/6760	Not Controlled Action	Completed
Pymble Ladies College Proposed Senior's Learning Centre and Carparking Area	2009/5168	Not Controlled Action	Completed
Rabbit Control Anzac Rifle Range	2005/1940	Not Controlled Action	Completed
RBA HOWP 65 Martin Place, NSW	2020/8870	Not Controlled Action	Completed
Realignment of Link Road and residential development adjacent to Camden Bypass	2005/2181	Not Controlled Action	Completed
Redevelopment 60 Martin Place, Sydney, NSW	2015/7490	Not Controlled Action	Completed
Redevelopment of Lot 1 DP 375262 and Lot 1 DP 726091 (formerly John Williams Res	2006/3161	Not Controlled Action	Completed
Redevelopment of the Cronulla Sharks Leagues Club	2011/5889	Not Controlled Action	Completed
Redevelopment of the former Prince Henry Hospital Site	2003/1048	Not Controlled Action	Completed
Rehabilitation works of the Coogee Sewer Diversion Submain - Maxwell Avenue, Mar	2004/1683	Not Controlled Action	Completed
Remediation and Restoration Works within East Wolgan Swamp, NSW	2012/6517	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Remediation and Restoration Works within Narrow Swamp, NSW	2012/6516	Not Controlled Action	Completed
Remediation of contaminated asbestos site	2002/608	Not Controlled Action	Completed
Remediation of Contaminated Buildings	2005/1983	Not Controlled Action	Completed
Remediation of Contaminated Soil	2005/1985	Not Controlled Action	Completed
Remediation of contaminated soil around the Macquarie Lighthouse	2004/1836	Not Controlled Action	Completed
Removal of Trees	2010/5535	Not Controlled Action	Completed
Removal of up to 7 trees at 17 Kissing Point Road, Turramurra, NSW	2014/7369	Not Controlled Action	Completed
Removal of Weeds & Native Vegetation Hannah Avenue	2006/2621	Not Controlled Action	Completed
Renwick Channel Improvements, Mary Street, Renwick, NSW	2019/8400	Not Controlled Action	Completed
Residential development, 28 Balmoral Road, Kellyville	2014/7145	Not Controlled Action	Completed
residential development, Lalor Road and Stanbury Place	2002/892	Not Controlled Action	Completed
Residential Development, Stages 1-3	2002/710	Not Controlled Action	Completed
Residential Development - 55 Coonara Avenue, West Pennant Hills NSW 2125	2021/8995	Not Controlled Action	Completed
Residential development at Doonside Crescent Woodcroft, Blacktown LGA	2004/1378	Not Controlled Action	Completed
Residential development Bong Bong Road, West Dapto, NSW	2013/6992	Not Controlled Action	Completed
Residential Development in Edmonston Park	2009/4832	Not Controlled Action	Completed
Residential Development Kellyville	2000/60	Not Controlled Action	Completed
Residential development within 2.08ha, Fyfe Road	2005/1966	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Residential Land Subdivision	2011/5963	Not Controlled Action	Completed
Residential Land Subdivision-Fairway Drive Kellyville	2011/5910	Not Controlled Action	Completed
Residential Subdivision	2001/316	Not Controlled Action	Completed
Residential Subdivision	2001/304	Not Controlled Action	Completed
Residential Subdivision	2001/375	Not Controlled Action	Completed
Residential Subdivision	2002/762	Not Controlled Action	Completed
Residential subdivision, cnr Doris Hirst Place and Highs Road	2005/2392	Not Controlled Action	Completed
Residential Subdivision & associated Infrastructure & Environmental Protection A	2002/632	Not Controlled Action	Completed
Residential subdivision and conservation area	2011/5858	Not Controlled Action	Completed
Residential subdivision and development of Lot 446 DP 48650	2007/3766	Not Controlled Action	Completed
Residential subdivision and stormwater management facilities	2003/1141	Not Controlled Action	Completed
Residential Subdivision Braidwood Drive	2011/5940	Not Controlled Action	Completed
Residential Subdivision in Hampton Cr, Prospect, City of Blacktown	2008/3953	Not Controlled Action	Completed
Residential subdivision Lot 1005 Conrad Road	2003/1054	Not Controlled Action	Completed
Residential Subdivision of 1 Lot in to 7 at 85-99 Burrawang Street	2009/5234	Not Controlled Action	Completed
Residential subdivision of 62 Hillside Road, Newport, NSW	2017/8044	Not Controlled Action	Completed
Residential sub-division on Lot 3041, Monash Road, Menai, NSW	2012/6441	Not Controlled Action	Completed
Residential subdivision works, Spurway St, Ermington	2003/1130	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Retford Road Development, Bowral NSW	2020/8724	Not Controlled Action	Completed
Rezoning & Disposal of Quakers Hill property	2001/281	Not Controlled Action	Completed
Riverside Parramatta mixed use development, NSW	2013/6929	Not Controlled Action	Completed
Riverstone Integrated Water Services Proposal	2007/3216	Not Controlled Action	Completed
Rooty Hill Residential Subdivision	2002/651	Not Controlled Action	Completed
Rouse Hill Infrastructure Project, Second Ponds Creek Area, Proposed Drainage Wo	2003/1258	Not Controlled Action	Completed
Rubbish removal, Anzac Rifle Range	2002/760	Not Controlled Action	Completed
Rural residential dwelling and associated infrastructure	2010/5753	Not Controlled Action	Completed
Rural residential subdivision	2002/594	Not Controlled Action	Completed
Sale of Land - Lot 1 in DP 533370	2003/1121	Not Controlled Action	Completed
Sale of Lot 1 DP858405 Turramurra NSW	2001/454	Not Controlled Action	Completed
Sale of New South Head Road, Edgecliff	2001/302	Not Controlled Action	Completed
Sandon Point Residential Development	2001/458	Not Controlled Action	Completed
Sand Quarry Extension	2001/426	Not Controlled Action	Completed
Second Ponds Creek urban development	2004/1905	Not Controlled Action	Completed
Second Ponds Creek Urban Development of Precinct 1b	2005/1991	Not Controlled Action	Completed
Seniors Living Precinct Memorial Avenue, Kellyville	2010/5601	Not Controlled Action	Completed
sewage treatment plant process and reliability renewals project	2005/2186	Not Controlled Action	Completed
Sewerage Scheme for the three villages of Mulgoa, Wallacia and Silverdale	2003/1314	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Shale quarry and materials recovery facility	2008/4661	Not Controlled Action	Completed
Shellcove Boatharbour Marine, Commercial & Residential Development	2007/3935	Not Controlled Action	Completed
Shipment of Spent Nuclear Fuel to USA	2007/3672	Not Controlled Action	Completed
Site remediation and waste disposal	2002/837	Not Controlled Action	Completed
Somersby Industrial Estate, Stage 1	2002/548	Not Controlled Action	Completed
Stage 1 DA Estate Major Works, Westmead, NSW	2014/7395	Not Controlled Action	Completed
Staged Revelopment of Riverlands Golf Club Site	2008/4464	Not Controlled Action	Completed
Stormwater detention basin and road upgrade at Green Rd	2004/1695	Not Controlled Action	Completed
subdivision and development on the Rhodes Peninsula for residential and commerci	2003/1249	Not Controlled Action	Completed
Subdivision and sale of Commonwealth land in Pymble to Kuring-gai City Council	2004/1368	Not Controlled Action	Completed
Subdivision at Stuarts Rd Katoomba, NSW	2021/8912	Not Controlled Action	Completed
Subdivision for warehouse construction	2000/119	Not Controlled Action	Completed
subdivision of 22.84 ha of pasture and woodlands to provide for future large lot residential housing	2011/5818	Not Controlled Action	Completed
Sub-division of 44 Blytheswood Avenue	2002/566	Not Controlled Action	Completed
Subdivision of land (6.791 ha) for light industrial use	2003/1299	Not Controlled Action	Completed
Subdivision of Lot 24 DP 751649 and Lot 111 DP 1039639, Old Bells Line of Road,	2003/1139	Not Controlled Action	Completed
Subdivision of Lot 447 Joalah Road	2007/3700	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Subdivision of Precincts 3 and 12, St Patricks Estate	2004/1925	Not Controlled Action	Completed
Subdivision of precincts C, D and E of Bradley Ridge	2010/5745	Not Controlled Action	Completed
Subdivision of Residential Lands, Greystanes Estate, western Sydney	2001/499	Not Controlled Action	Completed
Supply of a gigabit ethernet connection with associated trenching, boring and ha	2007/3637	Not Controlled Action	Completed
Sydney Desalination Plant	2005/2331	Not Controlled Action	Completed
Sydney Metro Network Stage 2	2010/5307	Not Controlled Action	Completed
Sydney Primary Loop Gas Pipeline	2006/2622	Not Controlled Action	Completed
Synroc Waste Treatment Facility	2012/6697	Not Controlled Action	Completed
Taleb Property Pty Ltd, Tempe Tyres Warehouse project, Captain Cook Drive, Kurnell	2017/8068	Not Controlled Action	Completed
Tallawarra Lands: Urban Development	2011/6002	Not Controlled Action	Completed
Telecommunications Tower	2001/226	Not Controlled Action	Completed
Terrigal Sewer Pumping Station Upgrade	2001/128	Not Controlled Action	Completed
The North Kellyville Water Related Services Project	2007/3784	Not Controlled Action	Completed
The Paddocks Precinct Upgrade, Parramatta Park, Parramatta, NSW	2014/7278	Not Controlled Action	Completed
Torpedo Factory Renewal Project	2020/8847	Not Controlled Action	Completed
TransGrid Sydney West 330kV Substation Augmentation	2002/677	Not Controlled Action	Completed
Tree Removal Under 10/50 Vegetation Clearance, 10B Dalkeith Rd, Cherrybrook, NSW	2014/7337	Not Controlled Action	Completed
Tullimbar subdivision, Stage 9, 21 km south-west of Wollongong, NSW	2020/8729	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Turramurra Retirement Village	2001/413	Not Controlled Action	Completed
Two lot subdivision and construction of a road	2011/6199	Not Controlled Action	Completed
Undertake a controlled burn of the Eastern Suburbs Banksia Scrub at Byrne Cresce	2004/1728	Not Controlled Action	Completed
Undertaking of fire protection measures for the bushland regeneration of the Ranwick Environmental P	2003/959	Not Controlled Action	Completed
Upgrade of Captain Cook Drive	2012/6286	Not Controlled Action	Completed
Upgrade of Existing DECCW Radio Communications Facility	2010/5374	Not Controlled Action	Completed
Upgrade of National Pass Walking Track	2002/727	Not Controlled Action	Completed
Upgrade Of Nuclear Production Equipment	2006/2740	Not Controlled Action	Completed
Upgrade of the Crescent Precinct in Parramatta Park Stage 1	2013/7011	Not Controlled Action	Completed
Upgrade of Tourist Facilities	2001/347	Not Controlled Action	Completed
Upper Blue Mountains Sewage Transfer Scheme	2004/1915	Not Controlled Action	Completed
Urban Development- Lots 7 & 8 Curtis Road	2011/6028	Not Controlled Action	Completed
V8 Supercars "Sydney 400" Event	2009/4782	Not Controlled Action	Completed
Vegetation Clearance	2001/481	Not Controlled Action	Completed
Vegetation Clearance (revised)	2003/976	Not Controlled Action	Completed
Waste Management Centre	2002/607	Not Controlled Action	Completed
Wastewater Lead-Out Line Lot 6- DP 1004614 Kellyville	2001/360	Not Controlled Action	Completed
Waterfall Commuter Car Park Extension and Upgrade	2009/5206	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Weed Management Program within Wingecarribee Swamp	2004/1762	Not Controlled Action	Completed
Western Sydney Parklands Bungarribee Precinct and Doonside residential developm	2007/3718	Not Controlled Action	Completed
Western Sydney Stadium Project, NSW	2016/7739	Not Controlled Action	Completed
Western Sydney University Hassall St Precinct, Parramatta, NSW	2019/8489	Not Controlled Action	Completed
Westfield Parramatta Commercial Extension - Stage 2	2013/6783	Not Controlled Action	Completed
Westfield Parramatta Retail Extension - Stage 1	2013/6782	Not Controlled Action	Completed
Wetland rehabilitation, Stage 3, Lakeside Village Estate	2002/628	Not Controlled Action	Completed
Whytes Gully New Landfill Cell Project, Kembla Grange, NSW	2013/6712	Not Controlled Action	Completed
Widening of the M5 Southwest Motorway	2010/5665	Not Controlled Action	Completed
Wonderland Business Park Precinct, industrial development, Lot B1	2004/1627	Not Controlled Action	Completed
Wonderland Business Park Precinct, Stage 1, Lot D1	2004/1626	Not Controlled Action	Completed
Wonderland Business Park - Stage 3	2006/2817	Not Controlled Action	Completed
Wongawilli Colliery	2010/5404	Not Controlled Action	Completed
Xavier College Extension	2001/455	Not Controlled Action	Completed
Xavier College High School development	2001/429	Not Controlled Action	Completed
Not controlled action (particular manner)			
23 Residential lots on Lot 15 of Lot 18 DP 1034206 & Lot 131 DP 2123, Rosebery Road	2005/2229	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey in PEP-11 permit area, NSW	2002/879	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
330kV Transmission Line	2002/863	Not Controlled Action (Particular Manner)	Post-Approval
Aerial baiting for wild dog control	2006/2713	Not Controlled Action (Particular Manner)	Post-Approval
ANSTO Nuclear Medicine Mo99 Facility, NSW	2012/6598	Not Controlled Action (Particular Manner)	Post-Approval
Bangor Bypass	2002/756	Not Controlled Action (Particular Manner)	Post-Approval
Bushland Path Through Malabar Headland West	2007/3790	Not Controlled Action (Particular Manner)	Post-Approval
Commercial development, 2 Macquarie Street, Parramatta, NSW	2014/7405	Not Controlled Action (Particular Manner)	Post-Approval
Constitution Hill Quarry	2011/6151	Not Controlled Action (Particular Manner)	Post-Approval
Construction and operation of a subsea telecommunications cable, between Sydney and New Zealand	2015/7480	Not Controlled Action (Particular Manner)	Post-Approval
Construction works on SE corner of the grounds of Admiralty House	2012/6278	Not Controlled Action (Particular Manner)	Post-Approval
Cross Country and Downhill Tracks	2011/6171	Not Controlled Action (Particular Manner)	Post-Approval
Extension and upgrade waste management facilities, Lucas Heights, NSW	2016/7733	Not Controlled Action (Particular Manner)	Post-Approval
Govetts Leap Walking Track upgrade	2001/136	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Hawaiki Fibre-Optic Submarine Cable installation	2016/7765	Not Controlled Action (Particular Manner)	Post-Approval
Hyde Park Barracks Proposed New Passenger Lift	2017/7933	Not Controlled Action (Particular Manner)	Post-Approval
Illawarra coal seam gas exploration drilling and gas monitoring program	2011/5821	Not Controlled Action (Particular Manner)	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
Interim Waste Storage Facility, NSW	2012/6564	Not Controlled Action (Particular Manner)	Post-Approval
Intermediate Level Solid Waste Storage Facility	2021/9025	Not Controlled Action (Particular Manner)	Completed
International fibre optic submarine cable installation, between Sydney and Honiara, Solomon Islands	2015/7502	Not Controlled Action (Particular Manner)	Post-Approval
Japan-Guam-Australia (JGA) Fibre Optic Cable project	2016/7795	Not Controlled Action (Particular Manner)	Post-Approval
Kareela, Garnet Road Rezoning	2020/8841	Not Controlled Action (Particular Manner)	Post-Approval
Kareela Flying-fox Camp and Camellia Gardens Dispersal 2017	2017/7920	Not Controlled Action (Particular Manner)	Post-Approval
Kingsford Defence Land Subdivision and Redevelopment	2002/852	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Lake Illawarra Entrance Works (stage 2)	2005/1997	Not Controlled Action (Particular Manner)	Post-Approval
Moorebank Units Relocation Project, Holsworthy Training Area, NSW	2012/6462	Not Controlled Action (Particular Manner)	Post-Approval
Moriah Primary School, Centennial Park, Sydney	2004/1676	Not Controlled Action (Particular Manner)	Post-Approval
Navy Mine Countermeasures Training	2002/812	Not Controlled Action (Particular Manner)	Post-Approval
NBN Transit Fibre Minnamurra Wetlands Section	2011/5900	Not Controlled Action (Particular Manner)	Post-Approval
Partial Extraction Mining Operations in ML 1583 at the existing Clarence Colliery, NSW	2012/6446	Not Controlled Action (Particular Manner)	Post-Approval
Pine Dale Coal Mine Stage 1 Yarraboldy extension	2011/6016	Not Controlled Action (Particular Manner)	Post-Approval
Removal of stockpiles soil and other material	2006/3198	Not Controlled Action (Particular Manner)	Post-Approval
Repair and Upgrade of North Avoca Sewerage System	2010/5740	Not Controlled Action (Particular Manner)	Post-Approval
Replacement of flows with recycled water	2006/3050	Not Controlled Action (Particular Manner)	Post-Approval
Residential development of 210 lots at Wivenhoe	2008/4352	Not Controlled Action (Particular Manner)	Post-Approval
Residential Subdivision of Lot 60 Baulkham Hills Shire	2001/431	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Return of Australian Intermediate Level Radioactive Waste from the UK	2021/8998	Not Controlled Action (Particular Manner)	Post-Approval
Rhodes 132/11 kV Zone Substation	2010/5779	Not Controlled Action (Particular Manner)	Post-Approval
Rouse Hill sewer carrier and water mains	2003/1059	Not Controlled Action (Particular Manner)	Post-Approval
Senior Campus, Chifley Multi Campus College	2000/118	Not Controlled Action (Particular Manner)	Post-Approval
Site 68, Sydney Olympic Park mixed development, Homebush, NSW	2015/7445	Not Controlled Action (Particular Manner)	Post-Approval
Southern Cross Australia-New Zealand-America marine acoustic survey of the seabed	2017/7863	Not Controlled Action (Particular Manner)	Post-Approval
Southern Highlands Botanic Gardens Bowral NSW	2012/6273	Not Controlled Action (Particular Manner)	Post-Approval
St Mary's Rugby League Club upgrade	2011/6042	Not Controlled Action (Particular Manner)	Post-Approval
Subdivision of rural residential and associated works	2003/1082	Not Controlled Action (Particular Manner)	Post-Approval
Tasman Global Access submarine cable marine route survey, Narrabeen, NSW	2015/7442	Not Controlled Action (Particular Manner)	Post-Approval
Transfer of Airservices Australia property	2011/5809	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Transport of intermediate level radioactive waste to Lucas Heights, NSW	2015/7437	Not Controlled Action (Particular Manner)	Post-Approval
Transport of OPAL Spent Fuel to France in 2018 and 2025	2016/7841	Not Controlled Action (Particular Manner)	Post-Approval
Trial dispersal of Kareela Flying-fox camp, Bates Drive, Kareela, NSW	2015/7474	Not Controlled Action (Particular Manner)	Post-Approval
Veg removal to increase buffer betwn Kareela GHFF camp & residences & school, Kareela, NSW	2014/7222	Not Controlled Action (Particular Manner)	Post-Approval
Villawood Immigration Detention Centre Redevelopment	2006/2725	Not Controlled Action (Particular Manner)	Post-Approval
Walking Track connecting Middle Head Rd & Balmoral Park	2002/572	Not Controlled Action (Particular Manner)	Post-Approval
Walking track upgrade	2001/130	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
18744 Redbank Southern Valley Residential Subdivision	2021/9129	Referral Decision	Referral Publication
Alterations and Additions	2006/3081	Referral Decision	Completed
Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed
Clarence Colliery Coal Mining Lease Extension	2001/238	Referral Decision	Completed
Claymore Urban Renewal Project	2011/6162	Referral Decision	Completed
Construction, operation and maintenance of a new zone substation	2011/5897	Referral Decision	Completed
Demolition and Removal of Five Naval Cottages	2008/4322	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Demolition of Naval Cottages & Revegetation as Part of SHFT's Headland Park	2005/2128	Referral Decision	Completed
Ivanhoe Estate Redevelopment, Macquarie Park, NSW	2018/8184	Referral Decision	Completed
Keyhole Site Horsley Park	2021/9000	Referral Decision	Referral Publication
Mixed Use Residential Development	2011/6166	Referral Decision	Completed
Modification to Mixed Use Development at 45-47 Macquarie Street, Parramatta, NSW	2012/6607	Referral Decision	Completed
New transmission infrastructure, HumeLink	2021/9121	Referral Decision	Referral Publication
Northern Expansion of the Camden Gas Project	2012/6638	Referral Decision	Completed
Partial extraction mining operations	2011/5983	Referral Decision	Completed
Relocation of Grey-Headed Flying-Fox Colony	2008/4568	Referral Decision	Completed
Renovation and Landscape Rehabilitation of the Championship Course at Royal Sydney Golf Club	2022/9167	Referral Decision	Referral Publication
Residential development, Garfield and Regent Streets, Riverston, NSW	2015/7571	Referral Decision	Completed
Residential development, Lot 61 off Appin Road, Mt Gilead	2016/7830	Referral Decision	Completed
Residential subdivision Lot 8 in DP 220102	2010/5765	Referral Decision	Completed
SITA Lucas Heights ARRT Facility, NSW	2012/6696	Referral Decision	Completed
Stage 2 Masonry Plant, Port Kembla, NSW	2014/7247	Referral Decision	Completed
St Marys Rugby League Club new training field	2011/5836	Referral Decision	Completed
Subdivision of 12 Stewarts Lane Wilberforce & Construction of Krahe Road	2011/6189	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Subdivison and construction of six rural residential lots	2002/551	Referral Decision	Completed
Summer Hill Flour Mills Residential & Commercial development	2011/5859	Referral Decision	Completed
Sydney Science Park, Luddenham, NSW	2017/7971	Referral Decision	Completed
Westfield Parramatta Extension, NSW	2012/6657	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Canyons on the eastern continental slope	Temperate east

Biologically Important Areas

Scientific Name	Behaviour	Presence
Dolphins		
Tursiops aduncus		
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur
Seabirds		
Ardenna carneipes		
Flesh-footed Shearwater [82404]	Foraging	Known to occur
Ardenna pacifica		
Wedge-tailed Shearwater [84292]	Foraging	Likely to occur
Ardenna tenuirostris		
Short-tailed Shearwater [82652]	Foraging	Likely to occur
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Foraging	Likely to occur
Diomedea exulans antipodensis		
Antipodean Albatross [82269]	Foraging	Known to occur
Eudyptula minor		
Little Penguin [1085]	Breeding	Known to occur
Eudyptula minor		
Little Penguin [1085]	Breeding	Likely to occur

Scientific Name	Behaviour	Presence
Macronectes giganteus Southern Giant Petrel [1060]	Foraging	Known to occur
Macronectes halli Northern Giant Petrel [1061]	Foraging	Known to occur
Oceanites oceanites Wilson's Storm Petrel [1034]	Migration	Known to occur
Procellaria parkinsoni Black Petrel [1048]	Foraging	Likely to occur
Pterodroma macroptera Great-winged Petrel [1035]	Foraging	Likely to occur
Thalassarche cauta steadi White-capped Albatross [82344]	Foraging	Known to occur
Thalassarche chlororhynchos bassi Indian Yellow-nosed Albatross [85249]	Foraging	Known to occur
Thalassarche melanophris Black-browed Albatross [66472]	Foraging	Known to occur
Thalassarche melanophris impavida Campbell Albatross [82449]	Foraging	Likely to occur
Sharks		
Carcharias taurus Grey Nurse Shark [64469]	Foraging	Known to occur
Carcharias taurus Grey Nurse Shark [64469]	Migration	Known to occur
Carcharodon carcharias White Shark [64470]	Distribution	Known to occur
Carcharodon carcharias White Shark [64470]	Distribution	Likely to occur
Whales		
Megaptera novaeangliae Humpback Whale [38]	Foraging	Known to occur

SubRegion	BioRegion	Website
Sydney	Sydney Basin	BA website
Hunter	Northern Sydney Basin	BA website

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

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

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

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

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

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Appendix B

Nationally listed threatened species,
ecological communities and Migratory
species preferred habitat

B1 Nationally threatened or migratory fauna species

Table B.1 MNES threatened or migratory fauna species

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Birds										
Bird	Alaskan Bar-tailed Godwit	<i>Limosa lapponica baueri</i>	V	PMST	0	0	0-5000	High	Mod	Yes
Bird	Antipodean Albatross	<i>Diomedea antipodensis</i>	V, M	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	Arctic Jaeger	<i>Stercorarius parasiticus</i>	M	BioNet	7	0	0-50	Low	Low	No
Bird	Australasian Bittern	<i>Botaurus poiciloptilus</i>	E	BioNet, PMST	56	1	0-50	High	High	Yes
Bird	Australian Fairy Tern	<i>Sternula nereis</i>	V	PMST	0	0	0-50	Low	Low	No
Bird	Australian Painted Snipe	<i>Rostratula australis</i>	E	BioNet, PMST	24	1	0-50	High	Mod	Yes
Bird	Barn Swallow	<i>Hirundo rustica</i>	M	BioNet	9	1	0-100	Mod	Low	No
Bird	Bar-tailed Godwit	<i>Limosa lapponica</i>	M	BioNet, PMST	1,742	0	0-50	High	Mod	Yes
Bird	Black-browed Albatross	<i>Thalassarche melanophris</i>	V, M	BioNet, PMST	26	0	0-50	Low	Low	No
Bird	Black-faced Monarch	<i>Monarcha melanopsis</i>	M	PMST	0	0	0-50	High	Mod	Yes
Bird	Black-tailed Godwit	<i>Limosa</i>	M	BioNet, PMST	35	1	0-50	High	Mod	Yes
Bird	Blue Petrel	<i>Halobaena caerulea</i>	V	BioNet	4	0	0-50	Low	Low	No
Bird	Blue-winged Parrot	<i>Neophema chrysostoma</i>	V	PMST	0	0	0-50	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Broad-billed Sandpiper	<i>Limicola falcinellus</i>	M	BioNet, PMST	17	0	0-50	Low	Low	No
Bird	Brown Booby	<i>Sula leucogaster</i>	M	BioNet	5	0	0-50	Low	Low	No
Bird	Brown Treecreeper	<i>Climacteris picumnus victoriae</i>	V	BioNet, PMST	338	1	0-50	High	Low	No
Bird	Buller's Albatross	<i>Thalassarche bulleri</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	Campbell Albatross	<i>Thalassarche impavida</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	Caspian Tern	<i>Hydroprogne caspia</i>	M	BioNet	195	0	0-200	High	Mod	Yes
Bird	Chatham Albatross	<i>Thalassarche eremita</i>	E, M	PMST	0	0	0-50	Low	Low	No
Bird	Common Greenshank	<i>Tringa nebularia</i>	M	BioNet, PMST	323	1	0-50	High	Mod	Yes
Bird	Common Noddy	<i>Anous stolidus</i>	M	BioNet, PMST	6	0	0-50	Low	Low	No
Bird	Common Sandpiper	<i>Actitis hypoleucos</i>	M	BioNet, PMST	119	0	0-50	High	Mod	Yes
Bird	Common Tern	<i>Sterna hirundo</i>	M	BioNet	148	0	0-200	Moderate	Low	No
Bird	Crested Tern	<i>Thalasseus bergii</i>	M	BioNet	847	0	0-50	Low	Low	No
Bird	Curlew Sandpiper	<i>Calidris ferruginea</i>	CE, M	BioNet, PMST	669	0	0-50	High	Mod	Yes
Bird	Diamond Firetail	<i>Stagonopleura guttata</i>	V	BioNet, PMST	129	4	0-50	High	Low	No
Bird	Double-banded Plover	<i>Charadrius bicinctus</i>	M	PMST	0	0	0-50	High	Mod	Yes
Bird	Eastern Bristlebird	<i>Dasyornis brachypterus</i>	E	BioNet, PMST	166	0	0-50	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Eastern Curlew	<i>Numenius madagascariensis</i>	CE, M	BioNet, PMST	745	0	0-50	High	Mod	Yes
Bird	Eastern Hooded Plover	<i>Thinornis cucullatus</i>	V	BioNet	3	0	0-50	High	Mod	Yes
Bird	Fairy Prion (southern)	<i>Pachyptila turtur subantarctica</i>	V	PMST	0	0	0-50	Low	Low	No
Bird	Flesh-footed Shearwater	<i>Ardenna carneipes</i>	M	BioNet, PMST	14	0	0-50	Low	Low	No
Bird	Fork-tailed Swift	<i>Apus pacificus</i>	M	BioNet	69	4	0-1000	High	Mod	Yes
Bird	Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	E	BioNet, PMST	1,589	12	0-50	High	Mod	Yes
Bird	Gibson's Albatross	<i>Diomedea gibsoni</i>	V	BioNet, PMST	2	0	0-50	Low	Low	No
Bird	Glossy Ibis	<i>Plegadis falcinellus</i>	M	PMST	0	0	0-50	High	High	Yes
Bird	Gould's Petrel	<i>Pterodroma leucoptera</i>	E	BioNet, PMST	7	0	0-50	Low	Low	No
Bird	Great Knot	<i>Calidris tenuirostris</i>	CE, M	BioNet, PMST	41	0	0-50	High	Mod	Yes
Bird	Greater Frigatebird	<i>Fregata minor</i>	M	PMST	0	0	0-3000	Low	Low	No
Bird	Greater Sand Plover	<i>Charadrius leschenaultii</i>	V, M	BioNet, PMST	20	0	0-50	High	Mod	Yes
Bird	Grey Falcon	<i>Falco hypoleucos</i>	V	BioNet, PMST	1	0	0-200	Low	Low	No
Bird	Grey Plover	<i>Pluvialis squatarola</i>	M	BioNet, PMST	60	1	0-50	Low	Low	No
Bird	Grey-headed Albatross	<i>Thalassarche chrysostoma</i>	E, M	BioNet	2	0	0-50	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Grey-tailed Tattler	<i>Tringa brevipes</i>	M	BioNet, PMST	213	0	0-50	High	Mod	Yes
Bird	Gull-billed Tern	<i>Gelochelidon nilotica</i>	C	BioNet	22	0	0-200	High	Mod	Yes
Bird	Herald Petrel	<i>Pterodroma heraldica</i>	CE	PMST	0	0	0-50	Low	Low	No
Bird	Indian Yellow-nosed Albatross	<i>Thalassarche carteri</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	Kermadec Petrel (western)	<i>Pterodroma neglecta</i>	V	PMST	0	0	0-50	Low	Low	No
Bird	Latham's Snipe	<i>Gallinago hardwickii</i>	M	BioNet, PMST	1,321	15	0-50	High	Mod	Yes
Bird	Lesser Frigatebird	<i>Fregata ariel</i>	M	BioNet, PMST	3	0	0-3000	Low	Low	No
Bird	Lesser Sand Plover	<i>Charadrius mongolus</i>	E, M	BioNet, PMST	56	0	0-50	Low	Low	No
Bird	Little Curlew	<i>Numenius minutus</i>	M	BioNet, PMST	14	0	0-50	High	Mod	Yes
Bird	Little Tern	<i>Sternula albifrons</i>	M	BioNet, PMST	1,836	0	0-200	Mod	Low	No
Bird	Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	M	BioNet	4	0	0-50	Low	Low	No
Bird	Long-toed Stint	<i>Calidris subminuta</i>	M	BioNet, PMST	4	0	0-50	Low	Low	No
Bird	Marsh Sandpiper	<i>Tringa stagnatilis</i>	M	BioNet, PMST	69	0	0-50	High	Mod	Yes
Bird	Northern Buller's Albatross	<i>Thalassarche bulleri platei</i>	V	PMST	0	0	0-50	Low	Low	No
Bird	Northern Giant-Petrel	<i>Macronectes halli</i>	V, M	BioNet, PMST	8	0	0-50	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Northern Royal Albatross	<i>Diomedea sanfordi</i>	E, M	PMST	0	0	0-50	Low	Low	No
Bird	Orange-bellied Parrot	<i>Neophema chrysogaster</i>	CE	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	Oriental Cuckoo	<i>Cuculus optatus</i>	M	BioNet, PMST	20	1	0-50	Low	Low	No
Bird	Oriental Plover	<i>Charadrius veredus</i>	M	BioNet, PMST	3	0	0-50	High	Mod	Yes
Bird	Oriental Pratincole	<i>Glareola maldivarum</i>	M	BioNet	2	0	0-50	Low	Low	No
Bird	Osprey	<i>Pandion haliaetus</i>	M	BioNet, PMST	186	0	0-200	High	High	Yes
Bird	Pacific Golden Plover	<i>Pluvialis fulva</i>	M	BioNet, PMST	588	0	0-50	High	Mod	Yes
Bird	Painted Honeyeater	<i>Grantiella picta</i>	V	BioNet, PMST	10	0	0-50	High	High	Yes
Bird	Pectoral Sandpiper	<i>Calidris melanotos</i>	M	BioNet, PMST	87	0	0-50	High	Mod	Yes
Bird	Pilotbird	<i>Pycnoptilus floccosus</i>	V	BioNet, PMST	506	1	0-20	High	High	No
Bird	Pin-tailed Snipe	<i>Gallinago stenura</i>	M	PMST	0	0	0-50	Low	Low	No
Bird	Pomarine Jaeger	<i>Stercorarius pomarinus</i>	M	BioNet	5	0	0-50	Low	Low	No
Bird	Red Goshawk	<i>Erythrotriorchis radiatus</i>	V	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	Red Knot	<i>Calidris canutus</i>	E, M	BioNet, PMST	116	0	0-50	High	Low	Yes
Bird	Red-necked Stint	<i>Calidris ruficollis</i>	M	BioNet, PMST	577	0	0-50	High	Mod	Yes
Bird	Regent Honeyeater	<i>Anthochaera phrygia</i>	CE	BioNet, PMST	302	14	0-50	High	Mod	Yes
Bird	Ruddy Turnstone	<i>Arenaria interpres</i>	M	BioNet, PMST	306	0	0-50	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Ruff	<i>Philomachus pugnax</i>	M	BioNet, PMST	15	0	0-50	Low	Low	No
Bird	Rufous Fantail	<i>Phipidua rufifrons</i>	M	PMST	0	0	0-50	High	High	Yes
Bird	Salvin's Albatross	<i>Thalassarche salvini</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	Sanderling	<i>Calidris alba</i>	M	BioNet, PMST	34	0	0-50	Low	Low	No
Bird	Satin Flycatcher	<i>Myiagra cyanoleuca</i>	M	PMST	0	0	0-50	High	Mod	Yes
Bird	Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	M	BioNet, PMST	1,631	1	0-50	High	High	Yes
Bird	Short-tailed Shearwater	<i>Ardenna tenuirostris</i>	M	BioNet, PMST	196	0	0-50	Low	Low	No
Bird	Shy Albatross	<i>Thalassarche cauta</i>	E, M	BioNet, PMST	12	0	0-50	Low	Low	No
Bird	Sooty Albatross	<i>Phoebastria fusca</i>	V, M	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	Sooty Shearwater	<i>Ardenna grisea</i>	M	BioNet, PMST	63	0	0-50	Low	Low	No
Bird	South-eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami</i>	E	BioNet, PMST	1,649	18	0-50	High	Mod	Yes
Bird	South-eastern Hooded Robin	<i>Melanodryas cucullata cucullata</i>	E	BioNet, PMST	85	3	0-50	High	Low	No
Bird	Southern Giant Petrel	<i>Macronectes giganteus</i>	E, M	BioNet, PMST	357	0	0-50	Low	Low	No
Bird	Southern Royal Albatross	<i>Diomedea epomophora</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	Southern Whiteface	<i>Aphelocephala leucopsis</i>	V	PMST	0	0	0-50	High	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Spectacled Monarch	<i>Symposiachrus trivirgatus</i>	M	PMST	0	0	0-50	Low	Low	No
Bird	Star Finch	<i>Neochmia ruficauda</i>	E	BioNet	2	0	0-20	Low	Low	No
Bird	Streaked Shearwater	<i>Calonectris leucomelas</i>	M	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	Superb Parrot	<i>Polytelis swainsonii</i>	V	BioNet, PMST	7	0	0-50	Moderate	Low	No
Bird	Swift Parrot	<i>Lathamus discolor</i>	CE	BioNet, PMST	620	39	0-100	High	Moderate	Yes
Bird	Swinhoe's Snipe	<i>Gallinago megala</i>	M	PMST	0	0	0-50	Low	Low	No
Bird	Terek Sandpiper	<i>Xenus cinereus</i>	M	BioNet, PMST	56	0	0-50	Mod	Low	No
Bird	Wandering Albatross	<i>Diomedea exulans</i>	V, M	BioNet, PMST	1,450	0	0-50	Low	Low	No
Bird	Wandering Tattler	<i>Tringa incana</i>	M	BioNet, PMST	24	0	0-50	Low	Low	No
Bird	Wedge-tailed Shearwater	<i>Ardenna pacifica</i>	M	BioNet, PMST	396	0	0-50	Low	Low	No
Bird	Whimbrel	<i>Numenius phaeopus</i>	M	BioNet, PMST	298	0	0-50	Mod	Low	No
Bird	White-bellied Storm-Petrel	<i>Fregetta grallaria</i>	V	BioNet, PMST	1	0	0-50	Low	Low	No
Bird	White-capped Albatross	<i>Thalassarche steadi</i>	V, M	PMST	0	0	0-50	Low	Low	No
Bird	White-tailed Tropicbird	<i>Phaethon lepturus</i>	M	BioNet, PMST	3	0	0-50	Moderate	Low	No
Bird	White-throated Needletail	<i>Hirundapus caudacutus</i>	V, M	BioNet, PMST	349	2	30-500	High	Mod	Yes
Bird	White-winged Black Tern	<i>Chlidonias leucopterus</i>	M	BioNet	12	0	0-200	Mod	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Bird	Wilson's Storm-Petrel	<i>Oceanites oceanicus</i>	M	BioNet, PMST	3	0	0-50	Low	Low	No
Bird	Wood Sandpiper	<i>Tringa glareola</i>	M	BioNet, PMST	27	0	0-100	High	Mod	Yes
Bird	Yellow Wagtail	<i>Motacilla flava</i>	M	BioNet, PMST	2	0	0-50	Low	Low	No
Mammals										
Mammal	Brush-tailed Rock-wallaby	<i>Petrogale penicillata</i>	V	BioNet, PMST	79	3	0	Low	Low	No
Mammal	Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>	V	PMST	0	0	0-20	Low	Low	No
Mammal	Greater Glider	<i>Petauroides volans</i>	E	BioNet, PMST	2,407	25	0-50	Low	Low	No
Mammal	Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	V	BioNet, PMST	9,475	266	5-500	High	High	Yes
Mammal	Koala	<i>Phascolarctos cinereus</i>	E	BioNet, PMST	23,685	15	0-50	Mod	Low	No
Mammal	Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	V	BioNet, PMST	561	15	0-20	High	High	Yes
Mammal	Long-nosed Potoroo (northern)	<i>Potorous tridactylus</i>	V	BioNet, PMST	94	0	0-20	Mod	Low	No
Mammal	New Holland Mouse	<i>Pseudomys novaehollandiae</i>	V	BioNet, PMST	123	0	0	Low	Low	No
Mammal	Parma Wallaby	<i>Notamacropus parma</i>	V	BioNet, PMST	4	0	0	Low	Low	No
Mammal	Southern Brown Bandicoot (eastern)	<i>Isodon obesulus</i>	E	BioNet, PMST	466	0	0	Low	Low	No
Mammal	Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	E	BioNet, PMST	909	3	0	High	Low	No
Mammal	Yellow-bellied Glider	<i>Petaurus australis</i>	V	BioNet, PMST	752	3	0-50	High	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Amphibians										
Amphibian	Booroolong Frog	<i>Litoria booroolongensis</i>	E	BioNet, PMST	4	0	0	Low	Low	No
Amphibian	Giant Barred Frog	<i>Mixophyes iteratus</i>	V	BioNet, PMST	2	0	0	Low	Low	No
Amphibian	Giant Burrowing Frog	<i>Heleioporus australiacus</i>	V	BioNet, PMST	657	5	0	Low	Low	No
Amphibian	Green and Golden Bell Frog	<i>Litoria aurea</i>	V	BioNet, PMST	17,941	4	0	Low	Low	No
Amphibian	Littlejohn's Tree Frog	<i>Litoria littlejohni</i>	E	BioNet, PMST	2,005	0	0	Low	Low	No
Amphibian	Southern Bell Frog	<i>Litoria raniformis</i>	V	BioNet, PMST	15	0	0	Low	Low	No
Amphibian	Stuttering Frog	<i>Mixophyes balbus</i>	V	PMST	0	0	0	Low	Low	No
Amphibian	Watson's Tree Frog	<i>Litoria watsoni</i>	E	PMST	0	0	0	Low	Low	No
Reptiles										
Reptile	Blue Mountains Water Skink	<i>Eulamprus leuraensis</i>	E	BioNet, PMST	682	0	0	Low	Low	No
Reptile	Broad-headed Snake	<i>Hoplocephalus bungaroides</i>	V	BioNet, PMST	329	0	0	Low	Low	No
Reptile	Pink-tailed Worm-lizard	<i>Aprasia parapulchella</i>	V	PMST	0	0	0	Low	Low	No
Reptile	Striped Legless Lizard	<i>Delma impar</i>	V	PMST	0	0	0	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Invertebrates										
Invertebrate	Dural Land Snail	<i>Pommerhelix duralensis</i>	E	BioNet, PMST	262	1	0	High	High	No
Invertebrate	Golden Sun Moth	<i>Synemon plana</i>	V	PMST	0	0	0	Low	Low	No
Invertebrate	Key's Matchstick Grasshopper	<i>Keyacris scurra</i>	E	PMST	0	0	0	Low	Low	No
Invertebrate	Maroubra Woodland Snail	<i>Meridolum maryae</i>	E	BioNet, PMST	16	0	0	Low	Low	No
Invertebrate	Purple Copper Butterfly, Bathurst Copper Butterfly	<i>Paralucia spinifera</i>	V	BioNet, PMST	213	0	0-10	Low	Low	No
Invertebrate	Sydney Hawk Dragonfly	<i>Austrocordulia leonardi</i>	E	PMST	0	0	0	High	Low	No
Fish										
Fish	Australian Grayling	<i>Prototroctes maraena</i>	V	PMST	0	0	0	Low	Low	No
Fish	Black Rockcod	<i>Epinephelus daemeli</i>	V	PMST	0	0	0	Low	Low	No
Fish	Macquarie Perch	<i>Macquaria australasica</i>	E	PMST	0	0	0	Low	Low	No
Fish	Murray Cod	<i>Maccullochella peelii</i>	V	PMST	0	0	0	Low	Low	No
Fish	Silver Perch	<i>Bidyanus</i>	CE	PMST	0	0	0	Low	Low	No
Fish	Trout Cod	<i>Maccullochella macquariensis</i>	E	PMST	0	0	0	Low	Low	No
Fish	White's Seahorse	<i>Hippocampus whitei</i>	E	PMST	0	0	0	Low	Low	No

Fauna guild	Common name	Scientific name	EPBC Act status ¹	Database source ²	BioNet records within assessment zone	BioNet records within wildlife buffer	Altitude (m)	Likelihood of occurrence (assessment zone)	Likelihood of occurrence (wildlife buffer)	Candidate species?
Crustaceans										
Crustacean	Fitzroy Falls Spiny Crayfish	<i>Euastacus dhaeawalus</i>	CE	PMST	0	0	0	Low	Low	No

1. Listed as Vulnerable (V), Endangered (E), Critically Endangered (CE), Presumed Extinct (X), or Migratory (M) under the EPBC Act.
2. BioNet = DPE’s BioNet search, PMST = DEECCW’s Protected Matters Search Tool search.
3. Table excludes all Marine EPBC Act listings and oceanic species for example whale, shark, turtles et cetera as no marine environments are being impacted upon by the project.

Table B.2 Fauna habitat descriptions

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Birds		
Alaskan Bar-tailed Godwit	<i>Limosa lapponica baueri</i>	The bar-tailed godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. The subspecies <i>L. l. baueri</i> breeds in north-east Siberia as well as in west Alaska. During the non-breeding period, the distribution of bar-tailed godwit (western Alaskan) is predominately New Zealand, northern and eastern Australia. In Australia, <i>L. l. baueri</i> mainly occur along the north and east coasts.
Antipodean Albatross	<i>Diomedea antipodensis</i>	The Antipodean Albatross is endemic to New Zealand, however forages widely in open water in the south-west Pacific Ocean, Southern Ocean and the Tasman Sea, notably off the coast of NSW. The Antipodean Albatross is marine, pelagic and aerial. It sleeps and rests on ocean waters when not breeding. They nest on pen patchy vegetation, such as among tussock grassland or shrubs on ridges, slopes and plateaus however, not in Australia.
Arctic Jaeger	<i>Stercorarius parasiticus</i>	The arctic jaeger nests in tundra habitats. They live near the coast and large rivers, bordered by grassland and moorland. When jaegers are not breeding it is a migrant, wintering at sea in the tropics and southern oceans.
Australasian Bittern	<i>Botaurus poiciloptilus</i>	The Australasian bittern is a secretive, stocky, heron-like bird, living in wetlands where it forages. In Australia, the species occurs from south-east Queensland to south-east South Australia, Tasmania and in the south-west of Western Australia. Preferred habitat is comprised of wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate.
Australian Fairy Tern	<i>Sternula nereis</i>	Occurs along the coasts of Victoria, Tasmania, SA and WA. The subspecies has been known from NSW in the past, but it is unknown if it persists there. Nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation. Has been found in embayments including offshore, estuarine or lacustrine (lake) islands, wetlands and mainland coastline.
Australian Painted Snipe	<i>Rostratula australis</i>	The Australian painted snipe has been recorded at wetlands in all states of Australia. It is most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland and inhabits shallow, temporary freshwater wetlands or saltmarshes. Threats to this species include loss and degradation of habitat and predation by feral animals.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Bar-tailed Godwit	<i>Limosa lapponica</i>	The Bar-tailed Godwit has been recorded in the coastal areas of all Australian states. It is widespread in the Torres Strait and along the east and south-east coasts of Queensland, NSW and Victoria, including the offshore islands. Found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh. It has been sighted in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats. It is rarely found on inland wetlands or in areas of short grass, such as farmland, paddocks and airstrips, although it is commonly recorded in paddocks at some locations overseas.
Black-browed Albatross	<i>Thalassarche melanophris</i>	The black-browed albatross breeds within Australian jurisdiction on Heard Island, McDonald Islands, Macquarie Island and Bishop and Clerk Islets. The population migrates northward towards the end of the breeding season and the species is common in the non-breeding period at the continental shelf and shelf-break of South Australia, Victoria, Tasmania, western and eastern Bass Strait and NSW. Individuals are also observed at these times in lesser numbers at the continental shelf break of southern and south-western Western Australia and south-eastern Queensland.
Black-faced Monarch	<i>Monarcha melanopsis</i>	The black-faced monarch is widespread in Queensland from the islands of the Torres Strait and on Cape York Peninsula, south along the coasts and the eastern slopes of the Great Divide, to the New South Wales border. It inhabits middle layers of rainforest, gullies, dense wet forest and more open country during migration. Perceived threats include predation by feral cats and collision with human infrastructure.
Black-tailed Godwit	<i>Limosa</i>	Prefers coastal regions and the largest populations are found on the north coast between Darwin and Weipa. It is generally found in small numbers elsewhere and there are scattered inland records.
Blue Petrel	<i>Halobaena caerulea</i>	The Blue Petrel is circumpolar, ranging from pack ice to 30° S. It breeds on offshore stacks near Macquarie Island and on a number of other islands in the southern Atlantic and Indian Oceans. They mainly stay near breeding islands during the southern summer but spread into the Pacific sector in winter and spring. The Blue Petrel forages in Antarctic and subantarctic waters for pelagic crustaceans, fish, cephalopods and insects.
Blue-winged parrot	<i>Neophema chrysostoma</i>	They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones (Higgins 1999; Holdsworth et al. 2021). The species can also be seen in altered environments such as airfields, golf-courses and paddocks.
Broad-billed Sandpiper	<i>Limicola falcinellus</i>	Occurs in sheltered parts of the coast, favouring estuarine mudflats but also occasionally occur on saltmarshes, shallow freshwater lagoons, saltworks and sewage farms, and in areas with large soft intertidal mudflats, which may have shell or sandbanks nearby. They have also been recorded in creeks, swamps and lakes near the coast. They are rarely recorded inland.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Brown Booby	<i>Sula leucogaster</i>	In Australia, the brown booby is found from Bedout Island in Western Australia, around the coast of the Northern Territory to the Bunker Group of islands in Queensland with occasional reports further south in New South Wales (NSW) and Victoria (Marchant & Higgins 1990). The brown booby uses both marine and terrestrial habitat. The species occurs in, but is not restricted to, tropical waters of all major oceans, often staying close to breeding islands. The species is known to approach mainland coastlines more than other boobies and has been recorded in coastal waters, harbours and estuaries and near offshore islands but seldom flying over land (Marchant & Higgins 1990).
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum (<i>Eucalyptus camaldulensis</i>) Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.
Buller's Albatross	<i>Thalassarche bulleri</i>	Buller's Albatross breed in New Zealand (Snares, Solander and Chatham Islands), but are regular visitors (none-breeding) to Australian waters and are frequently seen off the coast from Coffs Harbour, south to Tasmania and west to Eyre Peninsula. Buller's Albatross are marine and pelagic, inhabiting subtropical and subantarctic waters of the southern Pacific Ocean although the movement patterns are poorly known.
Campbell Albatross	<i>Thalassarche impavida</i>	The Campbell albatross is a marine sea bird inhabiting sub-Antarctic and subtropical waters from pelagic to shelf-break water habitats.
Caspian Tern	<i>Hydroprogne caspia</i>	The Caspian Tern is found in sheltered coastal embayments preferring sandy or muddy margins. Also found in near-coastal or inland terrestrial wetlands. It forages in open wetlands, preferring sheltered shallow water near the margins. It usually breeds in low islands, cays, spits, banks, ridges, beaches of sand or shell, terrestrial wetlands and stony or rocky islets or banks and occasionally among beach-cast debris above the high-water mark or at artificial sites, including islands in reservoirs, or on dredge-spoil. Generally roosting occurs on bare exposed sand or shell spits, banks or shores.
Cattle Egret	<i>Ardea ibis</i>	High numbers have been observed in moist, low-lying poorly drained pastures with an abundance of high grass; it avoids low grass pastures. It has been recorded on earthen dam walls and ploughed fields. It uses predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. They have sometimes been observed in swamps with tall emergent vegetation.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Chatham Albatross	<i>Thalassarche eremita</i>	The Chatham albatross is a marine sea bird inhabiting sub-Antarctic and subtropical waters from pelagic to shelf-break water habitats.
Common Greenshank	<i>Tringa nebularia</i>	The common greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms.
Common Noddy	<i>Anous stolidus</i>	During the breeding season, the common noddy usually occurs on or near islands, on rocky islets and stacks with precipitous cliffs, or on shoals or cays of coral or sand. During the non-breeding period, the species occurs in groups throughout the pelagic zone.
Common Sandpiper	<i>Actitis hypoleucos</i>	The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The common sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties.
Common Tern	<i>Sterna hirundo</i>	Common terns are migratory species and almost always reside in colonies. The colonies tend to be along ocean coasts, although they are also found on the shores of large lakes.
Crested Tern	<i>Thalasseus bergii</i>	The crested tern occurs in tropical and warm temperate coastal parts of the Old World from South Africa around the Indian Ocean to the Pacific and Australia. Though the crested tern is usually a strictly coastal species, there are occasional records in the arid interior of Australia.
Curlew Sandpiper	<i>Calidris ferruginea</i>	Curlew sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets, lagoons, lakes, and around non-tidal swamps. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (Higgins & Davies 1996).
Diamond Firetail	<i>Stagonopleura guttata</i>	Diamond Firetail occur in grassy woodlands, open forest, mallee, Natural Temperate Grassland and secondary grassland derived from other communities. They can often be found along riparian areas and lightly wooded farmland.
Double-banded Plover	<i>Charadrius bicinctus</i>	Migrating to Australia during the non-breeding season, this species can be found in coastal and inland regions. Typically, it is common in eastern and southern Australia on littoral, estuarine and fresh wetland habitats. Saltmarshes and pastures are also often frequented. The species consumes an array of aquatic and terrestrial invertebrates although there is some uncertainty surrounding dietary requirements.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Eastern Bristlebird	<i>Dasyornis brachypterus</i>	Habitat is characterised by dense, low vegetation including heath and open woodland with a heathy understorey. Age of habitat since fires (fire-age) is of paramount importance to this species; Illawarra and southern populations reach maximum densities in habitat that has not been burnt for at least 15 years.
Eastern Curlew	<i>Numenius madagascariensis</i>	The eastern curlew is a non-breeding visitor generally found in coastal regions in the north, east and south-east of Australia, including Tasmania. In these regions it generally inhabits sheltered coasts, estuaries, bays harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats, often with beds of seagrass. Main threats include: human disturbance, pollution, changes to water regimes and invasive plants.
Eastern Hooded Plover	<i>Thinornis cucullatus</i>	The Hooded Plover (eastern) is widely dispersed on or near sandy beaches in south-eastern Australia. Occurs in coastal areas, on or near high energy sandy beaches. Sometimes found in habitats other than beaches, e.g. on rock platforms, reefs, around near coastal lakes and lagoons. Synonym: <i>Thinornis rubricollis rubicollis</i> .
Fairy Prion (southern)	<i>Pachyptila turtur subantarctica</i>	The fairy prion (southern) breeds on Macquarie Island and a number of other subantarctic islands outside of Australia. There are 80 to 250 breeding pairs in Australia and a global population of 80 000. In Australia, breeding is recorded on 2 rock stacks off Macquarie Island and on the nearby Bishop and Clerk Island.
Flesh-footed Shearwater	<i>Ardenna carneipes</i>	The flesh-footed shearwater is a locally common visitor to waters of the continental shelf and continental slope off southern Australia (south-western Western Australia to south-eastern Queensland) and around Lord Howe Island.
Fork-tailed Swift	<i>Apus pacificus</i>	Non-breeding visitor to all states and territories of Australia. Almost exclusively an aerial species, typically occurring over inland plains but sometimes above foothills or in coastal areas. There are no significant threats to the species.
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	Distributed from southern Victoria through south and central-eastern New South Wales. In summer, generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In winter, may occur at lower altitudes in drier more open eucalypt forests and woodlands, and often found in urban areas.
Glossy Ibis	<i>Plegadis falcinellus</i>	The Glossy Ibis' preferred habitat for foraging and breeding are freshwater marshes at the edges of lakes and rivers, lagoons, floodplains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation. The species is occasionally found in coastal locations such as estuaries, deltas, saltmarshes and coastal lagoons. Glossy Ibis roost in trees or shrubs usually near, but sometimes far, from water bodies.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Gibson's Albatross	<i>Diomedea gibsoni</i>	Gibson's Albatross breeds on Adams Island and Auckland Island, New Zealand. In Australian territory, Gibson's Albatross has been recorded foraging between Coffs Harbour, NSW, and Wilson's Promontory, Victoria. There are no breeding colonies of Gibson's Albatross in Australian territory, and the species only visits Australian waters while foraging and during the non-breeding season. Movement patterns are still generally unknown.
Gould's Petrel	<i>Pterodroma leucoptera leucoptera</i>	Breeds on both Cabbage Tree Island, 1.4 km offshore from Port Stephens and on nearby Boondelbah island. The range and feeding areas of non-breeding petrels are unknown. The first arrival of Gould's petrel on cabbage tree Island occurs from mid to late September.
Great Knot	<i>Calidris tenuirostris</i>	The great knot has been recorded around the entirety of the Australian coast, with a few scattered records inland. Important Queensland sites include the Broad Sound-Shoalwater Bay area, the Mackay region and Moreton Bay. This species typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats. This includes inlets, bays, harbours, estuaries and lagoons.
Great Frigatebird	<i>Fregata minor</i>	Has a large distribution occurring throughout the Pacific and Indian Ocean. The species is a migratory species to Australia, its occurrence through largely limited to coast and marine areas.
Greater Sand Plover	<i>Charadrius leschenaultii</i>	In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons.
Grey Falcon	<i>Falco hypoleucos</i>	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.
Grey Plover	<i>Pluvialis squatarola</i>	In non-breeding grounds in Australia, grey plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embayments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. They also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes.
Grey-headed Albatross	<i>Thalassarche chrysostoma</i>	In Australian territory, Grey-headed Albatross breed on the southern and western flanks of Petrel Peak, Macquarie Island. Breeding and non-breeding birds disperse widely across the Southern Ocean, at more southerly latitudes in summer than in winter, when they frequent the waters off southern Australia and New Zealand. Most Australian records come from south and west of Tasmania, occasionally in Victorian waters, rarely in South Australia and Western Australia, and only as a vagrant in NSW. Grey-headed Albatrosses fly low to fairly high over open waters, using updraft from wave fronts for lift and remain at sea outside of the breeding season.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Grey-tailed Tattler	<i>Tringa brevipes</i>	The grey-tailed tattler is often found on sheltered coasts with reefs and rock platforms or with intertidal mudflats. It can also be found at intertidal rocky, coral or stony reefs as well as platforms and islets that are exposed at low tide. It has been found around shores of rock, shingle, gravel or shells and also on intertidal mudflats in embayments, estuaries and coastal lagoons, especially fringed with mangroves.
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Gull-billed terns are found in freshwater swamps, brackish and salt lakes, beaches and estuarine mudflats, floodwaters, sewage farms, irrigated croplands and grasslands. They are only rarely found over the ocean.
Herald Petrel	<i>Pterodroma heraldica</i>	The Herald Petrel is a marine, pelagic species of tropical and subtropical waters occurring in the Pacific Ocean where its breeding range extends from Raine Island, northeast Australia, in the west, as far east as Easter Island. It forages in waters surrounding these islands mostly south of the equator. In Australia, it has only been recorded breeding in small numbers on Raine Island. It is seen occasionally at sea off the east coast of Australia. Herald Petrels usually fly within 20 m of the sea surface, and take food from on or near the surface.
Indian Yellow-nosed Albatross	<i>Thalassarche carteri</i>	The Indian Yellow-nosed Albatross is a migratory, marine bird, located in subtropical and warmer subantarctic waters. The species breeds on Prince Edward Islands (South Africa), Kerguelen Islands, Crozet Island, Amsterdam and St Paul Islands (France). During the non-breeding period, movement is generally north. Large numbers occur in the Tasman Sea, off southern NSW, in May to June and continue to move north. The birds fly low or at medium heights over the sea, using air currents rising off swells for lift.
Kermadec Petrel (western)	<i>Pterodroma neglecta neglecta</i>	The kermadec petrel (western) is migratory/dispersive, breeds in colonies, but is usually solitary at sea (Baker et al. 2002; Hutton 1991; Marchant & Higgins 1990). It breeds on islands in Australian territory from October to May (Hutton 1991; Mathews 1928; McAllan et al. 2004; Wood 1988), and then disperses into subtropical, tropical and temperate waters of the Pacific Ocean, on both sides of the equator (Gould 1983; Marchant & Higgins 1990; Spear et al. 1992). It is a vagrant to the east coast of mainland Australia.
Latham's Snipe	<i>Gallinago hardwickii</i>	Latham's snipe is a passage migrant through northern Australia. It can be found in permanent and ephemeral wetlands up to 2,000 m above sea-level and usually inhabits open, freshwater wetlands with low, dense vegetation. Threats to this species include loss of habitat caused by the drainage and modification of wetlands.
Lesser Frigatebird	<i>Fregata ariel</i>	The lesser frigatebird is said to be the most common and widespread frigatebird in Australian seas. It is common in tropical seas, breeding on remote islands, including Christmas Island in the Indian Ocean in recent years. These birds are most likely to be seen from the mainland prior to the onset of a tropical cyclone, and once this abates they disappear again.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Lesser Sand Plover	<i>Charadrius mongolus</i>	This species usually occurs in coastal littoral and estuarine environments. It inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops. It also sometime occurs in short saltmarsh or among mangroves. The species also inhabits saltworks and near-coastal salt pans, brackish swamps and sandy or silt islands in river beds (Marchant & Higgins 1993). The species is seldom recorded away from the coast, at margins of lakes, soaks and swamps associated with artesian bores (Marchant & Higgins 1993).
Little Curlew	<i>Numenius minutus</i>	Little curlew congregates around pools, river beds and water-filled tidal channels, and shallow water at edges of billabongs. The species prefers pools with bare dry mud (including mudbanks in shallow water) and they do not use pools if they are totally dry, flooded or heavily vegetated. Birds may also rest in grassy, open woodlands and on bare black soil plains, or on dry or recently burnt grasslands on floodplains, which may be without vegetation for hundreds of metres, and occasionally on mudflats when nearby grasslands are unburnt, or around swamps.
Little Tern	<i>Sternula albifrons</i>	In Australia, little terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	Species breeds in the Arctic, spending most of its remaining time out at sea.
Long-toed Stint	<i>Calidris subminuta</i>	Is a regular summer visitor to Australia, but uncommon in the east. Occurs in a variety of terrestrial wetlands. They prefer shallow freshwater or brackish wetlands including lakes, swamps, river floodplains, streams, lagoons and sewage ponds. The species is also fond of areas of muddy shoreline, growths of short grass, weeds, sedges, low or floating aquatic vegetation, reeds, rushes and occasionally stunted samphire. It has also been observed at open, less vegetated shores of larger lakes and ponds and is common on muddy fringes of drying ephemeral lakes and swamps. The Long-toed Stint also frequents permanent wetlands such as reservoirs and artificial lakes. They are uncommon, but not unknown, at tidal estuaries, saline lakes, saltponds and bore swamps.
Marsh Sandpiper	<i>Tringa stagnatilis</i>	The marsh sandpiper lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, salt pans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. They are recorded less often at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. In north Australia they prefer intertidal mudflats.
Northern Buller's Albatross	<i>Thalassarche bulleri platei</i>	The Pacific Albatross is a marine, pelagic species. It occurs in subtropical and subantarctic waters of the South Pacific Ocean. The Pacific Albatross breeds only on Chatham and Three Kings Island, New Zealand and is a non-breeding visitor to Australian waters. Foraging birds are mostly limited to the Pacific Ocean and the Tasman Sea, although birds do reach the east coast of the Australian mainland. The birds fly in low or medium airspace using updraft off sea swell for lift.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Northern Giant-Petrel	<i>Macronectes halli</i>	The Northern Giant-Petrel has a circumpolar pelagic distribution, usually between 40-64°S in open oceans. Their range extends into subtropical waters (to 28°S) in winter and early spring, and they are a common visitor in NSW waters, predominantly along the south-east coast during winter and autumn.
Northern Royal Albatross	<i>Diomedea sanfordi</i>	The Northern Royal Albatross is marine, pelagic and aerial. It breeds on Chatham Island and Taiaroa Head on the South Island of New Zealand. The Northern Royal Albatross ranges widely over the Southern Ocean, with individuals seen in Australian waters off south-eastern Australia feeding regularly in Tasmanian and South Australian waters, and less frequently in NSW waters. The Northern Royal Albatross flies low or moderately high over open waters, using updraft from wave fronts for lift.
Orange-bellied Parrot	<i>Neophema chrysogaster</i>	Small stocky, ground-dwelling parrot primarily a deep grassy green. Breeds in south-west Tasmania and migrates in autumn to the mainland of Australia from south-eastern South Australia to southern Victoria and NSW. Typical winter habitat is saltmarsh and strandline/foredune vegetation communities either on coastlines or coastal lagoons. Spits and islands are favoured but they will turn up anywhere within these coastal regions. The species can be found foraging in weedy areas associated with these coastal habitats or even in totally modified landscapes such as pastures, seed crops and golf courses.
Oriental Cuckoo	<i>Cuculus optatus</i>	Palaeartic summer migrant to northern Australia. Inhabits forest and woodland habitats. Threats include loss of habitat and fragmentation of subpopulations, predation by cats and collision with human infrastructure.
Oriental Plover	<i>Charadrius veredus</i>	Immediately after arriving in non-breeding grounds in northern Australia, oriental plovers spend a few weeks in coastal habitats such as estuarine mudflats and sandbanks, on sandy or rocky ocean beaches or nearby reefs, or in near-coastal grasslands, before dispersing further inland. Thereafter they usually inhabit flat, open, semi-arid or arid grasslands, where the grass is short and sparse, and interspersed with hard, bare ground, such as claypans, dry paddocks, playing fields, lawns and cattle camps.
Osprey	<i>Pandion haliaetus</i>	Eastern Ospreys are found right around the Australian coastline, except for Victoria and Tasmania. They are common around the northern coast, especially on rocky shorelines, islands and reefs. The species is uncommon to rare or absent from closely settled parts of south-eastern Australia. There are a handful of records from inland areas. Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water.
Pacific Golden Plover	<i>Pluvialis fulva</i>	In non-breeding grounds in Australia this species usually inhabits coastal habitats, though it occasionally occurs around inland wetlands. Pacific golden plovers usually occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh such as <i>Sarcocornia</i> , or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Painted Honeyeater	<i>Grantiella picta</i>	The painted honeyeater occurs from south-eastern Australia to north-western Queensland and eastern Northern Territory. It can be found in dry open forests and woodlands. May also occur along rivers, on plains with scattered trees and farmland with remnant vegetation. Threats include habitat loss, predation and competition with invasive species.
Pectoral Sandpiper	<i>Calidris melanotos</i>	In Australasia, the pectoral sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.
Pilotbird	<i>Pycnoptilus floccosus</i>	Pilotbirds are endemic to south-east Australia. Two subspecies exists: Upland and Lowland. Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the Australian Capital Territory, and in the Snowy Mountains in New South Wales and north-east Victoria. Lowland Pilotbirds occur in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne. Strictly terrestrial living on the ground in sclerophyll forests in temperate zones in gullies with dense undergrowth. They are largely sedentary.
Pin-tailed Snipe	<i>Gallinago stenura</i>	During non-breeding period the pin-tailed snipe 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. The species is also found in drier, more open wetlands such as claypans in more arid parts of species' range. It is also commonly seen at sewage ponds; not normally in saline or inter-tidal wetlands.
Pomarine Jaeger	<i>Stercorarius pomarinus</i>	This species breeds in the far north of Eurasia and North America and performs a transequatorial migration, mostly wintering between the Tropic of Cancer and Tropic of Capricorn and along the coastlines of Australia and Argentina. On the wintering ground, it takes fish, sometimes by kleptoparasitism, small seabirds, and carrion.
Red Goshawk	<i>Erythrotriorchis radiatus</i>	The red goshawk is very sparsely dispersed across approximately 15% of coastal and sub-coastal Australia, from western Kimberley Division to north-eastern NSW. It inhabits coastal and subcoastal tall, open forest and woodlands, tropical savannas and along the edge of rainforests. The threats to this species include habitat loss, fire and shooting.
Red Knot	<i>Calidris canutus</i>	In Australasia the red knot mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps (Higgins & Davies 1996).
Red-necked Stint	<i>Calidris ruficollis</i>	In Australasia, the red-necked stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Regent Honeyeater	<i>Anthochaera phrygia</i>	The regent honeyeater is endemic to mainland south-eastern Australia. It has a patchy distribution which extends from south-east Queensland, through NSW and the ACT, to central Victoria. The species mostly inhabits inland slopes of the Great Dividing Range, in areas of low to moderate relief with moist, fertile soils. It is most commonly associated with box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation such as sheoak (<i>Casuarina</i> spp) where it feeds on needle-leaved mistletoe and sometimes breeds.
Ruddy Turnstone	<i>Arenaria interpres</i>	The ruddy turnstone is found in most coastal regions, with occasional records of inland populations (Higgins & Davies 1996). It strongly prefers rocky shores or beaches where there are large deposits of rotting seaweed.
Ruff	<i>Philomachus pugnax</i>	The ruff is a rare but regular visitor to Australia, being recorded in all States and Territories. In Queensland the ruff is widely scattered at several localities. It has been recorded at Edward River, Hasties Swamp, Atherton Tableland, Townsville and Alva. In Australia the ruff is found on generally fresh, brackish or saline wetlands with exposed mudflats at the edges. It is found in terrestrial wetlands including lakes, swamps, pools, lagoons, tidal rivers, swampy fields and floodlands. They are occasionally seen on sheltered coasts, in harbours, estuaries, seashores and are known to visit sewage farms and saltworks. They are sometimes found on wetlands surrounded by dense vegetation including grass, sedges, saltmarsh and reeds.
Rufous Fantail	<i>Rhipidura rufifrons</i>	The rufous fantail occurs in coastal and near coastal districts of northern and eastern Australia where it inhabits undergrowth of rainforests and wetter eucalypt forests. Coastal scrub and mangroves. The main threat to populations of rufous fantail is probably fragmentation and loss of core moist forest breeding habitat through land clearing and urbanisation.
Salvin's Albatross	<i>Thalassarche salvini</i>	Salvin's Albatross is a marine species occurring in subantarctic and subtropical waters. Salvin's albatross is a non-breeding visitor to Australian waters. Salvin's Albatross breeds on Bounty, Snares and Chatham Islands, south of New Zealand, as well as on Crozet Island in the Indian Ocean. Salvin's Albatross is thought to roam widely during the winter months, moving eastward across the South Pacific to the Humboldt Current in the waters west of South America (Chile and Peru). The species forages over most of the southern Pacific Ocean.
Sanderling	<i>Calidris alba</i>	Occurs in coastal areas around Australia. Rarely, they are recorded in near-coastal wetlands, such as lagoons, hypersaline lakes, saltponds and samphire flats. There are rare inland records from sandy shores of ephemeral brackish lakes and brackish river-pools (Higgins & Davies 1996).
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	The satin flycatcher is widespread in Queensland, but scattered in the east, being recorded on passage on a few islands in the western Torres Strait. It inhabits gullies in forests and taller woodlands, coastal forests, woodlands and mangroves. Threats include clearing and logging of forests in south-eastern Australia, especially the loss of mature forests as Satin Flycatchers are largely absent from regrowth forests.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	In Australasia, the sharp-tailed sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, salt pans and hypersaline salt lakes inland.
Short-tailed Shearwater	<i>Ardenna tenuirostris</i>	Found in coastal waters. In summer months, the short-tailed shearwater is the most common shearwater along the south and south-east coasts of Australia. The short-tailed shearwater establishes massive breeding colonies off the southern and south-eastern coasts of Australia each year.
Shy Albatross	<i>Thalassarche cauta</i>	The shy albatross is the only albatross species that is endemic to Australia. The species has breeding colonies on 3 small islands off Tasmania: Albatross Island in western Bass Strait; the Mewstone and Pedra Branca in southern Tasmanian waters.
Sooty Albatross	<i>Phoebastria fusca</i>	The sooty albatross is a rare, but probably regular migrant to Australia, mostly in the autumn-winter months, occurring north to south-east Queensland, NSW, Victoria, Tasmania and South Australia. The sooty albatross is marine and pelagic. In summer, the species occurs mainly south of 35° S in subtropical and subantarctic waters, but it is most abundant near the Subtropical Convergence.
Sooty Shearwater	<i>Ardenna grisea</i>	The species nests on islands and headlands in large colonies on islands off New Zealand, Australia and Chile, and the Falkland Islands. In Australia, there are colonies on 17 islands. The species migrates to the Northern Hemisphere during the Austral winter and return to their natal ground 4 years later. They feed on fish, crustacea and cephalopods, which are caught while diving.
South-eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami</i>	This species prefers woodland areas dominated by she-oak <i>Allocasuarina</i> , or open sclerophyll forests and woodlands with a stratum of <i>Allocasuarina</i> beneath <i>Eucalyptus</i> , <i>Corymbia</i> or <i>Angophora</i> (Glossy Black Conservancy 2010). Glossy black-cockatoos feed almost exclusively on the seeds of 9 species of <i>Allocasuarina</i> and <i>Casuarina</i> species throughout their range.
South-eastern Hooded Robin	<i>Melanodryas cucullata cucullata</i>	The Hooded Robin is widespread, found across Australia, except for the driest deserts and the wetter coastal areas - northern and eastern coastal Queensland and Tasmania. However, it is common in few places, and rarely found on the coast. It is considered a sedentary species, but local seasonal movements are possible. The south-eastern form (subspecies <i>cucullata</i>) is found from Brisbane to Adelaide and throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies <i>picata</i> . Prefers lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Southern Giant Petrel	<i>Macronectes giganteus</i>	The southern giant-petrel breeds on 6 subantarctic and Antarctic islands in Australian territory. In summer, the southern giant-petrel predominantly occurs in subantarctic to Antarctic waters. Throughout the colder months, immatures and most adults disperse widely, with Antarctic colonies becoming completely deserted during winter. The waters off south-eastern Australia may be particularly important wintering grounds (Marchant & Higgins 1990).
Southern Royal Albatross	<i>Diomedea epomophora</i>	Endemic to New Zealand, the majority of the southern royal breeding population is found on subantarctic Campbell Island, with smaller numbers on the Auckland Islands. Non-breeding birds and juveniles cross the Southern Ocean to feed in South American waters. In Australia they reach coastal waters off the Australian continent from Sydney, NSW coast to Perth in WA. They are mostly present in waters off the coastline from Adelaide, SA, to the NSW/VIC in the South-east.
Southern Whiteface	<i>Aphelocephala leucopsis</i>	Southern whiteface occur across most of mainland Australia south of the tropics, from the north-eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range (Schodde & Mason 1999). live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains (Higgins & Peter 2002).
Spectacled Monarch	<i>Symposiachrus trivirgatus</i>	The spectacled monarch is found in coastal north-eastern and eastern Australia, including coastal islands, from Cape York, Queensland to Port Stephens, New South Wales. It prefers thick understorey in rainforests, wet gullies and waterside vegetation, as well as mangroves.
Star Finch	<i>Neochmia ruficauda</i>	The distribution of the star finch (eastern) is very poorly known. The star finch (eastern) occurs only in central Queensland near permanent surface water and grasslands or rushes in woodlands. Threats include pressure from grazing, drought and invasive species.
Streaked Shearwater	<i>Calonectris leucomelas</i>	This species is found in the western Pacific, breeding on the coast and on offshore islands of Japan, Russia, China and Korean Peninsula. It undergoes trans-equatorial migration traveling south during winter, to the coasts of Vietnam, New Guinea, the Philippines, Australia, southern India and Sri Lanka. In Australia, Streaked Shearwater is mainly seen off the coast in North Australia from Timor to Torres Straight and are regular along the eastern coast from Brisbane to Wollongong. It feeds mainly on fish and squid.
Superb Parrot	<i>Polytelis swainsonii</i>	The Superb Parrot mainly inhabits forests and woodlands dominated by eucalypts, especially River Red Gums (<i>Eucalyptus camaldulensis</i>) and box eucalypts such as Yellow Box (<i>Eucalyptus melliodora</i>) or Grey Box (<i>E. microcarpa</i>). The species also seasonally occurs in box-pine (<i>Callitris</i>) and Boree (<i>Acacia pendula</i>) woodlands (Webster 1998).
Swift Parrot	<i>Lathamus discolor</i>	Migrates to south-eastern mainland Mar-Oct. Winter-flowering trees such as <i>Eucalyptus robusta</i> , <i>Corymbia maculata</i> , <i>C. gummifera</i> , <i>E. sideroxylon</i> and <i>E. albens</i> are important. Breeds in Tasmania.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Swinhoe's Snipe	<i>Gallinago megala</i>	Habitat specific to Australia includes the 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. They are also found in drying claypans and inundated plains pitted with crab holes.
Terek Sandpiper	<i>Xenus cinereus</i>	The terek sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayments, harbours or lagoons. The species has also been recorded on islets, mudbanks, sandbanks and spits, and near mangroves and occasionally in samphire (<i>Halosarcia</i> spp.). Birds are seldom near the edge of water; however, birds may wade into the water.
Wandering Albatross	<i>Diomedea exulans</i>	The Wandering Albatross has a circumpolar distribution. It breeds on 6 subantarctic island groups, in the Indian Ocean (on the Crozet, Kerguelen, Marion and Prince Edward Islands) and on South Georgia Island in the South Atlantic Ocean. In Australia the species breeds on Macquarie Island. In the Australasian region, it occurs inshore, offshore and in pelagic waters between July and November. It flies within 15 m of the sea surface, using the updraft from wave fronts for lift. It circles over breeding islands to heights of at least 1500 m.
Wandering Tattler	<i>Tringa incana</i>	As an uncommon vagrant to Australia, the distribution of this species is poorly understood. Habitat generally consists of rocky coasts and less occasionally on coral reefs and beaches. Mudflats are generally avoided with foraging occurring among rocks or shallows pools at reef edges.
Wedge-tailed Shearwater	<i>Ardenna pacifica</i>	The wedge-tailed shearwater breeds on the east and west coasts of Australia and on off-shore islands. It is a pelagic, marine bird.
Whimbrel	<i>Numenius phaeopus</i>	The whimbrel is often found on the intertidal mudflats of sheltered coasts. It is also found in harbours, lagoons, estuaries and river deltas, often those with mangroves, but also open, unvegetated mudflats. It is occasionally found on sandy or rocky beaches, on coral or rocky islets, or on intertidal reefs and platforms. There are a small number of inland records from saline lakes and canegrass swamps (Jarman 1978).
White-bellied Storm-Petrel	<i>Fregetta grallaria</i>	The white-bellied storm-petrel occurs across sub-tropical and tropical waters in the Tasman Sea, Coral Sea and, possibly, the central Pacific Ocean. In the non-breeding season, it reaches and forages over near-shore waters along the continental shelf of mainland Australia.
White-capped Albatross	<i>Thalassarche steadi</i>	The white-capped albatross is probably common off the coast of south-east Australia throughout the year. This species is similar to the shy albatross and can be difficult to identify, especially at sea and as a juvenile.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
White-throated Needletail	<i>Hirundapus caudacutus</i>	Widespread in coastal regions of Queensland and is known to be almost exclusively aerial, roosting in trees in forests and woodlands. This species breeds in wooded lowlands and sparsely vegetated hills as well as mountains covered with coniferous forests. There appear to be few threats to the species.
White-winged Black Tern	<i>Chlidonias leucopterus</i>	The species is a non-breeding migrant to Australia. The species mostly inhabits fresh, brackish or saline, and coastal or subcoastal wetlands. They rarely occur on inland wetlands in Australia. The species is usually only recorded offshore when on passage. It has been recorded once in south-western Queensland
Wilson's Storm-Petrel	<i>Oceanites oceanicus</i>	In Australia, most reports of the Wilson's storm-petrel are from the edge of the continental shelf and during autumn. The species is known to breed on Heard Island, where it is described as abundant. The species is common off the coast of Queensland during May to September but are scarce off south-east Queensland during the north and southwards migrations.
Wood Sandpiper	<i>Tringa glareola</i>	The wood sandpiper uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes. They are typically associated with emergent, aquatic plants or grass, and dominated by taller fringing vegetation, such as dense stands of rushes or reeds, shrubs, or dead or live trees, especially Melaleuca and river red gums <i>Eucalyptus camaldulensis</i> and often with fallen timber.
Yellow Wagtail	<i>Motacilla flava</i>	The species is little known and widely distributed, with several populations breeding in Europe and Asia and migrating to tropical regions in Asia and Africa. Known to occur in a variety of damp or wet habitats with low vegetation, from damp meadows, marshes, and waterside pastures.
Mammals		
Brush-tailed Rock-wallaby	<i>Petrogale penicillata</i>	Rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges often facing north.
Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>	Overall, the distribution of the south eastern form coincides approximately with the Murray Darling Basin with the Pilliga Scrub region being the distinct stronghold for this species. Inhabits a variety of vegetation types, including mallee, buloke <i>Allocasuarina leuhmanni</i> and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Greater Glider	<i>Petauroides volans</i>	The greater glider is the largest gliding possum in Australia, with a head and body length of 35–46 cm and a long furry tail measuring 45–60 cm. The greater glider has thick fur that increases its apparent size. The greater glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forests and woodlands. It is primarily folivorous, with a diet mostly comprising eucalypt leaves, and occasionally flowers. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	The grey-headed flying-fox has a widespread distribution throughout Eastern Australia, with multiple nationally important camps throughout Queensland. This species forages extensively for blossoms and fruit in canopy vegetation and has reduced in numbers primarily due to habitat destruction and culling.
Hastings River Mouse	<i>Pseudomys oralis</i>	The main factors determining the species' presence appear to be an open canopy and shrub layer between 410 and 1100 m elevation. Ground cover varies from almost no cover to a dense, rank cover of grasses, herbs and sedges. Sedges, particularly <i>Carex</i> , <i>Juncus</i> and <i>Cyperus</i> spp. are common to most sites. This habitat occurs beside creeks (permanent and ephemeral) and soakages but is also found on ridges and grassy plains.
Koala	<i>Phascolarctos cinereus</i>	The koala's range extends from north-eastern Queensland to the south-east corner of SA. This species inhabits forest, woodlands and semi-arid communities dominated by <i>Eucalyptus</i> species. Threats include habitat loss, dog attacks, vehicle strikes and disease.
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Found mainly in areas with extensive cliffs and caves, from Rockhampton in Queensland south to Bungonia in the NSW Southern Highlands. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the fairy martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features.
Long-nosed Potoroo (northern)	<i>Potorous tridactylus</i>	The long-nosed potoroo (SE Mainland) has scattered populations extending from south-eastern Queensland through to NSW. The species has been recorded at Many Peaks Range, south-east of Gladstone, Bellthorpe near Beerwah and in the Border Ranges. It has also been seen at Bulburin, south-west of Miriam Vale and in the Lamington National Park and surrounds. There is no consistent pattern to the habitat of the long-nosed potoroo (SE Mainland); it can be found in wet eucalypt forests to coastal heaths and scrubs. The main factors would appear to be access to some form of dense vegetation for shelter and the presence of an abundant supply of fungi for food.
New Holland Mouse	<i>Pseudomys novaehollandiae</i>	The New Holland Mouse has a fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Known to inhabit open heathlands, woodlands and forests with a heathland understorey and vegetated sand dunes.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Parma Wallaby	<i>Notamacropus parma</i>	Range confined to the coast and ranges of central and northern NSW from the Gosford district to the QLD border. Preferred habitat is moist eucalypt forest with thick, shrubby understorey, often with nearby grassy areas, rainforest margins and occasionally drier eucalypt forest. Typically feeding at night, taking shelter in dense cover during the day.
Southern Brown Bandicoot (eastern)	<i>Isodon obesulus obesulus</i>	This species is generally only found in heath or open forest with a heathy understorey on sandy or friable soils. Nests may be located under Grass trees <i>Xanthorrhoea</i> spp., blackberry bushes and other shrubs, or in rabbit burrows.
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	Found in eastern NSW, eastern Victoria, south-east and north-eastern Queensland, and Tasmania. Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites. Females occupy home ranges up to about 750 hectares and males up to 3500 hectares. Are known to traverse their home ranges along densely vegetated creeklines.
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>	The White-bellied Sea-Eagle is found in coastal habitats (especially those close to the seashore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats.
Yellow-bellied Glider	<i>Petaurus australis</i>	Found in tall mature eucalypt forest, generally in areas with high rainfall and nutrient rich soils. Feed primarily on nectar, sap, honeydew and manna with pollen and insects also taken. Often leave a distinctive V-shaped feeding scar on tree trunks. Den in tree hollows of large trees.
Frogs		
Booroolong Frog	<i>Litoria booroolongensis</i>	The Booroolong Frog is restricted to tablelands and slopes in NSW and north-east Victoria between 200–1300 m above sea level, predominantly along the western-flowing streams and their headwaters of the Great Dividing Range. Its range extends from Tamworth in northern NSW to the Southern Highlands in Victoria. The Booroolong Frog occurs along permanent streams with some fringing vegetation cover such as ferns, sedges or grasses. Primary habitat requirements for the Booroolong Frog are extensive rock bank structures along permanent rivers. Individuals have also been observed using artificial man-made structure, such as weirs.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Giant Barred Frog	<i>Mixophyes iteratus</i>	The Giant Barred Frog is distributed from Doongul Creek, Wongi State Forest, near Maryborough in south-eastern Queensland, south to Warrimoo in the Blue Mountains, New South Wales. The species is currently known from mid to low altitudes below 610 m above sea level. The Giant Barred Frog occurs in rainforests and wet sclerophyll forests and have been found in cleared or disturbed areas. Many sites where the Giant Barred Frog is known to occur are the lower reaches of streams which have been affected by major disturbances such as clearing, timber harvesting and urban development in their headwaters.
Giant Burrowing Frog	<i>Heleioporus australiacus</i>	The Giant Burrowing Frog is confined to the eastern slopes of the Great Dividing Range and coastal regions from near Mt Coridudgy and Kings Cross in Wollemi National Park, New South Wales and to Walhalla in the central highlands of eastern Victoria. The species has been found from near sea level up to 1000 m, from the coast to almost 100 km inland. Across its range, the Giant Burrowing Frog appears to be dependent on areas with native vegetation. It occurs in semi-permanent to ephemeral sand or rock based streams. It is also found in ephemeral to permanent artificial drainage ditches and culverts on roadsides.
Green and Golden Bell Frog	<i>Litoria aurea</i>	The Green and Golden Bell Frog occurs mainly along coastal lowland areas of eastern NSW and Victoria. In NSW, the species commonly occupies disturbed habitats, and breeds largely in ephemeral ponds. In Victoria, the species occupies habitats with little human disturbance and commonly breeds in permanent ponds, as well as ephemeral ponds. Generally found in a wide range of habitats, excluding fast flowing streams, as they need various habitats for different aspects of their life cycle.
Littlejohn's Tree Frog	<i>Litoria littlejohni</i>	Littlejohn's Tree Frog is confined to eastern New South Wales and north-east Victoria occurring in scattered locations between the Watagan Mountains (NSW) to Buchan (Vic). Littlejohn's Tree Frog is known to inhabit forest, coastal woodland and heath from 100 to 950 m above sea level. Breeding habitat comprises rocky streams and semi-permanent dams, still water in dams, ditches, isolated pools and flooded hollows, dams, creeks and lagoons, semi-permanent or permanent dams, ponds and creeks and temporary pools. Non-breeding habitat is generally unknown.
Southern Bell Frog	<i>Litoria raniformis</i>	The Growling Grass Frog was once distributed across a large area of south-east Australia (SA, Vic, NSW, ACT), including Tasmania, at altitudes of up to 1300 m. The range has declined over time with the most pronounced decline evident in NSW. This species is found mostly amongst emergent vegetation, including <i>Typha</i> sp. (bullrush), <i>Phragmites</i> sp. (reeds) and <i>Eleocharis</i> sp.(sedges), in or at the edges of still or slow-flowing water bodies such as lagoons, swamps, lakes, ponds and farm dams.
Stuttering Frog	<i>Mixophyes balbus</i>	The Stuttering Frog is restricted to the eastern slopes of the Great Divide, from the Cann River catchment in far East Gippsland, Victoria, to tributaries of the Timbarra River near Drake, New South Wales. The species occurs over an altitudinal range of 20 to over 1400 m, generally lower in the south and higher in the north. The Stuttering Frog is typically found in association with permanent streams through temperate and sub-tropical rainforest and wet sclerophyll forest, and also in moist gullies in dry forest.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Watson's Tree Frog	<i>Litoria watsoni</i>	Watson's Tree Frog is distributed from the Budderoo National Park (NP) in south-eastern NSW to the eastern side of the Snowy River NP in the East Gippsland region of Victoria at elevations from near sea-level to 1100 m. Watson's Tree Frog is a forest-dependent species, recorded from wet and dry forest, woodland, bushland, and heathland at low to high elevations. Watson's Tree Frog has never been recorded from areas of cleared native forest, such as farmland or forest plantations.
Reptiles		
Blue Mountains Water Skink	<i>Eulamprus leuraensis</i>	The Blue Mountains Water Skink occurs at high elevations between 560 m and 1060 m. It is restricted to an isolated and naturally fragmented habitat of sedge and shrub swamps that have boggy soils and appear to be permanently wet. The vegetation in these swamps typically takes the form of a sedgeland interspersed with shrubs but may occur as a dense shrub thicket. The Blue Mountains Water Skink is semi-aquatic and is active on warm, sunny days from September until late April.
Broad-headed Snake	<i>Hoplocephalus bungaroides</i>	The Broad-headed Snake is largely confined to Triassic and Permian sandstones. Shelters in rock crevices and under flat sandstone rocks on exposed cliff edges. Moves from the sandstone rocks to shelters in hollows in large trees within 200m of escarpments in summer.
Pink-tailed Work-lizard	<i>Aprasia parapulchella</i>	This lizard is known from 4 sites in eastern Australia: near Canberra in the ACT, Tarcutta and Bathurst in NSW, and near Bendigo in Vic. In general, lizards occur in open grassland habitats that have a substantial cover of small rocks. Lizards also show a preference for sunny aspects, avoiding South facing slopes. Some individuals have been collected from grassland sites that appear not to support any native grasses and several animals have been found on the edge of <i>Callitris enlicheri</i> woodland and <i>Eucalyptus macrorhyncha</i> woodland. A burrowing species, it is usually found under rocks on well-drained soil, in ant nests and occasionally with several individuals found under the same rock.
Striped Legless Lizard	<i>Delma impar</i>	The Striped Legless Lizard occurs in the Southern Tablelands, the South West Slopes, the Upper Hunter and possibly on the Riverina. Populations are known in the Goulburn, Yass, Queanbeyan, Cooma, Muswellbrook and Tumut areas. Also occurs in the ACT, Victoria and south-eastern South Australia. Found mainly in Natural Temperate Grassland and grasslands that have a high exotic component. Preferred habitat is dominated by perennial, tussock-forming grasses such as <i>Themeda australis</i> , spear-grasses and poa spp. tussocks with significant areas of rocks which provides sheltering habitat. This species is also known to utilise dried cowpats for sheltering.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Invertebrates		
Dural Land Snail	<i>Pommerhelix duralensis</i>	Occurs in low densities along the western and northwest fringes of the Cumberland IBRA. Known to occur far north of St Albans, along the footslopes of the Blue Mountains as far south as The Oaks. Habitats include shale-derived and sandstone derived soils with forested habitats that have good native cover and woody debris. Favours sheltering under rocks or inside bark, does not burrow or climb. Rests in exposed areas such as rocks or leaf litter.
Key's Matchstick Grasshopper	<i>Keyacris scurra</i>	Key's Matchstick Grasshopper is endemic to NSW, ACT and Victoria although has undergone a range restriction. This species is typically recorded in native grasslands, secondary native grasslands or areas that contain the native grass Themeda with appropriate disturbance regimes. Disturbance appears to be an important determinant of site occupancy.
Maroubra Woodland Snail	<i>Meridolum maryae</i>	Maroubra Woodland Snail is endemic to New South Wales, confined to a narrow band of habitat along the coast from the north-eastern corner of the Royal National Park to Palm Beach in Sydney. Records of the species are generally within 1 km of the ocean but occur up to 5 km inland. found in the leaf litter of coastal vegetation communities, most commonly in heathland on foredunes and podsolised dunes/sand plains that support taller heath communities including the Eastern Suburbs Banksia Scrub.
Golden Sun Moth	<i>Synemon plana</i>	The Golden Sun Moth's NSW populations are found in the area between Queanbeyan, Gunning, Young and Tumut. The species' historical distribution extended from Bathurst (central NSW) through the NSW Southern Tablelands, through to central and western Victoria, to Bordertown in eastern South Australia. Occurs in Natural Temperate Grasslands and grassy Box-Gum Woodlands in which ground layer is dominated by wallaby grasses Austrodanthonia spp.
Purple Copper Butterfly, Bathurst Copper Butterfly	<i>Paralucia spinifera</i>	Occurs on the Central Tablelands of NSW in an area approximately bounded by Oberon, Hartley and Bathurst. Its lifecycle relies on a mutualistic relationship with the ant, <i>Anonychomyra itinerans</i> , and on the presence of <i>Bursaria spinosa</i> subsp. <i>lasiophylla</i> which is used as the larval food plant. Adult males fly rapidly at about one metre from the ground and rest with wings parted in places exposed to full sun. Females fly less rapidly and tend to remain nearer to the host plant. The butterflies generally remain in the vicinity of <i>B. spinosa</i> subsp. <i>lasiophylla</i> and are rarely observed more than 10 m distant from the plant.
Sydney Hawk Dragonfly	<i>Austrocordulia leonardi</i>	The Sydney Hawk Dragonfly spends most of its life underwater as an aquatic larva, before metamorphosing and emerging from the water as an adult. Adults are thought to only live for several weeks or a few months. The Sydney Hawk Dragonfly has specific habitat requirements, and has only ever been collected from deep river pools with cooler water and permanent flow. It is strictly a diurnal dragonfly that requires open, sunlit space. Larvae are found under rocks where they coexist with the Eastern Hawk Dragonfly.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
Fish		
Australian Grayling	<i>Prototroctes maraena</i>	The Australian Grayling is diadromous, spending part of its lifecycle in freshwater and at least part of the larval and/or juvenile stages in coastal seas. Adults (including pre spawning and spawning adults) inhabit cool, clear, freshwater streams with gravel substrate and areas alternating between pools and riffle zones.
Black Rockcod	<i>Epinephelus daemeli</i>	The Black Rockcod is found in warm temperate and subtropical parts of the south-western Pacific. Adult Black Rockcod can grow to 2 m in length and at least 80 kg in weight, but it is more common to see smaller fish (up to 1 m/30 kg).
Macquarie Perch	<i>Macquaria australasica</i>	Macquarie Perch are found in the Murray-Darling Basin (particularly upstream reaches) of the Lachlan, Murrumbidgee and Murray rivers, and parts of south-eastern coastal NSW, including the Hawkesbury/Nepean and Shoalhaven catchments. Macquarie Perch are found in both river and lake habitats; especially the upper reaches of rivers and their tributaries. It prefers clear water and deep, rocky holes with lots of cover. As well as aquatic vegetation, additional cover may comprise of large boulders, debris and overhanging banks. Spawning occurs just above riffles (shallow running water).
Murray Cod	<i>Maccullochella peelii</i>	The Murray Cod utilises a diverse range of habitats from clear rocky streams, such as those found in the upper western slopes of NSW to slow-flowing, turbid lowland rivers and billabongs. Murray Cod are frequently found in the main channels of rivers and larger tributaries. Preferred microhabitat consists of complex structural features in streams such as large rocks, snags (pieces of large submerged woody debris), overhanging stream banks and vegetation, tree stumps, logs, branches and other woody structures.
Silver Perch	<i>Bidyanus bidyanus</i>	The most abundant remaining natural population occurs in the central Murray River downstream of Yarrawonga Weir as well as several of its anabranches and tributaries. The central Murray population is considered secure and self-sustaining. There have also been reports of self-sustaining populations in other rivers, including the MacIntyre and Macquarie Rivers in northern NSW and the Warrego River in Queensland, mostly from recreational anglers. It prefers fast-flowing waters but is also known from rivers, lakes and reservoirs.
Trout Cod	<i>Maccullochella macquariensis</i>	Trout Cod are a large, predatory freshwater fish belonging to the family Percichthyidae. Trout Cod were once widespread throughout the southern tributaries of the Murray-Darling river system. Trout Cod tend to occupy areas which have lots of large in-stream woody debris or 'snags', which provide complex habitats for each stage of the species' life cycle. They tend to remain at the one site with limited home ranges. Trout Cod are carnivores, preying mainly on crustaceans and aquatic insects but also on other fishes.

Common Name	Scientific Name	Distribution, ecology and habitat preferences
White's Seahorse	<i>Hippocampus whitei</i>	White's Seahorse is known to occur in estuaries from St Georges Basin, NSW to Hervey Bay, QLD. In QLD, the species are predominantly found around the Moreton Bay region although can extend up to Hervey Bay and Mackay. In NSW, they occur in 8 estuaries between Forster and Port Hacking (Sydney) and in the Tweed River. White's Seahorse occur at depths between 1–15 metres and is found utilising a wide range of habitat types (both natural and artificial) including, gorgonian habitats, sponges and soft coral, seagrass, protective swimming net enclosures and also on jetty pylons.
Crustaceans		
Fitzroy Falls Spiny Crayfish	<i>Euastacus dhaeawalus</i>	The Fitzroy Falls spiny crayfish is only found in part of the Wildes Meadow Creek catchment, a small catchment which is a part of the Shoalhaven River catchment on the south coast of New South Wales. The naturally occurring distribution of the Fitzroy Falls spiny crayfish is limited to a stretch of approximately 12 km of waterway along Wildes Meadow Creek.

B2 Nationally threatened flora species

Table B.3 MNES threatened flora species

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Fabaceae (Mimosoideae)	<i>Acacia bynoeana</i>	Bynoe's Wattle	V	PMST	0	<50 m	Moderate – species has been recorded in the broader locality (nearest record approx. 20 km from Airport Site) and potential habitat may be present.	No
Fabaceae (Mimosoideae)	<i>Acacia gordonii</i>		E	PMST	0	<50 m	Low – although potential habitat may be present the species has not been previously recorded in the wildlife buffer (nearest record >25 km from Airport Site) and wildlife buffer is outside species known distribution range.	No
Fabaceae (Mimosoideae)	<i>Acacia pubescens</i>	Downy Wattle	V	BioNet, PMST	32	<50 m	Recorded – has been frequently recorded in wildlife buffer and suitable habitat has been mapped by SVM.	No
Cunoniaceae	<i>Acrophyllum australe</i>		V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been previously recorded in the wildlife buffer (nearest record >25 km from Airport Site) and the wildlife buffer is outside species known distribution range.	No
Casuarinaceae	<i>Allocasuarina glareicola</i>		E	PMST	0	<50 m	Moderate – species has been recorded in the broader locality, known to form a persistent soil seedbank and potential habitat may be present within the wildlife buffer.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Orchidaceae	<i>Caladenia tessellata</i>	Thick Lip Spider Orchid	V	PMST	0	<50 m	Low – species has not been recorded in the locality (nearest record >20 km from the Airport Site). Wildlife buffer outside the species current known distribution range and habitat unlikely to occur.	No
Malvaceae	<i>Commersonia prostrata</i>	Dwarf Kerrawang	E	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the locality (nearest record >35 km from the Airport Site) and the wildlife buffer is outside the species current known distribution range.	No
Orchidaceae	<i>Cryptostylis hunteriana</i>	Leafless Tongue Orchid	V	PMST	0	<50 m	Moderate – recorded in the broader locality and potential habitat may be present.	No
Apocynaceae	<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	BioNet, PMST	8	<50 m	Moderate – species has been previously recorded (records >10 years old) and potential habitat is likely to occur.	No
Myrtaceae	<i>Darwinia biflora</i>		V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the locality and the wildlife buffer is outside the species current known distribution range.	No
Myrtaceae	<i>Eucalyptus aggregata</i>	Black Gum	V	PMST	0	<50 m	Low – species has not been recorded in the locality, wildlife buffer generally outside the species current known distribution range and habitat unlikely to occur.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Myrtaceae	<i>Eucalyptus benthamii</i>	Camden White Gum	V	BioNet, PMST	265	<50 m	Recorded – has been frequently recorded in wildlife buffer suitable habitat has been mapped by SVM.	No
Myrtaceae	<i>Eucalyptus scoparia</i>	Wallangarra White Gum	V	BioNet	1	<50 m	Low – species not endemic to the western Sydney. If present, likely to be planted horticultural specimens.	No
Orchidaceae	<i>Genoplesium baueri</i>	Bauer's Midge Orchid	E	PMST	0	<50 m	Low – although potential habitat may be present the species has not been previously recorded and the wildlife buffer outside the species current known distribution range (record near Springwood from 1949).	No
Proteaceae	<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flower Grevillea	V	BioNet, PMST	21	<50 m	Recorded – has been frequently recorded in wildlife buffer and suitable habitat has been mapped by SVM.	No
Proteaceae	<i>Hakea dohertyi</i>	Kowmung Hakea	E	PMST	0	<50 m	Low – species has not been previously recorded, wildlife buffer is outside the species current known distribution range and habitat unlikely to occur.	No
Haloragaceae	<i>Haloragis exalata</i> subsp. <i>exalata</i>	Square Raspwort	V	PMST	0	<50 m	Low – species has not been previously recorded, wildlife buffer generally outside the species current known distribution range (nearest record from 1770) and habitat unlikely to occur.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Haloragaceae	<i>Haloragodendron lucasii</i>		E	PMST	0	<50 m	Low – although potential habitat may be present the species has not been previously recorded in the broader locality and the wildlife buffer outside the species current known distribution range.	No
Dilleniaceae	<i>Hibbertia puberula</i> subsp. <i>glabrescens</i>		CE	PMST	0	<50 m	Moderate – species has not been previously recorded but potential habitat occurs within the wildlife buffer and the species is cryptic in nature.	No
Campanulaceae	<i>Isotoma fluviatilis</i> subsp. <i>fluviatilis</i>		X	BioNet	8	<50 m	Not applicable – the species is no longer listed under the EPBC Act.	No
Myrtaceae	<i>Kunzea cabbagei</i>	Cabbage Kunzea	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No
Ericaceae	<i>Leucopogon exolasius</i>	Woronora Beard-heath	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range except for a couple of records north of Springwood.	No
Proteaceae	<i>Macadamia integrifolia</i>	Macadamia Nut	V	BioNet	2	<50 m	Low – species not endemic to the western Sydney. If present, likely to be planted horticultural specimens.	No
Myrtaceae	<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	PMST	0	<50 m	Moderate – a few scattered records in western Sydney and potential habitat may occur.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Myrtaceae	<i>Melaleuca deanei</i>	Deane's Paperbark	V	PMST	0	<50 m	Moderate – species has been recorded in the broader locality and potential habitat may occur.	No
Myrtaceae	<i>Micromyrtus minutiflora</i>		V	BioNet, PMST	2	<50 m	Low – although potential habitat may occur the species has a narrow distribution between Windsor and Penrith. Records in the Mulgoa locality (2 located within the wildlife buffer are considered likely to be misidentified specimens (Bangel et al. 2023).	No
Polygonaceae	<i>Persicaria elatior</i>	Tall Knotweed	V	PMST	0	<50 m	Low – species has not been recorded in the broader locality (nearest record near Picton) and although potential habitat may occur it is likely to be of marginal quality.	No
Proteaceae	<i>Persoonia acerosa</i>	Needle Geebung	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No
Proteaceae	<i>Persoonia bargoensis</i>	Bargo Geebung	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No
Proteaceae	<i>Persoonia hirsuta</i>	Hairy Geebung	E	PMST	0	<50 m	Moderate – species has been recorded in the broader locality and potential habitat may occur.	No
Proteaceae	<i>Persoonia nutans</i>	Nodding Geebung	E	BioNet, PMST	15	<50 m	Recorded – has been frequently recorded in wildlife buffer and suitable habitat has been mapped by SVM.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Thymelaeaceae	<i>Pimelea curviflora</i> var. <i>curviflora</i>		V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No
Thymelaeaceae	<i>Pimelea spicata</i>	Spiked Rice-flower	E	BioNet, PMST	51	<50 m	Recorded – has been frequently recorded in wildlife buffer and suitable habitat has been mapped by SVM.	No
Rhamnaceae	<i>Pomaderris brunnea</i>	Brown Pomaderris	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer generally occurs outside the species current known distribution range.	No
Rhamnaceae	<i>Pomaderris cotoneaster</i>	Cotoneaster Pomaderris	E	PMST	0	<50 m	Low – species has not been recorded in the locality, wildlife buffer occurs outside the species the species current known distribution range and potential habitat unlikely to occur.	No
Orchidaceae	<i>Pterostylis gibbosa</i>	Illawarra Greenhood	E	PMST	0	<50 m	Low – species has not been recorded in the locality, wildlife buffer occurs outside the species the species current known distribution range and potential habitat unlikely to occur.	No
Orchidaceae	<i>Pterostylis saxicola</i>	Sydney Plains Greenhood	E	PMST	0	<50 m	Moderate – species has been recorded in the broader locality and potential habitat may occur.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Fabaceae (Faboideae)	<i>Pultenaea glabra</i>	Smooth Bush-Pea	V	PMST	0	<50 m	Low – although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer generally occurs outside the species current known distribution range.	No
Fabaceae (Faboideae)	<i>Pultenaea parviflora</i>		V	BioNet, PMST	244	<50 m	Recorded – has been frequently recorded in wildlife buffer and suitable habitat has been mapped by SVM.	No
Orchidaceae	<i>Rhizanthella slateri</i>	Eastern Australian Underground Orchid	E	PMST	0	<50 m	Moderate – species has been recorded in the broader locality, potential habitat may occur and the species is cryptic in nature.	No
Myrtaceae	<i>Rhodamnia rubescens</i>	Scrub Turpentine	CE	BioNet, PMST	3	<50 m	Moderate – species has been recorded and potential habitat may occur.	No
Myrtaceae	<i>Rhodomyrtus psidioides</i>	Native Guava	CE	PMST	0	<50 m	Low - although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No
Myrtaceae	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	V	BioNet, PMST	2	<50 m	Low – although species been recorded in the wildlife buffer, suitable habitat is unlikely to occur and records present are not recent (1977) or considered likely to be horticultural specimens.	No
Orchidaceae	<i>Thelymitra kangaloonica</i>	Kangaloon Sun Orchid	CE	PMST	0	<50 m	Low – species has not been recorded in the broader locality, wildlife buffer occurs outside the species the species current known distribution range and potential habitat unlikely to occur.	No

Family	Scientific name	Common name	EPBC Act status ¹	Database source ²	BioNet records in wildlife buffer	Altitude (m) ³	Likelihood of occurrence ⁴	Candidate species? ⁵
Santalaceae	<i>Thesium australe</i>	Austral Toadflax	V	PMST	0	<50 m	Low – species has not been recorded in the broader locality (only a single record in western Sydney from 1803) and potential habitat unlikely to occur.	No
Rutaceae	<i>Zieria murphyi</i>	Velvet Zieria	V	PMST	0	<50 m	Low - although potential habitat may be present the species has not been recorded in the broader locality and the wildlife buffer occurs outside the species current known distribution range.	No

1. Listed as Vulnerable (V), Endangered (E), Critically Endangered (CE), Presumed Extinct (X) or Migratory (M) under the EPBC Act.
2. BioNet = DPE's BioNet search, PMST = DEECCW's Protected Matters Search Tool search.
3. Elevation AGL at which the species typically occurs.
4. Likelihood of occurrence assessment restricted to wildlife buffer, no habitat for flora species within the remaining areas of the biodiversity study area which are restricted to air spaces >3,500 AGL.
5. No – species unlikely to occur and/or will not be directly impacted upon by the project. Potential indirect impacts associated with light, noise and air quality considered negligible to flora species and as such species does not require further assessment. Yes – species considered likely to occur and be impacted by project. As such, species requires further assessment as a candidate species.

Appendix C

Significant impact assessments

C1 Grey-headed Flying-fox

Grey-headed Flying-fox is listed as Vulnerable under the EPBC Act and the BC Act.

C1.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike leading to injury or mortality and potential dispersal/interruptions associated with noise and light disturbances.

C1.2 Is this an important population?

In accordance with the Significant Impact Guidelines the presence of an important population must be identified prior to addressing the significance impact criteria. An important population is defined in the guidelines as a population that is necessary for a species' long-term survival and recovery (Department of Environment Water Heritage and the Arts 2008). Under the EPBC Act, important populations are:

- likely to be key source populations either for breeding or dispersal
- likely to be necessary for maintaining genetic diversity
- at or near the limit of the species range.

Grey-headed Flying-foxes occur across a range of habitats where their favoured food, eucalypt blossom occurs. They set up roosting camps in association with blossom availability, which are usually situated in dense vegetation and associated with water. Grey-headed Flying-foxes can migrate up to 75 km north during the winter and during this time young flying-foxes establish camps. The Grey-headed Flying-fox exists as one interconnected population along the east coast of Australia.

Furthermore, 2 of the Grey-headed Flying-fox camps located within the vicinity of the Airport Site that were monitored as part of the Wildlife Strike Risk Assessment (Avisure 2022) are identified as 'Nationally Important Flying-fox camps' in the DCCEEW National Flying-fox monitoring viewer. Nationally Important camps are considered important as they contain an ecologically significant proportion of the population.

Given the above, it is considered as an important population.

C1.3 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The proposed action would not involve the direct removal of any potential foraging or roosting habitat for the Grey-headed Flying Fox. Impacts associated with the project would be restricted to wildlife strike leading to injury or mortality and potential dispersal/interruptions associated with potential changes to noise and light disturbances.

Based on wildlife strike data from KSA over the past 5 years, flying-foxes³ are animals susceptible to aircraft wildlife strike as they were reported to be the most struck fauna species at Australian airports between 2008 and 2017.

³ Includes data where species was reported as fruit bat, bat and flying-fox.

A total of 87 flying-foxes have been struck over the past 5 years, of which 13 were Grey-headed Flying-foxes (noting that 50% of these flying-foxes were unable to be identified⁴) (Avisure 2022). This averages out to around 2–3 individuals being struck on an annual basis, which equates to approximately 1% of total annual strikes nationally. As KSA occurs within the Sydney Basin and is surrounded by similar foraging and roosting habitats this data can be used to provide an indication of the potential extent of wildlife strike impacts on the species due to the proposed action.

Aircraft wildlife strike typically results in the mortality of a Grey-headed Flying-fox. Despite this, a strike event is usually limited to a single individual being hit. For species that disperse in flocks, such as the Grey-headed Flying-fox, there is the rare occasion when more than one individual may be hit. Based on past strike data however it has been observed that these events are still limited to only a couple of individuals being hit (Avisure 2022).

Although the species may be at risk from aircraft wildlife strike on occasion the impacts associated with the proposed action are unlikely to significantly impact the population such that it would lead to a long-term decrease in the size of the population.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

The proposed action is unlikely to significantly reduce the area of occupancy for this species in this location considering there will be no direct impacts on foraging or roosting habitat, the availability of habitat in the surrounding landscape and the mobile nature of the species. No individual of this species would be restricted to habitat within the study area.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The study area is within an already fragmented and disturbed landscape, thereby limiting the potential for any substantial additional fragmentation to occur. Given this species ability to disperse over and around these cleared areas, it is considered unlikely that the proposed action would fragment an existing important population of this species.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

Habitat critical to the survival of a species also refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

According to the national recovery plan for the species, habitat critical to the survival of the Grey-headed Flying-fox includes:

Important winter and spring vegetation communities including those that contain *Eucalyptus tereticornis*, *E. albens*, *E. crebra*, *E. fibrosa*, *E. melliodora*, *E. paniculata*, *E. pilularis*, *E. robusta*, *E. seeana*, *E. sideroxylon*, *E. siderophloia*, *Banksia integrifolia*, *Castanospermum australe*, *Corymbia citriodora*, *C. eximia*, *C. maculata*, *Grevillea robusta*, *Melaleuca quinquenervia* or *Syncarpia glomulifera*. Habitat critical to survival also includes communities that:

- contain native species that are known to be productive as foraging habitat during the final weeks of gestation, and during the weeks of birth, lactation and conception (August to May)
- contain native species used for foraging and occur within 20 km of a nationally important camp as identified on the Department's interactive flying-fox web viewer, or

⁴ There are significant limitations in the ATSB strike data with species identification. More than 90% of the flying-fox strikes reported during this period were reported as 'Unidentified Flying-fox' or 'Unidentified Bat' and it is likely that some of these strikes involved Grey-headed Flying-foxes.

- contain native and or exotic species used for roosting at the site of a nationally important Grey-Headed Flying-Fox camp as identified on the Department's interactive flying-fox web viewer.

The proposal will not remove habitat which represents potential foraging and roosting habitat for this species. As the species is highly mobile, with individuals foraging up to 50 km from roost sites, the proposed action is unlikely to significantly impact habitat of critical importance to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Flying-foxes establish daytime roosts known as colonies or 'camps'. Eight Grey-headed Flying-fox camps were monitored as part of the Wildlife Strike Risk Assessment to determine the species use and activity within the study area. Six of the 8 camps monitored were actively being used as of October 2022.

Changes to ambient noise levels have been identified to reduce breeding success in some animal species (Blickley et al. 2012). Specifically, noise can hinder animal communication or social signals reducing mating success (Ecosure 2021). Flying-foxes are most agitated by impulsive sound, excessively loud, sharp or sudden bursts that are fast or surprising in nature (Ecosure 2021). The noise impacts associated with the proposed action will be intermittent and long-term in nature which will make them predictable over time. Noise impacts associated with aircraft take-off may initially disrupt some of the camps. Given the nature of impacts, similar noise impacts occurring within the broader locality as higher altitudes, high mobility of the species and the species forming a single interconnected population along the east coast of Australia the noise impacts associated with the proposed action are considered unlikely to lead to long-term disruption of the breeding cycle of the Grey-headed Flying-fox.

Formal research is yet to confirm light impacts on Australian frugivores and nectarivores however based on their predicted behavioural response to artificial light and their ability to camp in areas drenched in artificial light the species is considered to be a light tolerant species (DAWE 2021). Due to this, existing artificial light within the locality and the impacts being largely limited to higher altitudes above which the species typically occurs light impacts associated with the proposed action are considered unlikely to disrupt the breeding cycle of the Grey-headed Flying-fox.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action would not reduce the availability of suitable foraging or roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

It is considered unlikely that the proposed action would substantially change the composition of the species habitat within the landscape or increase the spread and establishment of invasive species (e.g. predators) that could threaten the survival of the species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species that are likely to threaten the Grey-headed Flying-fox. Spread of pathogens or disease would be minimised through mitigation measures.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES

The National Recovery Plan for the Grey-headed Flying-fox '*Pteropus poliocephalus*' (Department of Agriculture Water and the Environment 2021) outlines the following actions to improve the national population trend of this species:

- identify, protect and increase key foraging and roosting habitat
- improve the community's capacity to coexist with flying-foxes; and
- increase awareness about flying-foxes, the threats they face and the important ecosystem services they provide as seed dispersers and pollinators.

The proposed action may interfere slightly with the first action 'identify, protect and increase key foraging and roosting habitat', however, no foraging and roosting habitat will be directly removed and the availability of this habitat within the locality and broader region will remain, this impact is unlikely to significantly hinder recovery efforts for the species.

C2 Alaskan Bar-tailed Godwit

Alaskan Bar-tailed Godwit is listed as Endangered under the EPBC Act. The species is often considered as a subspecies of *Limosa lapponica*. The EPBC cites the nominate form, *Limosa lapponica* (commonly referred to as bar-tailed godwit) which is listed as a Migratory species under Bonn Convention, CAMBA, JAMBA and ROKAMBA.

The Bar-tailed Godwit is polytypic, meaning more than one subspecies exists. Globally, the following 4 subspecies are recognised:

- the nominate species, *L. l. lapponica*, breeds in northern Europe and north-western Asia
- the subspecies *L. l. taymyrensis* breeds in north-west and north-central Siberia
- the subspecies *L. l. baueri* breeds in north-east Siberia and west Alaska
- the subspecies *L. l. menzbieri* also breeds in central northern Siberia.

For the purpose of this SIA, both *Limosa lapponica baueri* (Alaskan) and *Limosa lapponica menzbieri* will be considered, both of which breed in northern Siberia and migrate south to Australasian following the East Asian-Australasian Flyway.

The Bar-tailed Godwit (both subspecies combined) breeds in the north of Scandinavia, Russia and north-west Alaska and has been recorded in the coastal areas of all Australian states. It is widespread in the Torres Strait and along the east and south-east coasts of Queensland, NSW and Victoria. In Tasmania, the bar-tailed godwit has mostly been recorded on the south-east coast. In South Australia it has mostly been recorded around coasts from Lake Alexandrina to Denial Bay. In Western Australia it is widespread around the coast, from Eyre to Derby. Populations have also been recorded in the northern Australia, from Darwin east to the Gulf of Carpentaria.

The Bar-tailed Godwit occurs mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats.

Threats to the global population of the bar-tailed godwit (western Alaskan) across its range include: habitat loss and habitat degradation (e.g. through land reclamation, industrial use and urban expansion; changes to the water regime; invasive plants; environmental pollution); over-exploitation of shellfish; pollution/contamination impacts; disturbance; direct mortality (hunting, strikes with windfarms, vehicles and aircraft); diseases; extreme weather events; and climate change impacts.

During the desktop assessment, no records of this species were received, further assessment using online database including iNaturalist and eBird confirms this absence. Field surveys did not target this species due to the lack of habitat suitability, and no incidental records of this bird were recorded during field assessments.

C2.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike leading to injury or mortality and potential dispersal / interruptions associated with noise and light disturbances.

C2.2 Significant impact criteria

An action is likely to have a significant impact on an Endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion.

Desktop assessments confirmed the likely absence of this species within the subject area and was further supported through field surveys which confirm the lack of suitable habitat. This species is a highly migratory, travelling more than 10,000 km, none-stop, between Siberia and Australasia. The migration routes taken by this species has been recently documented which details those individuals travel directly across the Pacific Ocean, through New Caledonia and arrive on the east coast of Australia. Therefore, it is unlikely that the species would be migrating through, or near the proposed subject area and not be subject to the risk of aircraft collisions with the proposed action.

As the species has not been recorded within the area, is not known to migrate through the area, and evidence from field surveys demonstrates that foraging and non-breeding habitat is not present within the subject area, the proposed action is unlikely to result in a long-term decrease in the population (of both subspecies) of bar-tailed godwit.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Bar-tailed godwits are mainly found in coastal areas where they forage and roost on sandy beaches, sandbars, spits and in near-coastal saltmarsh. In some instances, the species has been recorded on claypans 2 km inland although, this is not a common occurrence. As no suitable habitat persists within the subject area, the proposed action will lead to no direct or in-direct impacts on any habitat which bar-tailed godwit rely on. Consequently, the proposed action will not result in the reduction of the area of occupancy for both subspecies of bar-tailed godwit.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The distribution of bar-tailed godwit throughout Australia covers an expansive size (estimated to be 7 500 000 km²) and there is no defined subpopulations of the species, although they do exist in many small population. During the non-breeding season 7 important sites have been identified in Australia this follows the Ramsar criteria of in excess of 1% of the birds total population. In accordance with the East Asian-Australasian Flyway Partnership, Australia has 17 sites in the network.

As detailed above, no suitable habitat persists within the subject area (and therefore, no identified important sites), the proposed action will not result in any direct or in-direct impacts on any habitat which bar-tailed godwit rely on. As no suitable habitat is present and no records have been obtained from within the Study area, the proposed action will not cause any fragmentation of an existing important population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

There is no definition on what habitat constitutes as 'critical' for this species. Based on the knowledge of the species migration and their preferred habitat characterises, for this assessment it has been considered that all intertidal habitat is critical to the species survival during non-breeding movement into Australia. As supported by desktop and field surveys it has been confirmed that no intertidal habitat exists within the subject area. Therefore, the proposed action will not result in any direct or in-direct impacts causing adverse impacts on habitat critical to the survival of a species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Bar-tailed godwit are a migratory species into Australia. Both subspecies which occur breed in Siberia and Alaska between May and June before embarking on a none-stop (although some staging areas may be used by some individuals) southern flight across the Pacific Ocean to New Zealand and Australia. As the species does not breed in Australia the only impacts on the breeding cycle would be disturbance whilst on non-breeding grounds which would impair the species ability to undertake a 10,000 km northern migration back to its breeding habitat in the northern hemisphere. As no suitable habitat exists for the species and no records of observation have been received within the Study Area there will be no direct or in-direct impacts which may result in disturbance to the species whilst foraging through the non-breeding season. Consequently, the proposed action will not disrupt the breeding cycle of bar-tailed godwit.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

As no suitable habitat for bar-tailed godwit exist within the subject area the proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites one of the threats to the species is the establishment of invasive plants such as cord grass which may lead to habitat degradation. As no suitable intertidal habitat exists within the subject area, the proposed action will not result in any invasive species which may impact the species becoming established.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

It has been cited in the Conservation Advice that bar-tailed godwit is susceptible to avian influenza and so may be threatened by future outbreaks of the virus. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C3 Australasian Bittern

The Australian bittern is listed as Endangered under the EPBC Act.

The Australasian Bittern occurs in Australia, New Zealand and New Caledonia. In Australia, they occur from south-east Queensland to south-east Australia, Tasmania and the south-west of Western Australia. The Australian population size is estimated at between 250 and 800 individuals (2010 data) (Threatened Species Scientific Committee 2011).

Preferred habitat includes wetlands with tall vegetation, including permanent and seasonal freshwater habitats dominated by sedges, rushes, reeds, or cutting grass are preferred, with species such as Phragmites, Cyperus, Eleocharis, Juncus, Typha, Baumea, Bolboschoenus, and Gahnia growing over a muddy or peaty substrate (Threatened Species Scientific Committee 2011).

The Australasian Bittern forages in still, shallow water up to 0.3 metres deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water (Threatened Species Scientific Committee 2011). Solitary pairs breed in deep, densely vegetated swamps, building a nest just above the water level typically in shrubs standing in water within screening reeds (Morcombe *et al.*, 2011).

Threats to the Australasian Bittern include:

- reduction in extent and quality of habitat due to the diversion of water away from wetlands, and drainage of swamps
- land clearing for urban and agricultural development causing loss or alteration of wetland habitats
- peat mining
- predation by foxes and cats
- reduced water quality as a result of increasing salinity, siltation and pollution
- overgrazing by livestock and detrimental fire regimes (Threatened Species Scientific Committee 2011).

There are no local records of this species, and none were recorded during field surveys. It should be noted that the species is cryptic and could potentially occur but not be detected.

C3.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during localised movements within its home range leading to injury or mortality and potential dispersal / interruptions associated with noise and light disturbances.

C3.2 Significant impact criteria

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

This species has not been recorded within the Proposal study area despite targeted survey across suitably habitats. Impacts, from the proposed action, are only likely to occur when individuals are moving between foraging habitats or during normal annual dispersal events. Although these movement are infrequent, it has been documented that the species can travel several hundred kilometres in search of suitably habitat and during changes in weather conditions (flooding). It is during these flights the likelihood of collisions are considered to increase due to a potential change in standard flight altitude (short flights are likely to be lower compared to planned longer distance flights). Although no data is available of the elevation of Australasian bittern in flight, it is highly unlikely that this species would fly at an elevation in which would result in a collision with an aircraft within the subject area. Furthermore, the species is generally considered to be a solitary (although small, loosely associated group have been recorded), Therefore collisions with artificial structures are to have a less significant impact on the population of a species that bird which migrate in flocks.

Due to the infrequency of movements, lack of evidence of the species within the Study Area and predicted flying altitudes, the proposed action is unlikely to result in a long-term decrease in the population of Australasian bittern.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Australasian bittern is mainly found in permanent and seasonal freshwater wetland habitats where tall, dense, vegetation is present. The species use this tall vegetation to enable it to hunt in small areas of still water where it feeds on aquatic animals. The proposed action will have no direct impacts on the habitat which is important to this species and its prey. The most likely in-direct impact to occur will be from noise pollution however, this impact will only arise where wetland habitat is near the runway. Noise pollution would not result in habitat degradation and therefore, a reduction in the area of occupancy, but may result in wetland areas becoming unfavourable for the species. Wetland habitat would still be present for the species, and the only potential changes which may arise from the proposed action would be behavioural changes for the species i.e., a change from breeding area to foraging areas. It is therefore considered that the proposed action will not result in the reduction of the area of occupant for Australasian bittern.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

Australasian bittern is present across a wide range from south-east Queensland to south-east South Australia as far as the Adelaide Region, southern Eyre Peninsula, Tasmania and in the south-west of Western Australia. This population can be divided up into 2 sub-populations, the south-eastern, and the south-western population.

The individuals which may occur within the Study area will be from the widely distributed south-east population and specifically would likely arise from the higher population densities in the Murray-Darling Basin. Although once considered sedentary, as described above, the species has been recorded making longer distance flights. Given the capacity for the species to disperse widely, it is considered highly unlikely that the proposed action will result in any additional fragmentation to the existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

In accordance with the approved conservation advice for the species (Threatened Species Scientific Committee 2019), due to the severe reduction in numbers, based on historic habitat loss and degradation across the core part of its range, all natural habitat (including constructed wetlands with suitable habitat) in which the Australasian Bittern is known or likely to occur should be considered critical to the survival of the species.

Given that both permanent and temporary waterbodies exist within the study area and can be used by migrating birds there is critical habitat for the species within the study area. As detailed above, there will be no direct impacts on critical habitat (i.e., habitat loss) but in-direct impacts may occur through noise pollution. Noise pollution may result in a negative behavioural change for individuals residing in the area. This behavioural change may result in a decrease in breeding, foraging and roosting activities as birds move away from the area, although it should be noted that there are no records of the species.

Although suitable habitat persists within the subject area, the lack of Australasian bittern records (both desktop and field survey) indicate that species are not commonly utilising the area. If individuals are present in the area, it is likely that this is a bird which is not a permanent resident and therefore, would accept a sub-optimal site for a short period of time before moving on. Mitigation measure will be in place to reduce noise pollution associated to the flight path design which may reduce the in-direct impact on wetland habitats near the airport. Consequently, it is considered unlikely that the action would adversely affect habitat which is critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Australasian Bittern breeds from October to February in solitary pairs. Nests are built under dense cover over shallow water adjacent to deep, densely vegetated freshwater swamps and pools. The species prefers to nest in vegetation that is up to 2.5 m tall, and the nests are placed about 30 cm above the water level.

Although some habitat persists within the subject area, no records of Australasian bittern were received during the desktop assessment. Furthermore, no individuals were recorded during field assessments. As detailed above, waterbodies which have the potential to be used by this species will not be directly impacted by the Proposal and mitigation measures will be put in place to limit indirect impacts to areas of retained habitat. It is likely that noise pollution could impact species which are present within retained wetlands within proximity to the runway however, the known impact cannot be quantified at this time (as detailed above, negative behavioural response may be observed). If optimal habitat exists, and food availability is not impacted, it is possible that individuals may habituate to the noise of the runways. Evidence suggests that Australasian bittern is not a breeding species within the area and therefore the proposed action will not disrupt the breeding cycle of the species.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action is unlikely to have any direct impact to waterbodies or adjacent terrestrial habitats suitable for this species within the study area. The area is not known to support breeding Australasian bittern and it is likely that the wetland habitats would only be utilised by individuals which were dispersing. The proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites the threat of predation of this species by fox and cat is possible, although the impacts and likelihood has not been quantified. The proposed action will not lead to a change in the pre-existing distribution and density of these species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the Australasian Bittern. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. Wetland habitat does exist within the Study area however the proposed action will not lead to any direct impact on these areas. Birds dispersing into the Study area will not be directly impact by aircrafts and the only potential in-direct pathway may occur from noise pollution. As the species has not been recorded in the area and there is no direct impacts on the species it is unlikely that the proposed action will interfere with the recovery of this species.

C4 Australian Painted Snipe

Australian painted snipe is listed as Endangered under the EPBC Act and is also cited a migratory species under CAMBA.

The Australian painted snipe occurs in shallow freshwater (occasionally brackish) wetlands, both ephemeral and permanent, such as lakes, swamps, claypans, inundated or waterlogged grassland/saltmarsh, dams, rice crops, sewage farms and bore drains, generally with a good cover of grasses, rushes and reeds, low scrub, *Muehlenbeckia* spp. (lignum), open timber or samphire. It has been recorded at wetlands in all states and territories and is most common in eastern Australia (Department of Sustainability Environment Water Population and Communities 2013).

Important areas for this species in the past have included the Murray-Darling Basin (particularly the Riverina of Victoria and New South Wales), Queensland Channel Country, Fitzroy Basin of Central Queensland, south-eastern South Australia and adjacent parts of Victoria (Department of Sustainability Environment Water Population and Communities 2013). Records published over the past twenty years provide evidence for Australian painted snipe occurring more widely and frequently in the remote arid and tropical regions of Australia than was previously thought (Department of Sustainability Environment Water Population and Communities 2013).

Threats:

- habitat loss and degradation (overgrazing, increase in invasive weeds)
- climate change (flooding, fire)
- predation by feral animals (foxes and cats)
- infrastructure developments.

There are no local records of this species, and none were recorded during field surveys. It should be noted that the species is cryptic and could potentially occur but not be detected.

C4.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and localised movements leading to injury or mortality and potential dispersal/interruptions associated with indirect impacts including noise and light disturbances.

C4.2 Significant impact criteria

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

The species was not recorded within the subject area however suitable habitat is present which may be used by the species on an intermittent basis under suitable conditions. There will be no direct impacts from the proposed action to these habitats. Impacts may occur through indirect pathway such as noise and light disturbance within proximity to the runway however, the Australian painted snipe are skulking birds which do not 'flush' from disturbance events easily.

It is considered that the noise and light generated from the proposed action would not result in a significant impact to lead to an abandonment of the area.

Australian Painted snipe are also migratory birds (generally interstate and not international), and their range is not considered to have any geographical limitations. Migration can be influenced by seasonal factors such as rainfall. It is during these flights the likelihood of collisions are considered to increase due to a potential change in standard flight altitude (short flights are likely to be lower compared to planned longer distance flights). Although no data is available of the elevation of Australian painted snipe in flight, some snipe species (great snipe, *Gallinago media*) have been recorded migrating at 2,500 m ASL. If Australian painted snipe also migrates at a similar altitude, collisions could occur with aircrafts within a 13 km zone of the runway. Bird migration altitude is often governed by both high and low pressure systems, which can cause considerable fluctuations in the flying altitude. Given this potential variation, collisions with airplanes would be too complex to model and therefore, mitigation could not be successfully applied. Unlike many migratory species, snipe species are not known to migrate in large flock, therefore impacts with aircrafts would be limited to a smaller number of individuals, thus reducing the significance of the collision when viewed on a population level.

Although there is a risk of collisions with aircrafts, a value of which cannot be fully quantified, given the combined lack of records within the Study area and the resilience to noise disturbance, the proposed action is unlikely to result in a long-term decrease in the population of Australian painted snipe.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

As detailed above, the species is widespread across Australia having been recorded in all States and Territories with no factors limiting geographical distribution. The proposed action will have no direct impact to any of the aquatic habitats which may be utilized by the species. The only impacts on aquatic vegetation would be through in-direct pathways arising from noise and light pollution. As previously discussed, snipe species can be tolerant to noise and light pollution and therefore, it is considered that the proposed action will not reduce the area of occupancy for the species.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The Australian Painted Snipe forms a single, homogenous breeding population across most of Australia.

The proposed action will not lead to additional fragmentation between habitats beyond that already existing in the landscape. Given the capacity for the species to disperse widely, it is considered highly unlikely that the proposed action will result in any additional fragmentation to the existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

As detailed in the species recovery plan, due to relatively scarce records and unpredictable movements, very little is known about the specific habitat requirements of the Australian Painted Snipe. The habitat, or biophysical environment, of the Australian Painted Snipe varies across its range, so it is not possible to generate one detailed description or definition of habitat critical to survival. As a guide, habitat critical to the survival of the Australian Painted Snipe can be considered to include:

- any habitat where the species is known or likely to occur (especially with suitable breeding habitat) within the indicative distribution map
- any location outside the above area that may be periodically occupied by Australian Painted Snipe when conditions are favourable.

As there is a mosaic of wetland habitat within the Study area, both permanent and temporary, it is likely that the area does support areas of critical habitat for the species. As detailed above, there will be no direct impacts on these wetland habitats through direct habitat degradation, loss or change. There is potential for in-direct impacts to persist in the form of noise and light pollution in wetland areas close to the runway however it is noted that many snipe species are generally more tolerant to noise disturbance than other species⁵. As there have been no records of the species in the study area, site selection by birds which may migrate into the area will be undertaken whilst the proposed action is in operation therefore, those which may reside in the area have assessed the in-direct impacts from the proposed action and may likely habituate to the baseline disturbance level.

Although suitable habitat persists within the subject area, the lack of Australian paint snipe records (both desktop and field survey) indicate that species are not commonly utilising the area. Bird which may migrate to the area are likely to utilise the wetland habitats and be more tolerant to baseline disturbance levels. Consequently, it is considered unlikely that the action would adversely affect habitat which is critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Australian painted snipe breeds from December to May in the north of the country and October to December in the south in continuous reed beds, stands of reed-like vegetation, rice fields and areas with no surrounding low cover are avoided. Although some habitat persists within the subject area, no records of Australian painted snipe were received during the desktop assessment or field surveys. As detailed above, waterbodies which have the potential to be used by this species will not be directly impacted by the Proposal. In-direct impact may arise from noise pollution however, if optimal habitat exists, and food availability is not impacted, it is likely that individuals may accept the noise of runway and breed successfully. Although suitable habitat persists within the subject area, the lack of Australian paint snipe records (both desktop and field survey) indicate that species are not commonly utilising the area. Bird which may migrate to the area are likely to utilise the wetland habitats and be more tolerant to baseline disturbance levels. Consequently, it is considered unlikely that the action would adversely disrupt the breeding cycle of any important population of the species.

⁵ Marchant, S. & Higgins, P.J. (editors) 1993. Handbook of Australian, New Zealand & Antarctic Birds. Volume 2, Raptors to lapwings. Melbourne, Oxford University Press. Pages 648-649, 658-666; plate 51.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

Ephemeral wetlands which presents potential habitat for the species were present within the study area and may be used by the species on an intermittent basis under suitable conditions. However, there will be no direct impacts to any aquatic habitat likely to be utilised by this species. As there will be no direct impacts to water bodies that are likely to provide suitable habitat for this species the proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites the threat of predation of this species by fox and cat is possible, although the impacts and likelihood has not been quantified. The proposed action will not lead to a change in the pre-existing distribution and density of these species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the Australian painted snipe. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species although it is stated that a recovery plan is required, and a draft was prepared for comment in April 2020 (although has not been adapted by 2022). Wetland habitat does exist within the Study area however the proposed action will not lead to any direct impact on these areas. Birds dispersing into the Study area will not be directly impact by aircrafts and the only potential in-direct pathway may occur from noise pollution. As the species has not been recorded in the area and there is no direct impacts on the species it is unlikely that the proposed action will interfere with the recovery of this species.

C5 Curlew Sandpiper

Curlew sandpiper is listed as Critically Endangered under the EPBC Act and Migratory in accordance with the Bonn Convention, CAMBA, JAMBA, ROKAMBA.

Curlew Sandpipers are a migratory species, during the breeding season occurring in the Russian Arctic and the New Siberian Islands. The species is also a passage migrant through Europe, north Africa, Kazakhstan, west and southcentral Siberia, Ussuriland, China, Taiwan, Japan, the Philippines and Papua New Guinea. Throughout their non-breeding period, they occur through Africa, southern Mauritania and Ethiopia, along the valley of the Nile River and in Madagascar. They also occur in Asia, from the coastal Arabian Peninsula to Pakistan and India, through Indonesia and Malaysia, south-east Asia and Indochina to south China and Australasia (Department of the Environment 2015, Department of Agriculture Water and the Environment 2021).

In Australia, Curlew Sandpipers occur around the coastal areas and are also widespread further inland, though have irregular appearances inland and occur in in lower numbers. The species does not breed in Australia, only forages, with occurrences typically sometime between August and December.

Preferred habitat for the species includes intertidal mudflats in sheltered coastal areas, non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. Inland, though less often recorded, they occur around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. They are occasionally recorded around floodwaters. Curlew Sandpipers do not breed in Australia. In Siberia they nest in June and July, creating cup nests. Curlew Sandpipers typically forage for invertebrates at the edges of shallow pools and drains of intertidal mudflats and sandy shores. They sometimes forage in flooded paddocks or inundated salt flats (Department of the Environment 2015).

"The Shorebird Community occurring on the relict tidal delta sands at Taren Point" is listed as an Endangered Ecological Community in NSW (NSW DECC, 2005).

Threats to the Curlew Sandpiper include:

- loss of feeding and roosting habitat
- fragmentation or isolation of sites within feeding areas resulting in decreasing abundance
- human disturbance at roost and feeding sites
- disturbance by dogs at roost and feeding sites
- pollution (Department of Agriculture Water and the Environment 2021).

No records of this species were received during the desktop assessment and no sightings were confirmed during field assessments. No suitable habitat was recorded within the subject area.

C5.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and localised movements leading to injury or mortality and potential dispersal / interruptions associated with indirect impacts including noise and light disturbances.

C5.2 Significant impact criteria

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

This species has not been recorded within the subject area during field assessments. Occurrences of this species inland are rare and infrequent, and it is highly unlikely that any populations occurring in the locality would be dependent on the habitat available within the subject area. Suitable habitat for the species is scarce within the subject area and species would only likely appear following flooding events, although movement through the interior is highly erratic. The proposed action will result in no direct, or in-direct impacts on these wetland habitats which may present foraging opportunities to the species.

Curlew sandpiper are a highly migratory, travelling more than 10,000 km between Siberia and Australasia. Birds typically arrive at coastal location and then move following the coast lines to their preferred non-breeding area. Therefore, it is unlikely that the species would be migrating through, or near the proposed subject area and not be subject to the risk of aircraft collisions with the proposed action.

As the species has not been recorded within the area, is not known to migrate through the area, and evidence from field surveys demonstrates that foraging and non-breeding habitat is not present within the subject area, the proposed action is unlikely to result in a long-term decrease in the population of curlew sandpiper.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

This species has not been recorded within the Proposal study area and suitable habitat is scarce. Though the species may occasionally use wetland habitat within the subject area for foraging, there will be no direct impacts to these habitats from the proposed action. Consequently, the Proposal is considered unlikely to reduce the area of the occupancy of the species.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The only documents important population in NSW occurs on the relict tidal delta sands at Taren Point and is listed as an Endangered Ecological Community in NSW (NSW DECC, 2005). The desktop assessment and field surveys recorded no observations of this species within the subject area.

As detailed above, no suitable habitat persists within the subject area (and therefore, no identified important sites), the proposed action will not result in any direct or in-direct impacts on any habitat which curlew sandpiper rely on. As no suitable habitat is present and no records have been obtained from within the Study area, the proposed action will not cause any fragmentation of an existing important population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

No habitat critical to the survival of this species has been listed under the EPBC Act. Critical habitat for Curlew Sandpiper may be identified by the use of important habitat maps which identify land that is considered important to support critical life stages of the species. As Curlew Sandpiper is extremely mobile and difficult to reliably detect by survey, these maps help identify key areas for the species (i.e., areas the species may forage, or sites where multiple records have been located over multiple years). No areas mapped as important habitat for this species occur within the Proposal study area therefore, it is unlikely that the Proposal would adversely affect habitat critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Curlew Sandpipers do not breed in Australia, and only rely on intertidal habitat for forage and roost whilst in Australia prior to migrating north to the breeding grounds. Consequently, it is unlikely that the proposed action would adversely affect the breeding cycle of the species.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action will have no direct or in-direct impact on the habitat which may be used by curlew sandpiper. Consequently, the Proposal is considered unlikely to result in the modification, removal, isolation, or decreased availability or quality of habitat to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites one of the threats to the species is the establishment of invasive plants which may lead to habitat degradation. The proposed works will not result in the change of distribution or density of invasive weed species therefore, the proposed action will not result in any invasive species which may impact the species becoming established.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the curlew sandpiper. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C6 Eastern Curlew

Eastern curlew is listed as Critically Endangered under the EPBC Act and Migratory under the Bonn Convention, CAMBA, JAMBA and ROKAMBA.

Within Australia, the eastern curlew has a primarily coastal distribution and are rarely recorded inland. The eastern curlew is endemic to the East Asian – Australasian Flyway and breed in Russia, Mongolia and north-east China before migrating south to Australia (and other countries). The species is found in all states, particularly the north, east, and south-east regions including Tasmania. During the non-breeding season in Australia, the eastern curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (*Zosteraceae*). Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. The birds are often recorded among saltmarsh and on mudflats fringed by mangroves, and sometimes within the mangroves. The birds are also found in coastal saltworks and sewage farms.

Threats in Australia, especially eastern and southern Australia, include ongoing human disturbance, habitat loss and degradation from pollution, changes to the water regime and invasive plants.

No records were received during the desktop assessment within the subject area. Field surveys did not target this species due to the lack of habitat suitability, and no incidental records of this bird were recorded during field assessments.

C6.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and localised movements leading to injury or mortality and potential dispersal / interruptions associated with indirect impacts including noise and light disturbances.

C6.2 Significant impact criteria

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

Desktop assessments confirmed the likely absence of this species within the subject area and was further supported through field surveys which confirm the lack of suitable habitat. This species is a highly migratory, travelling more than 10,000 km, from the breeding grounds in Russia, Mongolia and China Siberia to Australasia. Birds typically arrive at coastal location and then move, following the coast lines to their preferred non-breeding area. Therefore, it is unlikely that the species would be migrating through, or near the proposed subject area and not be subject to the risk of aircraft collisions with the proposed action.

As the species has not been recorded within the area, is not known to migrate through the area, and evidence from field surveys demonstrates that foraging and non-breeding habitat is not present within the subject area, the proposed action is unlikely to result in a long-term decrease in the population of eastern curlew.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Eastern curlew are mainly found in coastal areas where they forage and roost estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats. As no suitable habitat persists within the subject area, the proposed action will lead to no direct or in-direct impacts on any habitat which the species rely on. Consequently, the proposed action will not result in the reduction of the area of occupancy for eastern curlew.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The distribution of eastern curlew throughout Australia covers a large size (estimated to be 30,000 km²) and there is no defined subpopulations of the species. As detailed above, no suitable habitat persists within the subject area (and therefore, no identified important sites), the proposed action will not result in any direct or in-direct impacts on any habitat which eastern curlew rely on. As no suitable habitat is present and no records have been obtained from within the Study area, the proposed action will not cause any fragmentation of an existing important population

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines ‘habitat critical to the survival of a species’ as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species’ lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

There is no definition on what habitat constitutes ‘critical’ for this species. Based on the knowledge of the species migration and their preferred habitat characterises, for this assessment it has been considered that all intertidal habitat is critical to the species survival during non-breeding movement into Australia. As supported by desktop and field surveys it has been confirmed that no intertidal habitat exists within the subject area. Therefore, the proposed action will not result in any direct or in-direct impacts causing adverse impacts on habitat critical to the survival of a species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Eastern curlew is a migratory species into Australia. They breed in Russia, Mongolia and north-east China between May and June before they commence their southern migration from mid-July. The birds arrive in north-west and eastern Australia as by mid-August, many birds arriving in eastern Australia appear to move down the coast from northern Queensland with influxes occurring on the east coast have suggested a general southward movement until mid-February.

As the species does not breed in Australia the only impacts on the breeding cycle would be disturbance whilst on non-breeding grounds which would impair the species ability to undertake a northern migration back to its breeding habitat in the northern hemisphere.

As no suitable habitat exists for the species and no records of observation have been received within the Study Area there will be no direct or in-direct impacts which may result in disturbance to the species whilst foraging through the non-breeding season. Consequently, the proposed action will not disrupt the breeding cycle of eastern curlew.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

As no suitable habitat for eastern curlew exist within the subject area the proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites one of the threats to the species is the establishment of invasive plants which may lead to habitat degradation. As no suitable intertidal habitat exists within the subject area, the proposed action will not result in any invasive species which may impact the species becoming established.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the curlew sandpiper. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species as the approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C7 Eastern Hooded Plover

Eastern hooded plover is listed as vulnerable under the EPBC Act.

The species is generally accepted as *Thinornis rubricollis* with Birdlife Australia recognising 2 subspecies, *Thinornis rubricollis rubricollis* (hooded plover (eastern)) and *Thinornis rubricollis tregallasi* (hooded plover (western)). The subspecies occupy separate, non-overlapping regions of Australia's southern coasts.

The hooded plover (eastern) is widely dispersed on or near sandy beaches in south-eastern Australia. Its range extends from Jervis Bay in New South Wales to Fowlers Bay in South Australia, and includes Tasmania and various offshore islands. Historical records from around Sydney (Hindwood & Hoskin, 1954) indicate that the eastern subspecies' range was previously more extensive than at present and contracted southward during the first half of the 20th century.

The hooded plover (eastern) inhabits ocean beaches, particularly wide beaches backed by dunes with large amounts of seaweed, creek mouths and inlet entrances. It may also occur on near-coastal saline and freshwater lakes and lagoons, tidal bays and estuaries, on rock platforms, or on rocky or sandy reefs close to shore. It is largely sedentary with 95% moving over distances of less than 20 km, however is able to travel up to 330 km, based on mainland banding studies. Movement rates vary seasonally and geographically, being higher during the non-breeding season. The eastern subspecies breeds on or near beaches, with nests located on flat beaches above the high tide mark, on stony terraces adjacent to beaches, or on the sides of sparsely vegetated dunes.

The hooded plover faces a number of threats, including:

- crushing or disturbance of eggs, chicks and nesting birds by human activities, particularly off-leash domestic dogs which also predate on flightless chicks
- predation by invasive species such as foxes (*Vulpes vulpes*) and predation by native scavengers such as ravens and magpies (*Corvus* spp.), currawongs (*Strepera* spp), and silver gulls (*Chroicocephalus novaehollandiae*)
- oil spills
- entanglements and ingestion of marine debris
- invasive weeds such as sea spurge (*Euphorbia paralias*), Marram grass (*Ammophila* spp.), sea wheatgrass (*Thinopyrum junceiforme*), pyp grass (*Ehrharta villosa*) and beach daisy (*Arctotheca populifolia*)
- inappropriate coastal erosion control measures such as brush matting
- climate change (including, flooding and potential sea level rise)
- habitat loss through infrastructure development

During the desktop assessment, a single record was received within the study area, further assessment using online database including iNaturalist and eBird confirms this record (and no more). Field surveys did not target this species due to the lack of habitat suitability, and no incidental records of this bird were recorded during field assessments.

C7.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and localised movements leading to injury or mortality and potential dispersal / interruptions associated with indirect impacts including noise and light disturbances.

C7.2 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

Desktop assessments confirmed the likely absence of this species within the subject area and was further supported through field surveys which confirm the lack of suitable habitat. This species is highly sedentary with most individuals not travelling further than 20 km so it is highly unlikely that individuals would appear in the subject site. However, banding studies have demonstrated movements of this species can exceed 300 km although this is not known common occurrence.

As the species has not been recorded within the subject area (although one recorded exists within the wider 30 km study area), is not known to migrate through the area, and evidence from field surveys demonstrates that foraging and non-breeding habitat is not present within the subject area, the proposed action is unlikely to result in a long-term decrease in the population of hooded plover.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Hooded plover inhabits ocean beaches, particularly wide beaches backed by dunes with large amounts of seaweed, creek mouths and inlet entrances. It may also occur on near-coastal saline and freshwater lakes and lagoons, tidal bays and estuaries, on rock platforms, or on rocky or sandy reefs close to shore. As no suitable habitat persists within the subject area, the proposed action will lead to no direct or in-direct impacts on any habitat which hooded plover rely on. Consequently, the proposed action will not result in the reduction of the area of occupancy for both the species.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The distribution of (Eastern) hooded plover is extremely limited (estimated at 7,900 km²). As detailed above, no suitable habitat persists within the subject area (and therefore, no identified important sites), the proposed action will not result in any direct or in-direct impacts on any habitat which hooded plover rely on. As no suitable habitat is present and no records have been obtained from within the Study area, the proposed action will not cause any fragmentation of an existing important population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

There is no definition on what habitat constitutes as 'critical' for this species. Based on the knowledge of the species migration and their preferred habitat characterises, for this assessment it has been considered that all beaches backed by dunes with large amount of suitable foraging habitat (seaweed) are critical. No habitat exists within the subject area. Therefore, the proposed action will not result in any direct or in-direct impacts causing adverse impacts on habitat critical to the survival of a species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

The eastern subspecies breeds on or near beaches, with nests located on flat beaches above the high tide mark, on stony terraces adjacent to beaches, or on the sides of sparsely vegetated dunes during August to March. As no suitable habitat exists for the species and no records of observation have been received within the Subject Area there will be no direct or in-direct impacts. Consequently, the proposed action will not disrupt the breeding cycle of hooded plover.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

As no suitable habitat for hooded plover exist within the subject area the proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites one of the threats to the species is the establishment of invasive plants. As no suitable intertidal habitat exists within the subject area, the proposed action will not result in any invasive species which may impact the species becoming established.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the curlew sandpiper. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- achieve stable numbers of adults in the population, and maintain a stable number of occupied and active breeding territories
- improve breeding success, namely increase fledgling rates (which is a combination of improving egg and chick survival rates), via:
 - reducing the destruction of nests and chicks, and the disturbance of breeding pairs, by human and human-related activities.
 - reducing predation by feral animals and overabundant native predators.
- maintain, enhance and restore habitat, and integrate the subspecies' needs into coastal planning.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C8 Fork-tailed Swift

Fork-tailed swift is listed as marine and migratory (CAMBA, JAMBA, ROKAMBA) under the EPBC Act.

The Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia. Almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher during migration. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. The species food items within Australia are not well known, however, the Fork-tailed Swift is known to be insectivorous.

Birds depart from breeding grounds of Siberia between August – September and travel south usually arriving in Australia in October where they are highly mobile across Australia following low pressure systems across the country in search of food. There are no significant threats to the Fork-tailed Swift in Australia. Potential threats include habitat destruction and predation by feral animals. Due to the wide range of the species the potential impacts are thought to be negligible.

The desktop assessment detailed 3 records of this species within 10 km of the new airport however no observations were recorded of the species during field surveys.

C8.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and localised movements leading to injury or mortality and potential dispersal/interruptions associated with indirect impacts including noise and light disturbances.

C8.2 Significant impact criteria

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

SUBSTANTIALLY MODIFY (INCLUDING BY FRAGMENTING, ALTERING FIRE REGIMES, ALTERING NUTRIENT CYCLES OR ALTERING HYDROLOGICAL CYCLES), DESTROY OR ISOLATE AN AREA OF IMPORTANT HABITAT FOR A MIGRATORY SPECIES

The Significant Impact Guidelines 1.1 define 'important habitat' as:

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or
- habitat that is of critical importance to the species at particular life-cycle stages, and/or
- habitat utilised by a migratory species which is at the limit of the species range, and/or
- habitat within an area where the species is declining.

There is no classification of what is considered important habitat for the Fork-tailed swift. The species often forages over dry or open habitats including riparian woodland, tea-tree swamps, low scrub, heathland, open farmland and treeless grasslands. These habitats do exist within the subject area although there were only 3 records of this species within a 10 km buffer of the proposed action. Foraging is often governed by weather systems, mainly low pressures, which lift insects

from the ground into the air. Foraging patterns for the species cannot be modelled and therefore mitigated as the key factor influencing foraging is a natural occurrence and highly variable. Although habitat for the species does persist in the subject area, the proposed action will not lead to any direct impacts on this habitat. Furthermore, given the lack of records within the study area, the habitat would not be classified as important to the species during any particular life stage as there are no known recognized congregations of the species on an annual occurrence. Consequently, it is considered that the proposed action will not substantially modify, destroy or isolate an area of important habitat for fork-tailed swift.

RESULT IN AN INVASIVE SPECIES THAT IS HARMFUL TO THE MIGRATORY SPECIES BECOMING ESTABLISHED IN AN AREA OF IMPORTANT HABITAT FOR THE MIGRATORY SPECIES

The only threats to this species from invasive species would be from indirect actions of introduced animals causing habitat degradation. The change in habitat structure on the ground could change alter the breeding success of invertebrate species which fork-tailed swift feed on. Although some of these species including, brown hare, rabbit and goat were recorded in the subject area, the indirect impacts to the species would be considered negligible. The proposed action would not result in any change to the species composition and density of invasive species within the subject area and therefore, would not present a significant impact to the species.

SERIOUSLY DISRUPT THE LIFECYCLE (BREEDING, FEEDING, MIGRATION OR RESTING BEHAVIOUR) OF AN ECOLOGICALLY SIGNIFICANT PROPORTION OF THE POPULATION OF A MIGRATORY SPECIES

The Significant Impact Guidelines 1.1 define 'ecological significant proportion' to include factors such as population status, genetic distinctiveness and species-specific behavioural patterns. The Draft Referral guideline for 14 birds listed as migratory species under the EPBC Act (Department of the Environment, 2015) quantifies this by stating that 1% (1000 individuals) of the population is considered internationally important and 0.1% (100 individuals) as nationally important and therefore ecologically significant.

As this species are widely distributed and do not breed in Australia, there are not considered to be any ecologically significant proportions of the populations for these species within the study area. Additionally, they do not solely rely on habitat within the study area for feeding or resting. Inland wetland habitats do provide potential foraging areas for the species, but as their movements are strongly influenced by low pressure systems, individuals (or flocks) would not generally persist in the area for a prolonged period of time.

Impacts from the proposed action will mostly occur whilst the birds are foraging. Unlike other swift species, the fork-tailed swift tends to hunt at a higher altitude generally feeding at elevations of c. 300 m ASL (like white-throated needletail). Although swifts typically follow low pressure systems which result in prey items being at a lower altitude, swifts will also hunt in high pressure systems which can raise the altitude up to 2,000 m ASL. Swift species have been documented on migration at 5,700 m ASL. In these high-pressure systems, the likelihood of collisions with aircrafts are considered to increase.

Although there is a slight increase in the likelihood of collisions with aircraft, the normal foraging height of the species is well document at around 300 m ASL. Based on this, the main impact area would be within close proximity to the runway where collisions may occur during take of and landing manoeuvres. However, the lack of records within the area suggests the subject site is not regularly used by the species. Based on the available data, a collision would only likely impact a small number of individuals (a feeding flock, or individuals within a feeding flock), and the significance of this could not be quantified as to seriously disrupt the lifecycle of an ecologically significant proportion (in this instance 100 individuals) of the population of a migratory species.

C9 Gang-gang Cockatoo

Gang-gang cockatoo is listed as Endangered under the EPBC Act.

Gang-gang Cockatoos are endemic to south-eastern Australia. The species is rare at the extremities of its range, with isolated records known from as far north as Coffs Harbour and as far west as Mudgee. The species is a known altitudinal migrant. In spring and summer, they are generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas. The species may also occur in sub-alpine snow gum (*eucalyptus pauciflora*) woodland and occasionally in temperate rainforests. Gang-gang cockatoo favours old growth forest and woodland attributes for nesting and roosting. Nests are located in hollows that are 10 cm in diameter or larger and at least 9 m above the ground in eucalypts.

Gang-gang Cockatoos are adversely impacted by a range of threats including habitat loss, wildfire, climate change and competition for suitable nesting hollows.

The desktop assessment identified 7 records of gang-gang cockatoo within a 10 km study area. Although targeted surveys were undertaken, no records of gang-gang cockatoo were recorded during the field assessment and furthermore, no suitable breeding habitat was identified with the proposed airport area.

C9.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike leading to injury or mortality and potential dispersal/interruptions associated with noise and light disturbances.

C9.2 Significant impact criteria

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

Although records were received during the desktop assessment, no observations of individuals or potential breeding areas were recorded during field survey despite targeted surveys. The main identified threats to this species arise from habitat loss and competition for breeding places. Suitable habitat is present within the subject area however, the proposed action will result in no direct impacts onto the preferred habitat for this species. The only impacts which may occur would be in-direct from noise pollution. Any retained woodland habitat within close proximity to the runway would likely incur an increase in noise during take-off and landing manoeuvres. This in-direct impact may result in negative behavioural responses as species choose quieter areas to reside and abandon the habitat which are subject to an increase in noise. It should be noted though that as one of the main threats to this species is an increase in competition of breeding habitats, all birds (i.e., direct competitors) will be subject to the same noise disturbance and thus may all choose to reside in quieter woodland areas. If gang-gang cockatoo can become more noise tolerant it may benefit from this increase in disturbance and the negative reactions of other species.

Due to the lack of evidence of the species within the Study Area, even when suitable habitat persists, the proposed action is unlikely to result in a long-term decrease in the population of gang-gang cockatoo.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

The species was once widespread and numerous in Sydney and its surrounding areas, but its population has greatly reduced in recent years. The last known breeding subpopulation within the Sydney metropolitan area confined to the Hornsby and Ku-ring-gai Local Government Areas. The proposed action will have no direct impacts (i.e., habitat loss) on the woodland habitats in which the species prefers. The only impacts which may occur would be in-direct from noise pollution, of which, would not result in habitat degradation resulting in the reduction of the area of occupancy for the species.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

Gang-gang cockatoo is present across a wide range throughout south-east Australia. Potential subpopulations of this species have only been identified in Victoria, therefore the individuals which may occur within the subject site are birds which are part of the larger main population which is not considered to be fragmented. The proposed action will not lead to additional fragmentation between habitats beyond that already existing in the landscape. Given the capacity for the species to disperse widely, it is considered highly unlikely that the proposed action will result in any additional fragmentation to the existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines ‘habitat critical to the survival of a species’ as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species’ lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

As detailed in the Conservation Advice, habitat critical to the survival of the Gang-gang Cockatoo includes all foraging habitat during both the breeding and non-breeding season. Habitat critical to the survival includes hollow bearing trees with known or potential Gang-gang Cockatoo hollow chambers that are generally around 20 cm in floor diameter, around 50.5 cm deep (range 22–90 cm) and occur between around 7.5 m (range 5–9.4 m) above the ground. Stands of trees within or adjacent to known breeding areas, that are likely to become hollow bearing in future years, are also key components of this species’ habitat.

No Critical Habitat as defined under section 207A of the EPBC Act has been identified or included in the Register of Critical Habitat.

Although the habitat within the subject site does present opportunities for nesting gang-gang cockatoo, during field assessment no individuals or breeding site were recorded. The proposed actions will not result in any direct impact (i.e., habitat loss) to critical habitat. Noise disturbance may present an indirect impact although will be negligible in comparison with the threat of competition on breeding places by other bird species. It has been found that in the Blue Mountains region, Sulphur-crested Cockatoo and Rainbow Lorikeet populations have grown significantly to dominate the forest bird community. Both species are capable of excluding Gang-gang Cockatoos from suitable nesting sites. Consequently, the proposed action will not adversely impact habitat which is considered critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Breeding typically occurs between October and January, although records of breeding do exist outside this timeline. During the breeding season, species typically reside in mature, wet sclerophyll forests, typically dominated by eucalypts and generally leave the montane forests during the winter months. It should be noted that overlapping of winter and summer ranges is common, with some individuals choosing to winter at higher altitudes, and others remaining at lower altitudes during summer.

Although suitable habitat is present within the subject area, no observations of the species were recorded during the field surveys and only 7 records exist within a 10 km buffer. Individuals may utilise the habitat periodically when seasonal movements occur, although no evidence identifies the subject site is an important breeding area. Consequently, it is considered unlikely that the action would adversely disrupt the breeding cycle of any important population of the species.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

Woodlands which present both breeding and foraging habitat for the species is present within the subject site and may be used on an intermittent basis during seasonal movements or when suitable habitat conditions present for breeding. However, there will be no direct impacts to any woodland habitat likely to be utilised by this species. As there will be no direct impacts to woodlands that may provide suitable foraging or breeding habitat for this species the proposed action would not result in the destruction, modification, isolation or removal of habitat and therefore will not result in the decline of the species.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

The Conservation Advice for this species cites the threat of competition over breeding places by a range of species, including common myna and feral honeybees. The proposed action will not lead to a change in the pre-existing distribution and density of these species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the gang-gang cockatoo. The proposed action will not result in the introduction of any diseases which may lead to the species to decline.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. Woodland habitat does exist within the subject area however the proposed action will not lead to any direct impact on these areas. Birds dispersing into the Study area will not be directly impacted by aircrafts flightpaths and the only potential in-direct pathway may occur from noise pollution. As the species has not been recorded in the area and there are no direct impacts on the species it is unlikely that the proposed action will interfere with the recovery of this species.

C10 Great Knot

The Great Knot is listed as critically endangered and Migratory under the EPBC Act.

In NSW, the species has been recorded at scattered sites along the coast down to about Narooma. It has also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms. Migrates to Australia from late August to early September, although juveniles may not arrive until October-November. Most birds return north in March and April; however some individuals may stay over winter in Australia.

C10.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during migration and dispersal leading to injury or mortality and potential interruptions associated with noise and light disturbances. The proposed action would not clear vegetation within wetland habitat suitable for foraging and roosting and has no potential to introduce weeds into wetlands thereby degrading the quality of the habitat.

C10.2 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

For the population visiting Australia, the extent of occurrence is estimated to be 35,000km² and the area of occupancy is 2800 km² and decreasing.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

No important wetland habitat will be impacted and given the ability of this species to disperse over these cleared areas it is considered unlikely that the action would fragment an existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Not applicable, the species is a migratory wetland species that breeds in north-east Siberia and far north-east Russia (Threatened Species Scientific Committee 2016).

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the Great Knot.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

CONCLUSION

The action is considered **unlikely to significantly impact** upon the Great Knot. This species is migratory, widely distributed, and does not breed in Australia. No important habitats would be impacted by the proposed action. Additionally, collision with aircraft causing injury or mortality is considered minimal due to the relatively low abundance of the species in the locality.

C11 Greater Sand Plover

The Greater Sand Plover is listed as Vulnerable and Migratory under the EPBC Act.

In Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches, large intertidal mudflats, sandbanks, salt-marshes, estuaries, coral reefs, rocky islands, rock platforms, tidal lagoons and dunes near the coast, (Threatened Species Scientific Committee 2016).

C11.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Collision with aircraft causing injury or mortality is possible but considered unlikely due to the relatively low abundance of the species within the locality. The species is migratory, widely distributed, and does not breed in Australia. No important habitats would be impacted by the proposed action. Additionally, collision with aircraft causing injury or mortality is considered minimal due to the relatively low abundance of the species in the locality.

C11.2 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

The greater sand plover is a migratory shorebird species with a global population, and is widespread throughout Australia, preferring coastal habitats. Locations where the species has been recorded within the last ten years include Kurnell on the Cronulla shire, and Long Reef aquatic reserve on the Northern beaches of Sydney. Any records that occur in the freshwater habitats of Western Sydney are considered extremely rare but cannot be discounted. The proposed action is considered unlikely to lead to a long-term decrease in the size of the population.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

This species is only considered likely to occur intermittently within the Proposal study area between periods of migration as the wetland habitat within the Proposal study area is not the preferred or internationally important coastal habitat for these species. As the Proposal will not impact important wetland habitats the area of occupancy for this species is unlikely to be reduced.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

No important wetland habitat will be impacted and given the ability of this species to disperse over these cleared areas it is considered unlikely that the action would fragment an existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would affect habitat critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Not applicable, the species is a migratory species that breeds in the northern hemisphere. (Threatened Species Scientific Committee 2016).

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species. The proposed action is unlikely to increase invasive species within the subject site.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

Since 1992, the viral disease testing of charadriiformes from coastal northwest Australia has not detected any evidence of avian influenza excretion in the greater sand plover or any other shorebird species tested. However, from serologic testing, there was evidence of a very low level of past exposure to virus. The proposed action is unlikely to introduce or lead to an increase of avian influenza to the species (Threatened Species Scientific Committee 2016).

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C12 Large-eared Pied Bat

Large-eared Pied Bat is listed as Vulnerable under the EPBC Act.

C12.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike leading to injury or mortality and potential dispersal / interruptions associated with noise and light disturbances. The proposed action is considered unlikely to significantly impact the species as it is unlikely to substantially modify by means of fragmentation or destroy or isolate important habitat that may support local populations of this species.

C12.2 Is this an important population?

In accordance with the Significant Impact Guidelines the presence of an important population must be identified prior to addressing the significance impact criteria. An important population is defined in the guidelines as a population that is necessary for a species' long-term survival and recovery (Department of Environment Water Heritage and the Arts 2008). Under the EPBC Act, important populations are:

- likely to be key source populations either for breeding or dispersal
- likely to be necessary for maintaining genetic diversity
- at or near the limit of the species range.

The species was not recorded within any past surveys conducted for the WSI but are known to occur within the locality. This species, if occurring, would not be at the limit of their known range, nor would any population there be likely to be a key source population nor necessary for maintaining genetic diversity. Furthermore, there will be no breeding habitat directly impacted by the proposed action. Therefore, it is considered that any population if present is unlikely to be an 'important population'.

C12.3 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

Not applicable as an 'important population' is unlikely to be impacted upon by the proposed action.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Not applicable as an 'important population' is unlikely to be impacted upon by the proposed action.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

Not applicable as an 'important population' is unlikely to be impacted upon by the proposed action.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

Habitat critical to the survival of a species also refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

The proposal will not remove habitat which represents potential foraging and roosting habitat for this species. As the species is highly mobile, with individuals foraging large distances from roost sites, the proposed action is unlikely to significantly impact habitat of critical importance to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Not applicable as an 'important population' is unlikely to be impacted upon by the proposed action.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action would not reduce the availability of suitable foraging or roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

It is considered unlikely that the proposed action would substantially change the composition of the species habitat within the landscape or increase the spread and establishment of invasive species (e.g. predators) that could threaten the survival of the species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species that are likely to threaten the Large-eared pied Bat. Spread of pathogens or disease would be minimised through mitigation measures.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

A national recovery plan has not been developed for the Large-eared Pied Bat.

C13 Osprey

Osprey is listed as Migratory under the EPBC Act.

Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia. In Australia, Eastern Ospreys mainly feed on fish, especially mullet and luderick where available, and rarely take molluscs, crustaceans, insects, reptiles, birds and mammals (Department of Environment, 2022).

C13.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Although it is possible that injury or mortality may occur from collisions with aircraft during migration, foraging or dispersal, an assessment of the criteria has determined that the population of the species likely to occur within the study area are not ecologically significant proportions of the population in the region or nationally. The proposed action is considered unlikely to significantly impact these species as it is unlikely to substantially modify by means of fragmentation or destroy or isolate important habitat that may support local populations of these highly mobile migratory bird species.

C13.2 Is this important habitat for a migratory species?

Important habitat for EPBC Act listed Migratory species is defined as (Department of Environment, 2013):

HABITAT UTILISED BY A MIGRATORY SPECIES OCCASIONALLY OR PERIODICALLY WITHIN A REGION THAT SUPPORTS AN ECOLOGICALLY SIGNIFICANT PROPORTION OF THE POPULATION OF THE SPECIES

No, the region does not support an ecologically significant proportion of the species.

HABITAT THAT IS OF CRITICAL IMPORTANCE TO THE SPECIES AT PARTICULAR LIFE-CYCLE STAGES

No, the proposed action is considered unlikely to impact habitat of critical importance to the species.

HABITAT UTILISED BY A MIGRATORY SPECIES WHICH IS AT THE LIMIT OF THE SPECIES RANGE

No, the species is widespread throughout coastal habitats of Australia.

HABITAT WITHIN AN AREA WHERE THE SPECIES IS DECLINING.

No, In NSW the species is not declining (Department of Environment, 2022).

C13.3 Significant impact criteria

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

SUBSTANTIALLY MODIFY (INCLUDING BY FRAGMENTING, ALTERING FIRE REGIMES, ALTERING NUTRIENT CYCLES OR ALTERING HYDROLOGICAL CYCLES), DESTROY OR ISOLATE AN AREA OF IMPORTANT HABITAT FOR A MIGRATORY SPECIES

The proposed action is unlikely to modify, destroy or isolate an area of important habitat for the Osprey. The subject site does not support an ecologically significant proportion of the population as defined by the *Draft Referral guideline for 14 birds listed as migratory species under the EPBC Act* (Department of the Environment, 2015d).

RESULT IN AN INVASIVE SPECIES THAT IS HARMFUL TO THE MIGRATORY SPECIES BECOMING ESTABLISHED IN AN AREA OF IMPORTANT HABITAT FOR THE MIGRATORY SPECIES, OR

The proposed action is unlikely to result in invasive weeds and vertebrate pests to become established in an area of important habitat, the proposed action is exclusively aerial it does not involve vegetation clearing.

SERIOUSLY DISRUPT THE LIFECYCLE (BREEDING, FEEDING, MIGRATION OR RESTING BEHAVIOR) OF AN ECOLOGICALLY SIGNIFICANT PROPORTION OF THE POPULATION OF A MIGRATORY SPECIES.

The proposed action is considered unlikely to seriously disrupt the lifecycle of an ecologically significant proportion of the population of Osprey. The subject site does not support an ecologically significant proportion of the population.

C14 Painted Honeyeater

Painted Honeyeater is listed as Vulnerable under the EPBC Act.

The Painted Honeyeater is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory. The greatest concentrations and almost all records of breeding come from south of 26°S, on inland slopes of the Great Dividing Range between the Grampians, Victoria and Roma, Queensland. Fruiting mistletoe primarily influences the Painted Honeyeater's seasonal north-south movements, with its breeding season closely matched. After breeding, many birds move into semi-arid regions such as north-eastern South Australia, central and western Queensland, and central Northern Territory. Breeding occurs from October to March when mistletoe fruits are most available (Department of the Environment 2015).

The species is a mistletoe specialist, and inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of Black Box and River Red Gum, Box-ironbark-yellow Gum woodlands, Acacia-dominated woodlands, Paperbarks, Casuarinas, Callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes, and is more common in wider blocks of remnant woodland than in narrower strips (Department of the Environment 2015).

Threats for this species include:

- habitat loss due to clearing
- grazing by livestock, macropods and rabbits, limiting new tree recruitment
- competition with the aggressive Noisy Miner (*Manorina melanocephala*), predation by invasive species such as Black Rats (*Rattus rattus*), and nest predation by over abundant Pied Currawongs (*Strepera graculina*), pied and grey butcherbirds (*Cracticus nigrogularis* and *Cracticus torquatus*), and crows and ravens (Corvidae). (Threatened Species Scientific Committee, 2015).

Strongholds for the species and breeding areas occur on the inland slopes of the Great Dividing Range in NSW, Vic and Southern Queensland (OEH, 2019).

There are records of this species within the locality of Proposal study area including bird data base records on the plains north of Deniliquin.

C14.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

It is possible that injury or mortality may occur from collisions with aircraft during migration or dispersal. Although there are records for the species on bird databases, the core populations, breeding areas, and the species stronghold do not occur within the locality of the proposed action it is considered unlikely that the proposed action would have a significant impact on the Painted Honeyeater. Furthermore, the species is rarely observed flying at altitudes above 150 m moving between preferred habitats, as such it is considered highly unlikely to have a significant impact on the species.

C14.2 Is this an important population?

An important population is defined in the guidelines as a population that is necessary for a species' long-term survival and recovery (Department of the Environment, 2013). Under the EPBC Act, important populations are:

- likely to be key source populations either for breeding or dispersal
- likely to be necessary for maintaining genetic diversity
- at or near the limit of the species range.

There are records of this species within the locality of Proposal study area including bird data base records at Penrith and the Richmond lowlands on the northern end of the subject site.

As the core range for Painted Honeyeaters is inland south-eastern Australia where its natural habitat is subtropical or tropical dry forests, and species population strongholds and breeding areas occur on the inland slopes of the Great Dividing Range (outside of the Proposal study area). If any population is present, they are unlikely to be key source populations for dispersal or for maintaining genetic diversity. Also, this location is not at the limit of this species known range. As such any individual or population recorded within the Proposal study area would not be considered part of an important population.

C14.3 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

Not applicable. Not considered an important population.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Not applicable. Not considered an important population.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

Not applicable. Not considered an important population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

Conservation advice does not list any habitat critical to the survival of this species. Therefore, the proposed action is not considered likely to adversely affect habitat critical to the survival of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Not applicable. Not considered an important population.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

It is not considered likely that the action would result in disturbance to the extent that the species would decline. There is adjacent habitat located in contiguous areas such as National Parks and reserves, where the species is known to occur.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the Painted Honeyeater, or diseases to its preferred food source, mistletoe.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

The Proposal study area is largely within an already fragmented landscape from agriculture and existing linear infrastructure, thereby limiting the potential for any substantial patches of habitat removal to occur if any. It is considered unlikely that the proposed action would interfere substantially with the recovery of the species.

C15 Red Knot

The Red Knot is listed as listed as Endangered and Migratory under the EPBC Act

In Australasia the Red Knot mainly inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps.

C15.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

The proposed action would not clear vegetation within wetland habitat suitable for foraging and roosting and has no potential to introduce weeds into wetlands thereby degrading the quality of habitat. It is possible that injury or mortality may occur from collisions with aircraft during migration or dispersal movements. This species is migratory, widely distributed, and does not breed in Australia. Additionally, collision with aircraft causing injury or mortality is considered minimal due to the relatively low abundance of the species in the locality. The action is considered unlikely to significantly impact upon the Red Knot.

C15.2 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Very large numbers are regularly recorded in north-west Australia. (Threatened Species Scientific Committee 2016). This species is only considered likely to occur intermittently within the Proposal study area between periods of migration as the wetland habitat within the Proposal study area is not the preferred or internationally important coastal habitat for these species. As the Proposal will not impact important wetland habitats the area of occupancy for this species is unlikely to be reduced.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

No important wetland habitat will be impacted and given the ability of this species to disperse over these cleared areas it is considered unlikely that the action would fragment an existing population.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to:

- habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/ or
- habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

The Red Knot is a migratory wetland bird that travels to the Northern hemisphere in the high arctic to breed. Additionally, they do not rely on habitat within the proposal study area for feeding or resting, as these inland wetland habitats are not considered important habitat or preferred habitat, which primarily occurs in coastal areas such as intertidal mudflats and estuaries.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

There are no known diseases causing potential species decline to the Red Knot.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made Recovery Plan for this species. The approved conservation advice for the species provides sufficient direction to implement priority actions and mitigate against key threats. The key conservation and management actions identified for the recovery of this species in Australia and internationally under this document include (Department of the Environment 2015):

- work with governments along the East Asian – Australasian Flyway to prevent destruction of key migratory staging sites
- support initiatives to protect and manage key staging sites of
- maintain and improve protection of roosting and feeding sites in Australia
- incorporate requirements for curlew sandpiper into coastal planning and management
- manage important sites to identify, control and reduce the spread of invasive species
- manage disturbance at important sites when curlew sandpipers are present – e.g. discourage or prohibit vehicle access, horse riding and dogs on beaches, implement temporary beach closures
- monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.

The Proposal is unlikely to interfere with any of the identified recovery actions outlined. As such, the Proposal is unlikely to interfere with the recovery of the species.

C16 Regent Honeyeater

The Regent Honeyeater is listed as critically endangered under the EPBC Act.

It is a nomadic and partially migratory woodland bird, which has a patchy distribution between south-east Queensland and central Victoria. Some predictable seasonal movements have been observed, and breeding varies between regions and corresponds with flowering of key eucalypt and mistletoe species (DoE, 2020a).

The Regent Honeyeater is predominantly found along inland slopes of the Great Dividing Range in areas containing moist, fertile soils. It prefers box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation including She-oak (*Casuarina* spp.). Lowland coastal forest may also act as a refuge habitat during periods of drought, and they may also be found in remnant patches of farmland and urban areas (DoE, 2015).

Regent Honeyeater breeding appears to correspond with the flowering of key eucalypt and mistletoe species and varies between regions, usually occurring from August to January. Cup shaped nests are constructed usually in the canopy of mature trees with rough bark, and a clutch consists of 2 to 3 eggs (DoE, 2015).

Listed threats include:

- clearing, fragmentation and degradation of habitat, particularly the removal of large mature trees important for feeding or breeding
- competition for resources with birds such as the Noisy Minor and (*Manorina melanocephala*) and Noisy Friarbird (*Philemon corniculatus*), and nest predation by Pied Currawongs (*Strepera graculina*) (DoE, 2015).

C16.1 Relevant commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plan

A summary of the relevant Commonwealth guidelines and policy statements available for these species is as follows:

- the approved *Conservation Advice Anthochaera phrygia Regent Honeyeater* (Department of Environment 2015) was reviewed as part of this assessment
- there is no Listing Advice for the Regent Honeyeater
- the *National Recovery Plan for the Regent Honeyeater (Anthochaera phrygia)* (Department of the Environment 2016) was reviewed as part of this assessment.

Relevant adopted/made threat abatement plans include:

- threat abatement plan for competition and land degradation by rabbits (Department of Environment and Energy 2016).

Relevant survey guidelines for this species include:

- *Survey Guidelines for Australia's Threatened Birds* (Department of the Environment Water Heritage and the Arts 2010).

C16.2 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

It is possible that injury or mortality may occur from collisions with aircraft during dispersal. Although potentially suitable woodland habitat has been mapped within the Proposal study area, and the GBMA includes large areas of high-quality old-growth forest habitat, records within the area are rare and intermittent.

Additionally, collision with aircraft causing injury or mortality is considered minimal due to the relatively low abundance of the species in the locality. Therefore, the proposed action is considered unlikely to have a significant impact on the Regent Honeyeater.

C16.3 Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered Species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF A POPULATION

Any identified population Regent Honeyeater in the area would not be restricted to habitat within the Proposal study area. Due to the species' large home range, nomadic nature and the occurrence of higher quality foraging habitat elsewhere in the locality and region, the proposed action is considered unlikely to significantly contribute to a long-term decline in the size of a population of these species.

Avoidance of large tracts of suitable woodland habitat through Proposal design refinement would reduce potential impacts to this species. Therefore, if further field studies had recorded this species, the avoidance of large tracts of woodland habitat during vegetation clearing means that the proposed action is unlikely to cause a long-term decrease in the size of a population, or significantly reduce the area of occupancy for the species.

REDUCE THE AREA OF OCCUPANCY OF THE SPECIES

The proposed action will not reduce the area of occupancy of the species, assessment is limited to the airspace. The proposed action would not result in the loss of potential foraging and breeding habitat

FRAGMENT AN EXISTING POPULATION INTO TWO OR MORE POPULATIONS

The Proposal study area is already largely fragmented, and apart from the GBMA habitat remaining occurs as disjunct remnant patches, parklands and as scattered paddock trees within the locality. Furthermore, this species is highly mobile and is known to disperse widely (Higgins et al., 2001), the proposed action would not present a significant barrier to these species. It is considered unlikely that the proposed action would fragment an existing population into 2 or more populations given the ecology of the species and current fragmented state of potential habitat.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The *National Recovery Plan for the Regent Honeyeater* (*Anthochaera phrygia*) (Department of the Environment 2016) states that habitat critical to the survival of the regent honeyeater includes: 1) Any breeding or foraging areas where the species is likely to occur and 2) Any newly discovered breeding or foraging locations.

Key areas of critical habitat listed for the species includes the Bundarra-Barraba, Pilliga Woodlands, Mudgee-Wollar and the Capertee Valley and Hunter Valley areas in New South Wales, and the Chiltern and Lurg-Benalla regions of north-east Victoria, inclusive of a number of subsidiary areas within these regions. The study area does not occur within any known areas of critical habitat.

There are no records of this species within the Proposal study area, the records within the wider region are largely confined to the National Parks (Murray Valley National Park) and State Forest to the south, where better quality habitat would be present. Hence it is unlikely that this Proposal would adversely affect habitat critical to the survival of these species.

DISRUPT THE BREEDING CYCLE OF A POPULATION

The proposed action does not impact upon any of the known areas of critical habitat for this species. These are the Bundarra-Barraba, Capertee Valley and Hunter Valley districts in New South Wales, and the Chiltern area in north-east Victoria. The study area does not occur within these areas which are the only currently known breeding areas. As such the proposed action is unlikely to affect their breeding cycle.

MODIFY, DESTROY, REMOVE OR ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

Potential habitat occurs within the survey area as disjunct remnant patches of highly modified woodland, scattered across a fragmented landscape. The higher quality habitat occurs to the north and west in National parks and State forests where urbanisation is limited. Given the proposed action only includes assessment of the airspace it is unlikely that the proposed action would modify, destroy, remove or isolate habitat for this species to the extent that is likely to cause the species to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A CRITICALLY ENDANGERED OR ENDANGERED SPECIES BECOMING ESTABLISHED IN THE ENDANGERED OR CRITICALLY ENDANGERED SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species. The proposed action is considered unlikely to increase invasive species within the subject site.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

It is unlikely that disease would be increased by the proposal. Mitigation measures would be prepared to minimise the likelihood of spread of pathogens into the habitat of these species. The proposed action is considered unlikely to increase invasive species within the subject site.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES

The Action Plan for Australian Birds (Garnett and Crowley 2000) addresses the need for further ecological research on the species and the conservation and protection of roosting habitat and identification of specific breeding requirements.

Recovery strategies outlined in Regent Honeyeater Recovery Plan (Department of the Environment 2016) include:

- improve the extent and quality of regent honeyeater habitat
- bolster the wild population with captive-bred birds until the wild population becomes self-sustaining
- increase understanding of the size, structure, trajectory and viability of the wild population
- maintain and increase community awareness, understanding and involvement in the recovery program.

Based on the potential impacts of the proposed action on this species, as discussed above, it is likely that the proposed action would be in conflict with the first objective above to a small extent, by not improving the extent of habitat for the Regent Honeyeater.

C17 South-eastern Glossy Black-Cockatoo

The South-eastern Glossy Black-Cockatoo is listed as Vulnerable under the EPBC Act.

South-eastern Glossy Black-Cockatoos are uncommon but widespread. They can be found from Mitchell, Queensland, through eastern New South Wales to East Gippsland, Victoria. Their distribution is continuous through the forested parts of the Great Dividing Range but becomes more scattered inland, to as far west as the Riverina in New South Wales. Cameron et al. (2021) estimated their extent of occurrence is 470,000 km² and their area of occupancy is 40,000 km² (Department of Climate Change, Energy, the Environment and Water, 2022). The subspecies was severely affected by the 2019/2022 bushfires, with a significant proportion of their known range burnt.

C17.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Actions relating to the project which may impact the species include wildlife strike during local movements leading to injury or mortality and potential dispersal/interruptions associated with noise and light disturbances.

C17.2 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

The Significant Impact Guidelines define population as an occurrence of the species in a particular area. In relation to critically endangered or endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population or collection of local populations, that occurs within a particular bioregion.

The proposed action is not likely to lead to a long-term decrease in the size of an important population of the species. The species rarely flies at altitudes above 150 m during movement between preferred habitats, there are no records of this species at locations where aircraft are below this altitude.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

The proposal is not likely to reduce the area of occupancy of an important population.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

The proposal is not likely to fragment the existing population into 2 or more populations.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

The Significant Impact Guidelines defines 'habitat critical to the survival of a species' as areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

Critical habitat can be further explained as an identified area of viable habitat that contains habitat attributes that are essential for the conservation of a threatened species and all of the species' lifecycle needs (foraging, sheltering, nesting, breeding, dispersal etc.). These areas are typically under a regime of special protection and management to ensure the critical habitat remains a stronghold for the species to ensure its long-term survival and viability in the wild. Critical habitat may also include an area of land not currently occupied by the species but can act as a sanctuary by possessing the necessary habitat attributes to facilitate the recovery of a declining population of the species.

The proposed action will not adversely affect critical habitat for survival of this species. The proposed action only includes assessment of the airspace used by aircraft.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

The South-Eastern Glossy Black cockatoo is hollow dependent for breeding purposes. The proposed action does not include the removal of old-growth vegetation which may contain hollow bearing trees.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

No critical habitat for this species will be modified, destroyed or removed as part of the proposed action. The species is not limited to habitats within the subject site. The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

In accordance with the Significant Impact Guidelines an 'invasive species' is an introduced species, which out-competes native species for space and resources, or which is a predator of native species.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

No. There are no known diseases that are likely to increase in the area because of the proposed action.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

There is no adopted or made recovery plan for this species.

C18 Swift Parrot

Swift Parrot is listed as critically endangered under the EPBC Act.

Swift Parrot breeding occurs in Tasmania, with the majority of the population migrating to mainland Australia in autumn, over-wintering, particularly in Victoria and central and eastern NSW, but also south-eastern Queensland as far north as Duarina.

The Swift Parrot primarily feed on nectar which it obtains from eucalyptus flowers and mistletoes, but also feeds on invertebrates and their exudates (lerp, honeydew), and occasionally fruit. This species roosts communally in small groups or large flocks, in trees with dense foliage, and foraging trees are rarely used for roosting (DoE, 2015). Preference for sites with highly fertile soils where large trees have high nectar production, including along drainage lines and isolated rural or urban remnants, and for sites with flowering *Acacia pycnantha*, is indicated. Sites used vary from year to year (Garnett and Crowley 2000, Swift Parrot Recovery Team 2001).

C18.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

It is possible that injury or mortality may occur from collisions with aircraft during dispersal. Although potentially suitable woodland habitat has been mapped within the Proposal study area, and the GBMAA includes large areas of high-quality old-growth forest habitat, records within the area are sporadic and intermittent. Collision with aircraft causing injury or mortality is considered minimal due to the relatively low abundance of the species in the locality. Therefore, the proposed action is considered unlikely to have a significant impact on the Swift Parrot.

C18.2 Significant impact criteria

An action is likely to have a significant impact on a Critically Endangered Species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF A POPULATION

Any identified population of Swift Parrot in the area would not be restricted to habitat within the subject area. Due to the species' large home range, nomadic nature and the occurrence of higher quality foraging habitat elsewhere in the locality and region, the proposed action is considered unlikely to significantly contribute to a long-term decline in the size of a population of these species.

The proposed action does not include vegetation clearing meaning the proposed action is unlikely to cause a long-term decrease in the size of a population, or significantly reduce the area of occupancy for both species. The Swift Parrot does not breed in the Proposal study area and the extent of habitat remaining in the Proposal study area would provide sufficient resources to sustain future visitation, such that the action is unlikely to lead to a long-term decrease in the size of the Australian population. The Swift Parrot does not breed in the Proposal study area and the extent of habitat remaining in the Proposal study area would provide sufficient resources to sustain future visitation, such that the action is unlikely to lead to a long-term decrease in the size of the Australian population.

REDUCE THE AREA OF OCCUPANCY OF THE SPECIES

The habitat is highly modified by previous land uses in this area (i.e. cropping and agricultural grazing). The proposed action would not result in the loss of potential foraging habitat, and habitat is likely to only represent a small component of locally occurring resources accessible to both the Swift Parrot and Regent Honeyeater.

FRAGMENT AN EXISTING POPULATION INTO TWO OR MORE POPULATIONS

The Proposal study area is already largely fragmented. This species is highly mobile and is known to disperse widely (Higgins et al., 2001), the proposed action would not present a significant barrier to these species. It is considered unlikely that the proposed action would fragment an existing population into 2 or more populations given the ecology of the species and current fragmented state of potential habitat.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

According to the National Recovery Plan for the Swift Parrot (*Lathamus discolor*), habitat critical to the survival of the Swift Parrot includes 'those areas of priority habitat for which the Swift Parrot has a level of site fidelity or possess phenological characteristics likely to be of importance to the Swift Parrot or are otherwise identified by the recovery team.' Swift Parrot has important habitat maps, as identified in NSW Bionet which identify land that is considered important to support critical life stages of the species (i.e., key areas that migratory species forage/over-winter in, or sites where multiple records have been located over multiple years) (Department of Planning Industry and Environment 2021). While important foraging habitat is mapped around the Western Sydney area, no mapped habitat overlaps with the study area. The species is known to seasonally visit the Proposal study area depending on the availability of food resources i.e., eucalypt blossom and lerps. The Proposal subject area is not identified as an area of important habitat, it is unlikely to be critical habitat for this species.

DISRUPT THE BREEDING CYCLE OF A POPULATION

Swift Parrots breed in Tasmania during spring and summer, migrating to south-eastern Australia during autumn and winter (Department of Planning Industry and Environment 2021). While Swift Parrots are dependent on flowering resources across a wide range of habitats (woodlands and forests) within their NSW wintering grounds, the removal of a small amount of potential foraging habitat is unlikely to disrupt their movements to Tasmanian breeding grounds. As such the proposed action is unlikely to affect their breeding cycle.

MODIFY, DESTROY, REMOVE OR ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

The Swift Parrot is a large-scale migrant, it has the ability to cover vast areas of its winter range, seeking suitable flowering eucalypt habitat. The species is an occasional visitor to the region and may utilise trees in the Proposal study area for foraging intermittently. The action is unlikely to modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A CRITICALLY ENDANGERED OR ENDANGERED SPECIES BECOMING ESTABLISHED IN THE ENDANGERED OR CRITICALLY ENDANGERED SPECIES' HABITAT

Adhering to mitigation measures such as weed and pest management plans, and vehicle weed hygiene, would prevent invasive weeds and vertebrate pests such as rabbits, cats and foxes establishing in wetland habitat areas.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

It is unlikely that disease would be increased by the proposed action. Mitigation measures would be prepared to minimise the likelihood of spread of pathogens into the habitat of these species.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES

The Action Plan for Australian Birds (Garnett and Crowley 2000) addresses the need for further ecological research on the species and the conservation and protection of roosting habitat and identification of specific breeding requirements.

Recovery strategies outlined in Regent Honeyeater Recovery Plan (Department of the Environment 2016) include:

- improve the extent and quality of regent honeyeater habitat
- bolster the wild population with captive-bred birds until the wild population becomes self-sustaining
- increase understanding of the size, structure, trajectory and viability of the wild population
- maintain and increase community awareness, understanding and involvement in the recovery program.

Based on the potential impacts of the proposed action on this species, as discussed above, it is likely that the proposed action would be in conflict with the first objective above to a small extent, by not improving the extent of habitat for the Swift Parrot.

C19 White-throated Needletail

The White-throated Needletail is listed as Vulnerable and Migratory under the EPBC Act.

White-throated Needletails occur in Australia only between late spring and early autumn, but mostly in summer, when they sometimes form large flocks, appearing as a swirling cloud of birds. White-throated Needletails often occur in large numbers over eastern and northern Australia. In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. The White-throated Needletail feeds on flying insects, such as termites, ants, beetles and flies. They catch the insects in flight in their wide gaping beaks. Birds usually feed in rising thermal currents associated with storm fronts and bushfires.

C19.1 Impact summary

Direct impacts associated with the project would be restricted to occasional wildlife strike, no vegetation or associated habitats would require removal. This impact would likely be minor, infrequent and largely limited to airspaces within the wildlife buffer. Indirect impacts associated with the project would be restricted to potential alterations of existing noise, air quality, water quality and light spill. These impacts would be minor or negligible in severity and largely be limited to the wildlife buffer and 2055 N60 and N70 24-hour noise contours.

Any population observed within the Proposal study area are unlikely to be an important population and habitats associated with the Proposal are not considered to be important to the species' long-term survival. Possible injury or mortality may occur from collisions with aircraft during foraging, migration and dispersal. The extent of native vegetation clearing, and habitat removal associated with the proposed action is small in terms of the available habitat for this species within the surrounding landscape. Although the loss of foraging habitat for the White-throated Needletail is an incremental loss of suitable habitat regionally, the Proposal is not likely to have a significant impact on the long-term survival of the White-throated Needletail within the area.

C19.2 Is this an important population?

An important population is defined in the guidelines as a population that is necessary for a species' long-term survival and recovery (Department of the Environment, 2013). Under the EPBC Act, important populations are:

- likely to be key source populations either for breeding or dispersal
- likely to be necessary for maintaining genetic diversity
- at or near the limit of the species range.

In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. Because they are aerial, it has been stated that conventional habitat descriptions are inapplicable, but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitats, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.

The Proposal study area does not contain suitable habitat for breeding, as breeding takes place in Northern Asia. As the Proposal study area does not contain key resources for breeding or dispersal, does not occur at the limit of the species distribution range and is unlikely to be necessary for maintaining genetic diversity populations which may occur are not considered to form part of an 'important population'.

C19.3 Significant impact criteria

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

LEAD TO A LONG-TERM DECREASE IN THE SIZE OF AN IMPORTANT POPULATION OF A SPECIES

Not applicable.

REDUCE THE AREA OF OCCUPANCY OF AN IMPORTANT POPULATION

Not applicable.

FRAGMENT AN EXISTING IMPORTANT POPULATION INTO TWO OR MORE POPULATIONS

Not applicable.

ADVERSELY AFFECT HABITAT CRITICAL TO THE SURVIVAL OF A SPECIES

No critical habitat is listed for this species under the EPBC Act.

DISRUPT THE BREEDING CYCLE OF AN IMPORTANT POPULATION

Not applicable.

MODIFY, DESTROY, REMOVE, ISOLATE OR DECREASE THE AVAILABILITY OR QUALITY OF HABITAT TO THE EXTENT THAT THE SPECIES IS LIKELY TO DECLINE

No critical habitat for this species will be modified, destroyed or removed as part of the proposed action. The species is not limited to habitats within the subject site. The proposed action would not reduce the availability of suitable foraging and roosting habitat. It is unlikely that the proposed action would cause habitat change to the extent that the species is likely to decline.

RESULT IN INVASIVE SPECIES THAT ARE HARMFUL TO A VULNERABLE SPECIES BECOMING ESTABLISHED IN THE VULNERABLE SPECIES' HABITAT

It is not likely that invasive species (such as introduced predators) that are harmful to the White-throated Needletail would become further established because of the Project.

INTRODUCE DISEASE THAT MAY CAUSE THE SPECIES TO DECLINE

No. There are no known diseases that are likely to increase in the area because of the Project.

INTERFERE SUBSTANTIALLY WITH THE RECOVERY OF THE SPECIES.

Due to the limited foraging habitat likely to be affected by the proposal, and as no breeding habitat is near the subject site, the Proposal is not likely to interfere with the recovery of this species.

C20 Migratory Wetland Species

The following EPBC Act listed Migratory species are considered likely to occur in the proposal study area based on the presence of suitable habitats:

- Migratory wetland species – Caspian Tern, Red Knot, Great Knot, Greater Sand Plover, Eastern Curlew, Little Curlew, Curlew Sandpiper, Marsh Sandpiper, Pectoral Sandpiper, Sharp-tailed Sandpiper, Glossy Ibis, Wood Sandpiper, Latham's Snipe, Common Greenshank, Common Sandpiper, Gull-billed Tern, Red-necked Stint, Bar-tailed Godwit, Black-tailed Godwit, Grey-tailed Tattler, Double Banded Plover, Pacific Golden Plover, Oriental Plover.

The EPBC Act listed Migratory species are assessed as having a moderate/high likelihood of occurrence based on database records i.e. eBird, in the study site, within the previous ten years. Although records of these species are largely irregular a precautionary approach has been taken and a significant impact assessment has been completed.

C20.1 Specific impacts

The proposed action would not clear vegetation within wetland habitat suitable for foraging and roosting and has no potential to introduce weeds into wetlands thereby degrading the quality of the habitat. In addition, it is possible that injury or mortality may occur from collisions with aircraft during migration or dispersal.

C20.2 Is this important habitat for a migratory species?

Important habitat for EPBC Act listed Migratory species is defined as (Department of Environment, 2013):

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species
- habitat that is of critical importance to the species at particular life-cycle stages
- habitat utilised by a migratory species which is at the limit of the species range
- habitat within an area where the species is declining.

While some migratory species of bird are likely to use the proposal study site and locality, it would not be classed as an 'important habitat' for the following reasons:

- No nationally or internationally important habitats for migratory wetlands species are present in the proposal study area according to the definition provided in the *EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species* (Department of the Environment, 2015b).
- There are no important habitats for the Fork-tailed Swift in the development site as outlined in the *Draft Referral guideline for 14 birds listed as migratory species under the EPBC Act* (Department of the Environment, 2015d).

- A nationally significant proportion of a listed Migratory bird population would not be supported by the habitats in the proposal study area.
- The proposal area does not contain any known important foraging grounds for listed Migratory species and the proposal would not impact on any significant foraging habitats.
- The proposal area does not contain any known important staging grounds for migration.
- The proposal area does not contain habitat that is at the limit of a listed Migratory species' range.
- The proposal area is not located within an area where a listed Migratory species is known to be declining.

C20.3 Significant impact criteria

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

SUBSTANTIALLY MODIFY (INCLUDING BY FRAGMENTING, ALTERING FIRE REGIMES, ALTERING NUTRIENT CYCLES OR ALTERING HYDROLOGICAL CYCLES), DESTROY OR ISOLATE AN AREA OF IMPORTANT HABITAT FOR A MIGRATORY SPECIES

Important habitat in accordance with EPBC Act criteria does not occur within the proposal study area for these migratory bird species. The proposal study area does not contain wetland habitat preferred by these species, as they primarily prefer coastal intertidal areas. Additionally, vegetation clearing in wetland habitat is not required for the proposal, therefore, the proposed action is unlikely to substantially modify, destroy, or isolate an area of habitat or important habitat for these migratory species.

RESULT IN AN INVASIVE SPECIES THAT IS HARMFUL TO THE MIGRATORY SPECIES BECOMING ESTABLISHED IN AN AREA OF IMPORTANT HABITAT FOR THE MIGRATORY SPECIES, OR

The proposed action is unlikely to result in invasive weeds and vertebrate pests to become established in an area of important habitat. The study site is exclusively limited to the airspace, it does not involve vegetation clearing that may increase the occurrence of invasive species.

SERIOUSLY DISRUPT THE LIFECYCLE (BREEDING, FEEDING, MIGRATION OR RESTING BEHAVIOR) OF AN ECOLOGICALLY SIGNIFICANT PROPORTION OF THE POPULATION OF A MIGRATORY SPECIES.

As these species are widely distributed across Australia and do not breed in Australia, there are not considered to be any ecologically significant proportions of the populations for these species within the proposal study area. Additionally, they do not rely on habitat within the proposal study area for feeding or resting, as these inland wetland habitats are not considered important habitat or preferred habitat, which primarily occur in coastal areas such as intertidal mudflats and estuaries.

The Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015) and EPBC Act Policy Statement 3.21 – Industry Guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Department of the Environment, 2015b) state that important habitats in Australia for migratory shorebirds under the EPBC Act include those recognised as nationally or internationally important. According to this approach, wetland habitat should be considered internationally important if it regularly supports:

- 1% of the individuals in a population of one species or subspecies of waterbird or
- a total abundance of at least 20,000 waterbirds.

Nationally important habitat for migratory shorebirds can be defined using a similar approach to these international criteria, i.e. if it regularly supports:

- 0.1% of the flyway population of a single species of migratory shorebird or
- 2,000 migratory shorebirds or
- 15 migratory shorebird species.

The habitats within the proposal study area would not meet any of the criteria for nationally or internationally important habitat as listed in the *Wildlife Conservation Plan for Migratory Shorebirds* (Commonwealth of Australia, 2015) as the habitats do not support a high diversity of different wetland species or a high number of wetland bird individuals.

CONCLUSION

An assessment of the above criteria has determined that the migratory populations of the above listed species that are likely to occur within the proposal study area are not ecologically significant proportions of each species' population in the region or nationally. The proposed action is **considered unlikely to significantly impact** these species as it is unlikely to substantially modify by means of fragmentation or destroy or isolate important habitat that may support local populations of these highly mobile migratory bird species.

C21 Migratory Flycatchers

Includes Satin Flycatcher, Black-faced Monarch, and Rufous Fantail.

The Satin Flycatcher is widespread in eastern Australia. Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.

The Black-faced Monarch is widespread in eastern Australia. Mainly occurs in rainforest ecosystems although it can be found in gullies in mountain areas or coastal foothills, softwood scrub dominated by Brigalow (*Acacia harpophylla*), coastal scrub dominated by Coast Banksia (*Banksia integrifolia*) and Southern Mahogany.

The Rufous Fantail occurs in coastal and near coastal districts of northern and eastern Australia. In east and south-east Australia, this species mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallow-wood, Mountain Grey Gum, Narrow-leaved Peppermint, Mountain Ash, Alpine Ash, Blackbutt or Red Mahogany; usually with a dense shrubby understory often including ferns. They also occur in subtropical and temperate rainforests; for example near Bega in south-east NSW, where they are recorded in temperate Lilly Pilly rainforest, with Grey Myrtle, Sassafras and Sweet Pittosporum subdominants.

C21.1 Specific impacts

The proposed action is limited to the airspace at various heights above these habitats. The proposed action would not clear vegetation within habitat suitable for foraging and roosting and has no potential to introduce weeds into surrounding habitats thereby degrading the quality of the habitat. In addition, it is possible that injury or mortality may occur from collisions with aircraft during migration or dispersal.

C21.2 Is this important habitat for a migratory species?

Important habitat for EPBC Act listed Migratory species is defined as (Department of Environment, 2013):

- habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species
- habitat that is of critical importance to the species at particular life-cycle stages
- habitat utilised by a migratory species which is at the limit of the species range
- habitat within an area where the species is declining.

While some migratory species of bird are likely to use the proposal study site and locality, it would not be classed as ‘important habitat’ for the following reasons:

- a nationally significant proportion of a listed Migratory bird population would not be supported by the habitats in the proposal study area
- the proposal area does not contain any known important staging grounds for migration
- the proposal area does not contain habitat that is at the limit of a listed Migratory species’ range
- the proposal area is not located within an area where a listed Migratory species is known to be declining.

C21.3 Significant impact criteria

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

SUBSTANTIALLY MODIFY (INCLUDING BY FRAGMENTING, ALTERING FIRE REGIMES, ALTERING NUTRIENT CYCLES OR ALTERING HYDROLOGICAL CYCLES), DESTROY OR ISOLATE AN AREA OF IMPORTANT HABITAT FOR A MIGRATORY SPECIES

Important habitat in accordance with EPBC Act criteria does occur within the study area for these migratory bird species. The proposal study area also contains habitat preferred by these species, they prefer heavier vegetated forests, mountain areas, gullies and also coastal foothills. The proposed action is limited to the airspace at various heights above these habitats therefore any vegetation clearing within the subject site will be avoided. For this reason, the proposed action is considered unlikely to substantially modify, destroy, or isolate an area of habitat or important habitat for these migratory species.

RESULT IN AN INVASIVE SPECIES THAT IS HARMFUL TO THE MIGRATORY SPECIES BECOMING ESTABLISHED IN AN AREA OF IMPORTANT HABITAT FOR THE MIGRATORY SPECIES, OR

The proposed action is considered unlikely to result in invasive weeds and vertebrate pests to become established in an area of important habitat, the proposed action does not involve vegetation clearing. The proposed action is limited to the airspace at various heights above these habitats.

SERIOUSLY DISRUPT THE LIFECYCLE (BREEDING, FEEDING, MIGRATION OR RESTING BEHAVIOUR) OF AN ECOLOGICALLY SIGNIFICANT PROPORTION OF THE POPULATION OF A MIGRATORY SPECIES.

The *Draft Referral guideline for 14 birds listed as migratory species under the EPBC Act* (Department of the Environment, 2015d) defines an ecologically significant proportion of the population as described in Table C.1. For species such as flycatchers that are usually seen singly or in pairs, 1% of the population is considered internationally important, 0.1% as nationally important and therefore ecologically significant. The proposal would not impact on an internationally or nationally important proportion of the population as the habitat to be impacted does not have the capacity to support this number of birds of each species.

Table C.1 Definition for an ecologically significant proportion of the population

Species	Ecologically significant proportion of a population (no. individuals)	
	1%	0.1%
Satin Flycatcher	17000	1700
Black-faced Monarch	4600	460
Rufous Fantail	48000	4800

CONCLUSION

An assessment of the above criteria has determined that the migratory populations of the above listed species that occur within the proposal study area are not ecologically significant proportions of each species' population in the region or nationally. The proposed action is **considered unlikely to significantly impact** these species as it is unlikely to substantially modify by means of fragmentation or destroy or isolate important habitat that may support local populations of these highly mobile migratory bird species.

C22 GBMA

The GBMA is listed as a WHP and a Natural Heritage place under the EPBC Act. The GBMA is identified as having a wide diversity of eucalypts, wide range of habitats and significant numbers of rare or threatened species, including endemic and evolutionary relict species such as the Wollemi Pine. The GBMA was listed for the following World Heritage values:

- outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities or plants and animals
- important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view for science or conservation.

C22.1 Significant impact criteria

An action is likely to have a significant impact on the World Heritage and/or National Heritage values of a declared WHP and/or a Natural Heritage Place if there is a real chance or possibility that it will cause:

ONE OR MORE OF THE WORLD HERITAGE / NATIONAL HERITAGE VALUES TO BE LOST

ONE OR MORE OF THE WORLD HERITAGE / NATIONAL HERITAGE VALUES TO BE DEGRADED OR DAMAGED, OR

ONE OR MORE OF THE WORLD HERITAGE / NATIONAL HERITAGE VALUES TO BE NOTABLY ALTERED, MODIFIED, OBSCURED OR DIMINISHED.

There will be no direct on-ground impacts associated with the proposed action within the GBMA. Impacts will be limited to the following:

- Noise: restricted to areas within the 2055 N60 24-hour noise contours. Noise impacts associated with the proposed action are not anticipated to be substantial as all flight paths over the GBMA will exceed 1,000 ft (300 m) AGL. Noise levels predicted to occur are likely to be below thresholds to substantially disturb fauna behaviours. As the operation of the WSI will be continuous it is predicted that fauna species residing within the GBMA will become habituated to the changes in noise levels.
- Aircraft crashes: very unlikely to occur but the operation of proposed action could lead to aircraft crashes within the GBMA which could result in localised impacts such as vegetation removal, introduction spread of pollutants, mortality of flora and fauna species and potentially bush fire. Bush fire and chemical spills have potential to impact larger areas if not contained. This may never occur and if it did it would be a rare occurrence.
- Air quality: significant changes to existing air quality and potential fuel jettisoning over the GBMA are considered unlikely given prevailing wind conditions and the rarity/processes required to implement respectively. Any air quality changes would be temporary and localised. In the rare event that fuel jettisoning is required the fuel would not reach the ground as it rapidly evaporates.
- Water quality: impacts on water quality within the GBMA are considered negligible and unlikely.
- Wildlife strike: wildlife strike impacts on fauna within the GBMA are only likely to be minor, infrequent, rare and limited to a small number of bird species which occur at altitudes greater than 1,000 ft (300 m) AGL.

Given the above the proposed action is unlikely to lead to one or more World Heritage/Natural Heritage values being lost, degraded, damaged, altered, modified, obscured or diminished. Furthermore, the proposed action is unlikely to alter or reduce biological processes or the diversity of eucalypts within the GBMA.

With respect to biological and ecological values an action is likely to have a significant impact on World Heritage property or Natural Heritage values if there is a real chance or possibility that the action will:

MODIFY OR INHIBIT ECOLOGICAL PROCESSES IN A NATIONAL HERITAGE PLACE

REDUCE THE DIVERSITY OR MODIFY THE COMPOSITION OF PLANT AND ANIMAL SPECIES IN ALL OR PART OF A WORLD HERITAGE AREA / NATURAL HERITAGE PLACE

CAUSE A LONG-TERM REDUCTION IN RARE, ENDEMIC OR UNIQUE PLANT OR ANIMAL POPULATIONS OR SPECIES IN A WORLD HERITAGE PROPERTY / NATURAL HERITAGE PLACE

There will be no direct on-ground impact associated with the proposed action that would modify or inhibit ecological processes within the GBMA.

Indirect impacts of noise, air quality and water quality changes as well as direct impacts associated with wildlife strike are unlikely to reduce the diversity or modify the composition of plant and animal species or cause long-term reductions in rare, endemic or unique species or populations as these impacts would be highly unlikely, temporary and localised or at a level that would not likely alter the behaviour of fauna species within the GBMA.

FRAGMENT, ISOLATE OR SUBSTANTIALLY DAMAGE HABITAT IMPORTANT FOR THE CONSERVATION OF BIOLOGICAL DIVERSITY IN A WORLD HERITAGE PROPERTY / NATURAL HERITAGE PLACE

There will be no direct on-ground impact associated with the proposed action that would fragment, isolate or substantially damage habitat important to the conservation of biological diversity within the GBMA.

Indirect noise impacts are unlikely to be substantial enough to promote fauna species to avoid areas within the GBMA and therefore are unlikely to lead to fragmentation effects.

FRAGMENT, ISOLATE OR SUBSTANTIALLY DAMAGE HABITAT FOR RARE, ENDEMIC OR UNIQUE ANIMAL POPULATIONS OR SPECIES IN A WORLD HERITAGE PROPERTY / NATURAL HERITAGE PLACE.

The proposed action will not involve any construction works within the GBMA. There will be no direct impacts on native vegetation/habitats that would isolate or substantially damage habitat for rare, endemic or unique animal populations or species in the GBMA. Indirect impacts associated with elevated/changes to existing noise levels may lead to some fauna species avoiding certain areas that may lead to potential fragmenting of habitat. These impacts however are unlikely to permanently alter foraging or breeding habitats of rare, endemic or unique animals.

INVOLVE CONSTRUCTION OF BUILDINGS, ROADS OR OTHER STRUCTURES VEGETATION CLEARANCE OR OTHER ACTION WITH SUBSTANTIAL, LONG-TERM OR PERMANENT IMPACTS ON RELEVANT VALUES; AND

The proposed action will not involve any construction works within the GBMA. Therefore, it would not involve vegetation clearance or result in any substantial permanent direct impacts. Potential indirect impacts associated with the project as detailed above are unlikely to cause substantial, long-term or permanent impacts on biodiversity values.

INTRODUCE NOISE, ODOURS, POLLUTANTS OR OTHER INTRUSIVE ELEMENTS WITH SUBSTANTIAL, LONG-TERM OR PERMANENT IMPACTS ON RELEVANT VALUES.

Wildlife is known to be impacted by anthropogenic noise exposure. A large proportion of species are more likely to be agitated by impulsive sound that is excessively loud, sharp or sudden and surprising in nature such as low-flying aircraft. Noise impacts can lead to changes in behaviour, interfere with communication, result in hearing loss and have physiological impacts on fauna (Ecosure 2021). The noise expected to be generated by the proposed action is likely to be intermittent in nature and generally to occur at low frequencies as they will be limited to commercial aircraft flying at high altitudes. Although the noise levels will increase within GBMA areas within the 2055 N60 24-hour noise contours these impacts are likely to be below thresholds to substantially disturb fauna behaviours. As the operation of the WSI will be continuous it is predicted that fauna species residing within the GBMA will become habituated to the changes in noise levels.

Air quality changes within the GBMA if they were to occur would be temporary and localised however are considered unlikely given the prevailing wind conditions, distance of the GBMA from the flight paths/WSI, rarity of fuel jettisoning and high evaporative rates of the fuel.

Should an aircraft crash occur within the GBMA it may introduce temporary and localised noise, odours and pollutants. This may never occur and if it did would be a rare occurrence.

Given the above the proposed action is unlikely to introduce any odours, pollutants or intrusive elements that would substantially or permanently affect biodiversity attributes within the GBMA.

CONCLUSION

The proposed action is unlikely to have a significant impact on biodiversity attributes relating to the GBMA due to the following:

- There will be no direct impact on the biodiversity attributes within the GBMA.
- Indirect impacts are unlikely to result in the loss or significant modification of biological diversity or biological process within the GBMA for which is listed as:
 - potential wildlife strike impacts on fauna within the GBMA are only likely to be minor, infrequent, rare and limited to a small number of bird species which occur at altitudes greater than 1,000 ft (300 m) AGL
 - potential noise impacts are unlikely to result in changes that would alter fauna species behaviour or use of habitats available
 - potential changes in air quality and water quality are likely to be negligible.

C23 Is there likely to be a significant impact on the environment?

Under the EPBC Act, assessments are required to determine whether an action being taken by any person on Commonwealth land (subsection 26(1) of the EPBC Act) and an action being taken by a Commonwealth agency anywhere in the world (section 28 of the EPBC Act) is likely to have a significant impact on the environment. The assessment criteria to determine this is detailed in the 'Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies Significant impact guidelines 1.2' (Department of Sustainability Environment Water Population and Communities 2013). An assessment of the project's impacts against this criterion relating to biodiversity (i.e. plants and animals) is provided below.

C23.1 Significant impact criteria – plants

Is there a real chance or possibility that the action will:

INVOLVE MEDIUM OR LARGE-SCALE NATIVE VEGETATION CLEARANCE

The proposed action will not involve the removal of vegetation or associated habitat required by any native plant species.

INVOLVE ANY CLEARANCE OF ANY VEGETATION CONTAINING A LISTED THREATENED SPECIES WHICH IS LIKELY TO RESULT IN A LONG-TERM DECLINE IN A POPULATION OR WHICH THREATENS THE VIABILITY OF THE SPECIES

The proposed action will not involve the removal of vegetation containing a threatened plant species. Therefore, the proposal action would not lead to a long-term decrease in or threaten the viability of a native plant population.

INTRODUCE POTENTIALLY INVASIVE SPECIES

The proposed action is unlikely to result in the introduction of invasive weeds and/or vertebrate pests that would substantially reduce habitat or resources required by native plant species. The proposed action does not involve vegetation clearing and is limited to airspace at various heights above habitats within the study area.

INVOLVE THE USE OF CHEMICALS WHICH SUBSTANTIALLY STUNT THE GROWTH OF NATIVE VEGETATION

Significant changes to existing air quality and potential fuel jettisoning are considered unlikely given prevailing wind conditions and the rarity/processes required to implement respectively. Any air quality changes would be temporary and localised. In the rare event that fuel jettisoning is required the fuel would not reach the ground as it rapidly evaporates. No other chemicals are likely to impact the growth of native vegetation. Water quality impacts are considered unlikely and negligible.

INVOLVE LARGE-SCALE CONTROLLED BURNING OR ANY CONTROLLED BURNING IN AREAS CONTAINING LISTED THREATENED SPECIES?

No, the project will not involve any controlled burning activities.

C23.2 Significant impact criteria – animals

Is there a real chance or possibility that the action will:

CAUSE A LONG-TERM DECREASE IN, OR THREATEN THE VIABILITY OF, A NATIVE ANIMAL POPULATION OR POPULATIONS, THROUGH DEATH, INJURY OR OTHER HARM TO ANIMALS

Impacts associated with the project that could be harmful to animals would be limited to occasional wildlife strike leading to injury or mortality and potential dispersal/interruptions associated with potential changes to existing noise and light disturbances. The proposed action would not involve the direct removal of any terrestrial animal habitat.

Aircraft wildlife strike typically results in the mortality of a species and a strike event is usually limited to a single individual. For species that disperse in flocks, such as the Grey-headed Flying-fox, there is the rare occasion when more than one individual may be hit. Based on past strike data however it has been observed that these events are still limited to only a couple of individuals being hit. The taxa likely to be subject to these impacts are common birds and bat species and possible terrestrial mammals such as the Eastern Grey Kangaroo on occasion if they reach the runway (Avisure 2022). Most wildlife strike occurs below 3,500 ft (1 km) AGL (93%) (Dolbeer 2011) and therefore would be largely limited to the subject site (13 km buffer of the Airport site).

Changes to existing noise and light conditions have potential to result in disruptions to some animal species including:

- behavioural changes such as avoidance of areas affected by noise
- communication interference such as hindering of signals
- physiological impacts such as elevated levels of stress hormones that may affect breeding
- hearing loss.

Noise and light impacts would be highest where aircraft generate the most noise or are closest to the ground which is generally when aircraft are flying low or taking off/landing. Therefore, most of these impacts would be limited to the subject site. Existing ambient levels within vicinity of the Airport site are influenced by surrounding land uses including roads, agriculture and other aircraft operating in the airspace within the locality. As such, the biodiversity values in the region are already subject to current low to moderate levels of ambient anthropogenic noise and light.

The noise and light generated by aircraft may affect less-tolerant species that could lead to them relocating or being disrupted in response to the operation of the WSI. More noise tolerant species may also be initially affected by elevations to noise however are likely to become habituated over time. The predicted noise and light levels are unlikely to result in changes at a magnitude that would threaten the viability of local populations of any species.

Although the proposed action may lead to mortality, injury or harm on occasion to a native animal species it is unlikely to lead to significant long-term decrease or threaten the viability of any particular animal population.

DISPLACE OR SUBSTANTIALLY LIMIT THE MOVEMENT OF DISPERSAL OF NATIVE ANIMAL POPULATIONS

The proposed action would not involve the direct removal of any terrestrial animal habitat and is restricted to airspaces above the ground. Therefore, there would be no direct displacement or substantial movement limitations imposed upon individuals.

Despite this, indirect impacts associated with changes to existing noise and light conditions could lead to short-term and potentially long-term displacement of some individuals that are less tolerant to changes in noise. As described above these impacts are most likely to occur in proximity to the Airport site where aircraft generate the most noise or are closest to the ground when flying low or taking off / landing.

Potential impacts on the movement of dispersal will be largely limited to fauna who use aerial spaces to forage, transit and migrate i.e. birds and bats. These species are generally highly mobile and known to disperse widely. Habitats in which they are likely to disperse to and from will not be directly impacted upon by the project and the availability of similar or higher-quality habitats will remain. Given this, the ability of these species to disperse will remain and they are unlikely to be restricted to or prevented from entering habitats within the broader locality.

Although the proposed action may lead to the displacement of some less-tolerant animal species the proposed action is unlikely to be of a magnitude that would significantly threaten any particular population. Additionally, the proposed action is unlikely to substantially limit the disperse of any native animal population.

SUBSTANTIALLY REDUCE OR FRAGMENT AVAILABLE HABITAT FOR NATIVE SPECIES;

The proposed action does not involve the clearing of vegetation or associated habitat for native animal species and is limited to airspaces above the ground. Therefore, the proposed action would not directly fragment available terrestrial habitats. Areas below these flight paths are already largely fragmented and/or subject to similar impacts i.e. indirect impacts from existing aircraft flight paths from other airports within the Sydney region. Given this, the proposed action is considered unlikely to result in the substantial reduction or fragmentation of habitats available for native animal species.

REDUCE OR FRAGMENT AVAILABLE HABITAT FOR LISTED THREATENED SPECIES WHICH IS LIKELY TO DISPLACE A POPULATION, RESULT IN A LONG-TERM DECLINE IN A POPULATION, OR THREATEN THE VIABILITY OF THE SPECIES

The proposed action does not involve the clearing of vegetation or associated habitat for threatened animal species. It is unlikely that the proposed action would directly fragment available terrestrial habitats as it is restricted to airspaces at varying altitudes above the ground. Threatened animal species that may occur at these altitudes would be limited to bird and bat species which are highly mobile and likely to widely disperse. Therefore, the proposed action is considered unlikely to present a significant barrier for these species. Further, areas below these flight paths that may be subject to indirect impacts are already largely fragmented and/or subject to similar impacts i.e. indirect impacts from existing aircraft flight paths from other airports within the Sydney region.

Whilst the proposed action may have incremental indirect impacts on some species it is considered unlikely to result in the substantial reduction or fragmentation of habitats available such that would displace a population, result in a long-term decline in a population or threaten the viability of a threatened animal species.

INTRODUCE EXOTIC SPECIES WHICH WILL SUBSTANTIALLY REDUCE HABITAT OR RESOURCES FOR NATIVE SPECIES, OR

The proposed action is unlikely to result in the introduction of invasive weeds and/or vertebrate pests that would substantially reduce habitat or resources required by native animal species. The proposed action does not involve vegetation clearing and is limited to airspace at various heights above habitats within the study area.

UNDERTAKE LARGE-SCALE CONTROLLED BURNING OR ANY CONTROLLED URNING IN AREAS CONTAINING LISTED THREATENED SPECIES.

No, the project will not involve any controlled burning activities.

CONCLUSION

The proposed action is considered unlikely to result in a significant impact on the environment.



Australian Government

**Department of Infrastructure, Transport,
Regional Development, Communications and the Arts**

