

Warrah Ridge Poultry Farm 1095 Flora and Fauna Assessment Report



25 May 2023

Contents

1	Introduction	3
1.1	Purpose of this Report	3
1.2	The Site and Proposed Development	3
2	Landscape features	3
	IBRA Bioregions and sub-regions	4
	Native Vegetation and cleared areas	4
	Rivers, streams, estuaries and Wetlands	4
	Connectivity Features	4
	Areas of Geological Significance	4
	Areas of Outstanding Biodiversity Value	4
	Site Context Components	4
	Plant Community types and vegetation zone	4
	Threatened Ecological Communities	4
	Area of Native Clearing Threshold	4
	Grasslands Threshold	4
3	Site Assessment	5
4	Threatened Species	12
4.1	State Environmental Planning Policy (Koala Habitat Protection) 2021	12
5	Matters of National Environmental Significance (MNES)	12
6	Avoidance, Minimisation and Opportunities for Ecological Enhancement	13
6.1	Appropriate Positioning	13
6.2	Range Fencing	13
6.3	Reinstatement of Native Plant Communities (Ecological Enhancement)	13
7	Summary and Conclusions	13

1 Introduction

1.1 Purpose of this Report

Pace Farms (**Applicant**) seeks to establish a Free-Range Poultry Farm and ancillary infrastructure at Warrah Ridge, near Quirandi in the Liverpool Plains Shire Council local government area. This flora and fauna assessment report describes the impacts of Farm 1095 in the north of the Pace Farms landholding (**Proposed Development**).

1.2 The Site and Proposed Development

The site the subject of the proposed development (**Site**) is comprised of Lot 52 on DP1168698; Lot 171 on DP751033; Lot 70 on DP751033; Lot 1 on DP576340; 61 on DP751033; and Lot 154 on DP751033 (**Figure 1**). As shown, the Site is rural land, most of which has been historically cropped and which continues to be used for this purpose.¹ Widely scattered trees occur in the cropping land, while more contiguous vegetation occurs on ridges in the surrounding landscape. **Plates 1-12** illustrate the characteristic of the development footprint.

The proposed development involves construction of eight poultry sheds in the configuration shown by **Figure 1**. Each shed has capacity for 31,000 birds. A 100-hectare range area is associated with each shed. The sheds are accessed from Warrah Ridge Road. The Proposed Development's configuration reflects the final step in an iterative design process between Pace Farms and 28 South Environmental in which various aspects of the proposed development have been reconfigured or repositioned to retain features of ecological value.

2 Landscape features

The development footprint has a history of rural use, including cropping. A review of historic aerial photography found that cropping had commenced before 1970 (the earliest photo available), expanded significantly through the 1980's and 1990's, and has continued seasonally since.² While the ecological values of the development footprint are low, there are areas of value in the surrounding landscape that support species and communities of significance. Further detail is provided by **Table 1**.

¹ Including at the time of survey, when most of the investigation area had been 'sprayed out' in preparation for an Autumn planting.

² Not in a 'yearly seasonal' sense, but perhaps more so associated with periods of above average rainfall.

Table 1 – Landscape Features

Landscape feature	Comment
IBRA Bioregions and sub-regions	The site is located in the Brigalow Belt South Bioregion, Interim Biogeographic Regionalisation for Australia (IBRA), specifically BBS25 (Liverpool plains), and the Lower Slopes subregion.
Native Vegetation and cleared areas	The development footprint has a history of rural use, including cropping. A review of historic aerial photography found that cropping had commenced before 1970 (the earliest photo available) and expanded significantly through the 1980's and 1990's. It has continued seasonally since.
Rivers, streams, estuaries and Wetlands	The Development footprint has been positioned to avoid watercourses. There are no classified wetlands on or adjacent to the development footprint.
Connectivity Features	There are no mapped or identified habitat connectivity features in or adjacent to the development footprint.
Areas of Geological Significance	No karsts, caves, crevices or cliffs or other areas of geological significance occur in or adjacent to the development site.
Areas of Outstanding Biodiversity Value	No areas of outstanding biodiversity value or other biodiversity value occur within or directly adjoin the development footprint. The closest values are Warrah Creek ~ 1km to the north, and Big Jack Creek ~ 1.5km to the west (Figure 2).
Site Context Components	The majority of the development footprint has been historically cropped. That use continues, with the land (at the time of survey) having been 'sprayed out' in preparation for Autumn planting. This work has been undertaken under the requirements of the <i>Local Land Services Act 2013 No.51</i> .
Plant Community types and vegetation zone	The development areas of the site are entirely cleared and cropped and do not conform to any PCT.
Threatened Ecological Communities	The development areas have been historically and recently cleared of all vegetation and are under crop. As such, there are no threatened ecological communities to be affected by the proposed development.
Area of Native Clearing Threshold.	Section 7.2 of the <i>Biodiversity Conservation Regulation 2017</i> sets out threshold levels for when the Biodiversity Offsets Scheme will be triggered. The proposed development to be carried out in an area of land does not exceed the biodiversity offsets scheme (BOS) threshold (Section 7.2 <i>Biodiversity Conservation Regulation 2017</i>).
Grasslands Threshold	At the time of survey, the historically cropped land hand comprising the development footprint had been 'sprayed out' in preparation for and Autumn planting. The Plant Community Types and habitat features mapped over the Site are not present.

3 Site Assessment

Plates 1-5 show the setting of proposed Shed Group 1 in the Site's north. Here, the access road has been shifted from its original position to retain a patch of vegetation (comprised of *Eucalyptus conica*) adjoining Warrah Ridge Road (**Plate 1**) (**Figure 3**). The access is now well-removed from this group of trees. With progression into the paddock, there is a single large paddock tree (*Eucalyptus conica*) (**Plate 2**) and two smaller copses of trees comprising *Eucalyptus conica*, *Eucalyptus crebra* and *Angophora floribunda* (**Plates 3-4**). This area is otherwise dominated by introduced pasture species including *Urochloa piligera*, *Urochloa panicoides* and *Tribulus terrestris* that has been 'sprayed out' in preparation for Autumn planting. **Plate 5** provides a view across the footprint of Shed Group 1. This view also typifies the range areas.

500m to the south, Shed Group 2 sits at the base of a low ridge. The development footprint is dominated by the exotic species *Verbena spp.*, *Chondrilla juncea*, *Polygonum aviculare* and *Lepidium bonariensis*, which have also been sprayed out in preparation for cropping. (**Plate 6**) (note: the northern range areas of Shed Group 2 are also shown by this image). A single *Eucalyptus albens* is located to the southwest of the sheds (**Plate 7**). The shed footprint was re-positioned to ensure that associated earthworks were well removed from this tree.

The ridge to the south of Shed Group 2 contains a multi-species Eucalypt plantation (**Plate 8**). This area has been excluded from the range areas of Shed Group 2. Instead, the range areas extend around this ridge to take in areas that have been cultivated in preparation for cropping. The scattered paddock trees in this area are *Eucalyptus crebra* and *Eucalyptus blakelyi* (**Plates 9-10**).

Low hills in the southeast of the Shed Group 2 ranging area support a regenerating *Eucalyptus blakelyi* woodland to 20m (**Plate 11**). The midstorey includes regenerating *Eucalyptus blakelyi* and *Dodonaea viscosa*, which form a shrub layer to 2m (**Plate 12**). The groundcover is dominated by *Aristida spp.* This community is analogous to Plant Community Type (PCT) 599.



Plate 1 – Patch of trees on Warrah Ridge Road now retained after the access road was moved



Plate 2 – Eucalyptus conica paddock tree. A tree avoided by micro-positioning of the sheds



Plate 3 – A small copse of trees that has been avoided by micro-positioning of the shed



Plate 3 – A small copse of trees that has been avoided by micro-positioning the shed



Plate 5 – View across the footprint of Shed Group 1 (also a typical view for the range areas)



Plate 6 – View north through the footprint of Shed Group 2



Plate 7 – Eucalyptus albens to the southwest of Shed Group 2



Plate 8 – Eucalypt plantation to the south of Shed Group 2



Plate 9 – Scattered Eucalyptus crebra paddock trees in southern range area



Plate 10 – Scattered Eucalyptus blakleyi paddock trees in southern range area



Plate 11 – Eucalyptus blakleyi woodland in the far southeast of Shed Group 2 range area



Plate 12 – Regenerating Eucalyptus blakleyi in the far southeast of Shed Group 2 range area

4 Threatened Species

4.1 State Environmental Planning Policy (Koala Habitat Protection) 2021

The Koala habitat protection SEPP 2021 and SEPP 2020³ contain provisions for retaining Koala habitat. Under the SEPP, if the development site meets the definition of potential Koala habitat and is zoned RU1 it must be assessed under the Core Koala habitat guidelines as detailed in the Koala SEPP 2020.

Part 4 of the SEPP 2020 prescribes that “*potential koala habitat means areas of native vegetation where trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper and lower strata of the tree component*”.

With reference to Part 7(a) of the SEPP, the Site is within a local government area to which the policy applies (Liverpool Plains) and is not Exempt Land;

With reference to Part 8 of the SEPP, there is a requirement to determine if the land is Potential Koala Habitat. Part 4 of the SEPP defines Potential Koala Habitat as “*areas of native vegetation where trees of the types listed in Schedule 2 of the SEPP constitute at least 15% of the total number of trees in the upper and lower strata of the tree component.*”

The Site does not support species listed in Schedule 2 of the SEPP and is therefore not an area of Potential Koala Habitat as defined by the SEPP. There is no requirement to comply with Clause 9 of the SEPP.

5 Matters of National Environmental Significance (MNES)

We have considered the Protected Matters Search Tool and relevant referral guidelines in relation to the Matters of National Environmental Significance (MNES) considered potential occurrences in this locality (**Attachment 1**).

The Site, and in particular the development footprint, is comprised of highly cleared land that has been subject to historical disturbance and continual cropping. The Applicant has engaged in an iterative design process with 28 South Environmental to position development in the areas of least ecological value and sensitivity. This positioning alone is sufficient to ensure that there will not be a significant impact on MNES. Further recommendations to mitigate development impacts are provided in Section 6.

³ For all RU1, RU2 and RU3 zoned land outside of the Sydney Metropolitan Area and the Central Coast, Koala SEPP 2020 continues to apply.

6 Avoidance, Minimisation and Opportunities for Ecological Enhancement

6.1 Appropriate Positioning

Since 2020, the Applicant has worked collaboratively with 28 South Environmental to position sheds and range areas on land with the lowest ecological values, and where ecological functionality (movement corridors etc) is least likely to be affected. Design has been undertaken down to the paddock tree scale.

6.2 Range Fencing

Range fencing will be made koala-permeable by including round wooden posts with a minimum diameter of 300mm at 100m intervals along (and then integrated into) the fence. The fencing must also be positioned in a way that avoids loss of trees. Provision of a fencing plan can be imposed as a development condition.

6.3 Reinstatement of Native Plant Communities (Ecological Enhancement)

As part of the free-range paddock areas, the Applicant will seek to establish additional vegetation cover to provide shade, shelter and areas of interest for the hens. This vegetation can assist in establishing native plant communities within the range areas and provide stepping stone habitat for species to move across what would otherwise be retained as treeless cultivation paddocks. Endemic native species should be utilised wherever possible as well as feed and shelter trees for native fauna such as the Regent honeyeater.

7 Summary and Conclusions

In 2020, 28 South Environmental was engaged to assist Pace Farms identify the ecological values of the broader Warrah Ridge landholding and identify suitable a suitable location (with respect to preservation of ecological values) for the proposed poultry farm. This report outlines the design process for Farm 1095 in the north of the Pace Farm landholdings.

The iterative design process defining the development footprint and other mitigation measures ensure that there will be no:

- Unavoidable impacts;
- Impacts to biodiversity values that are uncertain; or
- Serious and Irreversible impacts (**SAII**).

The proposed development has been carefully located within cleared portion of the site which has been subject to cultivation. As such, there is no clearing of land which exceed the biodiversity offsets scheme (BOS) threshold (Section 7.2 *Biodiversity Conservation Regulation 2017*). Therefore, there is no requirement to offset the proposed development under the provisions of the BCA.

Further, there is no requirement to lodge a controlled action referral under EPBC Act to determine the need for assessment and approvals under the Act.

Attachment 1 – Protected Matters Search Tool Report



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: 15-May-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:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	33
Listed Migratory Species:	10

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	17
Whales and Other Cetaceans:	None
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:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

Ramsar Site Name	Proximity
Banrock station wetland complex	900 - 1000km upstream from Ramsar site
Riverland	900 - 1000km upstream from Ramsar site
The coorong, and lakes alexandrina and albert wetland	1100 - 1200km upstream from Ramsar site

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
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community may occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area
Weeping Myall Woodlands	Endangered	Community may 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

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	Foraging, feeding or related behaviour likely to occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needle-tail [682]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area

MAMMAL

Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely 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 likely to occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area

PLANT

Scientific Name	Threatened Category	Presence Text
Androcalva procumbens [87153]	Vulnerable	Species or species habitat likely to occur within area
Cadellia pentastylis Ooline [9828]	Vulnerable	Species or species habitat may occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area
Lepidium aschersonii Spiny Peppercross [10976]	Vulnerable	Species or species habitat may occur within area
Lepidium monoplocoides Winged Pepper-cress [9190]	Endangered	Species or species habitat may occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Vincetoxicum forsteri listed as Tylophora linearis [92384]	Endangered	Species or species habitat may occur within area

REPTILE

Anomalopus mackayi Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may 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
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat may occur within area
Uvidicolus sphyrurus Border Thick-tailed Gecko, Granite Belt Thick-tailed Gecko [84578]	Vulnerable	Species or species habitat may occur within area

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

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Terrestrial Species

Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area

Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine 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]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Not controlled action (particular manner)			
Aerial baiting for wild dog control	2006/2713	Not Controlled Action (Particular Manner)	Post-Approval

Bioregional Assessments		
SubRegion	BioRegion	Website
Namoi	Northern Inland Catchments	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.

[© Commonwealth of Australia](#)

Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

