

APPENDIX D BIODIVERSITY APPENDICES

D.1 DATABASE SEARCH RESULTS

Data from the BioNet Atlas of NSW Wildlife website, which holds records from a number of custodians. The data are only indicative and cannot be considered a Report generated on 1/12/2015 12:03 PM

Kingdom	Class	Family	Species Code	Scientific Name	Common Name	NSW status	Comm. status	Records	Info
Animalia	Aves	Megapodiidae	0007	<i>Leipoa ocellata</i>	Malleefowl	E1,P	V	1	
Animalia	Aves	Anseranatidae	0199	<i>Anseranas semipalmata</i>	Magpie Goose	V,P		18	
Animalia	Aves	Anatidae	0216	<i>Oxyura australis</i>	Blue-billed Duck	V,P		67	         
Animalia	Aves	Anatidae	0214	<i>Stictonetta naevosa</i>	Freckled Duck	V,P		48	
Animalia	Aves	Ciconiidae	0183	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1,P		1	
Animalia	Aves	Ardeidae	0197	<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	14	
Animalia	Aves	Accipitridae	0218	<i>Circus assimilis</i>	Spotted Harrier	V,P		9	
Animalia	Aves	Accipitridae	0225	<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		38	
Animalia	Aves	Accipitridae	8739	^^ <i>Pandion cristatus</i>	Eastern Osprey	V,P,3		1	
Animalia	Aves	Falconidae	0236	^ <i>Falco hypoleucos</i>	Grey Falcon	E1,P,2		1	
Animalia	Aves	Falconidae	0238	<i>Falco subniger</i>	Black Falcon	V,P		8	
Animalia	Aves	Gruidae	0177	<i>Grus rubicunda</i>	Brolga	V,P		1	
Animalia	Aves	Burhinidae	0174	<i>Burhinus grallarius</i>	Bush Stone-curlew	E1,P		3	         
Animalia	Aves	Rostratulidae	0170	<i>Rostratula australis</i>	Australian Painted Snipe	E1,P	E	2	
Animalia	Aves	Scolopacidae	0161	<i>Calidris ferruginea</i>	Curlew Sandpiper	E1,P	CE,C,J,K	16	
Animalia	Aves	Scolopacidae	0152	<i>Limosa limosa</i>	Black-tailed Godwit	V,P	C,J,K	14	
Animalia	Aves	Cacatuidae	0265	^ <i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V,P,2		11	
Animalia	Aves	Cacatuidae	0265	^ <i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo, Riverina population	E2,V,P,2		6	
Animalia	Aves	Cacatuidae	0270	^ <i>Lophochroa leadbeateri</i>	Major Mitchell's Cockatoo	V,P,2		77	
Animalia	Aves	Psittacidae	0302	^^ <i>Neophema pulchella</i>	Turquoise Parrot	V,P,3		15	
Animalia	Aves	Psittacidae	0277	^^ <i>Polytelis swainsonii</i>	Superb Parrot	V,P,3	V	11	
Animalia	Aves	Strigidae	0246	^^ <i>Ninox connivens</i>	Barking Owl	V,P,3		2	
Animalia	Aves	Climacteridae	0561	<i>Climacteris affinis</i>	White-browed Treecreeper population in Carrathool local government area south of the Lachlan River and Griffith local government area	E2,P		33	
Animalia	Aves	Climacteridae	8127	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V,P		45	
Animalia	Aves	Acanthizidae	0504	<i>Chthonicola sagittata</i>	Speckled Warbler	V,P		94	         
Animalia	Aves	Acanthizidae	0499	<i>Hylacola cautus</i>	Shy Heathwren	V,P		7	
Animalia	Aves	Meliphagidae	0602	<i>Certhionyx variegatus</i>	Pied Honeyeater	V,P		12	
Animalia	Aves	Meliphagidae	0448	<i>Epthianura albifrons</i>	White-fronted Chat	V,P		29	
Animalia	Aves	Meliphagidae	0598	<i>Grantiella picta</i>	Painted Honeyeater	V,P	V	90	
Animalia	Aves	Pomatostomidae	8388	<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V,P		41	
Animalia	Aves	Neosittidae	0549	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		13	
Animalia	Aves	Pachycephalidae	0403	<i>Pachycephala inornata</i>	Gilbert's Whistler	V,P		4	
Animalia	Aves	Petroicidae	8367	<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	V,P		35	
Animalia	Aves	Petroicidae	0382	<i>Petroica phoenicea</i>	Flame Robin	V,P		2	
Animalia	Aves	Estrildidae	0652	<i>Stagonopleura guttata</i>	Diamond Firetail	V,P		41	         
Animalia	Mammalia	Vespertilionidae	1352	<i>Chalinolobus picatus</i>	Little Pied Bat	V,P		4	
Animalia	Mammalia	Vespertilionidae	1357	<i>Myotis macropus</i>	Southern Myotis	V,P		4	
Animalia	Mammalia	Vespertilionidae	1382	<i>Vespadelus baverstocki</i>	Inland Forest Bat	V,P		1	
Plantae	Flora	Proteaceae	13501	<i>Grevillea ilicifolia subsp. ilicifolia</i>	Holly-leaf Grevillea	E4A,P		3	
Plantae	Flora	Rhamnaceae	9577	<i>Pomaderris cocoparrana</i>		E1,P		9	



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

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

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

Report created: 01/12/15 11:54:40

[Summary](#)

[Details](#)

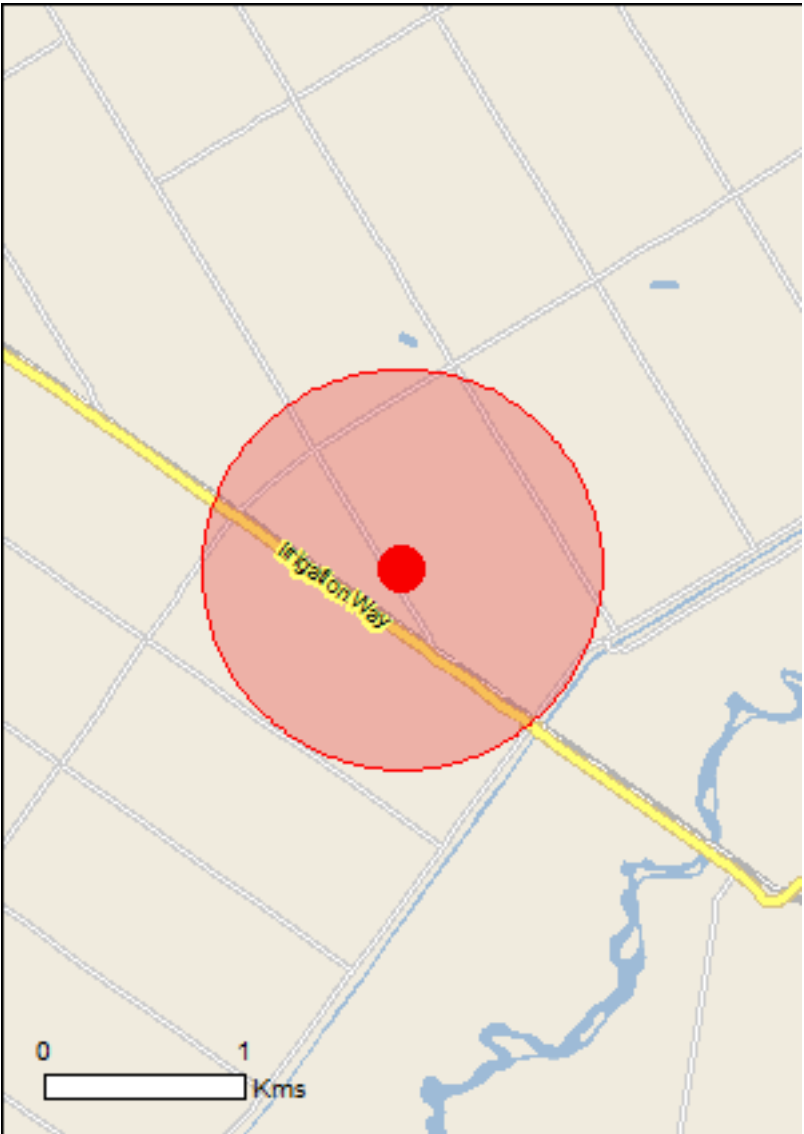
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

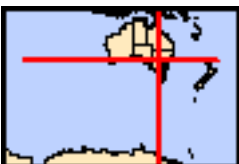
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	12
Listed Migratory Species:	7

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	9
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	25
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Banrock station wetland complex	500 - 600km upstream	
Hattah-kulkyne lakes	300 - 400km upstream	
Riverland	400 - 500km upstream	
The coorong, and lakes alexandrina and albert wetland	600 - 700km upstream	

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

Name	Status	Type of Presence
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	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 may occur within area

Listed Threatened Species	[Resource Information]
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Name	Status	Type of Presence
Birds		
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Fish

Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area

Frogs

Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green	Vulnerable	Species or species
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Name	Status	Type of Presence
and Golden Frog, Warty Swamp Frog [1828]		habitat likely to occur within area
Mammals		
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Plants		
Brachyscome papillosa Mossgiel Daisy [6625]	Vulnerable	Species or species habitat likely to occur within area
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species

[Resource Information]

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

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may 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 may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		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]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.	
Name	Type of Presence
Birds	
Apus pacificus Fork-tailed Swift [678]	Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may 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 may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species

[Resource Information]

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

Name	Status	Type of Presence
Birds		
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Prosopis spp. Mesquite, Algaroba [68407]		Species or species habitat likely to occur

Name	Status	Type of Presence
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		within area Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-34.31865 146.11694

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](#)
- [-Parks and Wildlife Commission NT, Northern Territory Government](#)
- [-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, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- 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.

Weeds declared in the Local Control Authority area of Griffith City Council

[Select another Local Control Authority area](#)

Weed	Class
African boxthorn <i>Lycium ferocissimum</i>	4 Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
African feather grass <i>Cenchrus macrourus</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
African turnip weed - eastern <i>Sisymbrium thellungii</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
African turnip weed - western <i>Sisymbrium runcinatum</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Alligator weed <i>Alternanthera philoxeroides</i>	2 Regionally Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Anchored water hyacinth <i>Eichhornia azurea</i>	1 State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Annual ragweed <i>Ambrosia artemisiifolia</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Arrowhead <i>Sagittaria calycina</i> var. <i>calycina</i>	4 Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Artichoke thistle <i>Cynara cardunculus</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Asparagus - climbing asparagus fern <i>Asparagus plumosus</i>	4 Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Asparagus - ground asparagus <i>Asparagus aethiopicus</i>	4 Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Asparagus weeds <i>Asparagus</i> species	4 Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Athel pine <i>Tamarix aphylla</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Bear-skin fescue <i>Festuca gautieri</i>	5 Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Black knapweed <i>Centaurea X moncktonii</i>	1 State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Black willow <i>Salix nigra</i>	2 Regionally Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Blackberry <i>Rubus fruticosus</i> species aggregate	4 Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Boneseed <i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i>	1 State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Bridal creeper <i>Asparagus asparagoides</i>	4 Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>

Bridal veil creeper <i>Asparagus declinatus</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Broomrapes <i>Orobanchae species</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Burr ragweed <i>Ambrosia confertiflora</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Cabomba <i>Cabomba caroliniana</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Cape broom <i>Genista monspessulana</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Cayenne snakeweed <i>Stachytarpheta cayennensis</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Chilean needle grass <i>Nassella neesiana</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Chinese violet <i>Asystasia gangetica</i> subsp. <i>micrantha</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Clockweed <i>Oenothera curtiflora</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Columbus grass <i>Sorghum x alnum</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread</i>
Coolatai grass <i>Hyparrhenia hirta</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Corn sowthistle <i>Sonchus arvensis</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Dodder <i>Cuscuta species</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Espartillo - broad kernel <i>Amelichloa caudata</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Espartillo - narrow kernel <i>Amelichloa brachychaeta</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Eurasian water milfoil <i>Myriophyllum spicatum</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Fine-bristled burr grass <i>Cenchrus brownii</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Fireweed <i>Senecio madagascariensis</i>	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Flax-leaf broom <i>Genista linifolia</i>	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Fountain grass <i>Cenchrus setaceus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Frogbit <i>Limnobium laevigatum</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Gallon's curse <i>Cenchrus biflorus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>

Gamba grass <i>Andropogon gayanus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Giant reed <i>Arundo donax</i>	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Glaucous starthistle <i>Carthamus leucocaulos</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Golden dodder <i>Cuscuta campestris</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread</i>
Golden thistle <i>Scolymus hispanicus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Green cestrum <i>Cestrum parqui</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed</i>
Grey sallow <i>Salix cinerea</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Harrisia cactus <i>Harrisia species</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Hawkweeds <i>Hieracium species</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Horsetails <i>Equisetum species</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Hydrocotyl <i>Hydrocotyle ranunculoides</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Hymenachne <i>Hymenachne amplexicaulis</i> and hybrids	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Indian fig <i>Opuntia ficus-indicus</i>	4	Locally Controlled Weed <i>Volunteer plants must be managed in a manner that continuously inhibits the ability of the plant to spread.</i>
Karoo thorn <i>Vachellia karroo</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Kidney-leaf mud plantain <i>Heteranthera reniformis</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Kochia <i>Bassia scoparia</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Koster's curse <i>Clidemia hirta</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Lagarosiphon <i>Lagarosiphon major</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Leafy elodea <i>Egeria densa</i>	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Lippia <i>Phyla canescens</i>	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed except incidentally in hay or lucerne</i>
Long-leaf willow primrose <i>Ludwigia longifolia</i>	3	Regionally Controlled Weed <i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Mesquite <i>Prosopis species</i>	2	Regionally Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of</i>

		<i>the plant</i>
Mexican feather grass <i>Nassella tenuissima</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Mexican poppy <i>Argemone mexicana</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Miconia <i>Miconia</i> species	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Mikania vine <i>Mikania micrantha</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Mimosa <i>Mimosa pigra</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Mossman River grass <i>Cenchrus echinatus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Parkinsonia <i>Parkinsonia aculeata</i>	2	Regionally Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Parthenium weed <i>Parthenium hysterophorus</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Perennial ground cherry <i>Physalis longifolia</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread</i>
Pond apple <i>Annona glabra</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Prairie ground cherry <i>Physalis hederifolia</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread</i>
Prickly acacia <i>Vachellia nilotica</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Prickly pear - common pear <i>Opuntia stricta</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Prickly pear - Hudson pear <i>Cylindropuntia rosea</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Prickly pear - smooth tree pear <i>Opuntia monacantha</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Prickly pear - tiger pear <i>Opuntia aurantiaca</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Prickly pear - velvety tree pear <i>Opuntia tomentosa</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Red rice <i>Oryza rufipogon</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Rhus tree <i>Toxicodendron succedaneum</i>	4	Locally Controlled Weed <i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold,</i>

			<i>propagated or knowingly distributed</i>
Rubber vine	1	State Prohibited Weed	
<i>Cryptostegia grandiflora</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Sagittaria	4	Locally Controlled Weed	
<i>Sagittaria platyphylla</i>			<i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Salvinia	2	Regionally Prohibited Weed	
<i>Salvinia molesta</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Scotch broom	4	Locally Controlled Weed	
<i>Cytisus scoparius</i> subsp. <i>scoparius</i>			<i>The plant must not be sold, propagated or knowingly distributed</i>
Senegal tea plant	1	State Prohibited Weed	
<i>Gymnocoronis spilanthoides</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Serrated tussock	3	Regionally Controlled Weed	
<i>Nassella trichotoma</i>			<i>The plant must be fully and continuously suppressed and destroyed and the plant must not be sold, propagated or knowingly distributed</i>
Siam weed	1	State Prohibited Weed	
<i>Chromolaena odorata</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Silverleaf nightshade	4	Locally Controlled Weed	
<i>Solanum elaeagnifolium</i>			<i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Smooth-stemmed turnip	5	Restricted Plant	
<i>Brassica barrelieri</i> subsp. <i>oxyrrhina</i>			<i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Soldier thistle	5	Restricted Plant	
<i>Picnomon acarna</i>			<i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Spiny burrgrass - longispinus	4	Locally Controlled Weed	
<i>Cenchrus longispinus</i>			<i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Spiny burrgrass - spinifex	4	Locally Controlled Weed	
<i>Cenchrus spinifex</i>			<i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Spongeplant	1	State Prohibited Weed	
<i>Limnobia spongia</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Spotted knapweed	1	State Prohibited Weed	
<i>Centaurea stoebe</i> subsp. <i>micranthos</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
St. John's wort	4	Locally Controlled Weed	
<i>Hypericum perforatum</i>			<i>The growth of the plant must be managed in a manner that continuously inhibits the ability of the plant to spread and the plant must not be sold, propagated or knowingly distributed</i>
Texas blueweed	5	Restricted Plant	
<i>Helianthus ciliaris</i>			<i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>
Tropical soda apple	1	State Prohibited Weed	
<i>Solanum viarum</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Water caltrop	1	State Prohibited Weed	
<i>Trapa</i> species			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Water hyacinth	2	Regionally Prohibited Weed	
<i>Eichhornia crassipes</i>			<i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Water lettuce	1	State Prohibited Weed	
<i>Pistia stratiotes</i>			<i>The plant must be eradicated from the land and that land must be kept free of</i>

		<i>the plant</i>
Water soldier <i>Stratiotes aloides</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Willows <i>Salix</i> species	4	Locally Controlled Weed <i>The plant must not be sold, propagated or knowingly distributed</i>
Witchweeds <i>Striga</i> species	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Yellow burrhead <i>Limnocharis flava</i>	1	State Prohibited Weed <i>The plant must be eradicated from the land and that land must be kept free of the plant</i>
Yellow nutgrass <i>Cyperus esculentus</i>	5	Restricted Plant <i>The requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with</i>

D.2 BIODIVERSITY MAPS



NATIVE VEGETATION

- ⚡ Substation
- Proposed overhead transmission line (indicative)
- Underground section of proposed overhead transmission line (indicative)
- Proposed underground transmission line (indicative)
- Proposed photovoltaic arrays and inverter/transformer stations
- Existing transmission and distribution lines
- Proposal site boundary
- Main road
- Local road
- Railway
- Watercourse
- Farm dam or other waterbody
- Native vegetation
- Cadastre



0 50 100 200 Metres

A3 @ 1:7000
Ref: SW060_
Author: SP



Notes:
- Data collected by nghenvironmental (2015)
- Base map Copyright © Esri and its data suppliers.
- Base layers from LPI (2015)

D.3 THREATENED SPECIES EVALUATIONS

EVALUATION OF THE LIKELIHOOD AND EXTENT OF IMPACT ON THREATENED FAUNA SPECIES

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
Aves				
<i>Anseranas semipalmata</i> Magpie Goose TSC –V	The Magpie Goose is still relatively common in the Australian northern tropics, but had disappeared from south-east Australia by 1920 due to drainage and overgrazing of reed swamps used for breeding. Since the 1980s there have been an increasing number of records in central and northern NSW. Vagrants can follow food sources to south-eastern NSW. Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Equally at home in aquatic or terrestrial habitats; often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off; breeding can occur in both summer and winter dominated rainfall areas and is strongly influenced by water level; most breeding now occurs in monsoonal areas; nests are formed in trees over deep water; breeding is unlikely in south-eastern NSW. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Botaurus poiciloptilus</i> Australasian Bittern TSC – E EPBC- E	In NSW, this species occurs along the coast and is frequently recorded in the Murray-Darling Basin, notably in floodplain wetlands of the Murrumbidgee, Lachlan, Macquarie and Gwydir Rivers. Occurs in permanent freshwater wetlands with tall, dense vegetation. Favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and/or reeds (e.g. <i>Phragmites</i>, <i>Cyperus</i>, <i>Eleocharis</i>, <i>Juncus</i>, <i>Typha</i>, <i>Baumea</i>, , <i>Bolboschoenus</i>) or cutting grass (<i>Gahnia</i>) growing over muddy or peaty substrate. Hides during the day amongst dense reeds or rushes and feed mainly at night on frogs, fish, yabbies, spiders, insects and snails. Feeding platforms may be constructed over deeper water from reeds trampled by the bird; platforms are often littered with prey remains. Breeding occurs in summer from October to January; nests are built in secluded places in densely-vegetated wetlands on a platform of reeds; there are usually six olive-brown eggs to a clutch. In Australia, the Bittern occurs with the Australian Painted Snipe <i>Rostratula benghalensis australis</i>.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Burhinus grallarius</i> Bush- Stone Curlew TSC – E	The Bush Stone-curlew is found throughout Australia except for the central southern coast and inland, the far south-east corner, and Tasmania. Only in northern Australia is it still common however and in the south-east it is either rare or extinct throughout its former range. Inhabits open forests and woodlands with a sparse	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	grassy groundlayer and fallen timber. Largely nocturnal, being especially active on moonlit nights. Feed on insects and small vertebrates, such as frogs, lizards and snakes. Nest on the ground in a scrape or small bare patch. Two eggs are laid in spring and early summer.			
<i>Calidris ferruginea</i> Curlew Sandpiper TSC – E	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. 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. Curlew Sandpipers generally roost on bare dry shingle, shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands, occasionally roosting in dunes during very high tides and sometimes in saltmarsh. This species does not breed in Australia. This species forages mainly on invertebrates, including worms, molluscs, crustaceans, and insects, as well as seeds.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Calyptorhynchus Lathamii</i> Glossy Black-Cockatoo TSC - E	The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the	Absent	Unlikely	No - The proposed work would be unlikely to have

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	southern tablelands and central western plains of NSW, with a small population in the Riverina. An isolated population exists on Kangaroo Island, South Australia. Dependent on large hollow-bearing eucalypts for nest sites. One or two eggs are laid between March and August. Inhabits open forest and woodlands of the coast and the Great Dividing Range up to 1000 m in which stands of she-oak species, particularly Black She-oak (<i>Allocasuarina littoralis</i>), Forest She-oak (<i>A. torulosa</i>) or Drooping She-oak (<i>A. verticillata</i>) occur. In the Riverina area, inhabits open woodlands dominated by Belah (<i>Casuarina cristata</i>). Feeds almost exclusively on the seeds of several species of she-oak (<i>Casuarina</i> and <i>Allocasuarina</i> species), shredding the cones with the massive bill.			any substantial impacts on this species.
<i>Certhionyx variegatus</i> Pied Honeyeater TSC – V	Widespread throughout acacia, mallee and spinifex scrubs of arid and semi-arid Australia. Occasionally occurs further east, on the slopes and plains and the Hunter Valley, typically during periods of drought. Inhabits wattle shrub (primarily Mulga, <i>Acacia aneura</i>), mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes (<i>Eremophila</i> spp.); also from mistletoes and various other shrubs (e.g. <i>Brachysema</i> spp. and <i>Grevillea</i> spp.); also eats saltbush fruit, berries, seed, flowers and insects. Highly nomadic, following the erratic	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Chthonicola sagittata</i> Speckled Warbler TSC – V	flowering of shrubs; can be locally common at times. Constructs a relatively large cup-shaped nest, usually robust, although occasionally loose, constructed of grasses and fine twigs, bound with spider webs, in the fork of a shrub or tree up to 5 m above the ground. The Speckled Warbler has a patchy distribution throughout south-eastern Queensland, the eastern half of NSW and into Victoria, as far west as the Grampians. The species is most frequently reported from the hills and tablelands of the Great Dividing Range, and rarely from the coast. There has been a decline in population density throughout its range, with the decline exceeding 40% where no vegetation remnants larger than 100ha survive. The Speckled Warbler lives in a wide range of Eucalyptus dominated communities that have a grassy understorey, often on rocky ridges or in gullies. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy. Large, relatively undisturbed remnants are required for the species to persist in an area. The diet consists of seeds and insects, with most foraging taking place on the ground around tussocks and under bushes and trees. Pairs are sedentary and occupy a breeding territory of about ten hectares, with a slightly larger home-range when not breeding. The rounded, domed, roughly built nest of dry grass and strips of bark is	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	located in a slight hollow in the ground or the base of a low dense plant, often among fallen branches and other litter. A side entrance allows the bird to walk directly inside. Some cooperative breeding occurs. The species may act as host to the Black-eared Cuckoo. Speckled Warblers often join mixed species feeding flocks in winter, with other species such as Yellow-rumped, Buff-rumped, Brown and Striated Thornbills.			
<i>Circus assimilis</i> Spotted harrier TSC- V	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands. Builds a stick nest in a tree and lays eggs in spring (or sometimes autumn), with young remaining in the nest for several months. Preys on terrestrial mammals (eg bandicoots, bettongs, and rodents), birds and reptile, occasionally insects and rarely carrion.	Present	Possible	No - Although the Spotted Harrier may fly over the proposal site from time to time the Spotted Harrier is unlikely to rely upon the potential habitat within the proposal area for breeding or foraging habitat. The proposed work would be unlikely to have any substantial impacts on this species.
<i>Climacteris affinis</i> White – Browed Treecreeper TSC- EP	In NSW, occupies a broad area of western NSW, west from a line from Balranald to Lake Cargelligo then Lightning Ridge. The species appears absent in the far north west of the state with no records	Absent	Unlikely	No - The proposed work would be unlikely to have

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	occurring west of a line from Broughams Gate, 100km northwest of Broken Hill to Hungerford. A small population, now recognised as isolated, occurs in Carrathool local government area south of the Lachlan River and Griffith local government areas.			any substantial impacts on this species.
<i>Climacteris picumnus victoriae</i> (eastern subspecies) Brown treecreeper TSC – V	The Brown Treecreeper is endemic to eastern Australia and occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. It is less commonly found on coastal plains and ranges. The western boundary of the range of <i>Climacteris picumnus victoriae</i> runs approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell and along this line the subspecies intergrades with the arid zone subspecies of Brown Treecreeper <i>Climacteris picumnus picumnus</i> which then occupies the remaining parts of the state. The eastern subspecies lives in eastern NSW in eucalypt woodlands through central NSW and in coastal areas with drier open woodlands such as the Snowy River Valley, Cumberland Plains, Hunter Valley and parts of the Richmond and Clarence Valleys. The population density of this subspecies has been greatly reduced over much of its range, with major declines recorded in central NSW and the northern and southern tablelands. Declines have occurred in remnant vegetation fragments smaller than 300 hectares that have been isolated or fragmented for more than 50 years. Found in	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	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.			
<i>Daphoenositta chrysoptera</i> Varied sittella TSC – V	The Varied Sittella is sedentary and inhabits most of mainland Australia except the treeless deserts and open grasslands, with a nearly continuous distribution in NSW from the coast to the far west. It inhabits eucalypt forests and woodlands, especially rough-barked species and mature smooth-barked gums with dead branches, mallee and <i>Acacia</i> woodland. The Varied Sittella feeds on arthropods gleaned from crevices in rough or decorticating bark, dead branches, standing dead trees, and from small branches and twigs in the tree canopy. It builds a cup-shaped nest of plant fibres and cobweb in an upright tree fork high in	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	the living tree canopy, and often re-uses the same fork or tree in successive years.			
<i>Ephippiorhynchus asiaticus</i> Black necked stork TSC – E	The species is widespread across coastal northern and eastern Australia, becoming increasingly uncommon further south into NSW, and rarely south of Sydney. Some birds may move long distances and can be recorded well outside their normal range. Inhabits permanent freshwater wetlands including margins of billabongs, swamps, shallow floodwaters, and adjacent grasslands and savannah woodlands; can also be found occasionally on inter-tidal shorelines, mangrove margins and estuaries. Feeds in shallow, still water on a variety of prey including fish, frogs, eels, turtles, crabs and snakes. Breeds in late summer in the north, and early summer further south. A large nest, up to 2 m in diameter, is made in a live or dead tree, in or near a freshwater swamp. Two to four eggs are laid; incubation is by both parents.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Epthianura albifrons</i> White fronted chat TSC – V	The White-fronted Chat is found in damp open habitats, particularly wetlands containing saltmarsh areas that are bordered by open grasslands or lightly timbered lands (Higgins <i>et al.</i> 2001). Along the coastline, White-fronted Chats are found in estuarine and marshy grounds with vegetation less than 1 m tall. The species is also observed in open grasslands and sometimes in low shrubs bordering wetland areas. Inland, the	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	White-fronted Chat is often observed in open grassy plains, saltlakes and salt pans that are along the margins of rivers and waterways (North 1904; Higgins <i>et al.</i> 2001; Barrett <i>et al.</i> 2003). The species is sensitive to human disturbance and is not found in built areas (Jenner 2008).			
<i>Falco hypoleucos</i> Grey Falcon TSC - E	The Grey Falcon is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. The breeding range has contracted since the 1950s with most breeding now confined to arid parts of the range. There are possibly less than 5000 individuals left. Population trends are unclear, though it is believed to be extinct in areas with more than 500mm rainfall in NSW. 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. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse; peak laying season is in late winter and early spring; two or three eggs are laid.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Falco subniger</i> Black Falcon	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring	Absent	Unlikely	No -

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
TSC – V	in inland regions. Some reports of ‘Black Falcons’ on the tablelands and coast of New South Wales are likely to be referable to the Brown Falcon. In New South Wales there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres (Marchant & Higgins 1993). The Black Falcon occurs as solitary individuals, in pairs, or in family groups of parents and offspring.			The proposed work would be unlikely to have any substantial impacts on this species.
<i>Grantiella picta</i> Painted Honeyeater TSC – V EPBC –V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus <i>Amyema</i> . Insects and nectar from mistletoe or eucalypts are occasionally eaten. Nest from spring to autumn in a small, delicate nest hanging within the outer canopy of drooping eucalypts, she-oak, paperbark or mistletoe branches.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Grus rubicunda</i> Brolga TSC – V	The Brolga was formerly found across Australia, except for the south-east corner, Tasmania and the south-western third of the country. It still	Absent	Unlikely	No - The proposed work would be unlikely to have

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	abundant in the northern tropics, but very sparse across the southern part of its range. Though Brolgas often feed in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged. They feed using their heavy straight bill as a 'crowbar' to probe the ground or turn it over, primarily on sedge roots and tubers. They will also take large insects, crustaceans, molluscs and frogs. The nest comprises a platform of grasses and sticks, augmented with mud, on an island or in the water. Two eggs are laid from winter to autumn.			any substantial impacts on this species.
<i>Hieraaetus morphnoides</i> Little Eagle TSC – V	The Little Eagle is a medium-sized bird of prey that is found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. It occurs as a single population throughout NSW. Occupies open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. Lays two or three eggs during spring, and young fledge in early summer. Preys on birds, reptiles and mammals, occasionally adding large insects and carrion.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Hylacola cautus</i> Shy Heathwren	Occurs across southern Australia extending from the wheatbelt in southern Western Australia east	Absent	Unlikely	No -

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
TSC –V	to central NSW, including Kangaroo Island. Two subspecies occur in NSW. The first (<i>macrorhyncha</i>) is confined to central NSW between Griffith, Roto, Nymagee and West Wyalong, with most records within DECC managed reserves (including Yathong, Nombinnie, Round Hill and The Charcoal Tank NRs and Cocoparra NP). The nominate subspecies (<i>cauta</i>) occurs in the far south west between Balranald and Trentham Cliffs (including Mallee Cliffs NP), north into the Scotia Mallee (including Tarawi NR and Scotia Sanctuary). This subspecies also occurs in north west Victoria and eastern South Australia (as far west as the Flinders Ranges). Inhabits mallee woodlands with a relatively dense understorey of shrubs and heath plants. The central NSW population (for example in Cocoparra NP) also occurs at low densities in rocky hilltop vegetation with a thick shrub layer such as Broombush or Tea-tree. Appears to occur in all age classes of vegetation, though believed to prefer either one to five years following fire when the resprouting eucalypts provide dense vegetation cover or in long unburnt (greater than 40 years) areas which have a well developed shrub layer. Feeds on the ground, almost entirely on insects (cockroaches, grasshoppers, bugs, lerps, beetles, caterpillars, moths, ants, spiders and insect eggs) and rarely on seeds, including those of saltbush. Breeds late winter to early summer and builds a dome-shaped nest in a concealed			The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	location on the ground, using a variety of plant materials. Generally occurs singly or in pairs, where it can be secretive, keeping within dense vegetation. In spring, males may sing from the top of low shrubs.			
<i>Leipoa ocellata</i> Malleefowl TSC – E EPBC – V	The stronghold for this species in NSW is the mallee in the south west centred on Mallee Cliffs NP and extending east to near Balranald and scattered records as far north as Mungo NP. West of the Darling River a population also occurs in the Scotia mallee including Tarawi NR and Scotia Sanctuary, and is part of a larger population north of the Murray River in South Australia. The population in central NSW has been significantly reduced through land clearance and fox predation and now occurs chiefly in Yathong, Nombinnie and Round Hill NRs and surrounding areas, though birds continue to survive in Loughnan NR	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Limosa Limosa</i> Black Tailed Godwit TSC – V	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps. Individuals have been recorded in wet fields and sewerage treatment works. Forages for insects, crustaceans, molluscs, worms, larvae, spiders, fish eggs, frog eggs and tadpoles in soft mud or shallow water. Roosts and loaf on low	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Lophochroa leadbeateri</i> Major Mitchell Cockatoo TSC – V	banks of mud, sand and shell bars. Frequently recorded in mixed flocks with Bar-tailed Godwits. Found across the arid and semi-arid inland, from south-western Queensland south to north-west Victoria, through most of South Australia, north into the south-west Northern Territory and across to the west coast between Shark Bay and about Jurien. In NSW it is found regularly as far east as about Bourke and Griffith, and sporadically further east than that. Inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. Feeds mostly on the ground, especially on the seeds of native and exotic melons and on the seeds of species of saltbush, wattles and cypress pines. Normally found in pairs or small groups, though flocks of hundreds may be found where food is abundant. Nesting, in tree hollows, occurs throughout the second half of the year; nests are at least 1 km apart, with no more than one pair every 30 square kilometres.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Melanodryas culcata culcata</i> Hooded Robin TSC – V	The Hooded Robin 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 is found from Brisbane to Adelaide throughout much of inland NSW, with the exception of the north-west. The species is widespread, found across Australia, except for the driest deserts and the wetter coastal areas - northern and eastern coastal	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	Queensland and Tasmania. 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. Often perches on low dead stumps and fallen timber or on low-hanging branches, using a perch-and-pounce method of hunting insect prey. Territories range from around 10 ha during the breeding season, to 30 ha in the non-breeding season. May breed any time between July and November, often rearing several broods. The nest is a small, neat cup of bark and grasses bound with webs, in a tree fork or crevice, from less than 1 m to 5 m above the ground. The nest is defended by both sexes with displays of injury-feigning, tumbling across the ground. A clutch of two to three is laid and incubated for fourteen days by the female. Two females often cooperate in brooding.			
<i>Neophema pulchella</i> Turquoise parrot TSC-V	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Usually seen in pairs or small, possibly family, groups and have also been reported in flocks of up to thirty	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	individuals. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants, or browsing on vegetable matter. Forages quietly and may be quite tolerant of disturbance. However, if flushed it will fly to a nearby tree and then return to the ground to browse as soon as the danger has passed. Nests in tree hollows, logs or posts, from August to December. It lays four or five white, rounded eggs on a nest of decayed wood dust.			
<i>Ninox connviens</i> Barking Owl TSC – V	Inhabits eucalypt woodland, open forest, swamp woodlands and, especially in inland areas, timber along watercourses. Denser vegetation is used occasionally for roosting. During the day they roost along creek lines, usually in tall understorey trees with dense foliage such as <i>Acacia</i> and <i>Casuarina</i> species, or the dense clumps of canopy leaves in large <i>Eucalypts</i> . Feeds on a variety of prey, with invertebrates predominant for most of the year, and birds and mammals such as smaller gliders, possums, rodents and rabbits becoming important during breeding. Live alone or in pairs. Territories range from 30 to 200 hectares and birds are present all year. Three eggs are laid in nests in hollows of large, old eucalypts including River Red Gum (<i>Eucalyptus camaldulensis</i>), White Box (<i>Eucalyptus albens</i>), (Red Box) <i>Eucalyptus polyanthemos</i> and Blakely's Red Gum (<i>Eucalyptus</i>	Present	Possible	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Oxyura australis</i> Blue-billed duck TSC – V	<i>blakelyi</i>). Breeding occurs during late winter and early spring. The Blue-billed Duck is endemic to south-eastern and south-western Australia. It is widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation. The species is completely aquatic, swimming low in the water along the edge of dense cover. It will fly if disturbed, but prefers to dive if approached. Blue-billed Ducks will feed by day far from the shore, particularly if dense cover is available in the central parts of the wetland. They feed on the bottom of swamps eating seeds, buds, stems, leaves, fruit and small aquatic insects such as the larvae of midges, caddisflies and dragonflies Blue-billed Ducks are partly migratory, with short-distance movements between breeding swamps and overwintering lakes with some long-distance dispersal to breed during spring and early summer. Blue-billed Ducks usually nest solitarily in Cumbungi over deep water between September and February. They will also nest in trampled vegetation in Lignum, sedges or Spike-rushes, where a bowl-shaped nest is constructed. Young birds disperse in April-May	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Pachycephala inornata</i> Gilbert's Whistler TSC – V	from their breeding swamps in inland NSW to non-breeding areas on the Murray River system and coastal lakes. The Gilbert's Whistler is sparsely distributed over much of the arid and semi-arid zone of inland southern Australia, from the western slopes of NSW to the Western Australian wheatbelt. The species was probably once distributed almost continuously across the woodlands and mallee of southern NSW, but this range has been greatly reduced, chiefly by clearance of habitat. The eastern population extends from the central NSW mallee (Yathong, Nombinnie and Round Hill NRs), south and east through the Cocoparra Range to Pomingalama Reserve (near Wagga Wagga) then north through the South West Slopes east as far as Cowra and Burrendong Dam, to the Goonoo reserves (with scattered records as far north as Pilliga). The north western limits of this population are poorly known, with records from as far west as Cobar and recent records from Quanda NR, though records further west may be due to confusion with the Golden Whistler. In a number of reserves in this area there have been no recent records (last records from Pulletop NR 1982, Pomingalama Reserve 1995 and Ingalba NR 1999) and this species may be locally extinct. Occasional records are also made of this species in the Capertee Valley.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Pandion cristatus</i> Eastern Osprey TSC – V	The breeding range of the Eastern Osprey extends around the northern coast of Australia (including many offshore islands) from Albany in Western Australia to Lake Macquarie in NSW. In NSW, the breeding population occurs from the Queensland border (contiguous with the Queensland population) south to Gosford and recently (2005-2007) to Sydney, with a more recent (2008) breeding attempt recorded further south at Ulladulla, where a bird has been observed nest-building (Clancy 2008, 2009). Vagrants occur south to and beyond the Victorian border. Forages over clear estuarine and inshore marine waters and coastal rivers, and nests in tall (usually dead or dead-topped) trees in coastal habitats from open woodland to open forest, within 1-2 km of water. Build a large stick bowl usually in the top of a dead or partly dead tree, from isolated trees in open country to open forest, with prominent emergent perches nearby (<i>e.g.</i> dead trees). The species is increasingly seen making use of artificial structures for nest sites and lookout perches (<i>e.g.</i> power pylons, towers, bridges) and purpose-built nest platforms on poles. A clutch of usually three eggs is laid in winter, with a single attempt per season. The incubation period is about 38 days, the nestling period 9-11 weeks, and the post-fledging dependence period lasts two to three months. Breeding productivity is 0.9-1.1 young per pair per year in NSW. Feed mostly on surface-	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Petroica phoenicea</i> Flame Robin TSC – V	swimming, schooling fish caught by diving into water. Highly mobile and dispersive. The Flame Robin is endemic to SE Australia, and ranges from near the Queensland border to SE South Australia and also in Tasmania. In NSW, it breeds in upland areas and in winter, many birds move to the inland slopes and plains. It is likely that there are two separate populations in NSW, one in the Northern Tablelands, and another ranging from the Central to Southern Tablelands. Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. The groundlayer of the breeding habitat is dominated by native grasses and the shrub layer may be either sparse or dense. Occasionally occurs in temperate rainforest, and also in herbfields, heathlands, shrublands and sedgelands at high altitudes. In winter, birds migrate to drier more open habitats in the lowlands (i.e. valleys below the ranges, and to the western slopes and plains). Often occurs in recently burnt areas; however, habitat becomes unsuitable as vegetation closes up following regeneration. In winter lives in dry forests, open woodlands and in pastures and native grasslands, with or without scattered trees. In winter, occasionally seen in heathland or other shrublands in coastal areas. Birds forage from low perches, from which they sally or pounce onto small invertebrates which they take from the	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	ground or off tree trunks, logs and other coarse woody debris. Flying insects are often taken in the air and sometimes gleans for invertebrates from foliage and bark. In their autumn and winter habitats, birds often sally from fence-posts or thistles and other prominent perches in open habitats. Occur singly, in pairs, or in flocks of up to 40 birds or more; in the non-breeding season they will join up with other insectivorous birds in mixed feeding flocks. Breeds in spring to late summer. Nests are often near the ground and are built in sheltered sites, such as shallow cavities in trees, stumps or banks. Builds an open cup nest made of plant materials and spider webs.			
<i>Polytelis swainsonii</i> Superb parrot TSC – V EPBC – V	The Superb Parrot is found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers. The other main breeding sites are in the Riverina along the corridors of the Murray, Edward and Murrumbidgee Rivers where birds are present all year round. It is estimated that there are less than 5000 breeding pairs left in the wild. Inhabit Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina the birds nest in the hollows of large trees (dead or alive) mainly in tall riparian River	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	Red Gum Forest or Woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box. Because the Superb Parrots often use different habitats for different activities, the timing of their occurrence in each habitat may vary with the time of year. Between mid-January and early April, Superb Parrots do not use the River Red Gum breeding habitats on the Edward and Murrumbidgee Rivers, and their whereabouts at this time is unknown. Between April and August, they inhabit forests and woodlands dominated by River Red Gum, box-gum, White Cypress Pine (<i>Callitris glaucophylla</i>) and Boree.			
<i>Pomatostomus temporalis temporalis</i> Grey crowned babbler TSC-V	The Grey-crowned Babbler has two distinctive subspecies that intergrade to the south of the Gulf of Carpentaria. West of here the subspecies <i>rubeculus</i> , formerly considered a separate species (Red-breasted Babbler) is still widespread and common. The eastern subspecies (<i>temporalis</i>) occurs from Cape York south through Queensland, NSW and Victoria and formerly to the south east of South Australia. This subspecies also occurs in the Trans-Fly Region in southern New Guinea. In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. It also occurs in woodlands in the	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	Hunter Valley and in several locations on the north coast of NSW. It may be extinct in the southern, central and New England tablelands. Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Flight is laborious so birds prefer to hop to the top of a tree and glide down to the next one. Birds are generally unable to cross large open areas. Live in family groups that consist of a breeding pair and young from previous breeding seasons. A group may consist of up to fifteen birds. Feed on invertebrates, either by foraging on the trunks and branches of eucalypts and other woodland trees or on the ground, digging and probing amongst litter and tussock grasses. Build and maintain several conspicuous, dome-shaped stick nests about the size of a football. A nest is used as a dormitory for roosting each night. Nests are usually located in shrubs or sapling eucalypts, although they may be built in the outermost leaves of low branches of large eucalypts. Nests are maintained year round, and old nests are often dismantled to build new ones. Breed between July and February. Usually two to three eggs are laid and incubated by the female. Territories range from one to fifty hectares (usually around ten hectares) and are defended all year.			
<i>Rostratula australis</i> Australian painted snipe	Little is known of the ecology, habitat requirements and reproductive biology of	Absent	Unlikely	No -

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
TSC – E EPBC – V	Australian Painted Snipe. They feed in shallow water or at the waters' edge and on mudflats, taking seeds and invertebrates such as insects, worms, molluscs and crustaceans. Females, which are larger and more brightly coloured than males, are thought to sometimes be polyandrous, mating with several males and leaving each one to incubate and raise chicks. They lay 3-4 eggs per clutch and incubation lasts about 15-16 days. Most records of Australian Painted Snipe are from temporary or infrequently filled freshwater wetlands and although they have occurred at many sites, no site can be identified in which they are resident or regular in occurrence. This may suggest the species is nomadic but the extent to which its cryptic behaviour may contribute to this belief is uncertain. The birds are able to remain hidden in rank vegetation, but many reports are of birds not being secretive, but rather still and unobtrusive. Primarily occurs along the east coast from north Queensland (excluding Cape York) to the Eyre Peninsula in South Australia, including the majority of Victoria and NSW. In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Inhabits inland and coastal shallow freshwater wetlands. The species occurs in both ephemeral and permanent wetlands, particularly where there is a cover of vegetation, including grasses, Lignum and Samphire. Individuals have			The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	also been known to use artificial habitats, such as sewage ponds, dams and waterlogged grassland. Nests on the ground amongst tall vegetation, such as grass tussocks or reeds. Forages nocturnally on mud flats and in shallow water. Breeding is often in response to local conditions; generally occurs from September to December.			
<i>Stagonopleura guttata</i> Diamond Firetail TSC- V	The Diamond Firetail is widely distributed in NSW, with a concentration of records from the Northern, Central and Southern Tablelands, the Northern, Central and South Western Slopes and the North West Plains and Riverina. Not commonly found in coastal districts, though there are records from near Sydney, the Hunter Valley and the Bega Valley. This species has a scattered distribution over the rest of NSW. Also found in the Australian Capital Territory, Queensland, Victoria and South Australia. Groups separate into small colonies to breed, between August and January. Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum <i>Eucalyptus pauciflora</i> Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season). Usually encountered in	Present	Possible	No - Given the small area of impact as a result of the proposal and that the Diamond Firetail is unlikely to rely upon the potential habitat within the proposal area for breeding or foraging habitat, the proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Sticonetta naevosa</i> Freckled duck TSC- V	flocks of between five to 40 birds, occasionally more. Nests are globular structures built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting. Appears to be sedentary, though some populations move locally, especially those in the south. Has been recorded in some towns and near farm houses. The Freckled Duck is found primarily in south-eastern and south-western Australia, occurring as a vagrant elsewhere. It breeds in large temporary swamps created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers, and other rivers within the Riverina. The duck is forced to disperse during extensive inland droughts when wetlands in the Murray River basin provide important habitat. The species may also occur as far as coastal NSW and Victoria during such times. Prefer permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. The largest numbers of Freckled Ducks occur in brackish to hyposaline wetlands that are densely vegetated with Lignum. During drier times they move from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds. Generally rest in dense cover during the day, usually in deep water. Feed at dawn and dusk and	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	at night on algae, seeds and vegetative parts of aquatic grasses and sedges and small invertebrates. Nesting usually occurs between October and December but can take place at other times when conditions are favourable. Nests are usually located in dense vegetation at or near water level.			
Mammalia				
<i>Chalinolobus picatus</i> Little Pied Bat TSC –V	The Little-Pied Bat is found in inland Queensland and NSW (including Western Plains and slopes) extending slightly into South Australia and Victoria. Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress-pine forest, mallee, Bimil box. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. Can tolerate high temperatures and dryness but need access to nearby open water. Feeds on moths and possibly other flying invertebrates.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Myotis Macropus</i> Southern Myotis TSC-V	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. It is rarely found more than 100 km inland, except along major rivers. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish by raking their feet across the water surface. In	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
<i>Nyctophilus corbeni</i> Corben's Long eared Bat EPBC – V	NSW females have one young each year usually in November or December. Inhabits a variety of vegetation types, including mallee, bullock Allocasuarina leuhmanni 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. Roosts in tree hollows, crevices, and under loose bark. Slow flying agile bat, utilising the understorey to hunt non-flying prey - especially caterpillars and beetles - and will even hunt on the ground. Mating takes place in autumn with one or two young born in late spring to early summer.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Phascolarctos cinereus</i> Koala EPBC – V	Occurs in eastern Australia, from north-eastern Queensland to south-eastern South Australia and to the west of the Great Dividing Range. In NSW it mainly occurs on the central and north coasts with some populations in the western region. It was historically abundant on the south coast of NSW, but now occurs in sparse and possibly disjunct populations. The koala inhabits a range of eucalypt forest and woodland communities, including coastal forests, the woodlands of the tablelands and western slopes, and the riparian communities of the western plains. Examples of important shelter trees are cypress pine and brush	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	box. The quality of forest and woodland communities as habitat for koalas is influenced by a range of factors, such as; species and size of trees present; structural diversity of the vegetation; soil nutrients; climate and rainfall; size and disturbance history of the habitat patch. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species. Home range size varies with quality of habitat, ranging from less than two ha to several hundred hectares in size. Breeding season for the koala peaks between September and February.			
<i>Vespadelus baverstocki</i> Inland Forest Bat TSC-V	Believed to occur widely in all the mainland states, generally in areas with annual rainfall less than 400 millimetres. In NSW it has been most regularly captured in the far south west, north from the Murray River to Menindee, and at least as far east as the Balranald-Ivanhoe Road. Roosts in hollows, fissures or cracks in live or dead trees, and roosts in abandoned buildings. Known to roost in very small hollows in stunted trees only a few metres high. The habitat requirements of this species are poorly known but it has been recorded from a variety of woodland formations, including mallee, mulga and River Red Gum. Most records are from drier woodland habitats with riparian areas inhabited by the Little Forest Bat. However, other habitats may be used for foraging and/or drinking. Colony size ranges from a few individuals to more	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	than sixty. Females congregate to raise young in November and December, with young carried for the first week following birth. Young are independent by January. These bats fly rapidly and cover an extensive foraging area and are presumed to feed on flying insects.			
Fish				
<i>Macquaria australasica</i> <i>Macquarie Perch</i> EPBC- V	Macquarie perch grow to a maximum size of 400mm. They 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 and Shoalhaven catchments. The conservation status of the different populations is not well known, but there have been long-term declines in their abundance. Macquarie perch are found in both river and lake habitats, especially the upper reaches of rivers and their tributaries. They are quiet, furtive fish that feed on aquatic insects, crustaceans and molluscs. Sexual maturity occurs at two years for males and three years for females. Macquarie perch spawn in spring or summer in shallow upland streams or flowing parts of rivers. Females produce around 50,000-100,000 eggs.	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.
<i>Maccullochella peelii</i> Murray Cod EPBC – V	Grow up to a maximum size of 1200mm. Found extensively throughout the Murray Darling Basin in the south-eastern region of Australia. Murray cod are able to live in a wide range of habitats from clear, rocky streams in the upper western	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	slopes regions of New South Wales to the slow flowing, turbid rivers and billabongs of the western plains. Generally, they are found in waters up to 5m deep and in sheltered areas with cover from rocks, timber or overhanging banks. The most common components of adult cod's diet include crustaceans such as yabbies, shrimp and crayfish, and fish such as the introduced common carp, goldfish and redfin perch, and the native fishes bony herring, catfish, golden perch, western carp gudgeon and even other cod. It appears that Murray cod prefer protected spawning sites, and typically spawn large (3.0-3.5mm diameter) adhesive eggs onto firm substrates such as hollow logs, rocks, pipes and clay banks, from spring to early summer.			
Frog				
<i>Litoria raniformis</i> Growling grass frog EPBC – V	In NSW the species was once distributed along the Murray and Murrumbidgee Rivers and their tributaries, the southern slopes of the Monaro district and the central southern tablelands as far north as Tarana, near Bathurst. Currently, the species is known to exist only in isolated populations in the Coleambally Irrigation Area, the Lowbidgee floodplain and around Lake Victoria. A few yet unconfirmed records have also been made in the Murray Irrigation Area in recent years. The species is also found in Victoria, Tasmania and South Australia, where it has also become endangered. Usually found in or around	Absent	Unlikely	No - The proposed work would be unlikely to have any substantial impacts on this species.

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
	permanent or ephemeral Black Box/Lignum/Nitre Goosefoot swamps, Lignum/Typha swamps and River Red Gum swamps or billabongs along floodplains and river valleys. They are also found in irrigated rice crops, particularly where there is no available natural habitat. Breeding occurs during the warmer months and is triggered by flooding or a significant rise in water levels. The species has been known to breed anytime from early spring through to late summer/early autumn (Sept to April) following a rise in water levels. During the breeding season animals are found floating amongst aquatic vegetation (especially cumbungi or Common Reeds) within or at the edge of slow-moving streams, marshes, lagoons, lakes, farm dams and rice crops. Tadpoles require standing water for at least 4 months for development and metamorphosis to occur but can take up to 12 months to develop. Outside the breeding season animals disperse away from the water and take shelter beneath ground debris such as fallen timber and bark, rocks, grass clumps and in deep soil cracks. Prey includes a variety of invertebrates as well as other small frogs, including young of their own species. E TSC = listed as Endangered under Schedule 1 of the NSW <i>Threatened Species Conservation Act 1995</i> E EPBC = listed as Endangered under the Commonwealth <i>Environment Protection & Biodiversity Conservation Act 1999</i>. V TSC = listed as Vulnerable under Schedule 2 of the NSW <i>Threatened Species Conservation Act 1995</i>.			
			CE EPBC = listed as Critically Endangered under the Commonwealth <i>Environment Protection & Biodiversity Conservation Act 1999</i>. CAMBA = Chinese-Australia Migratory Bird Agreement JAMBA = Japan-Australia Migratory Bird Agreement	

Species and Status	Description of habitat	Presence of Habitat	Likelihood of occurrence	Potential for impact
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V EPBC = listed as Vulnerable under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999*.

M EPBC = listed as Migratory under the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999*.

D.4 THREATENED SPECIES ASSESSMENT OF SIGNIFICANCE

Threatened Species Conservation Act 1995 Seven-part test

Section 5A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) specifies seven factors to be taken into account in deciding whether a development is likely to significantly affect threatened species, populations or ecological communities, or their habitats, listed at the state level under the *Threatened Species Conservation Act 1995*.

This *Seven-part Test* characterises the significance of likely impacts associated with the proposal on the following species:

- *Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions*

a) In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

Endangered Ecological Communities

Not applicable

b) In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction.

Endangered Ecological Communities

Not applicable

c) In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

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

Endangered Ecological Communities

- No Weeping Myall woodland would be directly impacted by the work. The extent of the community within the proposal area is particularly small in relation to the extent of similar communities along road reserves within the study area and the broader locality. Approximately 72.19 ha of similar vegetation occurs within 2km of the proposal site. Additionally the proposal includes vegetation buffers around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland. As such the impacts to Weeping Myall Woodland is considered a positive impact and not such that the local occurrence would be placed at risk of extinction.
- The proposal would not change the composition of the community in the locality. Approximately 72.19 ha of similar vegetation occurs within 2km of the proposal site and would remain untouched. Additionally the proposal includes vegetation buffers

around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland. Therefore it is unlikely that the proposal would substantially and adversely modify the composition of the ecological communities as such that their local occurrence is likely to be placed at risk of extinction.

d) In relation to the habitat of a threatened species, population or ecological community:

- i. the extent to which habitat is likely to be removed or modified as a result of the action proposed, and
- ii. whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and
- iii. the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality.

Endangered Ecological Communities

- i. The Weeping Myall Woodland EEC is common throughout the proposal area and the surrounding region. Approximately 72.19 ha of similar vegetation occurs within 2km of the proposal site. Mitigation measures would be implemented to minimise disturbances to the EEC and in doing this, the proposal is unlikely to significantly modify this ecological community's habitat.
- ii. The proposal area is already fragmented. The proposal would not remove vegetation to the extent that connectivity would be severed or substantially diminished. Therefore the proposal would not further fragment or isolate the community more from the surrounding areas.
- iii. The small area of vegetation which would be impacted by the proposal is likely to be of limited importance in ensuring the long-term survival of this community given the distribution of weeds within the impact area and that approximately 72.19 ha of similar vegetation occurs within 2km of the proposal site. Additionally the proposal includes vegetation buffers around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland. Along with the rehabilitation of the site following the completion of the proposed works would ensure the long-term survival of this community in the locality.

e) Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly).

Ecological Endangered Communities

No areas of critical habitat for this community have been declared for the study area.

f) Whether the action proposed is consistent with the objectives or actions of a Recovery Plan or Threat Abatement Plan.

Ecological Endangered Communities

There are no recovery plans or threat abatement plans relevant to the proposal.

g) Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

- Clearing of native vegetation

In their determination, the NSW Scientific Committee found that 'clearing of any area of native vegetation, including areas less than two hectares in extent, may have significant impacts on biological diversity'. Clearing can lead to direct habitat loss, habitat fragmentation and associated genetic impacts, habitat degradation, loss of the leaf litter layer increased habitat for invasive species and off-site impacts such as downstream sedimentation. The proposal would not contribute significantly to the operation of clearing as a threatening process at the local or regional level.

Conclusion

The potential for substantive impacts to occur due to the proposal is low. The assessment of significance has found that any impacts of the proposal are unlikely to be significant for Weeping Myall Woodlands within the proposal area.

Environment Protection and Biodiversity Conservation Act 1999 Significant Impact Assessment

The *Environment Protection and Biodiversity Conservation Act 1999* specifies factors to be taken into account in deciding whether a development is likely to significantly affect Endangered Ecological Communities, threatened species and migratory species, listed at the Commonwealth level. The following assessment assesses the significance of the likely impacts associated with the proposed works on:

- Weeping Myall Woodlands Endangered Ecological Community.

a) Will the action reduce the extent of an ecological community?

The proposal would increase the extent of this EEC through the proposed vegetation buffers around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland.

b) Will the action fragment or increase fragmentation of an ecological community?

The proposal would result in a slight decrease in fragmentation of the community as a result of the proposed vegetation buffers around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland.

c) Will the action adversely affect habitat critical to the survival of an ecological community?

The areas which would be affected consist of a large amount of weed invasion which have degraded the quality of the EEC. Additional areas of the EEC occur outside of the development footprint that would not be impacted. As such, the proposed works would not occur within areas critical for the survival of the EEC.

d) Will the action modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns?

The proposal would have very minor short-term impacts on abiotic components of the EEC, generally limited to some soil disturbances. However, given the small impact within this community, following the completion of the proposed work similar species are likely to recolonise disturbed areas. No other changes to any other abiotic elements would occur.

e) Will the action cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting?

The proposal would have positive impacts to the species composition of the ecological community. No burning or flora and fauna harvesting is proposed. In addition to the implementation of a Weed Management Plan, the no vegetation is to be removed and is unlikely to cause a substantial change in the species composition within the EEC at the proposal site.

f) Will the action cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:

- assisting invasive species, that are harmful to the listed ecological community, to become established, or
- Causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community?

The proposal may have slight impacts to the distribution and spread of weeds. There is potential for weeds to establish on disturbed areas prior to the establishment of native vegetation, although given the minor disturbance to the seed bank native plants are likely to readily recolonise the disturbed area this would not substantially reduce the quality or integrity of the EEC.

g) Will the action interfere with the recovery of an ecological community?

The proposal would assist with the recovery of the EEC in areas adjoining those directly impacted by the proposal or in the broader locality. Through vegetation buffers around the perimeter of the site for screening with native species that form part of the local Weeping Myall Woodland.

Conclusion

The Assessment of Significance has concluded that the proposal is unlikely to significantly affect Weeping Myall Woodland. Referral to the Commonwealth Minister is not deemed necessary for the proposal.