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Kergunyah Wetland - report on survey and recommendations for management

with respect to the Wetland Project aims:

- to enhance, promote and preserve the biodiverse flora and fauna at the site
- to revive & stimulate interest in Kergunyah Landcare, with a focus on attracting youth.
- to improve access to the site, and to raise awareness of the value of wetlands to both locals (including school students) and visitors to the area.

and recognising that the conservation and preservation of this wetland can be achieved through knowledge of the required ecological conditions and through engagement of the community for stewardship in the long term.

Prime conservation values of this wetland

Kergunyah wetland is a significant area of native vegetation in this region. The vegetation communities have a Conservation Status of Endangered and Vulnerable and they provide habitat for at least 3 Victorian Rare or Threatened fauna species. The site covers approximately 2.65 ha and is in good condition with approximately 90% cover of native vegetation. Weed cover within native vegetation is less than 5% and most weeds can be easily and quickly controlled.

Threatened species habitat:

The site is in the Victorian Riverina Bioregion and under the North East Catchment Management Authority. It is located at Longitude 147.039 Latitude -36.330 and altitude 185m ASL. Soil is clay to a depth of about 3m underlain by sandstone and then granite at about 10m depth.

The landscape profile according to Victorian Government Department of Sustainability and Environment (DSE) is Lowland grassy plains, Riverina plains, seasonal drainage lines and associated swamps. The vegetation communities have been identified through their indicator species, soil and other characteristics to be a mosaic composed of Ecological Vegetation Classes 815 Riverine

Swampy Woodland Conservation Status of Endangered 125 Plains Grassy Wetland, Vulnerable and 819 Spike-sedge Wetland, Vulnerable. Details in appendix.

One semi aquatic plant identification is yet to be confirmed but it is likely to be *Phalaris arundinacea* Reed Canary Grass. If so then it and Bent Grass are the two weeds that will require persistence and perseverance to control. In just this brief period of survey, there are signs that the fox or foxes or cats or both are impacting on important species in this site. Several fox scats and feathers of Tawny Frogmouth and Pacific Black Duck have been found arrayed in the pattern typical of predator attack. These feral predators pose a considerable threat to the Lewins Rail.

Victorian Rare or Threatened species:

Lewin's Rail - Victorian Conservation Status is Vulnerable and it is listed under the Flora and Fauna Guarantee.

Royal Spoonbill - Victorian Conservation Vulnerable

Great Egret - Victorian Conservation Vulnerable and listed under the Flora and Fauna Guarantee.

Other species of importance

The large Swamp Yabbies, *Cherax rotundis*, in a colony probably numbering thousands, are burrowed below the surface. This makes the site of significance as they are on the edge or just outside, east, of their usual range of distribution. Their extensive burrows provide habitat for many amphibians, reptiles and invertebrates. The system of burrows also includes water storage and the chimneys provide aeration of the soil.

The identification of many flora species can not be completed until they are in flower or seed. This process has been complicated by many species being outside their recorded distribution. I will continue to supply and advise on identifications of flora for this project.

Large gum trees can be many hundreds of years old, making them extremely valuable assets in a landscape. The DSE standard for measuring tree size is using DBH (Diameter at Breast Height) which is the diameter of the trunk of a tree measured over bark at 1.3m above ground level. For this site, a Large Old Tree has a minimum DBH of 70 cm and a Very Large Old Tree a minimum DBH of 105 cm.

This Kergunyah Wetland has 1 Very Large Old Tree of 160 cm (tree number 2 on map) and 2 Large Old Trees number 1 at 70cm DBH and number 28 at 73 cm DBH. Tree number 25 has a DBH of 250cm making it one of the largest trees in the region. It is located on adjoining fenced land although the DSE land tenure map is not definitive (see appendix 6). The health of all trees has been assessed as good and there is a healthy spread of ages in the trees with many seedlings arising.

Risks and threats that could degrade habitat quality

- weed invasion or spread -
- Feral animals - principally foxes
- Fox baiting impact on Yabby colony
- Roadside grazing
- Drainage not management to prevent siltation and influx of weeds and litter
- Inappropriate recreational use
- Groundwater Monitoring personnel access site by vehicle

Recommended priorities for management actions

1. fox control
2. collect seed and cuttings for propagation of provenance indigenous plants for revegetation. I can assist volunteers in this.
3. weed management - priority based on impact plus ease and effectiveness of control:
 - willow and fruit trees - cut and paint stump
 - Reed Canary Grass - spot spray, weed mat, slash, concentrated herbicide wiper, dig
 - Yorkshire fog - spot spray
 - St John's Wort and square weed/Purple top - hand pull
 - Drain Flat-sedge - spot spray then dig
 - Bent grass - spot spray /weed mat
 - Shivery Grass - spot spray/ hand pull
 - other weeds - spot sprayI can train a small team of volunteers in techniques of spot spraying with herbicide.
4. install signage that informs on site conservation values and Kergunyah Landcare group stewardship and works
5. assess top soil seed bank quality and condition in weedy areas to develop revegetation method. 100% native vegetation cover will ensure long term weed control through excluding weed invasion
6. Improve habitat in Riverine Swampy Woodland by adding logs and branches - this is a favourite food of Swamp Yabbies, they come up from below ground to eat it from underneath.
- 7.
8. replace weeds throughout native vegetation areas with native species.
9. Clarify the extent of site, location of boundaries in relation to existing fences
10. install car park spaces, number and location in consultation with Indigo Shire and CFA.
11. install bird nest, possum and bat boxes to ensure trees are not threatened by mistletoe over growth
12. Survey and assessment of herpetology, bats and terrestrial and aquatic invertebrate fauna - Dr Susan Lawler has offered to encourage students in this work.
13. fox- and cat-proof fencing of entire reserve

Recreational use and development:

Use or development	Potential impact	Conservation value threatened or risk	Enhanced value	Recommended priority
Entry path to tree 1 - recommend: Minimise width, use wood chip surface, lay redgum slab over wet point, red gum log seating at tree	Medium to low	<ul style="list-style-type: none"> • runs of Swamp Hen and possibly Lewins Rail disrupted and abandoned • number of visitors disturbs fauna too often • increase in litter 	Biodiversity education and appreciation	high
Use site as seed collection point for native revegetation projects in the area	low	Reduced seed bank	Indigenous plants of local provenance available to speed revegetation aims	high
Install informative signage	low		Biodiversity education and appreciation	high
<ul style="list-style-type: none"> • Site utilized by school groups for biodiversity education, and could become potential tourist attraction. • Make walking track from Kergunyah Reserve/Kergunyah Caravan park • Establish temporary paths within site – using red gum chips (subject to flooding) 	Low to medium	<ul style="list-style-type: none"> • number of visitors disturbs fauna too often • increase in litter • Increased risk of snake bite 	Biodiversity education and appreciation	medium
<ul style="list-style-type: none"> • Set up tables & Chairs at high spot • build bird hide • Build a board walk 	high	<ul style="list-style-type: none"> • number of visitors disturbs fauna too often • increase in litter • maintenance required • could be lost in floods 		low
Exclude public except for organised activities, preserve the site as is.	low	Site fails to be protected and recovered due to lack of interest and appreciation		low

Suggested volunteer activities:

- attend working bees for hand treatment of weeds, installation of recreational facilities and interpretive signage, revegetation
- form a seed collection group
- Observe and record flora and fauna (what can you do? Watch, record, take photos of plants and creatures)
- Be the data recording person to receive observations and records
- Form a team to train in spot spraying weeds with herbicide
- Share your appreciation of this and other wetlands with others

Appendix:

1. Victorian Department of Sustainability and Environment Legend for Bioregional Conservation Status of Ecological Vegetation Classes (EVC)

Status		Criteria
Presumed Extinct	X	Probably no longer present in the bioregion (the accuracy of this resumption is limited by the use of remotely - sensed 1:100 000 scale woody vegetation cover mapping to determine depletion - grassland, open woodland and wetland types are particularly affected).
Endangered	E	Contracted to less than 10% of former range; OR Less than 10% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: <ul style="list-style-type: none"> • 10 to 30% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC reduced to 30% or less of former range and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a majority of former area.
Vulnerable	V	10 to 30% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: <ul style="list-style-type: none"> • greater than 30% and up to 50% pre-European extent remains and moderately degraded over a majority of this area; or • greater than 50% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC where greater than 30% pre-European extent remains and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a minority of former area.
Depleted	D	Greater than 30% and up to 50% pre-European extent remains; OR Combination of depletion, degradation and current threats is comparable overall to the above and: <ul style="list-style-type: none"> • greater than 50% pre-European extent remains and moderately degraded over a majority of this area.
Rare	R	Rare EVC (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as Endangered, Vulnerable or Depleted.
Least Concern	LC	Greater than 50% pre-European extent remains and subject to little to no degradation over a majority of this area.

2. Ecological Vegetation Class 125 Plains Grassy Woodland, Conservation Status in Victorian Riverina Bioregion is Endangered



EVC 125: Plains Grassy Wetland

Description:

This EVC is usually treeless, but in some instances can include sparse Black Box *Eucalyptus largiflorens* or River Red Gum *Eucalyptus camaldulensis*. A sparse shrub component may also be present. The characteristic ground cover is dominated by grasses and small sedges and herbs. The vegetation is typically species-rich on the outer verges but is usually species-poor in the wetter central areas.

Life forms:

Life form	#Spp	%Cover	LF code
Large Herb	5	5%	LH
Medium Herb	11	20%	MH
Small or Prostrate Herb	6	10%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	7	20%	MTG
Medium to Tiny Non-tufted Graminoid	3	30%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Rumex dumosus</i>	Wiry Dock
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
LH	<i>Epilobium hirtigerum</i>	Hairy Willow-herb
LH	<i>Eryngium ovium</i>	Blue Devil
MH	<i>Craspedia glauca</i> spp. agg.	Common Billy-buttons
MH	<i>Potamogeton tricaratus</i> s.l.	Floating Pondweed
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Lobelia concolor</i>	Poison Pratia
SH	<i>Limosella australis</i>	Austral Mudwort
SH	<i>Myriocephalus rhizocephalus</i>	Woolly-heads
SH	<i>Neopaxia australasica</i>	White Purslane
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Juncus flavidus</i>	Gold Rush
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Carex inversa</i>	Knob Sedge
MTG	<i>Amphibromus macrorrhinus</i>	Long-nosed Swamp Wallaby-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eragrostis infecunda</i>	Southern Cane-grass

Recruitment:

Episodic/Flood. Desirable period between disturbances is 5 years.

Organic Litter:

10% cover

Logs:

5 m/0.1 ha.(where trees are overhanging the wetland)

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Critetion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low

3. Ecological Vegetation Class 815 Riverine Swampy Woodland, Conservation Status in Victorian Riverina Bioregion is Vulnerable

Department of
Sustainability and
Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Riverina bioregion

EVC 815: Riverine Swampy Woodland

Description:
 Eucalypt woodland to 15 m tall above a grassy to sedgy – herbaceous ground layer, with species indicative of periodic water-logging. Occupies areas subject to shallow inundation only from higher-level flooding on riverine flood plain. Soils are typically heavy, cracking mottled grey-brown clays/clay-loams and water-retentive, often with a gilgai profile which can be wet during winter.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus camaldulensis</i>	70 cm	15 / ha
<i>Eucalyptus largiflorens</i>	50 cm	

Tree Canopy Cover:

%cover	Character Species	Common Name
20%	<i>Eucalyptus camaldulensis</i>	River Red-gum
	<i>Eucalyptus largiflorens</i>	Black Box

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Large Herb	2	5%	LH
Medium Herb	3	10%	MH
Small or Prostrate Herb	1	5%	SH
Large Tufted Graminoid	3	10%	LTG
Medium to Small Tufted Graminoid	2	10%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG
Total understorey projective foliage cover		65%	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Wahlenbergia fluminalis</i>	River Bluebell
LH	<i>Brachyscome basaltica</i> var. <i>gracilis</i>	Woodland Swamp-daisy
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Lobelia concolor</i>	Poison Pratia
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Carex tereticaulis</i>	Rush Sedge
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge

Recruitment:
 Episodic/Flood. Desirable period between disturbances is 5 years.

Organic Litter:
 10% cover

Logs:
 10 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LNG	<i>Avena fatua</i>	Wild Oat	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Critesion hystrix</i>	Mediterranean Barley-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low

Ecological Vegetation Class bioregion benchmark

4. Ecological Vegetation Class 819 Spike-sedge Wetland, Conservation Status in Victorian Riverina Bioregion is Vulnerable



Description:

Low sedgy vegetation of species-poor seasonal or intermittent wetlands, dominated by spike-sedges. Typically treeless, but sometimes with thickets of saplings or scattered more mature specimens of *Eucalyptus camaldulensis*. Mostly confined to a narrow ring around the upper margins of floodway ponds. Soils are typically heavy clays (e.g. mottled yellow-grey clay, grey loamy clay), occasionally silty near the surface. In some riverine sites, annual inundation is not reliable and the rhizomic rootstocks of *Eleocharis acuta* appear capable of surviving at least occasional periods of longer dormancy.

Life Forms:

Life form	#Spp	%Cover	LF code
Medium Herb	2	5%	MH
Small or Prostrate Herb	2	5%	SH
Medium to Small Tufted Graminoid	2	5%	MTG
Medium to Tiny Non-tufted Graminoid	2	60%	MNG
Total understorey projective foliage cover		75%	

LF Code	Species typical of at least part of EVC range	Common Name
MH	<i>Lythrum hyssopifolia</i>	Small Loosestrife
SH	<i>Crassula helmsii</i>	Swamp Crassula
MTG	<i>Triglochin procerum</i> s.l.	Water-ribbons
MTG	<i>Lachnagrostis filiformis</i>	Common Blown Grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge

Recruitment:

Episodic/Flood – desirable period is every five years

Organic Litter:

20% Cover

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Aster subulatus</i>	Aster-weed	high	low
MNG	<i>Paspalum distichum</i>	Water Couch	high	high

5. Environment Protection and Biodiversity Conservation report on site



Australian Government
Department of Sustainability, Environment,
Water, Population and Communities

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: 03/09/12 20:14:53

[Summary](#)

[Details](#)

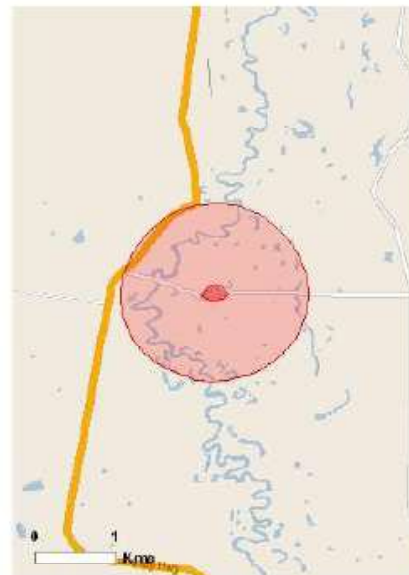
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

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[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:	6
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	14
Listed Migratory Species:	14

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 and the heritage values of a place on the Register of the National Estate.

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.

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:	11
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

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

Place on the RNE:	None
State and Territory Reserves:	1
Regional Forest Agreements:	1
Invasive Species:	9
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	Upstream from Ramsar
Barmah forest	Upstream from Ramsar
Coorong and lakes alexandrina and albert	Upstream from Ramsar
Gunbower forest	Upstream from Ramsar
Nsw central murray state forests	Upstream from Ramsar
Riverland	Upstream from Ramsar

Listed Threatened Ecological Communities [Resource Information]

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

Name	Status	Type of Presence
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Endangered	Species or species habitat likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Vulnerable	Species or species habitat likely to occur within area

Fish

Name	Status	Type of Presence
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 and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat likely to occur within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat may occur within area
Thaumatoperla alpina Alpine Stonefly [25289]	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area
Plants		
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Delma impar Striped Legless Lizard [1649]	Vulnerable	Species or species habitat may 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 may occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Breeding may occur within area
Xanthomyza phrygia Regent Honeyeater [430]	Endangered*	Species or species habitat likely to occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may 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
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Vulnerable*	Species or species habitat likely to 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	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat may occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may 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
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species

Name	Threatened	Type of Presence
Myiagra cyanoleuca Satin Flycatcher [612]		habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Breeding likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Vulnerable*	Breeding may occur within area
		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Kergunyah	VIC

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included.	
Name	State
North East Victoria RFA	Victoria

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 Resources Audit, 2001.	

Name	Status	Type of Presence
Mammals		
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
Oryctolagus cuniculus Rabbit, European Rabbit [128]		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		
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

Coordinates

-36.329595 147.037131,-36.328986 147.037664,-36.328909 147.038806,-36.329899
147.03972,-36.330394 147.039187,-36.330623 147.037969,-36.33009 147.036788,-36.329481
147.037131,-36.329595 147.037131

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 Heritage and Register of National Estate properties, Wetlands of International 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.

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:

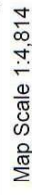
- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
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- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of 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.

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Crown Land Manager A4 Landscape

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