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19 February 2016

Our ref: 10595-3640-16R

Matt Stadler
Manager, R4R State Barrier Fence and Wild Dog Management Biosecurity and Regulation
Department of Agriculture and Food Western Australia
444 Albany Highway
ALBANY WA 6330

Dear Matt

STATE BARRIER FENCE ESPERANCE EXTENSION ASSESSMENT OF THE EUCALYPT WOODLANDS OF THE WESTERN WHEATBELT THREATENED ECOLOGICAL COMMUNITY

On 26 November 2015 an ecological community named as 'Eucalypt Woodlands of the Western Australian Wheatbelt' was endorsed as a Threatened Ecological Community (TEC) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) by the Minister for the Environment. The mapped potential extent of this TEC corresponds with the Interim Biogeographic Region of Australia (IBRA) (Commonwealth of Australia 2012) subregions of Merredin (Avon Wheatbelt 01), Katanning (Avon Wheatbelt 02), Western Mallee (Mallee 02) and drier eastern to south eastern parts of the Jarrah Forest bioregion (Department of the Environment [DoE] 2016b).

The proposed State Barrier Fence Esperance Extension intersects 14.2 km of the south-eastern extent of the Western Mallee subregion to the east of Ravensthorpe between Cheadanup Nature Reserve and Oldfield River (**Map 1**). Vegetation dominated by Eucalypt woodlands has been mapped within this section and consequently the Department of Agriculture and Food Western Australia (DAFWA) requires an assessment of mapped vegetation types to determine whether any are likely to represent this TEC.

The primary characteristic features of this TEC are that it is located within the subregions outlined above and that it is dominated or co-dominated by one or more of several key tree or mallet (not mallee) Eucalypt species that are listed in Table 2a of the formal conservation advice (DoE 2016a).

The vegetation types that have been mapped within proposed State Barrier Fence alignment within the potential TEC distribution are summarised in **Table 1** (Ecoscape (Australia) Pty Ltd 2015), which also includes additional vegetation types within a 5 km buffer of this section.

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Table 1: Summary of vegetation types recorded within potential TEC section of the proposed alignment

Highlighting indicates vegetation types dominated by tree of mallet *Eucalyptus* species

Vegetation Code	Description
Vegetation types mapped within the Western Mallee Subregion extent	
CqAp	*Calothamnus quadrifidus, Acacia assimilis* subsp. *atroviridis* and *Grevillea teretifolia* mid open shrubland over *Acacia pinguiculosa* subsp. *teretifolia, Cryptandra graniticola* and *Lepidosperma rigidulum* low shrubland/ sedgeland
EeMsGa	***Eucalyptus eremophila***, *E. flocktoniae* and *E. scyphocalyx* low woodland/ mallee woodland over *Melaleuca societatis, M. sapientes* and *M. teuthidoides* mid shrubland over *Gahnia ancistrophylla*, *Spyridium minutum* and *Comesperma spinosum* low open sedgeland/ shrubland
EoMtTc	*Eucalyptus obesa* and *E. pleurocarpa* mid open mallee shrubland over *Melaleuca tuberculata* var. *macrophylla, Beaufortia micrantha* var. *micrantha* and *Calothamnus gracilis* mid open shrubland over *Tricostularia compressa, Chordifex sphacelatus* and *Schoenus subfascicularis* low open sedgeland/ rushland
EpBmMs	*Eucalyptus pleurocarpa, E. phaenophylla* and *E. incrassata* mid open mallee shrubland over *Beaufortia micrantha* var. *micrantha, M. rigidifolia* and *M. hamata* mid open shrubland over *Mesomelaena stygia* subsp. *stygia, Lysinema pentapetalum* and *Lepidosperma* spp. low open sedgeland/ shrubland
EpEa	***Eucalyptus platypus* subsp. *platypus***, *E. flocktoniae* subsp. *flocktoniae* and ***E. dielsii*** low open woodland over *Exocarpos aphyllus, Gastrolobium musaceum* and *Daviesia argillacea* mid open shrubland
EpMhGa	*Eucalyptus phaenophylla, E. leptocalyx* and *E. uncinata* mid mallee woodland over *Melaleuca hamata, M. subfalcata* and *Exocarpos sparteus* mid sparse shrubland over *Gahnia ancistrophylla, Spyridium cordatum* and *Acacia ingrata* low sparse sedgeland/ shrubland
EsBpLt	*Eucalyptus sporadica* and ***E. clivicola*** mid mallee woodland/ woodland over *Baeckea pachyphylla, Melaleuca eurystoma* and *Melaleuca hamata* mid open shrubland over *Lepidosperma tuberculatum* and *Tetraria* sp. Mt Madden (C.D. Turley 40 BP/ 897) mid open sedgeland
Additional vegetation types within 5 km of Western Mallee Subregion extent	
EspMhLsp	*Eucalyptus* sp. Fraser Range (D. Nicolle 2157) and *Allocasuarina huegeliana* mid low open mallee shrubland/ woodland over *Melaleuca hamata, Acacia patagiata and A. mutabilis* subsp. *angustifolia* mid open shrubland over *Lepidosperma* aff. *brunonianum* and *Lomandra micrantha* subsp. *teretifolia* low sparse sedgeland/ herbland
EoMpSf	***Eucalyptus occidentalis*** mid woodland over *Melaleuca pulchella, M. calycina* and *Baeckea pachyphylla* mid shrubland over *Schoenus subfascicularis* low sparse sedgeland
EiMcGa	*Eucalyptus incrassata* and *E. phaenophylla* mid mallee shrubland over *Melaleuca calycina, M. societatis* and *M. johnsonii* mid open shrubland over *Gahnia ancistrophylla, Daviesia lancifolia* and *Gahnia aristata* low sparse sedgeland/ shrubland
EeEsBi	*Eucalyptus eremophila, E. flocktoniae* subsp. *flocktoniae* and *E. phenax* subsp. *phenax* mid mallee woodland over *Exocarpos sparteus* and *Melaleuca cucullata* mid open shrubland over *Boronia inornata* subsp. *leptophylla, Spyridium cordatum* and *Pultenaea purpurea* low open shrubland

Of the above vegetation types within the mapped potential TEC extent, **EeMsGa**, **EpEa** and **EsBpLt** can be considered to be dominated or co-dominated by any *Eucalyptus* tree or mallet species, the remainder are dominated by mallees or shrubs. The following *Eucalyptus* tree/mallet species are recorded from these combined vegetation types:

- *Eucalyptus clivicola*
- *Eucalyptus dielsii*
- *Eucalyptus eremophila* (sometimes also grows in mallee form)
- *Eucalyptus platypus* subsp. *platypus.*

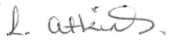
None of these species are listed as 'Key eucalypt species' (Table 2a in Department of the Environment 2016a) which must be dominant or co-dominant for the vegetation to be classified as the TEC.

A review of nearby vegetation types on the proposed alignment within 5 km of the mapped TEC extent identifies four additional vegetation types (**Table 1**), one of which (**EoMpSf**) is dominated by *Eucalyptus occidentalis*, listed as a 'key eucalypt species' for the TEC. *Eucalyptus occidentalis* woodland is widespread across the South Coast region of Western Australia where it typically dominates drainage lines or seasonally wet areas, it is certainly not largely restricted to the mapped potential TEC extent, nor does it occur within the subject portion of the alignment.

It is concluded that none of the vegetation types recorded within the section of the alignment that corresponds with TEC mapping (potential extent), or within 5 km, are considered to represent the 'Eucalypt Woodlands of the Western Australian Wheatbelt' TEC.

Yours sincerely
Ecoscape (Australia) Pty Ltd

STEPHEN KERN
Senior Botanist

QA Approved by:	Lyn Atkins	 Lyn Atkins	**Date:**	19/02/2016

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Commonwealth of Australia. 2012. *Interim Biogeographical Regionalisation for Australia (Version 7)*. Available from: http://www.environment.gov.au/parks/nrs/science/pubs/bioregions.pdf.

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Ecoscape (Australia) Pty Ltd 2015, *State Barrier Fence Biological Surveys*, Unpublished report for Department of Agriculture and Food, Western Australia.

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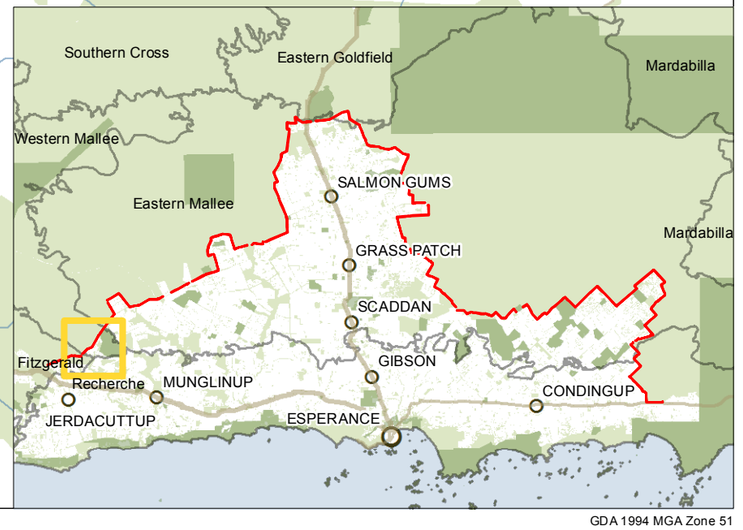
266000 271000 276000 281000 286000

6295000 6290000 6285000 6280000

Western Mallee

EpMhGa
EpEa
EsBpLt
EpBmMs
CqAp
EpBmMs
EpBmMs
EeMsGa
EpMhGa
EoMtTc
EeMsGa
EpEa
EpBmMs
EiMcGa
EoMpSf
EpEa
EpMhGa
EiMcGa
EeEsBi
EpMhGa
EpBmMs
EiMcGa
EeEsBi

Melaleuca Rd
West Point Rd
Rawlinson Rd
R 31754 Cheadanup Nature Reserve
OLDFIELD RIVER



GDA 1994 MGA Zone 51

LEGEND

- Local Road
- Unsealed Road
- Vehicle Track
- Watercourses

Vegetation Types

- CqAp
- EeEsBi
- EeMsGa
- EiMcGa
- EoMpSf
- EoMtTc
- EpBmMs
- EpEa
- EpMhGa
- EsBpLt
- Extent of Western Mallee IBRA Sub Region
- Native Vegetation Extent (DAFWA 2012)
- DPaW Managed Lands and Waters (DPaW 2014)

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AUTHOR: AF CHECKED: JN
DATE: FEB-16 PROJECT NO: 3640-16

STATE BARRIER FENCE THREATEDED ECOLOGICAL COMMUNITY MAPPING

CLIENT: DAFWA

VEGETATION TYPES WITHIN WESTERN MALLEE IBRA SUB REGION

MAP 1

SCALE 1:80,000 @ A3

0 1 2 3 4 5 km