



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 8857/1
File Number: DWERVT5595
Duration of Permit: From 15 July 2021 to 15 July 2023

PERMIT HOLDER

Mr Gregory John Tyrrell

LAND ON WHICH CLEARING IS TO BE DONE

Lot 1645 on Deposited Plan 215031, Scaddan

AUTHORISED ACTIVITY

The permit holder must not clear more than 18.5 hectares of native vegetation within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Avoid, minimise, and reduce impacts and extent of clearing

In determining the native vegetation authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

2. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known weed-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Wind erosion management

The permit holder shall not clear native vegetation unless the purpose for which the clearing is authorised is enacted within three months of the authorised clearing being undertaken.

4. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> (a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 1; (f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with condition 2; and (g) actions taken in accordance with condition 3.

5. Reporting

The permit holder must provide to the *CEO* the records required under condition 4 of this permit when requested by the *CEO*.


DEFINITIONS

In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

 Ryan Mincham
2021.06.22
21:24:25 +08'00'

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

22 June 2021

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below.

Plan 8857/1



Figure 1: Map of the boundary of the area within which clearing may occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 8857/1
Permit type:	Area permit
Applicant name:	Mr Gregory John Tyrrell
Application received:	1 April 2020
Application area:	18.5 hectares of native vegetation
Purpose of clearing:	Grazing and pasture
Method of clearing:	Mechanical
Property:	Lot 1645 on Deposited Plan 215031, Scaddan
Location (LGA area/s):	Shire of Esperance
Localities (suburb/s):	Scaddan

1.2. Description of clearing activities

The application area is comprised of eight patches of remnant native vegetation distributed across a cleared land parcel approximately 2,119 hectares in size. The property is bordered to the south and west by large, intact vegetated reserves, and to the north and east with cleared land parcels that abut vegetated reserves and unallocated crown land (CSLC, 2020). The application was originally made for a total clearing area of 25 hectares of native vegetation for the purpose of squaring up paddocks, easier machinery access, and to improve crop production (Tyrrell, 2020). The intended final land use is for pasture and cereal crops. On digitising the application area, the area applied for was amended to 28.3 hectares of proposed clearing.

In response to the preliminary assessment and results of the biological surveys, the application was revised during the assessment process. The changes included excising an area of 9.8 hectares from the application area, which was identified as providing habitat for priority flora and a fauna habitat corridor across the property.

The extent of the proposed clearing is indicated in Figure 1 (see Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	22 June 2021
Decision area:	18.5 of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and one public submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), and the findings of a flora and fauna survey (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on its quality and habitat values; and
- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be managed to be unlikely to lead to appreciable land degradation, or have long-term adverse impacts on habitat for conservation significant flora and fauna.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing.
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback.
- conduct staged clearing to minimise wind erosion.

1.5. Site map



Figure 1. Map of the application area. The areas cross-hatched yellow indicates the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle

- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016 (WA) (BC Act)*
- *Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)*

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, 2013)
- *Procedure: Native vegetation clearing permits* (DWER, 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Acacia euthyphylla (P3) was recorded during the flora survey (NVS, 2020) within Area E, the larger patch of remnant vegetation that encompasses Area H, and in numerous locations adjacent to, but outside of the application area. In addition to supporting priority flora, Area E and the larger patch of remnant vegetation that encompasses Area H were identified as providing a fauna habitat corridor across the property (Terrestrial Ecosystems, 2020).

To minimise the impact to *Acacia euthyphylla* and fauna habitat values, the application was revised to excise 9.8 hectares from the application area (Figure 2). The 30 metre strip of vegetation on the northern extent of this fauna habitat corridor (Area H) has previously been cleared and offers little to no value for conservation significant flora and fauna (NVS, 2020; Terrestrial Ecosystems, 2020). The applicant proposes to remove the previously cleared vegetation from his property (Figure 3).

The Delegated Officer was satisfied that the applicant has implemented reasonable measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

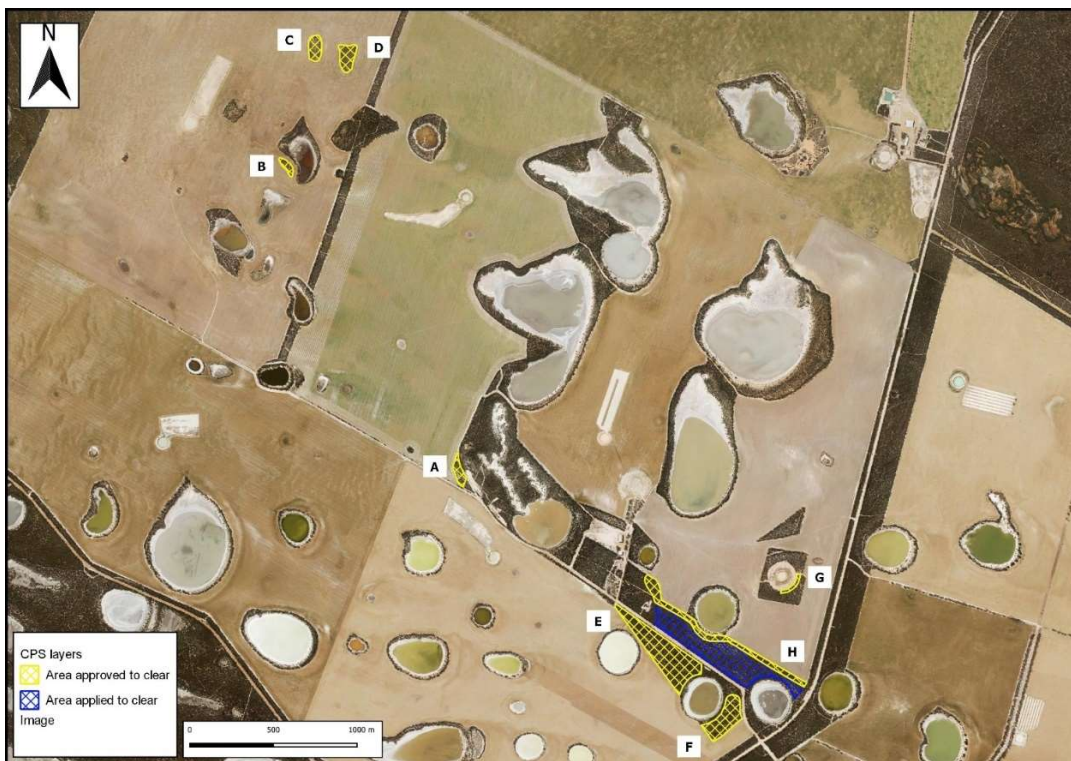


Figure 2. Map indicating the area retained at Area H (cross-hatched blue).



Figure 3. Representative photograph of the cleared area within Area H.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and adjacent vegetation) and land degradation. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principle (b)

Assessment

Two fauna species of conservation significance have been recorded within the local area of the application area. These species being the Malleefowl (*Leipoa ocellata*) and Hooded Plover (*Thinornis rubricollis*). The application area is also located in the modelled distribution for Carnaby's Cockatoo (*Calyptorhynchus latirostris*).

Carnaby's Cockatoo (Endangered)

The preferred habitat for this species is remnant native eucalypt woodlands, especially those of Salmon Gum (*Eucalyptus salmonophloia*) and Wandoo (*Eucalyptus wandoo*), and in shrubland or kwongkan heathland dominated by plants of the Proteaceae family. It also occurs in forests containing Marri (*Corymbia calophylla*), Jarrah (*Eucalyptus marginata*), Karri (*Eucalyptus diversicolor*) and Tuart (*Eucalyptus gomphocephala*) trees (Parks and Wildlife, 2013). Carnaby's Cockatoos forage on the seeds, flowers and nectar of native proteaceous plant species, eucalypts and *Callistemon* species (Commonwealth of Australia, 2012). Based on the vegetation type present, that is, open mallee and shrubland with limited understorey (Appendix F), it is not considered that the application area provides suitable foraging, roosting or breeding habitat for the Carnaby's Cockatoo.

Hooded Plover (Priority 4)

There are two records of this species within the local area, with the closest record being approximately 7.3 kilometres northeast from the application area. The Hooded Plover inhabits ocean beaches and the edges of near-coastal and

inland salt-lakes that may occur hundreds of kilometres from the coast. Although coastal habitats are occasionally used, this species generally breed on the shores of inland salt-lakes (TSSC, 2014).

There are numerous salt-lake habitats within the local area, including within a large area of remnant vegetation that occurs on unallocated crown land, located east of the application area. The property where the clearing is proposed also contains four small salt-lakes. The proposed clearing area is separated from these salt-lakes by a vegetated buffer of 30 to 50 metres. Given this, the proposed clearing is not likely to impact habitat that is significant for this species.

Malleefowl (Vulnerable)

Historically, Malleefowl have been found in mallee regions of southern Australia from approximately the 26th parallel of latitude southwards. Prior to vegetation clearing for agriculture, Malleefowl were abundant in the Western Australian Wheatbelt. Vegetation clearing for agriculture also opened adjacent bushland to predators, and in the south-west of Western Australia, Malleefowl often now only persist in large, isolated remnant patches of native vegetation (Terrestrial Ecosystems, 2020).

The National Recovery Plan for Malleefowl (Benshemesh, 2007) lists vegetation clearing, habitat fragmentation and isolation, sheep grazing, predation by foxes, and to a lesser extent cats, raptors and wild dogs, and bushfires and climate change as the primary threats to the survival of this species.

The preferred habitat for Malleefowl include shrubs and thickets of mallee *Eucalyptus* sp., *Melaleuca lanceolata* and *Acacia linophylla* and any other dense litter-forming shrublands (Benshemesh, 2007). Malleefowl build distinctive nests that comprise a large mound of soil/rock covering a central core of leaf litter. These nest mounds range in diameter but can span more than five metres and may be up to one metre high (Benshemesh, 2007).

A Malleefowl habitat assessment conducted over the application area identified that the application area does not provide suitable habitat for Malleefowl. The application area is spread across eight separate patches of remnant vegetation, and lacks critical habitat features for Malleefowl such as having leaf litter and an open understorey. A search for Malleefowl mounds within the application area found no mounds (Terrestrial Ecosystems, 2020).

Fauna habitat corridor

The application area is located within Zone C of the South Coast Macro corridor, which is described as potentially providing habitat for wildlife at the local scale, but requires closer assessment to determine its value (Wilkins et al., 2006). The Malleefowl habitat assessment identified that majority of the application area occurs in small, degraded patches of remnant vegetation, and therefore provides limited fauna habitat value (Figure 2; Areas A, B, C, D, F, G).

Areas E and the larger patch of remnant vegetation that encompasses Area H (Figure 2) were identified as having value as fauna habitat, as it is part of a minor east-west habitat corridor across the property (Terrestrial Ecosystems, 2020). The larger patch of remnant vegetation that encompasses Area H has some intermittent access tracks that traverse this area. However, the vegetation is still of sufficient quality and extent that it could support a fauna assemblage and act as a linkage between other remnant vegetation patches (Terrestrial Ecosystems, 2020). Area E, although largely intact, was found to be in a slightly more degraded condition. This fauna habitat corridor extends north-west into a chain of salt-lakes and eastward into another habitat corridor that runs north-south along Dempster Road. The original application proposed to clear the entirety of the larger patch of remnant vegetation that encompasses Area H and Area E, however, to ensure that the function of the fauna habitat corridor is not lost, the application area was revised during the assessment (Figure 2). Approximately 9.8 hectares of vegetation from this fauna habitat corridor has been excised of the application area, to ensure that the proposed clearing does not sever this linkage (see Section 3.1).

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on the adjacent fauna habitat corridor be managed by taking steps to minimise the risk of the introduction and spread of weeds and dieback.

Conditions

No fauna management conditions required.

3.2.2. Biological values (flora) - Clearing Principles (a) and (c)

Assessment:

According to available databases, one threatened flora species and 14 priority flora species have been recorded within the local area (10 kilometre radius from the perimeter of the application area).

The vegetation present in the application areas has the potential to provide suitable habitat for *Eucalyptus merrickiae*, also known as 'Goblet Mallee', which is a multi-stemmed bushy shrub that is listed as 'Vulnerable' under the EPBC Act and BC Act. This species is known to occur within the Esperance district of Western Australia between Scadden

and Salmon Gums, and sporadically around Mount Ridley (DEWHA, 2008). This species has been recorded approximately 1.7 kilometres from the application area. According to the Approved Conservation Advice for *Eucalyptus merrickiae*, the species has a preference for flat to slightly rising sites near salt lakes, particularly to the north-east of lakes where the Aeolian drifts of sand, sandy-loam or sandy-clay soil are better drained than on the southern fringes of these lakes (DEWHA, 2008). A samphire (halophyte) zone occurs between the salt-lake and sandier sites where Goblet Mallee occurs, with other mallee eucalypts such as *Eucalyptus littoralis* and *Eucalyptus halophila* occur close by (DEWHA, 2008).

During a targeted flora survey conducted in November 2020, this species was searched for extensively and was not recorded within the application area (NVS, 2021). Given this, it is not considered that the proposed clearing will significantly impact on habitat that is necessary for the continued existence of this species.

The targeted flora survey recorded one priority flora species, *Acacia euthyphylla* (P3), within several locations across the property where the clearing is proposed. In total, 21 individuals were recorded during the survey. Twelve individuals were recorded from two locations within the patch of remnant vegetation adjacent to Area H. This patch of remnant vegetation is likely to contain more individuals, as the area was not covered sufficiently on foot (NVS, 2020). This patch of remnant vegetation was originally included in the application area, however as explained in section 3.1, the applicant has excluded this from the application area to minimise the impact to *Acacia euthyphylla*. Area E contained seven individuals, while an area immediately adjacent to Area F, but outside of the application area, contained two individuals (NVS, 2020). In summary, seven individuals recorded from within Area E are proposed to be cleared. This represents 33 per cent of individuals recorded within the survey area.

Acacia euthyphylla (P3) is known from 25 recorded locations within a range of approximately 602 kilometres. The application area occurs within the centre of the known distribution of this species. This species prefers grey/white sand and clay loams on margins of salt lakes, marshes and seasonal swaps. Based on aerial imagery, the local area and the large area of intact remnant vegetation located within the adjacent unallocated crown land, contains numerous salt lakes, which is likely to provide suitable habitat for this species. The loss of 33 per cent of the recorded individuals from within the survey area is not likely to significantly impact on the local representation, or conservation status of this species.

Numerous other priority flora species were identified as possibly occurring within the application area due to the presence of suitable habitat (Appendix C.3). The targeted survey did not record any of these species from within the application area. The survey was completed at an appropriate time for the priority flora species identified as potentially occurring within the application area, and therefore would likely have been recorded during the survey if they occurred, except for *Darwinia polycephala* (P4).

Darwinia polycephala (P4) is a diffuse shrub that flowers during March or May to July or September (Western Australian Herbarium (1998-)). The species is known from 34 recorded locations within a range of 164 kilometres. None of these recorded locations are from within the application area, however the application area is located within the centre of the known distribution of this species. The large area of remnant vegetation within unallocated crown land, located east of the application area, has ten recorded locations of *Darwinia polycephala* (P4), of which one location recorded 100+ individuals. Noting this, even if this species was recorded within the application area, it is unlikely that the proposed clearing would significantly impact on the local or regional representation, or conservation status of this species.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of approximately 33 per cent of *Acacia euthyphylla* (P3) recorded during the survey.

Conditions

It is considered that the impacts of the proposed clearing on the adjacent remnant vegetation be managed by taking steps to minimise the risk of the introduction and spread of weeds and dieback.

3.2.3. Land and water resources - Clearing Principles (g)

Assessment:

The majority of the application area has a low wind erosion risk. However, a small portion of pale deep sand is rated very high risk when subjected to grazing or clearing. The location of the application area on lower slopes near salt lakes and surrounded by higher rises indicates that the wind erosion risk can be managed if pasture or crops are planted immediately following the proposed clearing, minimum tillage is practiced, and the land is not used for harvesting subterranean clover seed (CSLC, 2020).

Conclusion

It is considered that the impacts of the proposed clearing on wind erosion risk can be managed through the requirement that the purpose of the clearing is implemented within three months of the authorised clearing being

undertaken.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Staged clearing condition to minimise the impact of wind erosion on adjacent native vegetation.

3.3. Relevant planning instruments and other matters

The Shire of Esperance advised DWER that there are known records of threatened *Eucalyptus merrickiae* south of the land parcel where the clearing is proposed, and therefore the application area may also contain this species (Shire of Esperance, 2020). The Shire did not provide any additional information to indicate they have any objections to the clearing.

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
The applicant commissioned a targeted flora survey and Malleefowl habitat assessment over the application area. These biological survey reports were received by DWER to support the application during the assessment stage.	The biological survey identified areas of environmental value within the application area, which prompted the requirement for further consideration of measures to avoid and minimise the impacts of the clearing (refer to section 3.1).

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
<p>A public submission (2020) raised concerns regarding the loss of 28.3 hectares of vegetation within an area that has been already heavily cleared.</p> <p>Concerns were also raised regarding the fragmentation of an ecological linkage between the lake system on the property and the remnant vegetation within the road reserve, and two other remnants of native vegetation to the northeast and southwest of the property.</p>	<p>The application has been revised to remove approximately 9.8 hectares from the application area as advertised (Figure 2), reducing the clearing amount to 18.5 hectares.</p> <p>As outlined in section 3.1, the area that has been removed from the application area will ensure the retention of the linkage between the salt-lake system on the property, and the remnant vegetation within the Dempster Road reserve (north-south habitat corridor), and adjacent patches of remnant vegetation.</p> <p>Furthermore, the area retained will minimise the impact to recorded priority flora species <i>Acacia euthyphylla</i> (P3).</p>

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	<p>The proposed clearing area is comprised of eight patches of remnant native vegetation distributed across a cleared land parcel approximately 2,119 hectares in size. The application area occurs within the intensive land use zone of Western Australia. The property is bordered to the south and west by large, vegetated reserves and to the north and east with cleared land parcels that abut vegetated reserves and unallocated crown land.</p> <p>Spatial data indicates the local area (10 kilometre radius from the perimeter of the application area) retains approximately 60.6 per cent of the original native vegetation cover.</p>
Ecological linkage	A South Coast Linkage axis line traverses the vicinity of the application area. Most of the application area occurs within Zone C of the south coast macro corridor.
Conservation areas	The application area is not located within any conservation areas. The nearest conservation area is the Mount Ridley Nature Reserve (Class A), located approximately 10 kilometres south of the application area.
Vegetation description	<p>The photographs of the application area from the targeted Malleefowl habitat assessment indicates the vegetation within the application area is predominately open mallee and shrubland with limited understorey (Terrestrial Ecosystems, 2020). Representative photos and maps are available in Appendix F.</p> <p>This is mostly consistent with the mapped vegetation types:</p> <ul style="list-style-type: none"> • Beard vegetation association 519, which is described as shrublands; mallee scrub, <i>Eucalyptus eremophila</i>. • Beard vegetation association 924, which is described as shrublands; mallee scrub, <i>Eucalyptus eremophila</i> and red mallee (Shepherd et al., 2001). <p>The mapped vegetation types retain over 30 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied from the targeted Malleefowl habitat assessment (Terrestrial Ecosystem, 2020) indicate the vegetation within the proposed clearing area is in degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> • Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. <p>The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.</p>
Soil description	<p>The application area is located within the following mapped soil types:</p> <ul style="list-style-type: none"> ○ Scaddan 1 (Map Unit 246Sc_1) (approximately 26.3 hectares of the application area): Level to gently undulating plain with areas of gilgai microrelief. Drainage is generally poorly developed and usually internal (level plain, gently undulating plains) on Tertiary marine sediments with Aeolian carbonate rich deposits in places. In Salmon Gums Mallee Zone. Alkaline grey shallow sandy duplex soils with associated pale deep sands and minor deep sandy duplexes, ironstone gravel soils and non-cracking clays. Mallee shrubland of <i>Eucalyptus forrestiana</i> and <i>Eucalyptus eremophila</i> with a <i>Melaleuca</i> species understorey and <i>Eucalyptus indurata</i> occurs on calcareous loams (CSLC, 2020); and ○ Scaddan 7 (Map Unit 246 Sc_7) (approximately 1.7 hectares of the application area): Slightly elevated (upper landscape position) gently undulating plains on thin Tertiary marine sediments over Proterozoic granite and gneiss bedrock. In eastern part of the Salmon Gums Mallee Zone. Alkaline grey shallow sandy

Characteristic	Details
	<p>duplex soils and associated Alkaline red shallow loamy duplex soils. Mallee shrubland of <i>Eucalyptus eremophila</i> and <i>Eucalyptus forrestiana</i> with an understorey of <i>Melaleuca</i> species with <i>Eucalyptus occidentalis</i> woodland in swamps (CSLC, 2020).</p> <p>Landform mapping indicates that the most dominant soil types likely to occur within the application area are alkaline shallow duplex soils with both sandy and loamy surfaces on well drained flats and low slopes (CSLC, 2020). A small portion of the application area comprises of calcareous loamy earths on small lunettes and flats south-east of the salt lakes (CSLC, 2020).</p>
Land degradation risk	<p><u>Salinity</u>: The probability of salinity developing on or off-site due to the proposed clearing is unlikely (CSLC, 2020).</p> <p><u>Wind erosion</u>: Over half of the application area has a low risk of wind erosion. Only the small portion of pale deep sand that may be present within the application area is rates as having very high wind erosion risk when subjected to grazing pressure (CSLC, 2020).</p> <p><u>Eutrophication</u>: The application area has a low risk rating for phosphorus export (CSLC, 2020).</p> <p><u>Water Erosion, Waterlogging and Flooding</u>: Waterlogging, flooding and water erosion risk is considered low to very low given the mapped soil type present and location of the proposed clearing (CSLC, 2020).</p>
Hydrogeography	<p>The desktop assessment and aerial imagery indicated that the application area occurs within 30 to 50 metres of four small salt lakes.</p> <p>The application area is not located within any surface or groundwater areas proclaimed under the RIWI Act, CAWS Act areas or public drinking water source areas.</p>
Flora	<p>There are 14 records of priority flora species, and one threatened flora species within the local area.</p> <p>The targeted flora survey recorded one priority flora species within the application area. No threatened flora species were recorded within the application area (NVS, 2020).</p>
Fauna	<p>There are two records of conservation significant fauna within the local area. The application area is also located within the modelled distribution of Carnaby's Cockatoo (<i>Calyptorhynchus latirostris</i>).</p>
Ecological communities	<p>Numerous occurrences of the Commonwealth listed 'Proteaceae dominated Kwongan Shrublands of the southeast coastal floristic province of Western Australia' threatened ecological community (TEC) have been mapped within the local area. The closest occurrence of this TEC is mapped approximately 330 metres from the application area.</p>

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion					
Mallee	7,395,894.36	4,180,937.68	56.53	1,289,384.08	17.43
Beard vegetation association within the IBRA bioregion					
519	2,100,313.59	1,248,661.16	59.45	225,928.43	10.76

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
924	107,510.91	60,668.68	56.43	23,839.45	22.17
Local area					
10 kilometre radius	-	~ 25,895.81	~ 60.6	-	-

Government of Western Australia (2019)

C.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), biological survey information, the habitat preferences of each species, the extent of suitable habitat in the local area, and the distribution of existing records, impacts to the following conservation significant flora species or significant habitat for these species required further consideration.

Species name	Conservation status	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (km)	Are surveys adequate to identify?
<i>Eucalyptus merrickiae</i>	T	Yes	Yes	1701	Yes
<i>Eucalyptus sp. Esperance</i>	P1	Yes	Yes	6689	Yes
<i>Acacia euthyphylla</i>	P3	Yes	Yes	0	Yes
<i>Acacia glaucissima</i>	P3	Yes	Yes	2451	Yes
<i>Acacia improcera</i>	P3	Yes	Yes	1761	Yes
<i>Conostephium marchantiorum</i>	P3	Yes	Yes	4164	Yes
<i>Persoonia scabra</i>	P3	Yes	Yes	5678	Yes
<i>Gyrostemon ditrigynus</i>	P4	Yes	Yes	9038	Yes
<i>Melaleuca fissurata</i>	P4	Yes	Yes	2685	Yes
<i>Darwinia polycephala</i>	P4	Yes	Yes	2536	No

T: threatened, P: priority

C.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features?	Distance of closest record to application area (km)	Are surveys adequate to identify?
Malleefowl (<i>Leipoa ocellata</i>)	VU	No	6.05	Yes
Hooded Plover (<i>Thinornis rubricollis</i>)	P4	No	7.4	N/A
Carnaby's Cockatoo (<i>Calyptorhynchus latirostris</i>)	EN	No	17.8	N/A

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The majority of the application area occurs as small, highly fragmented patches of degraded vegetation. The area proposed to be cleared does not contain habitat for conservation significant fauna, or vegetation that is representative of any conservation significant ecological communities. The application area contains one priority 3 flora species, <i>Acacia euthyphylla</i>, and is located adjacent to remnant vegetation that is likely to function as a fauna habitat corridor within the local area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain significant habitat for conservation significant fauna. However, the application area is adjacent to remnant vegetation that is likely to function as a fauna habitat corridor within the local area.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared is not likely to contain threatened flora species listed under the BC Act.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u> The area proposed to be cleared does not contain species that indicate a threatened ecological community listed under the BC Act.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation types (Beard vegetation associations 519 and 924), and the native vegetation extent within the local area is consistent with the national objectives and targets for biodiversity conservation in Australia.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing areas are separated from nearby salt-lakes by a 30 to 50 metre vegetated buffer, therefore, impact to nearby salt-lakes is considered unlikely.</p>	Not likely to be at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>A small portion of the mapped soils are highly susceptible to wind erosion. The implementation of staged clearing will minimise the risk of causing appreciable land degradation.</p>	May be at variance	Yes <i>Refer to Section 3.2.3 above.</i>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The application area is separated from four small salt-lakes by a 30 to 50 metre vegetated buffer. Given this, impacts to surface water quality are unlikely.</p> <p>The application area is comprised of eight patches of remnant vegetation spread across the land parcel. The proposed clearing is not located within any RIWI Act, CAWS Act, or public drinking water source areas. It is not likely that the proposed clearing will cause deterioration of groundwater quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soil types do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding, or contribute to waterlogging.</p>	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.

Condition	Description
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Photographs of the vegetation (Terrestrial Ecosystem, 2020)



Area A



Area B



Area C



Area D



Area E



Area F



Area G



Area H

Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)

- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

G.2. References

- Benshemesh, J. (2007). *National Recovery Plan for Malleefowl*. Department for Environment and Heritage, South Australia. Available from: <https://www.environment.gov.au/system/files/resources/dd346674-08ab-403d-8c11-5b88e8247e8f/files/malleefowl.pdf>.
- Commissioner of Soil and Land Conservation (CSLC) (2020). *Land Degradation Advice and Assessment Report for clearing permit application CPS 8857/1*, received 20 May 2020, Department of Primary Industries and Regional Development, Western Australia (DWER Ref: A1895637).
- Commonwealth of Australia (2001). *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Commonwealth of Australia (2012). *EPBC Act referral guidelines for three threatened black cockatoo species*. Department of Sustainability, Environment, Water, Population and Communities, Canberra.
- Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.
- Department of Environment, Water, Heritage and the Arts (DEWHA) (2008). *Approved Conservation Advice for Eucalyptus merrickiae (Goblet Mallee)*. Canberra. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/13119-conservation-advice.pdf>.
- Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.
- Department of Parks and Wildlife (2013). *Carnaby's Cockatoo (Calyptorhynchus latirostris) Recovery Plan*. Department of Parks and Wildlife, Western Australia.
- Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.
- Environmental Protection Authority (EPA) (2016). *Technical Guidance – Terrestrial Fauna Surveys*. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf.

Government of Western Australia (2019). *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)*. Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shire of Esperance (2020) *Advice for clearing permit application CPS 8857/1*, received 30 April 2020 (DWER Ref: A1889508).

Native Vegetation Solutions (NVS) (2020). *Targeted threatened flora search of CPS 8857-1, November 2020*. Report for Mr Gregory Tyrrell prepared by Native Vegetation Solutions, June 2021 (DWER Ref: A1987627).

Native Vegetation Solutions (NVS) (2021). *Addendum - targeted threatened flora search of CPS 8857-1, November 2020*. Report for Mr Gregory Tyrrell prepared by Native Vegetation Solutions, June 2021 (DWER Ref: A2013960).

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001). *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Submission (2020). *Public submission in relation to clearing permit application CPS 8857/1*, received 15 May 2020 (DWER Ref: A1893930).

Terrestrial Ecosystems (2020). *Targeted Malleefowl search for CPS 8857-1*. Report for Mr Gregory Tyrrell prepared by Terrestrial Ecosystems, December 2020 (DWER Ref: A1987622).

Threatened Species Scientific Committee (2014). *Conservation Advice Thinornis rubricollis tregellasi hooded plover (western)*. Threatened Species Scientific Committee. Available from: <https://www.environment.gov.au/system/files/resources/ceae7564-f5e6-4154-ac9b-6baf19942aae/files/66726-conservation-advice.pdf>.

Tyrrell, G.J. (2020). *Clearing permit application CPS 8857/1*, received 1 April 2020 (DWER Ref: A1881329).

Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 4 June 2021)

Wilkins, P., Gilfillan, S., Watson, J. and Sanders, A. (ed) (2006). *The Western Australian South Coast Macro Corridor Network – a bioregional strategy for nature conservation*, Department of Conservation and Land Management (CALM) and South Coast Regional Initiative Planning Team (SCRIPT), Albany, Western Australia.