GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8157/1
Permit Holder:	Dionne Lawrance Pratt, and Morina Patrizia Pratt
Duration of Permit:	13 April 2019 to 13 April 2024

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done
Clearing for the purpose of pasture and selective thinning

2. Land on which clearing is to be done
Lot 8918 on Deposited Plan 201643, Meerup

3. Area of Clearing
The Permit Holder must not clear more than 21.4 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8157/1.

4. Application
This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing
In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

6. Dieback and weed control
When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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 *dieback* or *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.

7. Fauna management – inspect suitable black cockatoo nesting trees

(a) Immediately prior to clearing the *suitable black cockatoo nesting tree*, a *fauna specialist* shall inspect the *suitable black cockatoo nesting tree* to confirm whether it is occupied by Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorynchus baudinii*) or forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*).

(b) Where the *suitable black cockatoo nesting tree* is identified as being occupied, the Permit Holder shall ensure that no clearing of, or within 10 metres of, the *suitable black cockatoo nesting tree* occurs until a *fauna specialist* has verified that the *suitable black cockatoo nesting tree* is no longer occupied by Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorynchus baudinii*) or forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*).

PART III – RECORD KEEPING AND REPORTING

8. Record keeping

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

(i) 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 or decimal degrees;

(ii) the date(s) that the area was cleared;

(iii) the size of the area cleared (in hectares);

(iv) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit;

(v) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 6 of this Permit; and

(b) In relation to fauna management pursuant to condition 7 of this Permit:

(i) the time(s) and date(s) of inspection(s) of the *suitable black cockatoo nesting* tree by the *fauna specialist*;

(ii) a description of the *fauna specialist* inspection methodology employed;

(iii) the species name of any fauna determined by the *fauna specialist* to be occupying the *suitable black cockatoo nesting tree*;

(iv) where the *suitable black cockatoo nesting tree* is determined by the *fauna specialist* to be occupied by Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorynchus baudinii*) or forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*):

I. the time and date it was determined to no longer be occupied; and

II. a description of the evidence by which it was determined to no longer be occupied.

(v) the time and date that the *suitable black cockatoo nesting tree* was cleared.

9. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:

(i) of records required under condition 8 of this Permit; and

(ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.

(b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.

(c) Prior to 13 January 2024, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

dieback means the effect of *Phytophthora* species on native vegetation;

fauna specialist: means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*; and

fill means material used to increase the ground level, or fill a hollow;

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;

suitable black cockatoo nesting tree means the *Corymbia calophylla* tree located at the geographic coordinates -34.600982, 116.041059 (decimal degrees) (Universal Transverse Mercator coordinates – 0412071E 6169255N Zone 50) that contains a hollow suitable to be utilised for nesting by Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorynchus baudinii*) or forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) as identified in the 'Black-cockatoo Assessment of Lot 8918 on Deposited Plan 201643 Meerup'.

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; 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.

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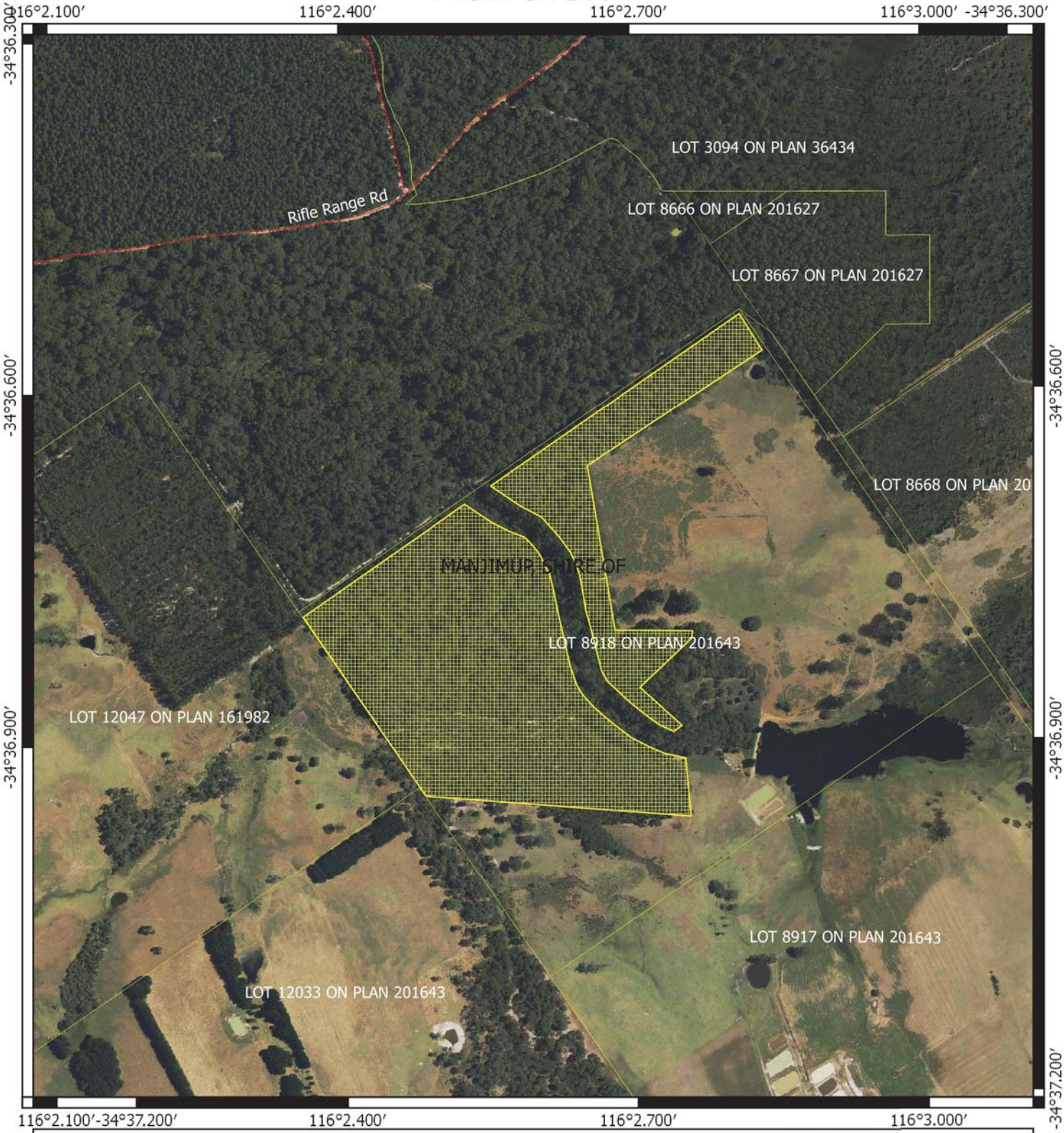
Abbie Crawford
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

14 March 2019

Plan 8157/1



Legend

- CPS areas approved to clear
- Local Government Authorities
- Roads
- Cadastre

Image

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Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8157/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Dionne Lawrance Pratt, Morina Patrizia Pratt
Application received date: 6 August 2018

1.3. Property details

Property: Lot 8918 on Deposited Plan 201643, Meerup
Local Government Authority: Manjimup, Shire of
Localities: Meerup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
21.4		Mechanical Removal	Hazard reduction and fire control

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 March 2019
Reasons for Decision:

The clearing permit application was received on 6 August 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing may be at variance to principles (b) and (h) and is not likely to be at variance to remaining clearing principles.

The applicant has avoided and minimised impacts through reducing the application area from 26 hectares to 21.4 hectares by avoiding areas mapped as soil unit 254NfS4 with land degradation risk and by avoiding riparian vegetation along a mapped watercourse.

Through assessment it has been determined that the proposed clearing of 21.4 hectares of native vegetation:

- Will result in the loss of a tree with a hollow suitable for black cockatoo nesting but with no evidence of use.
- May impact the environmental values of Warren State Forest through the possible introduction or spread of weeds and dieback.

The Delegated Officer determined that:

- The loss of a tree with a hollow suitable for black cockatoo nesting (but with no evidence of use) is not likely to be signficant noting the extent of similar habitat remaining in the local area including within Warren State Forest. There is a risk that the hollow could commence being used by black cockatoos prior to clearing but this risk can be mitigated through requiring a pre-clearing inspection and preventing clearing whilst in use.
- Weed and dieback management measures will minimise impacts to Warren State Forest.

Given the above, the Delegated Officer decided to grant a clearing permit subject to black cockatoo management condition, and standard avoid/minimise, dieback and weed management, record keeping and reporting conditions.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description

The application is to clear 21.4 hectares of native vegetation within Lot 8918 on Deposited Plan 201643, Meerup, for the purpose of pasture and selective thinning (figure 1).

Vegetation Description

The vegetation within the application area is mapped as the following Mattiske vegetation complex's:
Collis 1 (COy1), described as tall open forest to woodland of *Eucalyptus marginata* subsp. *marginata-Corymbia calophylla-Banksia grandis-Allocasuarina fraseriana* on low hills and

with Allocasuarina decussata on slopes in perhumid and humid zones (approximately 9 per cent of the application area);

Broad Swamps (S4), described as low woodland of *Eucalyptus marginata* subsp. *marginata-Nuytsia floribunda* with some *Melaleuca preissiana* and closed heaths of Myrtaceae spp. on broad drainage lines in hyperhumid and perhumid zones (less than 1 per cent of the application area);

Granite Valleys (S1), described as tall open forest of *Eucalyptus diversicolor-Corymbia calophylla* on slopes with some *Eucalyptus patens* and *Eucalyptus megacarpa* on valley floors in hyperhumid and perhumid zones (approximately 50 per cent of the application area); and as

Blackwater (BWp), described as mosaic of low open woodland of *Melaleuca preissiana*, low open woodland of *Melaleuca cuticularis*, open heath of Myrtaceae-Proteaceae spp. and sedgelands of Restionaceae spp. on low lying flats in hyperhumid and perhumid zones (approximately 40 per cent of the application area) (Mattiske and Havel, 1998).

Vegetation Condition

Very Good; Vegetation structure altered, obvious signs of disturbance (Keighery, 1994); to

Degraded; Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

The vegetation condition of the application area was determined through a site inspection undertaken by the Department of Water and Environmental Regulation (DWER) officers on 19 November 2018 (DWER, 2018a).

Soil and Landform Type:

The application area is mapped as the following soil types:

Collis yellow duplex Phase, described as gravelly yellow duplex soils; Jarrah-Marri forest. (Approximately 80 per cent of the application area); and as

Minor Valleys S1 Subsystem (Northcliffe): Valleys in granitic terrain, narrow swampy floor; <20 m relief. Gravelly yellow duplex soils on smooth flanks; Jarrah-Marri-Karri forest. Peaty soils on narrow floor; Wattle low forest. (Approximately 20 per cent of the application area) (DPIRD, 2017).

Comments:

The local area referred to in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. The local area contains approximately 75 per cent native vegetation cover.

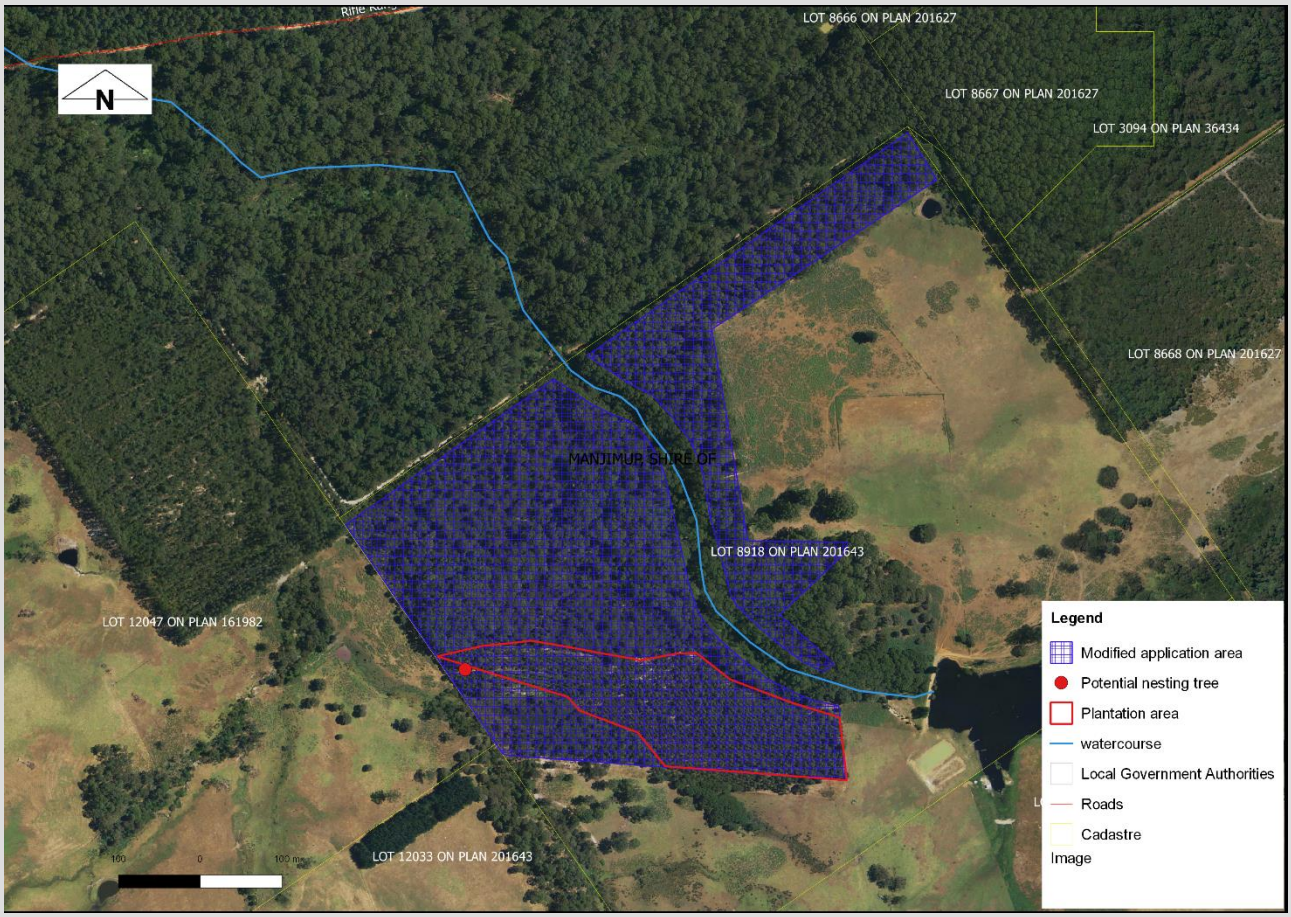

Figure 1: Application area

Photo 1: Typical vegetation within the north-eastern strip of the application area, dominated by tall karri trees

Photos 2: Watercourse adjacent to the application area

Photo 3: North-western application area: dense scrubland predominated by Taxandria linearifolia and Asteraceae sp., with Pteridium esculentum dominated understorey. Vegetation in a very good condition

Photo 4: Plantation trees within the application area with native understorey cover

Figure 2: Photographs of vegetation within the application area

3. Minimisation and mitigation measures

The original application proposed to clear 26 hectares of native vegetation within Lot 8918 on Deposited Plan 201643, Meerup, for the purpose of pasture, fire prevention maintenance and land health. In assessing the original clearing permit application, the Department of Water and Environmental Regulation (DWER) sought external advice from the Department of Primary Industries and Regional Development via the Commissioner of Soil and Land Conservation (CSLC) and requested for fauna surveys to be undertaken for parts of the application area.

The CSLC was of the opinion that the intended clearing of the riparian vegetation along the waterway is likely to cause land degradation in the form of water erosion of the stream banks and overland flows, and clearing on soil mapped as soil type 'Minor Valleys S4 Subsystem' (Mapping unit 254NfS4) was seriously at variance to clearing principle (g) for land degradation in the form of eutrophication and waterlogging (CSLC, 2018).

The DWER's South West Region advised that due to the large size of the proposed clearing, being located directly over a waterway and slope of the area; the proposed clearing poses a high risk in terms of erosion, sediment transport and turbidity, particularly during large storm events. As the waterway riparian zone would be removed, stock would have direct access to the waterway that would result in nutrient and pathogen input into the water resource. Furthermore removal of the nutrient attenuating riparian vegetation would result in greater nutrient input from the grazing land-use. The Department's Water Quality Protection Note 6 – Vegetation Buffers to Sensitive Water Resources states that 'Vegetated buffers are key strategic elements among a series of protection barrier options that reduce the risk of contaminant impact on water quality'. Therefore to protect the water quality of the resource, the DWER's South West Region recommends the retention of this riparian vegetation where appropriate (DWER, 2018b).

A site inspection by DWER identified that the application area may comprise significant breeding and foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*) (collectively known as black cockatoos); several potential hollow-bearing habitat trees were observed on site (DWER, 2018a).

The Delegated Officer wrote to the applicant on 14 December 2018 and advised of the identified impacts. DWER also advised that based on the site inspection report and subsequent advice from CSLC (CSLC, 2018) that a 4.7 hectare area was unlikely to be granted due to land degradation issues and the requirement to maintain appropriate vegetation buffers along a watercourse,

and that a black cockatoo habitat survey was required for a 13.3 hectare area within the application area, prior to a clearing permit being granted. A four hectare area within the application area that consisted of a plantation area with regrowth vegetation (Figure 2 Photo 4) was identified as unlikely to lead to an unacceptable risk to the environment.

Based on this advice, the applicant provided a black cockatoo habitat tree assessment report for the 13.3 hectare area and advised that they will avoid the area mapped as soil unit 254NfS4 and will maintain the recommended buffer along the watercourse. The applicant therefore revised the application area to 21.4 hectares (Pratt, 2019).

DWER sought further advice from CSLC on the revised area. The CSLC advised that the reduction in the application by excluding the area mapped as 254NfS4 and the retention of a sufficient vegetation buffer along the watercourse has likely minimised the risk of land degradation and concluded that the proposed clearing is unlikely to be at variance with principle (g) for land degradation (CSLC, 2019).

The black cockatoo habitat tree assessment report confirmed that although 13.3 hectares within the application area comprises suitable foraging and breeding habitat for endangered black cockatoos, very minimal evidence of use was recorded, indicating that the application area is not likely to be a preferred site for black cockatoo foraging, however one suitable nesting tree was identified (Brown, 2019), which indicates that there is a likelihood of this tree being utilised for nesting in the future.

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is not likely to be at variance to this principle

According to available databases, six Priority flora species have been recorded within the local area.

These priority flora species are associated with wet areas, particularly along watercourses. Noting that the applicant will be retaining a riparian vegetation buffer along the watercourse, the proposed clearing is not likely to have a significant impact on conservation significant flora species.

As assessed under principle (b), the application area comprises foraging and breeding habitat for endangered black cockatoos. Black cockatoo foraging evidence was observed in the vicinity of the application area during the site inspection (DWER, 2018a). The black cockatoo habitat tree assessment found 73 potential black-cockatoo breeding habitat trees, with 15 of these initially identified as having hollows. A further inspection of the 15 potential tree hollows identified one hollow as being suitable for black-cockatoo nesting. There was no evidence of current or previous use of this hollow by black-cockatoo species (Brown, 2019). Very minimal evidence of black cockatoo foraging was also recorded within the application area, however foraging signs were observed outside the application area in adjacent State Forest (Brown, 2019). Noting the presence of better quality foraging habitat in the local area and that the local area retains 75 per cent native vegetation cover, the proposed clearing is not likely to have a significant impact on foraging habitat for these species.

As assessed under principle (c), no Threatened flora species have been recorded within the local area.

No priority or threatened ecological communities have been recorded within the local area.

Given the above, the proposed clearing is not likely to impact upon priority or Threatened flora, TECs or PECs. Therefore, the application area is not likely to comprise a high biological diversity and the proposed clearing is not likely to be at variance to this principle.

Weed and dieback management practices will help mitigate impacts to adjacent State Forest.

(b) 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 indigenous to Western Australia.

Proposed clearing is not likely to be at variance to this principle

According to available databases, 11 Threatened fauna species, five priority fauna species and one other specially protected fauna species have been recorded within the local area (DBCA, 2007-).

Noting the habitat requirements of these species, and the type and condition of the vegetation within the application area, the application area may comprise suitable habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus baudinii*) (collectively known as black cockatoos).

Carnaby's cockatoo and Baudin's cockatoo are listed as endangered and forest red-tailed cockatoo is listed as vulnerable under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Black cockatoos nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012). A site inspection identified a number of trees within the application area that fit the criteria for black cockatoo breeding habitat, having a diameter at breast height (DBH) of more than 50 centimetres. A number of these contained hollows that may provide suitable nesting habitat for the black cockatoos (DWER, 2018a).

A black cockatoo habitat tree assessment of parts of the application area noted that the north-eastern section of the application area consist of Karri forest, which is marginal foraging habitat for forest red-tailed black cockatoos. Parts of the study area adjacent to the plantation (Red outline in Figure 1) and the western boundary of the study area contain numerous Marri trees which are suitable for foraging by the black cockatoos (Brown, 2019).

No existing roost sites were positively identified through indirect evidence like branch clippings, droppings or moulted feathers. The study area was also observed in the late afternoon to try and find direct evidence of roosting black-cockatoo species, with none recorded (Brown, 2019).

A total of 73 trees were recorded in the application area (excluding the plantation area), with a diameter at breast height over 500 millimetres. Of these trees, only 15 appeared to have hollows that may be suitable for black-cockatoo species. On inspecting the 15 trees, it was determined that only one marri tree had a hollow suitable for use by black-cockatoo species. The remaining 14 trees were considered to be unsuitable due to factors like not deep enough, full of debris, or were not actually hollows. The inspection of the suitable tree hollow showed no sign that it has previously been used by breeding cockatoos (Brown, 2019). However, there is a risk that the hollow could commence being used by black cockatoos prior to clearing. The requirement to check this nesting tree prior to clearing will ensure that fauna is not impact through the clearing process.

The local area retains approximately 75 per cent native vegetation and the vegetation adjacent to the application area comprises better quality foraging habitat for black cockatoos, contained within conservation estate. Noting this and the findings of the black cockatoo habitat tree assessment, the proposed clearing is not likely to have a significant impact on foraging habitat for these species.

Given the above, the proposed clearing may be at variance to this principle.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, Threatened flora.

Proposed clearing is not likely to be at variance to this principle
No Threatened flora species have been recorded within the local area.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(d) 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.

Proposed clearing is not likely to be at variance to this principle
No threatened ecological communities (TEC) have been recorded within the application area, nor in the local area.

The application area is not likely to comprise the whole or part of, or be necessary for the maintenance of, a TEC.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Proposed clearing is not likely to be at variance to this principle
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

In assessing the risk of further loss and subsequent cumulative effects, consideration has been given to the extent of native vegetation remaining and what is currently managed as conservation estate:

- as indicated in Table 1, the current vegetation extents for the bioregion, Shire of Manjimup and mapped vegetation complexes within the bioregion are all above the 30 per cent threshold;
- as indicated in Table 1,over 70 per cent of the pre-European extent of mapped vegetation complexes within the bioregion is contained in conservation estate (except S4, which occurs only within 1 per cent of the application area); and
- the local area retains approximately 75 per cent (25.457.85 hectares) vegetative cover, and the proposed clearing will reduce this by approximately 0.06 per cent.

The application area is not likely to contain high biodiversity or significant fauna habitat and therefore is not considered to be a significant remnant. Therefore, the proposed clearing is not likely to be at variance to this principle.

Table 1: Vegetation representation statistics (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Warren	833,985.56	658,438.59	79.07	557,850.14	66.89
Local government					
Shire of Manjimup	697,368.15	586,344.84	84.08	550,219.89	81.42
Mattiske Vegetation Complex in Bioregion					
Collis 1 (COy1)	23,057.01	19,028.01	82.53	16,984.30	73.66
Broad Swamps (S4)	1,568.97	866.90	55.25	373.55	23.81
Granite Valleys (S1)	25,606.64	21,661.73	84.59	19,515.82	76.21
Blackwater (BWp)	33,366.66	28,260.20	84.70	25,733.73	77.12
Local area					
10 kilometre radius	34,036.60	25,457.85	74.80	-	-

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not likely to be at variance to this principle

According to available databases, the original application area is intersected by a minor non-perennial watercourse (Figure 1). A 30 metre vegetation buffer along the mapped watercourse has beenmaintained.

Given this, the vegetation within the modified appliciaton area does not consist of riparian vegetation and therefore, the proposed clearing is not likely to be at variance to this principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this principle

Two soils types have been mapped within the application area which are described as:

- Collis yellow duplex Phase, described as gravelly yellow duplex soils; Jarrah-Marri forest (Approximately 80 per cent of the application area)
- Minor Valleys S1 Subsystem (Northcliffe): Valleys in granitic terrain, narrow swampy floor; <20 m relief. Gravelly yellow duplex soils on smooth flanks; Jarrah-Marri-Karri forest. Peaty soils on narrow floor; Wattle low forest. (Approximately 20 per cent of the application area) (DPIRD, 2017).

Table 2: Land degradation risk levels

Risk categories	Collis yellow duplex Phase	Minor Valleys S1 Subsystem (Northcliffe)
Wind erosion	10-30% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	10-30% of map unit has a high to extreme water erosion risk	30-50% of map unit has a high to extreme water erosion risk
Salinity	30-50% of map unit has a moderate to high salinity risk or is presently saline	30-50% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	10-30% of map unit has a high subsurface acidification risk or is presently acid	3-10% of map unit has a high subsurface acidification risk or is presently acid
Subsurface compaction	30-50% of the map unit has a high subsurface compaction risk	10-30% of the map unit has a high subsurface compaction risk
Flood risk	<3% of the map unit has a moderate to high flood risk	10-30% of the map unit has a moderate to high flood risk
Waterlogging	<3% of map unit has a moderate to very high waterlogging risk	10-30% of map unit has a moderate to very high waterlogging risk
Water repellence	3-10% of map unit has a high water repellence risk	10-30% of map unit has a high water repellence risk
Phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk	30-50% of map unit has a high to extreme phosphorus export risk

Based on the mapped land degradation risk outlined above, the proposed clearing has a relatively low likelihood of causing wind erosion, water erosion, flooding and waterlogging.

There is a moderate to high risk of increasing groundwater salinity, however is not likley to be significant given the amout of native vegetation retained in the local.

Therefore, the proposed clearing is not likely to be at variance to this principle.

(h) 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.

Proposed clearing may be at variance to this principle

According to available databases, the nearest conservation area is Warren State Forest, which borders the northern and eastern ends of the application area.

An ecological linkage, defined by the South West Regional Ecological Linkage Report (Molloy et al., 2009) is mapped approximately 1.4 kilometres east of the application area. This conceptual linkage runs north-south and given the presence of better quality remnant vegetation within Warren State Forest east of the application area, the proposed clearing it is not likely to impact on the functionality of this linkage.

Noting the above, the proposed clearing may impact on the environmental values of Warren State Forest through the introduction and spread of weeds and dieback. Weed and dieback management practices will assist in managing these impacts.

Given the above, the proposed clearing may be at variance to this principle.

(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.

Proposed clearing is not likely to be at variance to this principle

According to available databases, a minor perennial watercourse intersects the original application area, however a 30 metre vegetation buffer has been placed along this watercourse, which will minimise any impacts to water quality along the watercourse.

Groundwater salinity within the application area is mapped between 500 - 1000 milligrams per litre total dissolved solids which is considered to be marginal. Given the low salinity levels and the mapped soil types within the revised application area, the proposed clearing is not likely to cause deterioration in the quality of underground water in the form of salinity.

Given the above, the proposed clearing is not likely to be at variance to this principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this principle

As discussed in principle (g), the soils within the application area ranges from gravelly yellow duplex soils to granitic terrain to peaty soils (Schoknecht et al., 2004). These soils have a very low risk of flooding. The Commissioner for Soil and Land Conservation advised that the removal of remnant vegetation from the application areas is not expected to contribute to flooding (CSLC, 2018).

Given the above, the proposed clearing is not likely to be at variance to this principle.

Planning instruments and other relevant matters.

The original application was to clear up to 26 hectares of native vegetation within the above mentioned property. During the assessment, the application was reduced to 21.4 hectares to avoid appreciable land degradation in the form of water erosion of the stream banks and overland flows, waterlogging and eutrophication.

The revised application area is located within the Warren River and Tributaries Surface Water Area as proclaimed under the *Rights in Water and Irrigation Act 1914*.

The Shire of Manjimup advised that proposed clearing for the purposes specified does not require local government planning approval and that the application area is zoned as 'general Agriculture' under the Local Planning Scheme No. 4 (Shire of Manjimup, 2018). However, if the applicant proposes to undertake silvicultural thinning for commercial purposes on parts of the application area, the applicant may require an approved forest management plan from the Shire of Manjimup. To clarify, the applicant is advised to contact the Shire's Statuary Planning Section on 9771 7777.

If the applicant intends to sell timber resulting from the proposed clearing, a Commercial Producer's (PN) licence under the *Biodiversity Conservation Act 2016* to sell protected (native) flora in the form of timber, taken from, or grown and cultivated on, private property will be required. To obtain a PN licence please contact the Department of Biodiversity, Conservation and Attractions Wildlife Licensing Section on telephone (08) 9219 9836, or email wildlifelicensing@dbca.wa.gov.au, or view the Wildlife Licensing Section's website at www.dbca.wa.gov.au.

No Aboriginal sites of significance have been mapped within the revised application area.

The clearing permit application was advertised on the DWER website on 26 September 2018 with a 21 day submission period. No public submissions have been received in relation to this application.

5. References

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Commissioner of Soil and Land Conservation (CSLC) (2019) Additional advice from Buddy Wheaton for revised clearing permit area for CPS 8157/1; received on 7 March 2019; Department of Agriculture and Food Western Australia (DWER Ref: A1770030).

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Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.

Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.

Pratt, Morina (2019) Email correspondence from applicant agreeing to modify the application area to exclude riparian vegetation buffer along watercourse and mapped soil type 254NfS4. Received by DWER on 1 March 2019 (DWER Ref: A1769316).

Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.

Shire of Manjimup (2018) Supporting Information for clearing permit application CPS 8157/1. Shire of Manjimup. Received by DWER on 27 September 2018 (DWER Ref: A1724724).

6. GIS Datasets

- Aboriginal Sites of Significance
- Clearing Regulations - Environmentally Sensitive Areas
- Carnaby's cockatoo: breeding, roosting, feeding
- Department of Biodiversity Conservation and Attractions, Tenure
- Geomorphic Wetlands, Swan Coastal Plain
- Groundwater salinity, statewide
- Swan Coastal Plain – vegetation Complex
- Hydrology, linear
- IBRA Australia
- Land for Wildlife
- PDWSA, CAWSA, RIWI Act Areas
- Remnant vegetation
- SAC Biodatasets (accessed January 2019)
- Soils, statewide
- Town Planning Scheme Zones