



## 1. Application details

### 1.1. Permit application details

Permit application No.: 7842/1  
Permit type: Area Permit

### 1.2. Applicant details

Applicant's name: Mr Justin Vivian Leeder  
Ms Leanne Joy Leeder  
Application received date: 31 October 2017

### 1.3. Property details

Property: LOT 123 ON DEPOSITED PLAN 65119, MUCKENBURRA  
Local Government Authority: Gingin, Shire of  
Localities: Muckenburra

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
4.1		Mechanical Removal	Grazing and pasture

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 29 October 2018  
Reasons for Decision: The clearing permit application was received on 31 October 2017 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 is not likely to be at variance to any of the clearing principles.

The applicant has avoided and minimised impacts through reducing the proposed clearing from 9.99 hectares to 4.1 hectares and avoiding native vegetation that may comprise the Banksia Dominated Woodlands of the Swan Coastal Plain threatened ecological community (TEC). Weed and dieback management practices will help mitigate indirect impacts to native vegetation occurring adjacent to the application area that may comprise the TEC.

Given the above, the Delegated Officer decided to grant a clearing permit subject to avoid/minimise and dieback and weed management 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 4.1 hectares of native vegetation within Lot 123 on Deposited Plan 65119, Muckenburra, for the purpose of grazing and pasture (figure 1).

**Vegetation Description** The vegetation within each application area is mapped as Bassendean Complex-North, described as vegetation ranges from low open forest and low open woodland of *Banksia* species, *Eucalyptus todtiana* (Pricklybark) to low woodland of *Melaleuca* species and sedgeland which occupy the moister sites (Government of Western Australia, 2018).

**Vegetation Condition** Degraded; Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).  
to  
Completely degraded; The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

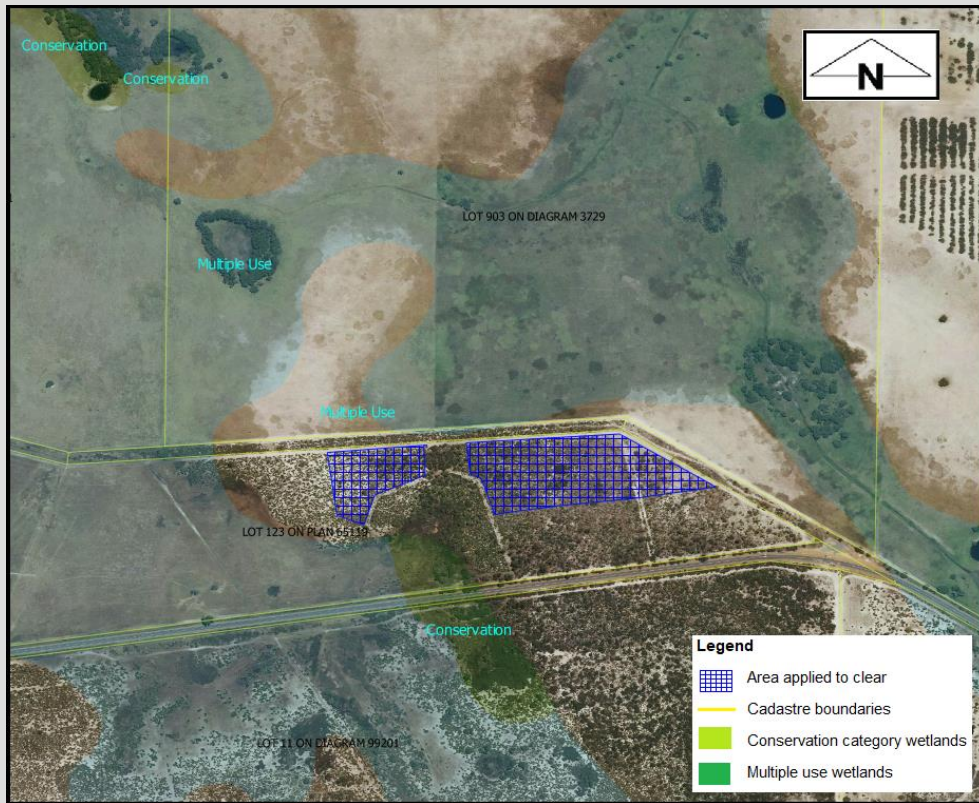
The vegetation condition of the application area was determined through a site inspection undertaken by the Department of Water and Environmental Regulation (DWER) officers (DWER, 2017).

**Soil and Landform Type:** The application area is mapped as:  
Bassendean, Phase 9 (212Bs\_\_9), described as Humic dark grey swamp soils (25% of the application area)  
And as

Bassendean, Phase 7 (212Bs\_\_7), described as Bleached sands (75% of the application area) (Schoknecht et al., 2004).

**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 36 per cent native vegetation cover.



**Figure 1: Application area**



*Photo 1: Dead or dying Banksia sp. within the application area*



*Photos 2: Degraded vegetation showing dead Banksia sp. and scarce understorey*

**Figure 2: Photographs of vegetation within the application area**

### **3. Minimisation and mitigation measures**

The original application proposed to clear 9.99 hectares of native vegetation within Lot 123 on deposited Plan 65119, Muckenburra, for the purpose of grazing and pasture. 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 the Department of Biodiversity, Conservation and Attractions (DBCA).

The CSLC was of the opinion that the proposed clearing of 9.99 hectares is seriously at variance to clearing principle (g) for land degradation in the form of eutrophication, waterlogging, salinity and wind erosion (CSLC, 2018a).

A site inspection by DWER and advice from the DBCA indicated that parts of the original application area may meet the criteria for the Banksia Dominated Woodlands of the Swan Coastal Plain (Banksia Woodlands) threatened ecological community (TEC), which is listed as endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (DBCA, 2018; DWER, 2017). The DBCA further advised that a floristic survey would need to be undertaken to assess the vegetation against the Approved Conservation Advice for the TEC to determine the extent of the TEC within the application area (DBCA, 2018).

The Delegated Officer wrote to the applicant on 8 May 2018 and advised of the identified impacts. DWER also advised that based on the site inspection report and subsequent advice from CSLC that a 2.3 hectare area within the application area was identified as unlikely to lead to an unacceptable risk to the environment.

Based on this advice, the applicant revised the application area to 7.1 hectares. The area was digitised through assessment at confirmed as 6.94 hectares of native vegetation.

DWER sought further advice from CSLC on the revised area. The CSLC advised that the reduction in the application area and the removal of the area mapped as 212Bs\_9 will leave a sufficient 100 metre buffer from a drainage that flows towards the Gingin brook and has likely minimised the nutrient export risk and concluded that the proposed clearing is unlikely to be at variance with principle (g) for land degradation (CSLC, 2018b).

On 5 July 2018, the Delegated Officer wrote to the applicant and advised that the proposed clearing of 6.94 hectares was not likely to be at variance to principle (g). The DWER Delegated Officer also advised that vegetation within the application area may represent the Banksia Woodlands TEC and a floristic survey would be required prior to a clearing permit being granted. The Delegated Officer advised that if the applicant were to reduce the application area down to 4.1 hectares area identified in map was identified as unlikely to lead to an unacceptable risk to the environment.

On 10 July 2018, the applicant advised that they would avoid the parts of the application area that required floristic surveys for the TEC and would proceed with the 4.1 hectare area identified by DWER (Leeder, 2018).

The applicant has also proposed to retain all *Nuytsia floribunda* trees within the proposed clearing area with a small natural bush area around them to prevent stock damage, and to retain most of the larger trees for stock shelter (Leeder, 2017).

#### 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, one rare flora species and 15 priority flora species have been recorded within the local area. Based on the mapped soil and vegetation types within application area, one rare flora species, one Priority 1 flora species (being species that are known from one or a few locations (generally five or less) which are potentially at risk (Jones, 2015)); five Priority 2 flora species (being species that are known from a few populations, some occurring within conservation lands such as nature reserves or national parks (Jones, 2015)); two Priority 3 flora species (being species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat (Jones, 2015)); and four Priority 4 flora species (being species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change (Jones, 2015)), could potentially occur within the application area:

- *Grevillea evanescens* (Priority 1) is known from a total of 15 records in the Gingin area, at sites generally associated with brown sandy soils in winter wet flats, with *Eucalyptus rudis* - *E. calophylla* woodland over tall shrubland (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 350 metres from the application area. Noting the degraded condition of the vegetation within the application area and the occurrence of better quality vegetation in the local area, the proposed clearing is not likely to impact the conservation status of this species should any individuals occur within the application area.
- *Anigozanthos humilis* subsp. *Badgingarra* (*S.D. Hopper 7114*) (Priority 2) is known from a total of 21 records between Gingin and Dandaragan, in swampy areas with grey sandy soils with open low woodlands over open shrubland (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 700 metres from the application area. Noting the type and condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Verticordia lindleyi* subsp. *lindleyi* (Priority 4) is known from a total of 81 records between Cervantes and Busselton, in open flats associated with sandy clay soils and low *Banksia* heathland (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 2.4 kilometres from the application area. Noting the number of records of this species and the type and condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Isotropis cuneifolia* subsp. *glabra* (G.J. Keighery 13459) (Priority 2) is known from a total of 17 records between Dandaragan and Gosnells, associated with winter wet flats with sandy-clayey-loamy soils and *Melaleuca* spp. and *Eucalyptus rudis* low open forest over sedges (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 3.2 kilometres from the application area. Noting the distribution of this species and the degraded condition of the application area, this species is not likely to occur within the application area.
- *Blennospora doliiformis* (Priority 3) is known from a total of 15 records between Gingin and Augusta, at sites generally associated with seasonally wet brown sands or grey/red clay soils with *Melaleuca lateriflora* shrubland over *Drosera rosulata* and *Stylidium bulbiferum* (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 3.8 kilometres from the application area. Noting the distribution of this species, the type and condition of the vegetation within the application area and the presence of better quality vegetation in the local area, this species is not likely to occur within the application area.

- *Leucopogon squarrosus* subsp. *trigynus* (Priority 2) is known from a total of 16 records between Gingin and Chittering, in low-laying flats with grey sandy soils, associated with Banksia woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately five kilometres from the application area. Noting the distance to this record and the condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Drosera occidentalis* (Priority 4) is known from a total of 19 records between Gingin and Collie, generally found in swampy flats with brown/grey clay/sand, in association with *Drosera gigantea* and *Drosera menziesii* (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 7.5 kilometres from the application area. Noting the distance to this record, the distribution of the species and the condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Caladenia speciosa* (Priority 4) is known from a total of 59 records between Dandaragan and Busselton, in winter damp flats having grey or black sands with tall shrublands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 7.6 kilometres from the application area. Noting the distribution of this species and the presence of better quality vegetation in the local area, this species is not likely to occur within the application area.
- *Haloragis aculeolata* (Priority 2) is known from a total of 6 records in the Gingin, Wandering and Harvey areas, in winter wet areas with black sandy soils with open low woodlands with scattered shrubs and herbs (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 7.7 kilometres from the application area. Noting the type and condition of the application area and the presence of better quality vegetation in the local area, the proposed clearing is not likely to impact the conservation status of this species should any individuals occur within the application area.
- *Rumex drummondii* (Priority 4) is a perennial herb known from a total of 18 records between Dandaragan and Albany, in association with winter wet areas having black sandy soils with Eucalyptus tall forest over sedges (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 8.4 kilometres from the application area. Noting the distribution of this species, the type and condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Eryngium pinnatifidum* subsp. *Umbraphilum* (G.J. Keighery 13967) (Priority 2) is known from a total of five records between Gingin and Murray, in winter wet flat areas with black calcareous mud over low woodland over sedges (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 8.5 kilometres from the application area. Noting the degraded condition of the vegetation within the application area and the occurrence of better quality vegetation in the local area, the proposed clearing is not likely to impact the conservation status of this species should any individuals occur within the application area.
- *Dillwynia dillwynioides* (Priority 3) is known from a total of 38 records between Dandaragan and Murray in association with winter wet flats having sandy soils with open low woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 9.6 kilometres from the application area. Noting the distribution of this species, the type and condition of the vegetation within the application area, this species is not likely to occur within the application area.
- *Drakaea elastica* (Threatened) is a perennial herb known from a total of 18 records between Dandaragan and Busselton, in association with winter wet areas and open low woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 9.6 kilometres from the application area. Noting the distribution of this species, the type and condition of the vegetation within the application area and the presence of better quality vegetation in the local area, this species is not likely to occur within the application area.

As assessed under Principle (b), the application area comprises foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*). Black cockatoo foraging evidence was observed in the vicinity of the application area during site inspection (DWER, 2017). Noting that the local area retains 36 per cent native vegetation cover, the type and condition of the vegetation within the application area and the presence of better quality foraging habitat in the local area, the proposed clearing is not likely to have a significant impact on foraging habitat for these species.

As assessed under Principle (c), one rare flora species has been recorded within the local area. As noted above, this rare flora species is not likely to occur within the application area.

As assessed under Principle (d), the vegetation within the application is not likely to be representative of the Banksia Woodlands TEC. However, the proposed clearing may indirectly impact on an occurrence of the Banksia Woodlands TEC located adjacent to the application area, through edge effects including the spread of weeds and dieback.

Given the above, the proposed clearing will not impact upon priority flora and will not impact rare flora and the occurrence of a TEC or PEC. Therefore, the application area may not be considered 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 vegetation adjacent to the application area which may comprise the Banksia Woodlands TEC.

**(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, eight threatened fauna species, two priority fauna species, seven fauna species protected under international agreement and one 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*).

Carnaby's cockatoo is listed as endangered under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Carnaby's cockatoos have a preference for foraging habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp., *Hakea* sp. and *Grevillea* sp. (Commonwealth of Australia, 2012). The application area predominantly consists of dead or dying *Banksia* sp. and therefore provides minimal foraging values for Carnaby's cockatoos (DWER, 2017). Black cockatoo foraging evidence by way of chewed *Banksia* cones were observed in the better quality vegetation adjacent to the application area (DWER, 2017).

The local area retains approximately 36 per cent native vegetation and the vegetation adjacent to the proposed clearing comprise better quality foraging habitat for Carnaby's cockatoos. Therefore the application area is not likely to comprise significant habitat for Carnaby's cockatoo.

The application area is not likely to comprise suitable habitat for conservation significant fauna species, and is not likely to comprise significant habitat for indigenous fauna.

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

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

**Proposed clearing is not likely to be at variance to this Principle**

According to available databases, one rare flora species has been recorded within the local area. This species is *Drakaea elastica*, (Glossy-leaved Hammer Orchid), a perennial herb known from a total of 18 records between Dandaragan and Busselton, in association with winter wet areas and open low woodlands (Western Australian Herbarium, 1998-). The nearest record of this species is approximately 9.6 kilometres from the application area.

Noting the distribution of this species, the type and condition of the vegetation within the application area and the presence of better quality vegetation in the local area, this species is not likely to occur within the application 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**

According to available databases, three threatened ecological communities (TEC) have been recorded in the local area.

The application area is mapped as the ecological community 'Banksia Dominated Woodlands of the Swan Coastal Plain', listed as 'Priority 3(iii)' by DBCA, and as an 'Endangered' TEC under the EPBC Act. The Approved Conservation Advice for this TEC specifies a number of key diagnostic criteria for vegetation to be considered representative of this TEC (TSSC, 2016). The site inspection undertaken by DWER officers noted that a majority of the Banksia trees within the current application area were either dead or dying (Figure 2). The death seemed to be spreading from northern section of the application area to the southern end (DWER, 2017).

Noting these criteria, the vegetation within the application area is not likely to meet the condition threshold or minimum patch size requirements published by the Threatened Species Scientific Committee (TSSC, 2016) to be classified as this TEC.

The other TECs mapped in the local area occur more than 3.5 kilometres from the application area. Noting the species composition of these TECs and the type and condition of the vegetation within the application area, the application area is not likely to comprise these TECs. 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).

The application area is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and within the Shire of Gingin, which retains approximately 578,432 hectares (39 per cent) and 176,542 hectares (55 per cent) of its pre-European vegetation extents respectively (Government of Western Australia, 2018).

The application area is mapped as Swan Coastal Plain Vegetation Complex, "Bassendean Complex-North", which retains approximately 56,576 hectares (71 per cent) of its pre-European vegetation extent within the Swan Coastal Plain IBRA bioregion (Government of Western Australia, 2018).

The local area (10 kilometre radius) retains approximately 11,903 hectares (36 per cent) native vegetation.

The application area is not likely to contain high biodiversity or significant fauna habitat and therefore is not considered to be a significant remnant.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in All DBCA-Managed Land (proportion of Current Extent) (%)	Current Extent in All DBCA-Managed Land (proportion of Pre-European Extent) (%)
<b>IBRA Bioregion</b>					
Swan Coastal Plain	1,501,221	578,432	39	38	15
<b>Local government authority</b>					
Shire of Gingin	319,676	176,542	55	47	28
<b>Swan Coastal Plain Vegetation Complex</b>					
Bassendean Complex-North	79,057	56,576	71		39

**(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, one conservation category wetland and one multiple use wetland occur within 50 metres of the application area (Figure 1). The site inspection observed riparian vegetation associated with these wetlands and also a drainage line that runs through the two areas. A majority of the riparian vegetation associated with the wetland has been fenced off, with no riparian vegetation occurring within the application area.

Noting the type and condition of the vegetation within the application area, the extent of the proposed clearing, the proposed clearing is not likely to impact on vegetation growing in association with a wetland.

Given the above, 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 (Schoknecht et al., 2004):

- Bassendean, Phase 9: Humic dark grey swamp soils.
- Bassendean, Phase 7: Bleached sands.

Risk categories	<i>Bassendean, Phase 9</i>	<i>Bassendean, Phase 7</i>
Wind erosion	<3% of map unit has a high to extreme wind erosion risk	>70% of map unit has a high to extreme wind erosion risk
Water erosion	>70% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk
Salinity	<3% 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	>70% of map unit has a high subsurface acidification risk or is presently acid	<3% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	>70% of the map unit has a moderate to high flood risk	>70% of the map unit has a moderate to high flood risk
Water logging	>70% of map unit has a moderate to very high waterlogging risk	>70% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	>70% of map unit has a high to extreme phosphorus export risk	>70% of map unit has a high to extreme phosphorus export risk

The above mentioned mapped soil types have a moderate to very high risk of water logging and high to extreme risk of eutrophication. The bleached sandy soils (Bassendean, Phase 7) which is predominant within the application area has a high to extreme risk of wind erosion.

The Commissioner of Soil and Land Conservation (CSLC) advised that the reduction in the application area from 9.99 to 4.1 hectares reduced the risk of land degradation in the form of wind erosion and waterlogging, and that eutrophication is likely to be moderated in the revised application area (CSLC, 2018b). The CSLC concluded that the proposed clearing is unlikely to be at variance with principle (g) for land degradation (CSLC, 2018b).

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

The applicant proposes to retain most of the larger trees for stock shelter in the proposed clearing area (Leeder, 2017), which will further assist in reducing the risk of wind erosion.

**(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 is not likely to be at variance to this Principle**

According to available databases, the nearest conservation areas include Yeal Nature Reserve, Gngangara-Moore River State Forest, Bootine Nature Reserve, Yurine Swamp Nature Reserve and Boonanarring Nature Reserve, located more than five kilometres from the application area.

An ecological linkage, defined by the Gngangara Sustainable Strategy (GGS) (Brown et al., 2009) is mapped approximately 800 metres north of the application area. This linkage runs east-west and is a conceptual linkage along the Moore River and Gingin Brook catchments. Vegetation within the application area may support this linkage across the multiple use wetland north of the application area, however given its location and that the vegetation is part of a larger remnant with better quality vegetation, the proposed clearing will not sever it.

Noting the distance to the conservation reserves in the local area, the proposed clearing is not likely to impact on the environmental values of aforementioned conservation areas.

Given the above, the proposed clearing is not likely to 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, one conservation category wetland and one multiple use wetland occurs within 50 metres of the application area (Figure 1) and a minor non perennial watercourse is mapped 250 metres west from the application area.

The proposed clearing may increase run-off and sedimentation into the adjacent wetlands and possibly the watercourse, however this impact is likely to be minimal and short term and therefore is not likely to cause deterioration in the quality of surface or underground water.

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 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 range from bleached sand to humic dark grey swamp soils (Schoknecht et al., 2004). These soils have a moderate to high risk of flooding. However, 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, 2018a).

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

**Planning instruments and other relevant matters.**

The original application was to clear up to 9.99 hectares of native vegetation within the above mentioned property. During the assessment, the application was reduced to 4.1 hectares to avoid appreciable land degradation in the form of wind erosion, waterlogging and eutrophication, impacts to the Banksia Woodlands TEC and impacts to nearby wetlands.

The revised application area is located within the Gingin Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914*, where there may be a requirement to obtain a licence to take water. The applicant does not require a licence to take groundwater should the proposed pasture be unirrigated.

The applicant indicated that he may sell grass trees removed during the clearing activity. A Commercial Producer's (PN) Licence is required if you are proposing to sell whole plants that are from private property, and is required under the *Wildlife Conservation Act 1950*. A Commercial Producer's (PN) Licence can be obtained from the Department of Biodiversity, Conservation and Attractions (DBCA) Parks and Wildlife Service.

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

The clearing permit application was advertised on the DWER website on 28 November 2017 with a 21 day submission period. No public submissions have been received in relation to this application.

## 5. References

- Brown, P.H., Davis, R.A., Sonneman, T. and Kinloch, J. (2009) Ecological linkages proposed for the Gngangara groundwater system. Gngangara Sustainable Strategy. Available from [https://www.water.wa.gov.au/\\_\\_data/assets/pdf\\_file/0003/4647/86231.pdf](https://www.water.wa.gov.au/__data/assets/pdf_file/0003/4647/86231.pdf)
- Commissioner of Soil and Land Conservation (CSLC) (2018a) Land Degradation Advice and Assessment Report for clearing permit application CPS 7842/1 received 7 February 2018; Department of Agriculture and Food Western Australia (DWER Ref. A1608068).
- Commissioner of Soil and Land Conservation (CSLC) (2018b) Additional advice from Buddy Wheaton for revised clearing permit area for CPS 7842/1; received 5 April 2018; Department of Agriculture and Food Western Australia (DWER Ref. A11657403).
- 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, Populations and Communities, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2007- ) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed August 2017.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2018) TEC advice for Clearing Permit CPS 7842/1. Western Australia (DWER Ref: A1601597).
- Department of Water and Environmental Regulation (DWER) (2017) Site inspection report for clearing permit application CPS 7842/1, undertaken 14 December 2017 (DWER Ref: A1657397).
- Government of Western Australia (2018) 2017 South West Vegetation Complex Statistics. Current as of October 2017. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>
- Jones, A. (2015) Threatened and Priority Flora List, 11 November 2015. Department of Parks and Wildlife: Kensington, WA.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Leeder, Justin (2017). Email correspondence from applicant indicating the intension to retain trees within the application area. Received by DWER on 20 December 2017 (DWER Ref: A1583040).
- Leeder, Justin (2018) Email correspondence from applicant indicating to proceed with the revised application area. Received by DWER on 10 July 2018 (DWER Ref: A1702205).
- 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.
- Threatened Species Scientific Committee (TSSC) (2014). Approved Conservation Advice for Proteaceae Dominated Kwongkan Shrublands of the southeast coastal floristic province of Western Australia. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/126-conservation-advice.pdf>.
- Western Australian Herbarium (1998-). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> Accessed August 2018.

## 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 August 2018)
- Soils, statewide
- Town Planning Scheme Zones