



## Decision Report

### 1 Application details and outcome

#### 1.1. Permit application details

<b>Permit number:</b>	CPS 9000/1
<b>Permit type:</b>	Area permit
<b>Applicant name:</b>	Christopher Lee Davidson
<b>Application received:</b>	6 August 2020
<b>Application area:</b>	0.5 hectares (ha) of native vegetation
<b>Purpose of clearing:</b>	Expanding a wholesale nursery
<b>Method of clearing:</b>	Mechanical Removal
<b>Property:</b>	Lot 25 on Plan 12671, Wundowie
<b>Location (LGA area/s):</b>	Shire of Northam
<b>Localities (suburb/s):</b>	Wundowie

#### 1.2. Description of clearing activities

The vegetation applied to be cleared is contained within a single contiguous area, surrounding the infrastructure of an existing plant nursery (see Figure 1, Section 1.3). The clearing will involve the removal of 0.5 hectares of native vegetation to expand the nursery operations.

#### 1.3. Decision on application

<b>Decision:</b>	Refused
<b>Decision date:</b>	19 February 2021
<b>Decision area:</b>	0.5 hectares of native vegetation as depicted in Section 1.5, below.

#### 1.4. Reasons for decision

The Delegated Officer decided to refuse to grant a clearing permit. In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix E.1), the findings of a site inspection (see Appendix D), the clearing principles set out in Schedule 5 of the *Environmental Protection Act 1986* (EP Act) (Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3.3). Consideration of planning instruments and other relevant matters when making a decision on a clearing permit application is a requirement under section 51O(4) of the EP Act.

During the assessment of the application the Shire of Northam advised that additional planning approvals would be required for the proposed expansion of the plant nursery. To date, a valid Development Approval relating to the proposed expansion has not been provided by the applicant. The Delegated Officer considered that the absence of a valid Development Approval from the Shire of Northam is a relevant consideration as, should this approval not be given, there would be no reason for the clearing to occur.

DWER offered the applicant the opportunity to obtain the required planning approvals while assessment of the clearing permit application was placed on hold. On 5 February 2021 the applicant requested that DWER proceed directly to a decision on the application based upon the available information. The Delegated Officer has therefore determined to refuse to grant a clearing permit.

## 1.5. Site map



Figure 1. Map of the application area

## 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)
- *Planning and Development Act 2005* (WA) (P&D 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)

### **3 Detailed assessment of application**

#### **3.1. Avoidance and mitigation measures**

No evidence of avoidance or mitigation measures was provided to support the application.

#### **3.2. Assessment of impacts on environmental values**

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 Appendix B) identified that the impacts of the proposed clearing present a risk to fauna habitat and flora diversity of adjacent vegetation. 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 (Biodiversity and Flora) – Clearing Principles (a)**

###### Assessment

The vegetation within the application area is representative of the mapped vegetation complex Yalanbee (Y5), which is described as a mixture of open forest of *Eucalyptus marginata* subsp. *thalassica-Corymbia calophylla* and woodland of *Eucalyptus wandoo* on lateritic uplands in semiarid to perarid zones (Mattiske and Havel 1998). Yalanbee (Y5) is one of the vegetation types that form the South West Floristic Region (SWFR), an area known for comprising a high level of floristic diversity within its mid and lower story (Hopper and Gioia 2004).

According to available databases, the local area (10 kilometre radius from the perimeter of the application area) retains approximately 35.49 per cent remnant native vegetation, and the Yalanbee (Y5) vegetation complex retains approximately 66.21 per cent of its pre-European extent (Government of Western Australia 2019b). The extent of the native vegetation cover in the local area and the Yalanbee (Y5) vegetation complex is consistent with the national objectives and targets for biodiversity conservation in Australia, that is, the retention of 30 per cent or more of their pre-clearing extent (Commonwealth of Australia 2001).

Flora analysis (Appendix A) indicates that the application area may provide suitable habitat for up to eight conservation significant flora species, comprising four priority 3 species, *Adenanthos cygnorum* subsp. *chamaephyton*, *Asteridea gracilis*, *Tetralochea pilifera* and *Thysanotus cymosus*; and four priority 4 species, *Asterolasia grandiflora*, *Cyanicula ixiooides* subsp. *ixiooides*, *Grevillea pimeleoides* and *Stylidium striatum*.

During a site inspection (DWER 2020; see Appendix D) a large portion of the application area was determined to be in Excellent (Keighery 1994) condition. The DWER site inspection (2020) was carried out at an optimal time of year (October), and included a targeted search for the abovementioned priority flora species. No conservation significant flora species were identified during the site inspection (DWER 2020). Due to poor dispersal ability and the endemic nature of a large proportion of this region's flora, it is not uncommon for conservation significant species to form a patchy distribution across their range (Hopper and Gioia 2004). Therefore, it is possible for species to be absent from an area of suitable habitat.

The remainder of the application area, within 1-3 metres of the edge of the nursery was determined to be in Good to Degraded (Keighery 1994) condition. This indicates that weed species were encroaching from the nursery into the surrounding native vegetation. The operation of a plant nursery involves the propagation of non-native plant species or species not naturally occurring in the surrounding native vegetation, the import of soils or other propagating medium that may contain non-native seeds and/or dieback (*Phytophthora* sp.), and extensive areas of open ground

allowing weed species to establish and increase in number. The introduction of weeds into native vegetation can result in the following impacts (DPAW 2015-):

- successfully out-competing native species for resources
- impacting on native plants or animals due to toxins or excluding animals from usual habitats because of thorns or other adverse habit
- providing habitat for introduced animal pests
- altering fire regimes, potentially making fires more intense, and possibly altering their seasonality and frequency.

### Conclusion

Based on the above assessment, the proposed clearing is not likely to significantly impact on an area that is highly diverse. However, once clearing has occurred, the operation of a plant nursery could result in weed species and dieback spreading from the nursery and impacting the biodiversity of the surrounding native vegetation. It is considered that the impacts of the proposed clearing and subsequent nursery operation can be managed by implementing management measures to minimise the risk of introduction and spread of weeds and dieback.

### **3.2.2. Biological values (Fauna) – Clearing Principles (b)**

#### Assessment

According to available databases, Baudin's cockatoo (*Calyptorhynchus baudinii*, Endangered), Carnaby's cockatoo (*Calyptorhynchus latirostris*, Endangered) and Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*, Vulnerable), have been recorded within one kilometre of the application area, and four black cockatoo roosts have been recorded within the local area. Black cockatoo roost sites are usually located in the tallest trees within a landscape, and in proximity to a food and water supply (Commonwealth of Australia, 2017). Black cockatoo flocks will utilise different roosts, often for weeks, or until the local food supply is exhausted. Black cockatoo flocks show some consistency in roost site preference, with sites used in most years to access high-quality feeding sites. However, not all roosts are used in every year (DPAW, 2013).

Foraging resources within 6 kilometres, and up to 12 kilometres, of roost sites are important to sustain populations (Commonwealth of Australia 2017). Of the four black cockatoo roosts recorded within the local area, one is located within 6 kilometres from the application area (approximately 1.2 kilometres away). Noting this, the vegetation proposed to be cleared likely provides foraging resource to black cockatoos utilising this roost. Based on available databases, this mapped roost site has approximately 5,364 hectares of native vegetation that is mapped as black cockatoo feeding habitat, available within a 6 kilometre radius. Furthermore, of the 5,364 hectares mapped as black cockatoo feeding habitat, 3,034 hectares (56 per cent) occurs within conservation areas, including, Woondowing, Kwolyinine, Keaginine, and Inkpen Road Nature Reserves. The proposed clearing of 0.5 hectares (approximately 0.009 per cent of mapped black cockatoo habitat) is not likely to significantly reduce the amount of foraging resource available to local black cockatoo flocks.

The site inspection (DWER 2020), found vegetation within the application area to be in Degraded to Excellent (Keighery 1994) condition with a moderate number of jarrah trees exhibiting crown dieback. The trees within the application area were immature and did not represent the tallest or most extensive stand of trees within range of the abovementioned mapped roost site. Therefore, noting the size and condition of the trees within the application area, they are unlikely to be utilised as a roost by black cockatoo species when compared to other prospective roost habitat in the local area.

Suitable breeding habitat for black cockatoos includes trees which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, including jarrah and marri trees, a diameter of at least 500 millimetres DBH is required to develop hollows of suitable size for use by black cockatoos (Commonwealth of Australia, 2012). None of the trees observed within the application area were above 500 millimetres DBH, and therefore unlikely to provide suitable nesting habitat for black cockatoo species (DWER 2020). According to available databases, no black cockatoo breeding sites have been recorded in the local area.

The application area contains potentially suitable habitat for chuditch (*Dasyurus geoffroii*), quenda (*Isodon fusciventer*), and woylie (*Bettongia penicillata ogilbyi*). No evidence of diggings was observed during the site inspection to indicate the presence of the quenda (DWER 2020), and given the size of the application area and its presence in a highly fragmented local landscape, as well as the ecology of these species, it is considered unlikely that it supports resident individuals of the chuditch or woylie. It is possible that these species use the application area intermittently, as foraging habitat or for dispersal.

The Mortlock River shield-backed trapdoor spider (*Idiosoma schoknechtorum*) was recorded approximately 6.6 kilometres from the application area. According to the known distribution of this species, the records occurring within

the local area represent the western edge of the population range (Rix et al. 2019). The closely related *Idiosoma nigrum* is known to form burrows in heavy clays and prefer a sparse leaf litter (Main 1992). During the site inspection (DWER 2020) the soils observed within the application area where composed of grey loams overlaid by thick leaf litter. Given the distance of the nearest record and the habitat characteristics of the application area, it is unlikely that Mortlock River shield-backed trapdoor spider is present within the application area.

### Conclusion

Based on the above assessment, the proposed clearing is not considered likely to result in a significant loss of habitat for the above fauna species, and therefore is not considered to constitute a significant residual impact. Potential direct impact to ground dwelling fauna may be managed by the implementation of a condition requiring directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

### **3.3. Relevant planning instruments and other matters**

The application was advertised on the DWER website for a 21-day public comment period commencing 10 September 2020. No public submissions were received in relation to this application.

In January 1996, the Shire of Northam granted a development approval for a plant nursery (Shire of Northam 2020). On 10 September 2020 DWER sent a Direct Interest letter to the Shire of Northam, inviting comment on the applicant's proposed clearing application (DWER 2020a). On 25 September 2020, the Shire of Northam replied to this correspondence advising that additional approval is required for the applicant's proposed expansion of the plant nursery and that it does not support the proposed clearing (Shire of Northam 2020).

In correspondence with DWER 26 October 2020 the applicant stated that the Shire of Northam had granted planning approval for the whole of the property (Lot 25 on Plan 12671) and additional planning approval was not required for the proposed clearing (Applicant 2020a).

A request for further information (RFI) was sent to the applicant 16 November 2020, requesting proof of a development approval from the Shire of Northam for the proposed land use stated as the requirement of clearing (DWER 2020b). Evidence provided by the applicant (Applicant 2020b) was not sufficient to prove that the Shire of Northam had granted planning approval in 1996 that included a provision for the proposed land use stated as the requirement of clearing.

Compliance with the *Aboriginal Heritage Act 1972 (WA)* and ensuring that no Aboriginal Sites of Significance are damaged through the clearing process will be the applicant's responsibility.

<b>Appendix A. Site characteristics</b>	
<b>A.1. Site characteristics</b>	
<b>Characteristic</b>	<b>Details</b>
Local context	The application area is within a rural residential estate. It is surrounded by other properties containing similar extent of remnant native vegetation. Spatial data indicates the local area (10 kilometre radius from the perimeter of the application area) retains approximately 35 per cent of the pre-European native vegetation cover.
Ecological linkage	The application area likely contributes to the linkage between surrounding areas of remnant native vegetation, including between Kwolyinine Nature Reserve in the east and Woondowing Nature Reserve to the north of the application area. However, the proposed clearing is not likely to sever or reduce the functionality of this linkage.
Conservation areas	There are five conservation reserves within the local area, of which the closest is Kwolyinine Nature Reserve, located approximately 1.35 kilometres east of the application area.
Vegetation description	<p>A DWER site inspection (2020) indicate the vegetation within the proposed clearing area consists of Wandoo-Marri (<i>Eucalyptus wandoo-Corymbia calophylla</i>) woodland, interspersed with jarrah (<i>Eucalyptus marginata</i>) in the southern portion of the application area. Representative photos of the application area are available in Appendix D.</p> <p>This is consistent with the mapped vegetation complex, Yalanbee (Y5), described as a mixture of open forest of <i>Eucalyptus marginata</i> subsp. <i>thalassica-Corymbia calophylla</i> and woodland of <i>Eucalyptus wandoo</i> on lateritic uplands in semiarid to perarid zones (Mattiske and Havel 1998).</p> <p>The mapped vegetation complex retains approximately 66.2 per cent of its original extent (Government of Western Australia 2019b).</p>



Characteristic	Details
Vegetation condition	The DWER site inspection (2020) identified that the vegetation within the application area was mostly in Excellent (Keighery 1994) condition. Vegetation within 1-3 metres of the edge of the nursery ranged from Degraded to Good (Keighery 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos of the application area are available in Appendix D.
Climate and landform	<ul style="list-style-type: none"> <li>• Mean annual rainfall: 593.8 millimetres</li> <li>• Temperature (mean annual minimum): 21.5 degrees centigrade</li> <li>• Temperature (mean annual maximum): 24.3 degrees centigrade</li> <li>• Landform: Residual plateau at the top of the landscape shallowly dissected by Pindalup valleys. Pisolitic gravelly, yellowish brown soils that vary in texture from loamy sands to clays, with pockets of pale sands and areas of outcropping laterite.</li> </ul>
Soil description	Soil is mapped as Yalanbee Subsystem (253WnYA), which is characterised by residual plateau at the top of the landscape shallowly dissected by Pindalup valleys. Pisolitic gravelly, yellowish brown soils that vary in texture from loamy sands to clays, with pockets of pale sands and areas of outcropping laterite (DPIRD 2019).
Land degradation risk	The soil type mapped within the application area has a low risk of water erosion, salinity, waterlogging, flooding, and phosphorus export risk. However, it has high susceptibility to subsurface acidification and wind erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses or wetlands occur within the application area. The nearest mapped watercourse is a non-perennial minor river approximately 475 metres south west of the application area.
Flora	One threatened species and eleven priority flora species have been recorded within the local area. The application area is unlikely to provide habitat for three priority species, <i>Meionectes tenuifolia</i> (Priority 3) associated with seasonally wet habitats; <i>Senecio gilbertii</i> (Priority 1) associated with swamps; and <i>Daviesia oxylobium</i> (Priority 4) associated with sandy soils and open heath (Western Australian Herbarium 1998-). The vegetation within the application area may provide suitable habitat for five priority flora species and moderately suitable habitat for the remaining three priority species. The application area is not likely to provide suitable habitat for any threatened flora species. Habitat suitability analysis is provided in Appendix A.3.
Ecological communities	No conservation significant ecological communities have been recorded in the local area. The closest, being the Eucalypt woodlands of the Western Australian Wheatbelt, is located approximately 14.3 kilometres from the application area.
Fauna	<p>A total of 12 conservation significant fauna species have been recorded in the local area. Due to the site context (in a rural residential estate) which consists of dissected vegetation, the application area has been determined to be unsuitable to support species with larger space requirements, such as <i>Notamacropus irma</i> (Western brush wallaby). <i>Macrotis lagotis</i> (bilby) was also recorded at two locations within the local area. It is unlikely that the bilby is still present, as the above records are dated 1955 and 1956, indicating the local extinction of this species.</p> <p>The application area was determined to contain suitable habitat for seven conservation significant fauna species:</p> <ul style="list-style-type: none"> <li>• <i>Bettongia penicillata ogilbyi</i> (Woylie)</li> <li>• <i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)</li> <li>• <i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)</li> <li>• <i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)</li> <li>• <i>Dasyurus geoffroyi</i> (Chuditch)</li> <li>• <i>Idiosoma schoknechtorum</i> (Mortlock River shield-backed trapdoor spider)</li> <li>• <i>Isodon fusciventer</i> (Quenda)</li> </ul> <p>Four black cockatoo roosts have been recorded within the local area, with the closest roost site being approximately 1.2 kilometres from the application area. The remaining mapped roosts are over 6 kilometres from the application area. Habitat suitability analysis is provided in Appendix A.4.</p>

## A.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*					
Jarrah Forest	4,506,660.25	2,399,838.15	53.25	617,065.14	13.69
Vegetation complex**					
Yalanbee Y5	126,609.77	83,829.11	66.21	49,111.54	38.79
Local area					
10km radius	31,777.82	11278.23	35.49	-	-

\*Government of Western Australia (2019a)

\*\*Government of Western Australia (2019b)

## A.3. Flora analysis table

A flora survey has not been conducted over the application area. The analysis below and assessment in section 3 utilises data collected from a preliminary desktop assessment and a site inspection carried out by DWER Environmental Officers in October 2020. The site inspection included an extensive search for the conservation significant flora species listed in the table below, in areas of suitable habitat within the application area.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Tetradlea pilifera</i>	P3	Yes	Yes	Yes	1.19	9	N/A
<i>Cyanicula ixiooides</i> subsp. <i>ixiooides</i>	P4	Yes	Yes	Yes	3.22	15	N/A
<i>Stylidium striatum</i>	P4	Yes	Yes	Yes	6.66	1	N/A
<i>Thysanotus cymosus</i>	P3	Yes	Yes	No	6.66	1	N/A
<i>Asteridea gracilis</i>	P3	Yes	Yes	Yes	7.31	1	N/A
<i>Asterolasia grandiflora</i>	P4	No	Yes	No	7.37	1	N/A
<i>Adenanthos cygnorum</i> subsp. <i>chamaephyton</i>	P3	Yes	Yes	Yes	8.02	1	N/A
<i>Grevillea pimeleoides</i>	P4	Yes	Yes	No	8.30	2	N/A
<i>Acacia aphylla</i>	T	No	No	No	9.98	1	N/A

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

## A.4. Fauna analysis table

The analysis below and assessment in section 3 utilises data collected from a preliminary desktop assessment and a site inspection carried out by DWER Environmental Officers in October 2020. No tracks, scats or other signs of the fauna listed below were noted.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Yes	Yes	0.55	3	N/A
<i>Bettongia penicillata ogilbyi</i> (woylie)	CR	Yes	Yes	0.55	1	N/A
<i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	Yes	Yes	1	7	N/A

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Yes	Yes	1	31	N/A
<i>Dasyurus geoffroii</i> (Chuditch, western quoll)	VU	Yes	Yes	1.2		N/A
<i>Isodon fusciventer</i> (Quenda)	P4	Yes	Yes	1.4	1	N/A
<i>Idiosoma schoknechtorum</i> (Mortlock River shield-backed trapdoor spider)	P3	No	Yes	6.6	2	N/A

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

#### A.5. Land degradation risk table

Risk categories	Land Unit
Wind erosion	50-70% of map unit has a high to extreme risk
Water erosion	<3% of the map unit has a moderate to high hazard
Salinity	<3% of the map unit has a moderate to high hazard
Subsurface Acidification	50-70% of map unit has a high to extreme risk
Flood risk	<3% of the map unit has a moderate to high hazard
Water logging	<3% of the map unit has a moderate to high hazard
Phosphorus export risk	<3% of the map unit has a moderate to high hazard

#### Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u> During a site inspection (DWER 2020), a large portion of the application area was determined to be in Excellent (Keighery1994) condition. This vegetation may provide suitable habitat for conservation significant fauna and flora species. However, weed species were also observed to be encroaching into the application area from the adjacent nursery, which has the potential to reduce biodiversity.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above</i>
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u> The application area contains foraging habitat for black cockatoos, and potentially suitable habitat for the quenda (<i>Isodon fusciventer</i>), woylie (<i>Bettongia penicillata ogilbyi</i>) and chuditch (<i>Dasyurus geoffroii</i>).</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u> One threatened flora species, <i>Acacia aphylla</i>, has been recorded within the local area. <i>Acacia aphylla</i> is associated with granite and laterite out cropping Western Australian Herbarium (1998-). A site inspection (DWER 2020) confirmed that the application area does not contain suitable habitat for <i>Acacia aphylla</i>.</p>	Not likely to be at variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
<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 indicates a priority or threatened ecological community.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<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 type and native vegetation cover in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia 2001). The vegetation proposed to be cleared is unlikely to prevent the adjacent vegetation functioning as an ecological linkage in the local area.</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> Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of or nearby conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<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> The nearest water body is an unnamed nonperennial water course approximately 0.5 kilometres to the north of the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not 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> The mapped soil type is not susceptible to water erosion, nutrient export, or salinity, however, has a moderate to high risk of wind erosion. Noting the proposed clearing is for 0.5 hectares to expand existing nursery operations, the proposed clearing is not likely to cause appreciable land degradation.</p>	Not likely to be at variance	No
<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> Given no water courses, wetlands, and/or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water 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> The mapped soil type and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given there are no watercourses and wetlands recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

### Appendix C. Vegetation condition rating scale

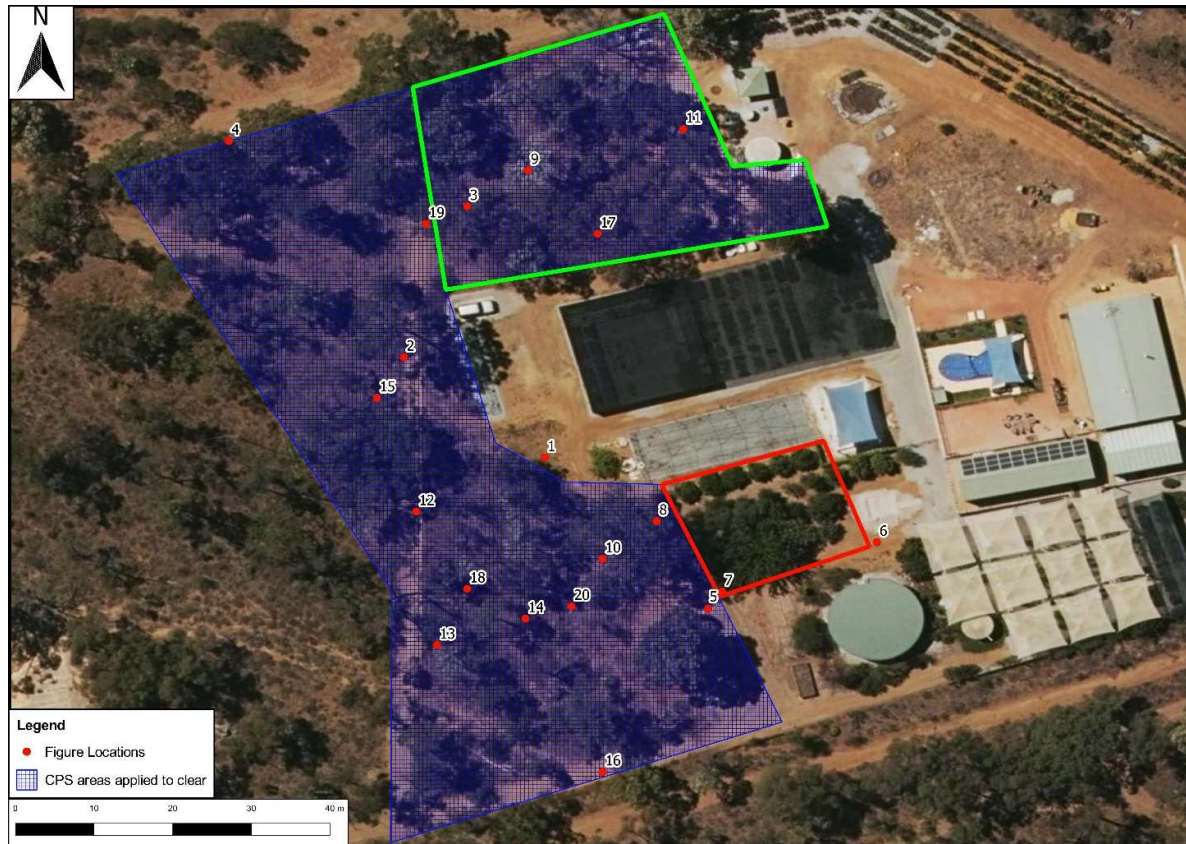
Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree 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. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

#### 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.
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 D. Representative photos from DWER site inspection

Numbers on the map below indicate the position of photographers within the application area.



The area outlined green is proposed to be used as plant propagation tables; and the area outlined red is the existing orchard area where grass weeds were more prevalent in adjacent native vegetation (DWER 2020).

### 1. SITE PHOTOGRAPHS



Fig 1: Degraded to Excellent vegetation, high weed presence within 1-2 metres of the edge of the current nursery operations.



Fig 2: Degraded vegetation within close proximity to the nursery operations.





Fig 3: Excellent to degraded vegetation, high weed presence within 1-2 metres of the edge of the current nursery operations.



Fig 4: Old firebreak with some weed invasion, predominantly *Ursinia anthemoides*.



Fig 5: Vegetation adjacent to nursery operation, Olive sapling recruitment.



Fig 6: Weeds within nursery operation area.





Fig 7: Olive tree within nursery operation area.



Fig 8: Weeds within nursery operation area.



Fig 9: Soil type, light brown loam with mycorrhizal fungi present.



Fig 10: Exposed iron pan.





Fig 11: Excellent vegetation condition.



Fig 12: Excellent vegetation condition.



Fig 13: Excellent vegetation condition.



Fig 14: Excellent vegetation condition.



Fig 15: Excellent vegetation condition.



Fig 16: Excellent vegetation condition.





Fig 17: Diverse flora species composition, including orchids (*Thelymitra macrophylla*).



Fig 18: Diverse flora species composition, including a range of trigger plants (*Stylidium* sp.).



Fig 19: Diverse fauna, including ground cricket.



Fig 20: Diverse fauna, including ogre spider.

## Appendix E. Sources of information

### E.1. GIS databases

Publicly available GIS Databases used (sourced from [www.data.wa.gov.au](http://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 – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- 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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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)

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