



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 7591/1

File Number: DER2017/000667

Duration of Permit: 23 June 2018 to 23 June 2020

PERMIT HOLDER

Gordyex Nominees Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 2346 on Deposited Plan 89367, Dandaragan

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 9.9 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7591/1.

CONDITIONS

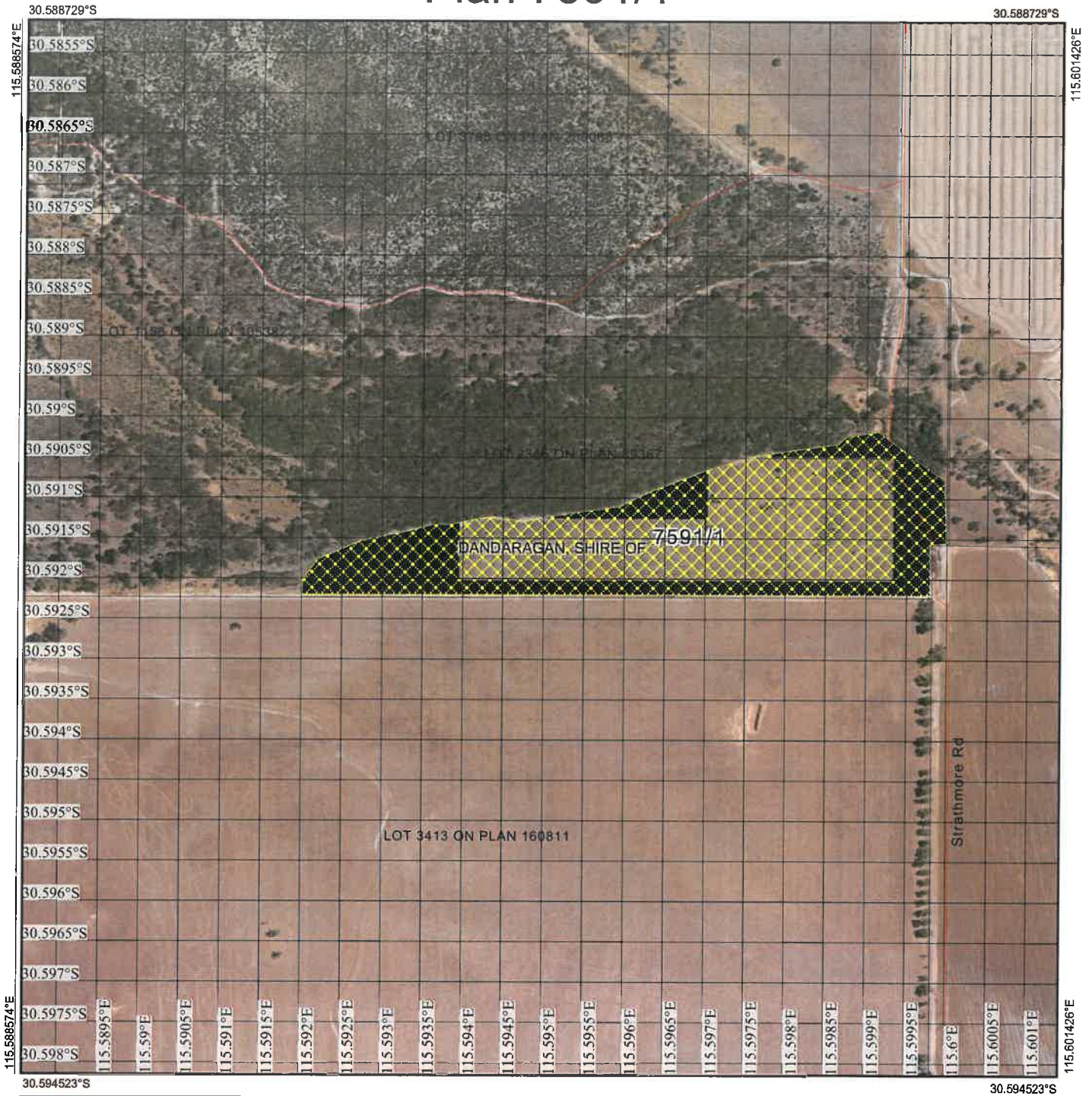
Nil.

Emma Bramwell
A/MANAGER
CLEARING REGULATION





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

21 May 2018

Plan 7591/1



Legend

-  Imagery
-  Roads
-  Clearing Instruments Activities
-  Local Government Authority



1:6,530

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

E Bramwell Date 21/05/18
E BRAMWELL

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



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 WESTERN AUSTRALIA
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1. Application details

1.1. Permit application details

Permit application No.: 7591/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mr Zac Roberts
Gordyex Nominees Pty Ltd
Application received date: 11 May 2017

1.3. Property details

Property: **Area 1**
LOT 2346 ON PLAN 89367, DANDARAGAN
Area 2
LOT 3795 ON PLAN 209083, DANDARAGAN
LOT 3394 ON PLAN 159404, DANDARAGAN
LOT 2373 ON PLAN 89783, DANDARAGAN
LOT 2347 ON PLAN 89366, DANDARAGAN
LOT 1172 ON PLAN 108433, DANDARAGAN
LOT 1158 ON PLAN 105382, DANDARAGAN
LOT 1156 ON PLAN 105385, DANDARAGAN
Local Government Authority: DANDARAGAN, SHIRE OF
Localities: DANDARAGAN

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
9.9 (Area 1)		Mechanical Removal	Grazing & pasture
158.1 (Area 2)		Mechanical Removal	Grazing & pasture

1.5. Decision on application

Decision on Permit Application: Part Grant
Decision Date: 21 May 2018
Reasons for Decision: The clearing permit application was received on 11 May 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).

The application area was considered as two sub-areas based on vegetation condition:

- Area 1 (approximately 9.9 hectares) is in a Completely Degraded (Keighery, 1994) condition with limited environmental values; and
- Area 2 (approximately 158.1 hectares) is in a Very Good (Keighery 1994) to Degraded (Keighery, 1994) condition, and contains a number of environmental values.

The assessment concluded that the proposed clearing:

- of Area 1 is not likely to be at variance to the clearing principles; and
- of Area 2 is seriously at variance to clearing principle (c), is at variance to clearing principles (a), (b), (e) and (f), may be at variance to clearing principles (g), (h) and (i), and is not likely to be at variance to clearing principles (d) and (j).

The Delegated Officer determined that the proposed clearing of Area 2 is likely to seriously impact on a 'critically endangered' species of rare flora that is known from two populations, one of which occurs within Area 2, and will impact on native vegetation that comprises a high level of biological diversity, comprises significant habitat for indigenous fauna, is significant as a remnant of native vegetation in an area that has been extensively cleared, and is growing in association with an environment associated with a watercourse, and may cause appreciable land degradation in the form of water erosion and deterioration in the quality of surface water quality through increased sedimentation, and may impact on the environmental values of the nearby Minyulo Nature Reserve.

Section 51O(3) of the EP Act provides for the Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation to make a decision that is seriously at variance to the clearing principles if in the CEO's opinion there is a good reason for doing so. Taking into account the applicant's further information, the Delegated Officer determined that the proposed clearing of Area 2 continues to have unacceptable environmental impacts. The Delegated Officer determined that a clearing permit could be granted for part of the clearing applied for (Area 1), under section 51E(7)(a) of the EP Act.

2. Site Information

Clearing Description:	The application is to clear 168 hectares of native vegetation within Lot 2347 on Deposited Plan 89366, Lot 3795 on Deposited Plan 209083, Lot 1158 on Deposited Plan 105382, Lot 2346 on Deposited Plan 89367, Lot 1156 on Deposited Plan 105385, Lot 1172 on Deposited Plan 108433, Lot 3394 on Deposited Plan 159404 and Lot 2373 on Deposited Plan 89783, Dandaragan, for cropping and grazing (Figure 1).
Vegetation Description and Condition:	<p>The application area is mapped as Beard vegetation associations (Shepherd et al., 2001):</p> <ul style="list-style-type: none">• 7, described as medium woodland; <i>Eucalyptus loxophleba</i> (York gum) and <i>Eucalyptus wandoo</i> (wandoo); and• 1031, described as shrublands; <i>Hakea</i> spp. scrub-heath / shrublands; <i>Banksia</i> spp. (formerly <i>Dryandra</i> spp.) heath. <p>A site inspection of the application area conducted by officers of the Department of Water and Environmental Regulation (DWER) described the vegetation within two broad areas based on vegetation condition (Area 1 and Area 2), and a further seven sub-areas based on vegetation type:</p> <ul style="list-style-type: none">• Area 1: approximately 9.9 hectares of native vegetation in a Completely Degraded (Keighery, 1994) condition with limited environmental values, overlaps footprint of Clearing Permit CPS 4276/1 (refer Section 4):<ul style="list-style-type: none">○ Vegetation type (VT) 5: In 2011 VT 5 was regenerating after being cleared (DWER, 2017). The site inspection noted the area to contain little to no native vegetation (DWER, 2017). Sparsely-distributed regenerating native vegetation appears to have been killed with herbicide, and therefore VT 5 may have been maintained as a cleared area (DWER, 2017).• Area 2: approximately 158.1 hectares of native vegetation in Very Good (Keighery, 1994) to Degraded (Keighery, 1994) condition:<ul style="list-style-type: none">○ VT 1: The vegetation is described as a closed heath (DWER, 2017). VT 1 is regenerating from a recent fire (DWER, 2017). Available aerial imagery and assessment of nearby native vegetation suggests that the native vegetation was intact prior to the disturbance and is likely to return to a Very Good (Keighery, 1994) condition (DWER, 2017).○ VT 2: In 2011 VT 2 was regenerating after being cleared (DWER, 2017). The site inspection identified VT 2 has regenerated to a diverse heath in a Very Good (Keighery, 1994) condition (DWER, 2017). Minimal weeds or disturbance was evident throughout (DWER, 2017).○ VT 3: In 2011 VT 3 is regenerating after being cleared (DWER, 2017). The site inspection identified that VT 3 is dominated by <i>Acacia</i> spp. monoculture regrowth over pasture grass (DWER, 2017).○ VT 4: <i>Banksia</i> spp. woodland with <i>Eucalyptus todtiana</i> (pricklybark) (DWER, 2017). A low intensity fire has burnt the understorey, making vegetation assessment difficult (DWER, 2017). VT 4 was assessed to be in a Good (Keighery, 1994) condition (DWER, 2017).○ VT 6: Open <i>Eucalyptus</i> spp. woodland over heath in a Good (Keighery, 1994) condition (DWER, 2017).○ VT 7: Regenerating heath in a Good (Keighery, 1994) condition (DWER, 2017). <p><u>Vegetation condition definitions:</u></p> <ul style="list-style-type: none">• Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).• Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994).• Degraded: structure severely disturbed; regeneration to Good condition requires intensive management (Keighery 1994).• Completely Degraded: no longer intact, completely/almost completely without native species (Keighery, 1994).
Soil/Landform Type:	<p>Seven soil subsystems have been mapped within the application area (DPIRD, 2017a):</p> <ul style="list-style-type: none">• Boothendarra 3 Subsystem, residuals, low hillcrests and hillslopes; sandy and loamy gravels, sandy duplexes;• Boothendarra 4 Subsystem, gently to very gently inclined hillslopes and footslopes; sandy duplexes, deep sands and sandy gravels;• Boothendarra 5 Subsystem, residuals, gently to very gently inclined hillslopes, often gilgai; loamy earths, loamy duplexes, some sandy duplexes and clays;• Boothendarra 6 Subsystem; residuals, gently to very gently inclined hillslopes and hillcrests; loamy earths, loamy duplexes, some sandy duplexes and clays;• Boothendarra 8 drainage Phase, narrow drainage lines; sandy and loamy duplexes, sandy and loamy earths;• Yerramullah 2 Subsystem, plateau residuals, very gently to gently inclined hillcrest and hillslopes; pale sandy gravels, shallow gravel over duricrust, gravelly pale deep sand, pale and yellow deep sands; and• Yerramullah 3a slopes Phase, colluvial slopes; pale and yellow deep sands, pale sandy gravels, shallow gravel over duricrust, some sandy duplexes and sandy earths.
Comment:	The local area is defined as a 10 kilometre radius measured from the outside of the application area. The local area retains approximately 12.4 per cent remnant vegetation cover.

Figures

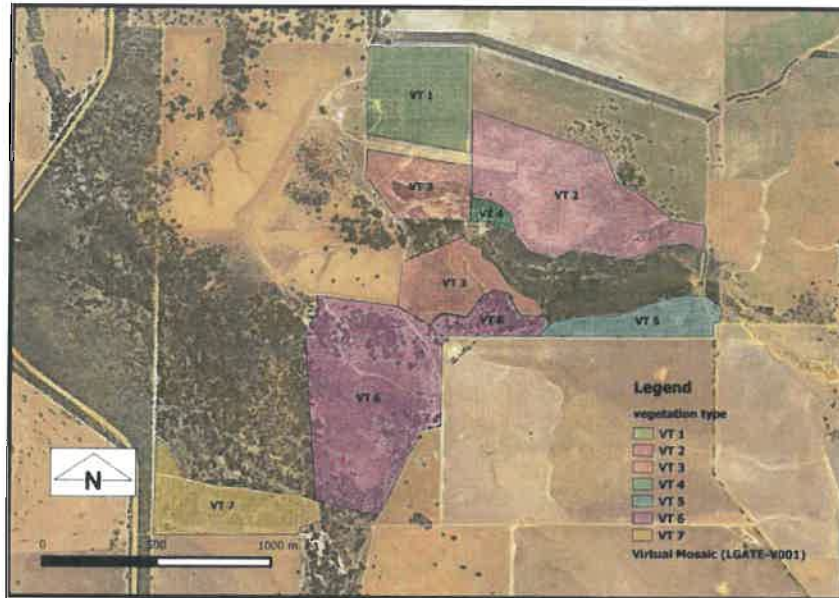


Figure 1: Vegetation types. *Indicative only due to time constraints of site inspection.

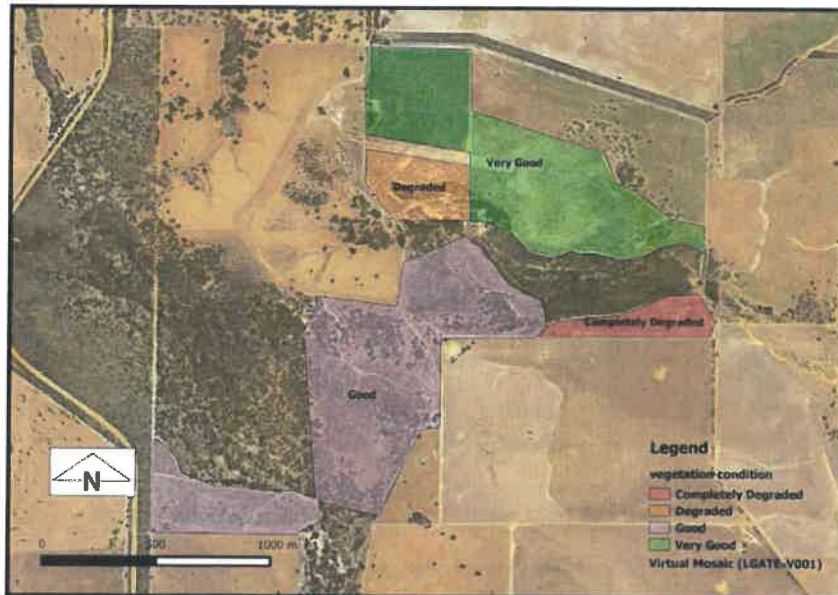


Figure 2: Vegetation condition. *Indicative only due to time constraints of site inspection.

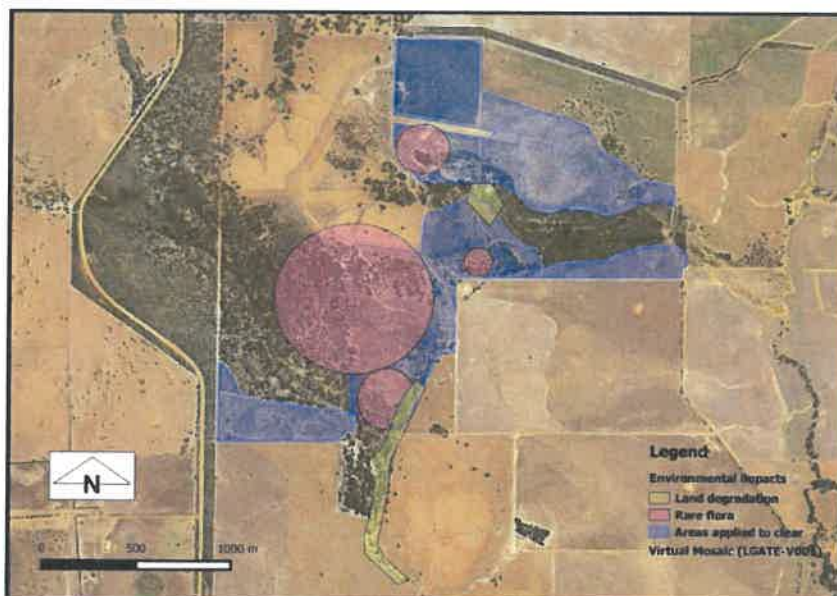


Figure 3: Environmental issues identified (DWER, 2017). *Indicative only due to time constraints of site inspection.

3. 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 at variance to this Principle

The application area was considered as two sub-areas based on vegetation condition:

- Area 1: approximately 9.9 hectares, corresponding with the portion marked 'VT 5' in Figure 1 and the portion marked 'Completed Degraded' in Figure 2; and
- Area 2: approximately 158.1 hectares, corresponding with the portions marked 'VT 1', 'VT 2', 'VT 3', 'VT 4', 'VT 6' and 'VT 7' in Figure 1 and the portions marked 'Very Good', 'Good' and 'Degraded' in Figure 2.

Area 1

A site inspection within Area 1 determined that little to no native vegetation is present (DWER, 2017). The whole of Area 1 was able to be inspected due to the sparsity of native vegetation. Area 1 appears to have been maintained as a cleared area. As assessed under Principles (b), (c), (d) and (e), Area 1 is not likely to contain rare or priority flora, a priority ecological community (PEC) or threatened ecological community (TEC), or a significant habitat for indigenous fauna, and is not likely to be significant as a remnant of native vegetation. Area 1 does not form a linkage through the landscape.

Given the above, Area 1 is not likely to contain a high level of biological diversity. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

As outlined in Section 2, the vegetation within Area 2 ranges from an open diverse heath to a *Banksia* spp. woodland in, or with the capacity to re-generate to, Good (Keighery, 1994) or better condition. As assessed under Principle (e), the application area occurs within an extensively cleared landscape.

As assessed under Principle (b), Area 2:

- is likely to act as an ecological linkage for the movement of fauna and flora through the landscape;
- is mapped within range of Carnaby's cockatoo (*Calyptorhynchus latirostris*, endangered) breeding areas and comprises significant foraging habitat for this species; and
- may comprise significant habitat for the western brush wallaby (*Macropus irma*; Priority 4).

As assessed under Principle (c), the rare flora species *Acacia splendens* was recorded within Area 2 during the site inspection (DWER, 2017). Indicative locations are shown in Figure 3, however these are opportunistic observations and do not represent the actual extent of the rare flora's occurrence within the property. The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the application area represents the last confirmed, intact population of the species and any impact to this population is likely to be significant (DBCA, 2017).

A further five rare flora species and 42 priority flora species have been recorded within the local area, and given the mapped soil and vegetation type, together with the identified vegetation type (section 2), these species have the potential to be impacted by the proposed clearing of Area 2.

No TECs or PECs have been recorded with the local area. Given this, no TECs or PECs are likely to be present within Area 2.

Given the above, Area 2 contains a diversity of vegetation types, contains a known population of rare flora, may contain further rare or priority flora, comprises significant habitat for indigenous fauna, and occurs within an extensively cleared landscape. Given this, Area 2 comprises a high level of biological diversity. The proposed clearing of Area 2 is at variance to this Principle.

A flora survey of Area 2 and adjoining vegetation would be required in order to determine the potential biodiversity values and impact of the proposed clearing, including in relation to the extent of *Acacia splendens*. A flora survey may be unwarranted at this time as a number of other identified environmental impacts need to be addressed.

(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 at variance to this Principle

As outlined in Section 2

- Area 1: comprises little to no native vegetation (DWER, 2017); and
- Area 2: comprises six vegetation types in variable condition (DWER, 2017).

Area 1

As area 1 contains little to no native vegetation and has been maintained as cleared, it does not form habitat for fauna. With little or no vegetation present, Area 1 is unlikely to provide a food source or shelter for fauna moving through the landscape.

Given the above, Area 1 is not likely to comprise or be necessary for the maintenance of a significant habitat for indigenous fauna. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

As assessed under Principle (e), the application area occurs within an extensively cleared landscape with 12.4 per cent vegetation remaining within the local area. Area 2 forms part of a larger remnant that links to Minyulo Nature Reserve, approximately four kilometres to the south. Noting the size of Area 2 and that it forms part of a linkage, Area 2 is likely to act as an ecological linkage for the movement of fauna through the landscape.

According to available databases, four threatened fauna, nine fauna protected under international agreement, one other specially protected fauna and four priority fauna have been recorded within the local area (DBCA, 2007-). Noting the habitat preferences and known ranges of these species, and the vegetation types present within Area 2, Area 2 comprises habitat for:

- Carnaby's cockatoo, listed as rare or likely to become extinct under the *Wildlife Conservation Act, 1950* (WC Act); and
- western brush wallaby, listed as Priority 4 (conservation dependent and in need of monitoring) by DBCA and in need of monitoring.

The application area has been mapped within confirmed Carnaby's cockatoo breeding areas. Carnaby's cockatoo nest in large hollows of *Eucalyptus* spp. trees and forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia* spp., *Hakea* spp., *Grevillea* spp.), *Eucalyptus* spp., *Corymbia* spp. and a range of introduced species (Department of Parks and Wildlife, 2013; Valentine and Stock, 2008). Area 2 is within the northern range of the species where habitat loss and range contraction are the most marked.

The Carnaby's cockatoo recovery plan states "Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species" (Department of Parks and Wildlife, 2013).

The site inspection noted that black cockatoo nesting habitat was not identified within the application area, however the vegetation types present represent suitable foraging habitat. Given the size of Area 2 and its location within range of a known breeding area, Area 2 represents significant habitat for the species. Area 2 is considered to comprise medium-value foraging habitat as while the diversity of larger foraging species is limited, the vegetation within Area 2 is diverse and contains known foraging species. Although VT 1 has been burnt and currently contains limited foraging value, it is considered that VT 1 is likely to regenerate to a Good (Keighery, 1994) condition with a higher foraging value than currently present.

The western brush wallaby inhabits a wide range of habitats, including open forest and woodland, mallee, heathland, low open grasses, and scrubby thickets, but favour open, grassy areas (Woinarski, J. and Burbidge, A.A., 2016). Given the size of Area 2 and its connectivity within the landscape, and noting that this species is known from the local area, Area 2 may comprise significant habitat for this species.

Given the above, Area 2 comprises and is necessary for the maintenance of a significant habitat for indigenous fauna, including species of conservation significance. The proposed clearing of Area 2 is 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 seriously at variance to this Principle

According to available databases, six rare flora species have been recorded within the local area. Noting the habitats from which the above rare flora species have been recorded (Western Australian Herbarium, 1998-), and noting the vegetation and soil types within the application area, these species may occur within the application area.

Area 1

As outlined in Section 2, Area 1 contains little to no native vegetation and appears to have been maintained as a cleared area. While a targeted flora and vegetation survey has not been undertaken within Area 1, the site inspection did not identify the rare flora *Acacia splendens* within Area 1, however did identify this species within adjoining vegetation (as indicated in Figure 3).

Given the above, noting the condition and sparsity of vegetation within Area 1, Area 1 is not likely to include or be necessary for the continued existence of rare flora. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

Acacia splendens is currently listed as 'critically endangered' under the WC Act. The site inspection recorded numerous individuals of this species within VT 3 and VT 6 of Area 2 (refer to Figures 1 and 3). This species is known from two populations, one within the application area and one that has not been surveyed since 1998 when 11 plants were recorded on private property; the current status of this second population is unknown (DBCA, 2017).

Area 2 contains the largest known population of *Acacia splendens*, estimated to contain approximately 65,000 plants when surveyed in 2011 (DBCA, 2017). The adjacent road side has not had a complete plant count since 2003 when 600 plants were recorded (DBCA, 2017). The site inspection identified additional new plants outside the previously recorded population; previously mapped locations of the species and the new locations are both located in Area 2 (DBCA, 2017).

DBCA advised that any taking of this species would be considered highly significant, and so it is unlikely that a permit to take *Acacia splendens* would be granted within Area 2 (DBCA, 2017). In addition to taking a high percentage of plants and reducing the area of occupancy for this species, the proposed clearing would fragment this large population and lead to increased edge effects and likely cause a considerable decline in the quality of habitat of this population (DBCA, 2017).

Given the above, Area 2 includes and is necessary for the continued existence of a 'critically endangered' species of rare flora, and may include up to five other rare flora species. The proposed clearing of Area 2 is seriously at variance to this Principle.

A flora survey of Area 2 and surrounding vegetation would be required in order to determine the extent of *Acacia splendens*, the potential for other rare flora to occur and ascertain potential impacts from the proposed clearing. A flora survey may be unwarranted at this time as a number of other identified environmental impacts need to be addressed.

(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, no TECs have been recorded within the local area.

The DWER site inspection did not record vegetation consistent with a TEC (DWER, 2017).

Given this, neither Area 1 nor Area 2 are likely to comprise or be necessary for the maintenance of a TEC. The proposed clearing of Area 1 and Area 2 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 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).

As indicated in Table 1 below, the remaining extents of native vegetation within the mapped Beard vegetation associations are above the 30 per cent representation threshold. The local area, however, retains approximately 12.4 per cent native vegetation cover. On this basis the application area is located within an area that has been extensively cleared.

Area 1

Although Area 1 occurs within an extensively cleared landscape, it contains little to no native vegetation, and is not likely to contain significant flora or fauna values, is not likely to form part of a linkage through the landscape and is not likely to contain high biodiversity.

Given the above, Area 1 is not likely to be significant as a remnant of native vegetation within an extensively cleared landscape. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

As assessed under Principles (a), (b) and (c), the vegetation within Area 2 contains a known rare flora population, forms part of an ecological linkage, contains significant habitat for Carnaby's cockatoo, and may contain other conservation significant flora and fauna. The proposed clearing of Area 2 would reduce the extent of remnant vegetation within the local area to 11.9 per cent.

Given the above, Area 2 is likely to be significant as a remnant of native vegetation within an extensively cleared landscape. The proposed clearing of Area 2 is at variance to this Principle.

Table 1: Vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA Managed Lands (%)
IBRA Bioregion*				
Geraldton Sandplains	3,136,037.8	1,404,431.3	44.8	40.4
Local Government Authority				
Shire of Dandaragan	671,022.05	296,631.55	44.21	42.5
Beard Vegetation Association in Bioregion*				
7	4,136.50	1,391.1	33.6	9.2
1031	241,350.0	83,221.4	34.5	44.5

(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 at variance to this Principle

Area 1

According to available databases, no watercourses or wetlands are mapped within Area 1. There is a 25 metre wide vegetated buffer between Area 1 and the nearest watercourse.

Given the above, Area 1 does not include vegetation growing in association with a watercourse. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

According to available databases, a minor non-perennial stream that is a tributary to the Minyulo Brook is located adjacent to Area 2, between VT 2 and VT 5 of Area 2 (refer to Figure 1), and is bordered by riparian vegetation. A second minor non-perennial stream originates from within and traverses VT 6 of Area 2 (refer to Figure 1). This watercourse shows evidence of water erosion downstream of the application area within adjacent agricultural land (refer to Figure 3) (DWER, 2017).

Given the above, Area 2 includes vegetation growing in association with a watercourse. The proposed clearing of Area 2 is 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 may be at variance to this Principle

As discussed in Section 2, seven soil subsystems have been mapped within the application area (DPIRD, 2017a).

Noting the mapped land degradation risks outlined in Table 2 below:

- The proposed clearing within Boothendarra 8 drainage Phase land unit has a high risk of land degradation through water erosion, waterlogging or eutrophication. This land unit is associated with the watercourses running through the centre of the property and within VT 6, within approximately 15 hectares of Area 2.
- The proposed clearing within Yerramullah 3a slopes Phase land unit has a high risk of land degradation through wind erosion. This land unit accounts for the majority of VT 7, within approximately 12.4 hectares of Area 2.

Area 1

Area 1 occurs within Boothendarra 4 Subsystem, does not contain a watercourse, and contains little to no native vegetation. Noting the mapped land degradation risks outlined in Table 2, Area 1 has a low risk of land degradation.

Given the above, the proposed clearing of Area 1 is not likely to cause appreciable land degradation. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

As assessed under Principle (f), two minor watercourses are mapped within or in close proximity to Area 2. Water erosion is present along both watercourses (DWER, 2017).

The Department of Primary Industries and Regional Development (DPIRD) advised that although wind erosion is possible on some of the mapped land units, suitable management is likely to minimise this risk (DPIRD, 2017b). DPIRD advised that the high risk of water erosion and waterlogging on the mapped land units is associated with steep slopes which are not present within the application area and the risk of water erosion or waterlogging causing land degradation is low (DPIRD, 2017b). DPIRD also advised that the predominantly deep yellow sands within the application area are not generally associated with eutrophication (DPIRD, 2017b).

Given the above, the proposed clearing of Area 2 may cause appreciable land degradation in the form of water erosion, as has been identified along the watercourses. The proposed clearing of Area 2 may be at variance to this Principle.

Table 2: Mapped land degradation risk categories (DPIRD, 2017a)

Risk categories	Boothendarra 4 Subsystem	Boothendarra 3 Subsystem	Boothendarra 8 drainage Phase	Boothendarra 6 Subsystem
Wind erosion	30-50% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk	<3% of map unit has a high to extreme wind erosion risk	<3% of map unit has a high to extreme wind erosion risk
Water erosion	3-10% of map unit has a high to extreme water erosion risk	3-10% of map unit has a high to extreme water erosion risk	>70% of map unit has a high to extreme water erosion risk	3-10% 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	10-30% 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	50-70% of map unit has a high subsurface acidification risk or is presently acid	10-30% of map unit has a high subsurface acidification risk or is presently acid	50-70% of map unit has a high subsurface acidification risk or is presently acid	30-50% of map unit has a high subsurface acidification risk or is presently acid
Water logging	3-10% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk	>70% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk	>70% of map unit has a high to extreme phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk
Flood Risk	3-10% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	>70% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk

Risk categories	Boothendarra 5 Subsystem	Yerramullah 3a slopes Phase	Yerramullah 2 Subsystem
Wind erosion	10-30% of map unit has a high to extreme wind erosion risk	>70% of map unit has a high to extreme wind erosion risk	30-50% of map unit has a high to extreme wind erosion risk
Water erosion	3-10% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	10-30% 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	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	50-70% of map unit has a high subsurface acidification risk or is presently acid	10-30% of map unit has a high subsurface acidification risk or is presently acid
Water logging	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk	<3% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk
Flood Risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk

(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, one conservation area occurs within the local area, being the 195 hectare Minyulo Nature Reserve (R27219) located approximately 3.8 kilometres south of the application area.

Area 1

Area 1 contains little to no native vegetation. As assessed under Principle (a), Area 1 does not form part of a linkage and does not contain significant fauna or flora values.

Given this, the proposed clearing of Area 1 is not likely to impact on the environmental values of any adjacent or nearby conservation area. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

Area 2 forms part of an ecological linkage between remnants of native vegetation in the local area, and is linked to the Minyulo Nature Reserve via a vegetated road corridor.

The proposed clearing of Area 2 upstream of the Minyulo Nature Reserve may impact on the environmental values of this conservation area through the loss of ecological linkages through the landscape, loss of flora and fauna habitat within the reserve and loss of biodiversity in the local area.

Given the above, the proposed clearing of Area 2 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

Area 1

Area 1 contains little to no native vegetation.

As assessed under Principles (f) and (g), Area 1 does not contain a watercourse, and the proposed clearing of Area 1 is not likely to cause appreciable land degradation through waterlogging or eutrophication, and is not likely to increase the risk of salinity.

Given the above, and noting the absence of deep-rooted perennial vegetation within Area 1, the proposed clearing of Area 1 is not likely to impact on the quality of surface or underground water. The proposed clearing of Area 1 is not likely to be at variance to this Principle.

Area 2

As assessed under Principle (f), two minor watercourses are mapped within or in close proximity to Area 2.

As assessed under Principle (g), the proposed clearing is not likely to cause appreciable land degradation through waterlogging or eutrophication, and is not likely to increase the risk of salinity. However, the proposed clearing within and in close proximity to watercourses may cause water erosion.

DPIRD advised that, based on current and historical water table monitoring results, the risk of salinity causing land degradation is low (DPIRD, 2017b). The proposed clearing of Area 2 is not likely to cause deterioration in the quality of underground water.

Given the above, the proposed clearing of Area 2 may cause deterioration in the quality of surface water through increased sedimentation. The proposed clearing of Area 2 may 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 assessed under Principle (f), two minor watercourses are mapped within or in close proximity to Area 2.

Noting the minor nature of these watercourses, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding. The proposed clearing of Area 1 and Area 2 is not likely to be at variance to this Principle.

4. Planning instruments and other relevant matters

The former Department of Environment and Conservation (DEC) determined that in 2005-06, a previous landholder cleared approximately 113 hectares of native vegetation including approximately 11.7 hectares of habitat containing rare flora *Acacia splendens* on Lot 584 and Lot 1156. The clearing occurred within VT 2 and VT 3 (Area 2). Through the monitoring of aerial and satellite imagery, DEC identified significant changes in vegetation cover on Lot 2346, Lot 2347 and Lot 3795 (ICMS 16177). DEC also determined that in mid-2009, a previous landholder re-cleared approximately 53 hectares of regenerating native vegetation within the areas that were cleared in 2005-06.

On 16 March 2011, DEC received an application from a subsequent landholder to clear 103 hectares of native vegetation within VT 5 (Area 1), and VT 3 and VT 6 (Area 2), for the purpose of farming (grazing) (reference CPS 4276/1). That applicant subsequently revised the application area to a single footprint of approximately 35 hectares within VT 5 (Area 1) and portions of VT 3 (Area 2) in Degraded (Keighery, 1994) condition that did not contain rare flora. On 4 October 2012, DEC granted Clearing Permit CPS 4276/1 authorising the clearing of eight hectares of native vegetation within a 35.08 hectare footprint on Lot 584, Lot 1156, Lot 1158, Lot 2346, and Lot 2373, subject to conditions to undertake weed control and not clear within 20 metres of riparian vegetation of any watercourses. Clearing Permit CPS 4276/1 expired on 26 October 2014.

The current application was advertised on DWER's website on 21 June 2017 and in *The West Australian* newspaper on 26 June 2017 with a 21 day public submission period. No public submissions were received.

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

The Shire of Dandaragan advised that it has no objections to the proposed clearing (Shire of Dandaragan, 2017).

5. Applicant's submission

On 23 January 2018 a DWER Delegated Officer wrote to the applicant, advising that the assessment of the application had been conducted for two broad areas based on vegetation condition (Area 1 and Area 2). The letter outlined the environmental impacts associated with Area 2 and advised that in accordance with section 51E(7)(a) of the EP Act a clearing permit could be granted for Area 1 only (DWER ref. A1600793). The letter also advised that a targeted survey for rare flora *Acacia splendens* would be required to determine the extent of the species (and any other conservation significant flora) within Area 2, and that the taking of rare flora is regulated by DBCA under the WC Act. The applicant was invited to respond to these matters, including in relation to how the environmental impacts associated with Area 2 could be avoided or minimised.

On 21 February 2018 the applicant responded to the Delegated Officer's letter, acknowledging DWER's to grant a clearing permit for Area 1, providing further information in relation to the vegetation types and other matters, and outlining methods by which some of the identified environmental impacts could be minimised or otherwise addressed through management practices and revegetation (DWER ref. A1621199).

The applicant's response was considered in the context of this assessment. It is considered that the proposed clearing of Area 2 in its current form is still likely to seriously impact on a 'critically endangered' species of rare flora, and impact on native vegetation that comprises a high level of biological diversity, comprises significant habitat for indigenous fauna, is significant as a remnant of native vegetation in an area that has been extensively cleared, and is growing in association with an environment associated with a watercourse, and may cause appreciable land degradation in the form of water erosion and deterioration in the quality of surface water quality through increased sedimentation, and may impact on the environmental values of nearby Minyulo Nature Reserve.

6. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, 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 February 2017.
- Department of Biodiversity Conservation and Attractions (DBCA) (2017) Advice received in relation to clearing permit application CPS 7591/1, received 7 August 2017 (DWER ref: A1549927).
- Department of Parks and Wildlife (2013) Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Western Australian Wildlife Management Program No. 52, October 2013. Department of Parks and Wildlife, Perth, Western Australia.
- Department of Primary Industry and Regional Development (DPIRD) (2017a). NRInfo Digital Mapping. Department of Primary Industry and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed October 2017).

Department of Primary Industries and Regional Development (DPIRD) (2017b) Advice received in relation to clearing permit application CPS 7591/1, received 14 August 2017 (DWER ref: A1505157).

Department of Water and Environment Regulation (DWER) (2017) Site inspection report for clearing permit application CPS 7591/1, undertaken 26 July 2017 (DWER ref: A1549941).

Government of Western Australia. (2018). 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis

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

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Shire of Dandaragan (2017) Advice received in relation to clearing permit application CPS 7591/1, received 20 June 2017 (DWER ref: A1549938).

Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. Available from: <http://florabase.dpaw.wa.gov.au/> (Accessed August 2017).

Woinarski, J. & Burbidge, A.A. 2016. *Macropus irma*. The IUCN Red List of Threatened Species 2016. Available from: <http://dx.doi.org/10.2305/IUCN.UK.2016-2.RLTS.T12626A21953231.en> (Accessed 15 May 2018).

GIS Databases:

- Aboriginal Sites of Significance
- Aerial imagery (accessed August 2017)
- Department of Biodiversity, Conservation and Attractions Managed Estate
- Groundwater salinity
- Hydrography, linear
- SAC bio datasets (accessed August 2017 and May 2018)
- Soils, Statewide
- Wetlands