



1. Application details

1.1. Permit application details

Permit application No.: 6765/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mr Kevin John Mantach
Mrs Joanne Lee Mantach

1.3. Property details

Property: LOT 1692 ON PLAN 208474, WEST RIVER
Colloquial name:
Local Government Authority: RAVENSTHORPE, SHIRE OF
DER Region: South Coast
DPaW District: ALBANY
LCDC:
Localities: WEST RIVER

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
630		Mechanical Removal	Grazing & pasture

1.5. Decision on application

Decision on Permit Application: Refusal
Decision Date: 18 April 2016
Reasons for Decision: The applicant has applied to clear 630 hectares of native vegetation.

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is seriously at variance to Principles (g) and (i), at variance to Principles (a), (b), (e) and (f), may be at variance to Principles (c) and (h), and not likely to be at variance to Principles (d) and (j).

An assessment has determined that the proposed clearing will cause appreciable land degradation in the form of salinity and subsequent deterioration in the quality of surface water and groundwater, will impact on native vegetation that comprises a high level of biological diversity, habitats for conservation significant fauna and is significant as a remnant in an extensively cleared landscape, and may impact on rare and priority flora.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard vegetation association 519 is described as shrublands; mallee scrub, <i>Eucalyptus eremophila</i> (Shepherd et al, 2001).	The clearing of 630 hectares of native vegetation within Lot 1692 on Deposited Plan 208474, West River, for the purpose of cropping and pasture.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To Completely Degraded: No longer intact; completely /almost completely without native species (Keighery, 1994).	The condition and description of the vegetation was determined by a site inspection undertaken by Department of Environment Regulation officers (DER, 2015). The vegetation under application is comprised of: <ul style="list-style-type: none"> • areas with minimal native species; • areas with a thick, species rich understorey and scattered mallee overstorey; • areas of thicket understorey; and • areas of mallee thicket with minimal understorey (DER, 2015).
Mapped Beard vegetation association 940 is described as mosaic: shrublands; mallee scrub, black marlock/shrublands; tallerack mallee-heath (Shepherd et al, 2001).			

3. Assessment of application against clearing principles

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

Comments

Proposed clearing is at variance to this Principle

The applicant proposes to clear 630 hectares of native vegetation within Lot 1692 on Deposited Plan 208474, West River, for the purpose of cropping and pasture. The vegetation under application comprises predominantly of a scattered mallee overstorey with a thick, species rich understorey and areas of mallee thicket with minimal understorey, and is in very good to completely degraded (Keighery, 1994) condition (DER, 2015), and includes several minor non-perennial watercourses. The application area was previously cleared more than 20 years ago and some areas were cropped.

A total of 15 fauna species of conservation significance have been recorded within 20 kilometres of the application area (Parks and Wildlife, 2007-). Based on the vegetation types present, the application area may provide suitable habitat for five species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (Parks and Wildlife, 2015), one species listed under an international migratory birds agreement, one species listed as other specially protected fauna, and four species listed as priority fauna.

The application area has been mapped as part of a macro habitat corridor defined in the Western Australian South Coast Macro Corridor Network (Wilkins et al, 2006).

Thirteen priority flora species have been recorded in the local area (10 kilometre radius) within the same mapped vegetation associations and soil types as those found within the application area. Given the application area includes vegetation in good or better condition (Keighery, 1994), the application area may contain suitable habitat for a range of priority flora (Parks and Wildlife, 2015).

The vegetation under application may provide suitable habitat for four flora species listed as declared rare flora under the *Wildlife Conservation Act 1950* and vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Parks and Wildlife, 2015). Given similarities between the preferred habitats of these species and the vegetation under application, the application area may contain suitable habitat for rare flora. An appropriately timed flora survey would be required to determine whether any rare or priority flora species occur within the application area.

There are no known threatened ecological communities (TECs) or priority ecological communities (PECs) mapped within the application area. The vegetation under application is unlikely to be representative of a TEC or PEC (Parks and Wildlife, 2015).

The local area surrounding the application area retains approximately 20 per cent native vegetation, and is considered to be extensively cleared. One of the mapped vegetation associations retains approximately 17 per cent of its pre-European extent within the Mallee bioregion, which is less than the 30 per cent national objectives target (Government of Western Australia, 2014). Large-sized remnants within extensively cleared landscapes, such as the 630 hectares under application, represent significant habitat resources for flora and fauna within a highly fragmented local landscape.

The application area is in very good to completely degraded (Keighery, 1994) condition, is part of a mapped macro habitat corridor within an extensively cleared landscape, contains suitable habitat for conservation significant fauna species, and may contain rare and priority flora, and is therefore considered to comprise a high level of biodiversity.

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

Methodology

References:

DEC (2008)
DER (2015)
Government of Western Australia (2014)
Keighery (1994)
Parks and Wildlife (2007-)
Parks and Wildlife (2015)
TSSC (2008a)
TSSC (2008b)
TSSC (2008c)
Wilkins et al, (2006)

GIS Databases:
- SAC bio datasets accessed December 2015
- NLWRA, Current Extent of Native Vegetation

(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.

Comments

Proposed clearing is at variance to this Principle

The vegetation under application changes in condition, density, and structure throughout the application area and is therefore considered to provide a variety of habitats.

The majority of the application area has been mapped within strategic zone B of the Western Australian South Coast Macro Corridor Network, and is within close proximity to areas of strategic zone A (Wilkins et al, 2006). Zone A areas are defined as cells where large remnants (greater than 30 hectares) and protected areas create the most direct link between core habitat areas. Zone B cells were identified as having large areas (greater than 30 hectares) of woody vegetation and protected areas providing habitat linkages, but which did not create the most direct link between protected areas. In the South Coast region, landscape connectivity is considered a high priority. The extent of the proposed clearing will impact on landscape connectivity functionality (Parks and Wildlife, 2015).

A total of 15 fauna species of conservation significance have been recorded within 20 kilometres of the application area (Parks and Wildlife, 2007-). Of these, the vegetation under application may provide suitable habitat for 11 species including Carnaby's cockatoo (*Calyptorhynchus latirostris*), numbat (*Myrmecobius fasciatus*), malleefowl (*Leipoa ocellata*), chuditch (*Dasyurus geoffroi*) and western heath mouse (*Pseudomys shortridgei*) all listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (Parks and Wildlife, 2015), rainbow bee-eater (*Merops ornatus*) listed under an international migratory birds agreement, peregrine falcon (*Falco peregrinus*) listed as other specially protected fauna, and for priority fauna western rosella (*Platycercus icterotis* subsp. *xanthogenys*; Priority 4), western mouse (*Pseudomys occidentalis*; Priority 4), western whipbird (*Psophodes nigrogularis* subsp. *oberon*; Priority 4) and tammar wallaby (*Macropus eugenii* subsp. *derbianus*; Priority 5).

Carnaby's cockatoos were once abundant in Western Australia; however since the late 1940s the species has suffered a 30 per cent contraction in range, a 50 per cent decline in population and, between 1968 and 1990, disappeared from more than a third of its breeding range (Saunders, 1990; Saunders & Ingram, 1998; Shah, 2006; Garnett et al, 2011).

The Carnaby's cockatoo recovery plan (Parks and Wildlife, 2013) summarises habitat critical to the survival for this species as:

- the eucalypt woodlands that provides nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- in the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources.

The recovery plan also 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" (Parks and Wildlife, 2013).

Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including proteaceous and eucalyptus species, allocasuarina, *Corymbia calophylla*, and a range of introduced species (Valentine & Stock, 2008). The application area contains vegetation that is used by this species for feeding.

Breeding habitat for Carnaby's cockatoos is defined as trees of species known to support breeding within the range of the species 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, suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). For Carnaby's cockatoos the entrance to hollows must have a minimum diameter of at least 100 millimetres to be suitable (DEC, 2010). No trees with significant hollows were identified within the application area during a site inspection (DER, 2015).

Based on the presence of foraging habitat within the application area, location within an extensively cleared landscape, and proximity to confirmed nesting sites at Cocanarup Timber Reserve, located approximately six kilometres from the application area, the vegetation under application may comprise significant foraging and roosting habitat for Carnaby's cockatoo.

The malleefowl occurs in shrublands and low woodlands that are dominated by mallee vegetation (DotE, 2015a). The significant decline in malleefowl numbers has resulted from a number of threats, including loss of vegetation due to clearing for agricultural purposes, fox predation, and the degradation of habitat by fire (DotE, 2015a). Malleefowl require a sandy substrate and abundance of leaf litter to build mounds for roosting purposes (DotE, 2015a). Habitat suitable for malleefowl is found within the application area and a fauna survey targeted at malleefowl would be required to determine their presence within the application area.

The rainbow bee-eater and peregrine falcon are highly mobile avian species with large home ranges. The vegetation under application is not likely to comprise significant habitat for these species.

At the southern extent of their range chuditch occur in woodlands, mallee shrublands, and heaths (DEC, 2012). The heath mouse occurs in mallee scrub over heath and mixed scrub (DotE, 2015b). The application area contains habitat suitable for these species.

The application area is located within a corridor classified as regionally significant for the movement of endemic fauna, includes vegetation in good or better condition (Keighery, 1994) and a variety of habitats, and contains suitable habitat for conservation significant fauna species, and is therefore considered to comprise a significant

habitat for fauna.

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

Methodology References:
Commonwealth of Australia (2012)
DEC (2010)
DEC (2012)
DotE (2015a)
DotE (2015b)
Garnett et al (2011)
Parks and Wildlife (2007-)
Parks and Wildlife (2013)
Parks and Wildlife (2015)
Saunders (1990)
Saunders & Ingram (1998)
Shah (2006)
Valentine & Stock (2008)
Wilkins et al (2006)

GIS Databases:
- Carnaby cockatoo confirmed breeding sites
- SAC bio datasets accessed December 2015

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

Comments **Proposed clearing may be at variance to this Principle**
The vegetation under application may provide suitable habitat for four flora species listed as declared rare flora under the *Wildlife Conservation Act 1950* and vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Parks and Wildlife, 2015).

One rare flora species has been recorded approximately five kilometres from the application area, and occurs in moist sandy soil in heath (DEC, 2008). This record occurs within the same mapped vegetation associations and soil types as those found within the application area.

Parks and Wildlife (2015) advised that a further three rare flora species may occur within the application area based on similarities of preferred habitat with the vegetation under application. One species grows on plains of sandy clay loam tall open woodlands of Mallee and Karri or in low open woodland with Yate over Acacia shrubland (TSSC, 2008a), another species prefers disturbed sites associated with eucalypt woodlands with tall shrubs or mallee woodlands (TSSC, 2008b), and the third species occurs in open heath and sedges on seasonally wet sandy clay soils (TSSC, 2008c).

The application area is comprised of 630 hectares of vegetation in varying condition and with changing species composition and density. Given the vegetation preferred by the four species, the application area may contain native vegetation that includes rare flora or is necessary to support the existence of rare flora.

Given the above, the proposed clearing may be at variance to this principle. A targeted survey for conservation significant flora, undertaken at the appropriate time of year by a suitable qualified botanist, would be required in order to confirm the potential level of impact to rare flora species.

Methodology References:
DEC (2008)
Parks and Wildlife (2015)
TSSC (2008a)
TSSC (2008b)
TSSC (2008c)

GIS Databases:
- SAC bio datasets accessed December 2015

(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.

Comments **Proposed clearing is not likely to be at variance to this Principle**
One threatened ecological community (TEC) is mapped within the local area (10 kilometre radius). This TEC, Proteaceae Dominated Kwongkan Shrublands of the southeast coastal floristic province of Western Australia, is listed as endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. This TEC is dominated by flowering shrub species from the Proteaceae family, sometimes with a mallee woodland canopy (TSSC, 2014).

Parks and Wildlife advised that the vegetation under application is not likely to comprise this TEC (Parks and

Wildlife, 2015).

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

Methodology References:
Parks and Wildlife (2015)
TSSC (2014)

GIS Databases:
- SAC bio datasets accessed December 2015

(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.

Comments Proposed clearing is at variance to this Principle

The local area (10 kilometre radius) is extensively cleared, with approximately 20 per cent vegetation remaining.

The area under application is located within the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 57 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2014).

The area under application is located within the Shire of Ravensthorpe, which retains approximately 62 per cent pre-European extent of native vegetation cover (Government of Western Australia, 2014).

The vegetation under application is mapped as Beard vegetation associations 519 and 940, which respectively have approximately 59 and 17 per cent of their pre-European extents remaining within the Mallee bioregion (Government of Western Australia, 2014).

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). One of the mapped vegetation associations retains a level lower than national objectives, within an extensively cleared landscape.

The application area is likely to provide habitat for several conservation significant fauna, has been classified as regionally significant for the movement of endemic fauna, and may contain rare and priority flora species, and as such the application is considered to be a significant remnant within an extensively cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Mallee	7,395,894	4,181,381	57	31
Shire*				
Shire of Ravensthorpe	982,194	605,475	62	32
Beard Vegetation Association in Bioregion*				
519	2,100,314	1,248,665	59	18
940	832	145	17	

*Government of Western Australia (2014)

Methodology References:
Commonwealth of Australia (2001)
Government of Western Australia (2014)

GIS Databases:
- SAC bio datasets
- NLWRA, Current Extent of Native Vegetation

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

Comments Proposed clearing is at variance to this Principle

There are several minor non-perennial watercourses mapped within the application area. No major watercourses occur within close proximity to the application area.

Advice from the Commissioner of Soil and Land Conservation (CSLC) states that the application area is well drained with defined waterways.

During a site inspection, vegetation growing in association with a creek was observed (DER, 2015).

Given the above, the proposed clearing is at variance to this principle. The applicant advised that they do not intend to clear vegetation within the creekline (DER, 2015).

Methodology References:
DER (2015)

GIS Databases:
- Hydrography, linear
- Hydrography, hierachy

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

Comments Proposed clearing is seriously at variance to this Principle

The application area occurs on the mid and upper slope of the landscape, and the property drains south west towards the West River (CSLC, 2015).

The application area is mapped as two soil landscape map units. The majority of the application area occurs within the Upper Fitzgerald 5 subsystem map unit 243 Uf_5, described as head water rises, with long moderately inclined converging slopes on colluvium and minor alluvium on granitic, granodioritic and dolerite bedrock, with soils a mix of deep and shallow gravelly and sandy duplex soils and hard setting, non-cracking grey clays (CSLC, 2015). The remaining area occurs within Upper Fitzgerald 7 subsystem map unit 243 Uf_7, described as very gently undulating upland plain on colluvium over deeply weathered granite, with soils of shallow sandy and loamy duplex soils with minor hard setting, non-cracking grey clays (CSLC, 2015).

The Commissioner of Soil and Land Conservation (CSLC) advised that given the soil types present, the lack of slopes and the proposed landuse, the risk of wind and water erosion causing land degradation as a result of the proposed clearing is low, however the proposed clearing could lead to eutrophication especially if the land became waterlogged. The CSLC noted, however, that the area is well drained and has defined watercourses and that significant waterlogging is unlikely (CSLC, 2015).

The CSLC advised that the likelihood of land degradation in the form of salinity occurring as a result of the proposed clearing of the Upper Fitzgerald 7 subsystem is very high, consistent with LandMonitor salinity risk ratings and supported by groundwater monitoring bore data in the vicinity of the application area (CSLC, 2015).

Following the appearance of salinity outbreaks within drainage lines in 1992, a groundwater monitoring bore was drilled approximately two kilometres downslope from the western boundary of the application area. The groundwater at this site is extremely close to the ground surface (less than 1.8 metres) and has a salinity of 6120 mS/M (CSLC, 2015). This level of salinity is approximately equal to 33660 mg/L (DAFWA, 2015), with levels between 5000 mg/L and 50000 mg/L considered saline (WRC, 2000). Measurements from other nearby monitoring bores report similar values.

The CSLC advised that while no salinity was observed on site, the extent of the proposed clearing is very likely to significantly increase salinity and water table levels, both locally within the application area and downslope in the tributaries of the West River (CSLC, 2015). Noting this, it is considered that the proposed clearing is very likely to cause appreciable land degradation in the form of salinity.

Given the above, the proposed clearing is seriously at variance to this principle.

Methodology References:
CSLC (2015)
DAFWA (2015)
WRC (2000)

GIS Databases:
- Hydrography, linear
- Hydrography, hierachy

(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.

Comments Proposed clearing may be at variance to this Principle

Fitzgerald National Park is located 10 kilometres south of the application area. There are also three nature reserves and a timber reserve located within 10 kilometres of the application area. The Cocanarup Timber Reserve is an 8000 hectare area of vegetation confirmed as a Carnaby's cockatoo breeding area and a numbat translocation area. The application area is positioned mid-way between an unnamed nature reserve and Fitzgerald National Park, and is connected to these areas by continuous (but narrow) corridors of

vegetation. The application area is likely to facilitate fauna movement between other large remnants of vegetation in the landscape.

The majority of the application area has been mapped within strategic zone B of the Western Australian South Coast Macro Corridor Network, and is within close proximity to areas of strategic zone A (Wilkins et al, 2006). Zone A areas are defined as cells where large remnants (greater than 30 hectares) and protected areas create the most direct link between core habitat areas. Zone B cells were identified as having large areas (greater than 30 hectares) of woody vegetation and protected areas providing habitat linkages, but which did not create the most direct link between protected areas. In the South Coast region, landscape connectivity is considered a high priority. The extent of the proposed clearing will impact on landscape connectivity functionality (Parks and Wildlife, 2015).

Whilst the proposed clearing is unlikely to sever fauna corridors, the removal of a large area of vegetation within a highly cleared local area (20 per cent vegetation remaining) will contribute towards further landscape fragmentation and decrease the effectiveness of the remaining fauna corridors.

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

Methodology References:
Parks and Wildlife (2015)
Wilkins et al (2006)

GIS Databases:
- DPaW Tenure
- NLWRA, Current Extent of Native Vegetation
- SAC bio datasets accessed December 2015

(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.

Comments Proposed clearing is seriously at variance to this Principle

There are numerous minor non perennial watercourses mapped within the application area, however no major watercourses or wetlands occur within close proximity to the application area. The proposed clearing may cause a short term increase in sedimentation of the watercourses during rainfall, however this is likely to be minimal.

Advice from the Commissioner of Soil and Land Conservation (CSLC) states that the application area is located on the mid and upper slope of the landscape, contains soils with a mix of deep and shallow duplexes and grey clays, is well drained with defined waterways, and drains south west towards the West River (CSLC, 2015).

The CSLC advised that given the soil types present, the lack of slopes and the proposed landuse, the risk of wind and water erosion causing land degradation as a result of the proposed clearing is low and significant waterlogging is unlikely, however that the likelihood of land degradation in the form of salinity occurring is very high (CSLC, 2015).

Following the appearance of salinity outbreaks within drainage lines in 1992, a groundwater monitoring bore was drilled approximately two kilometres downslope from the western boundary of the application area. The groundwater at this site is extremely close to the ground surface (less than 1.8 metres) and has a salinity of 6120 mS/M (CSLC, 2015). This level of salinity is approximately equal to 33660 mg/L (DAFWA, 2015), with levels between 5000 mg/L and 50000 mg/L considered saline (WRC, 2000). Measurements from other nearby monitoring bores report similar values.

The CSLC advised that while no salinity was observed on site, the extent of the proposed clearing is very likely to significantly increase salinity and water table levels, both locally within the application area and downslope in the tributaries of the West River (CSLC, 2015). Noting this, it is considered that the proposed clearing is very likely to cause deterioration in the quality of underground water.

Given the above, the proposed clearing is seriously at variance to this principle.

Methodology References:
CSLC (2015)
DAFWA (2015)
WRC (2000)

GIS Databases:
- Hydrography, linear
- Hydrography, hierachy

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

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

The annual rainfall of the local area is 400 millimetres.

There are several minor non-perennial watercourses mapped within the application area. No major watercourses occur within close proximity to the application area.

Advice from the Commissioner of Soil and Land Conservation (CSLC) states that the application area occurs on the mid and upper slope of the landscape and is well drained with defined waterways, that the proposed clearing is unlikely to significantly increase surface runoff which would contribute to stream flows, and that the risk of flooding causing land degradation (which may affect the volume of surface water runoff) is low (CSLC, 2015).

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

Methodology References:
CSLC (2015)

GIS Databases:
- Hydrography, linear
- Hydrography, hierachy

Planning instruments and other relevant matters.

Comments The clearing of 630 hectares of native vegetation within Lot 1692 on Deposited Plan 208474, West River, is for the purpose of cropping and pasture. The proponents have advised that the application area was previously cleared over 20 years ago and some areas were cropped.

Submissions were received from The Wilderness Society WA Inc and the Conservation Council of WA. The submissions identify a number of environmental impacts of the proposed clearing (The Wilderness Society, 2015). These concerns have been addressed under principles (a), (b), (c) and (h).

The proposed clearing is zoned general agriculture under the town planning scheme.

The vegetation is within the agricultural area defined in Environmental Protection Authority Position Statement No.2 (EPA, 2000), which states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinization. Therefore there is a general presumption against clearing within this area for agricultural purposes (EPA, 2000).

In exceptional circumstances the EPA would consider supporting clearing for agriculture within this region if:

- there are alternative mechanisms for protecting biodiversity;
- the area to be cleared is relatively small, depending on the scale at which biodiversity changes over the area, including extent of vegetation in the surrounding area and recognising that values will vary for different ecosystems;
- the proponent demonstrates that the elements set out in Section 4.3 of this Position Statement are being met. This will require extensive local and regional biodiversity work; and/or
- land degradation, including aquatic environments and threatening processes, such as dieback, salinisation or disruption of catchment processes, on-site and off-site would not be exacerbated.

There are no Aboriginal Sites of Significance mapped within the application area.

DER wrote to the applicant on 25 January 2016 advising that the preliminary assessment had identified a number of significant environmental impacts associated with the proposed clearing and inviting the applicant to provide further information in respect to these matters (DER Ref A1034674). The applicant responded to DER's letter, noting that a flora survey would confirm any endangered flora and requesting advice on associated cost and timeframe, advising that there are no recent observations of Carnaby's cockatoo or malleefowl activity within the application area and that to avoid land degradation issues waterways were not proposed to be cleared, and providing additional information in respect to vegetation communities and the extent of regrowth within the application area (DER Ref 1058738).

The applicant's response and additional information was considered in the context of this assessment, and it is considered that the proposed clearing is still likely to cause significant land degradation in the form of salinity and continues to have unacceptable environmental impacts to flora and fauna in an extensively cleared landscape.

Methodology References:
EPA (2000)
The Wilderness Society (2015)

GIS Databases:
- Aboriginal Sites Register System

4. References

- Commissioner of Soil and Land Conservation (2015) Advice received in relation to Clearing Permit application CPS 6765/1. Received 8 December 2015. Commissioner of Soil and Land Conservation, Perth.
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- Department of Environment and Conservation (2008) Rare flora species 1 - Recovery Plan 2006-2011. Interim Recovery Plan No. 223. Department of Environment and Conservation, Perth, Western Australia.
- Department of Environment and Conservation (2010) Artificial Hollows for Carnaby's Black Cockatoo. An Investigation of the Placement, Use, Monitoring and Maintenance Requirements of Artificial Hollows for Carnaby's Black Cockatoo. Department of Environment Conservation, Western Australia.
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- Garnett, S., Szabo, J. and Dutson, G. (2011) The Action Plan for Australian Birds 2010. CSIRO Publishing, Melbourne, Victoria.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. Department of Parks and Wildlife, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Saunders, D. (1990) Problems of survival in an extensively cultivated landscape: the case of Carnaby's cockatoo *Calyptorhynchus funereus latirostris*. *Biological Conservation*. 54: 277-290.
- Saunders, D. and Ingram, J. (1998) Twenty-eight years of monitoring a breeding population of Carnaby's cockatoo. *Pacific Conservation Biology*. 4: 261-270.
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