



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6364/1
Permit Holder:	Graham Henry Eric Baker
Duration of Permit:	6 June 2015 to 6 June 2020

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

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of cropping and pasture.

2. Land on which clearing is to be done

Lot 10333 on Deposited Plan 206632, Boothendarra.

3. Area of Clearing

The Permit Holder shall not clear more than 80 hectares of native vegetation within the areas cross hatched yellow on the attached Plan 6364/1.

4. Application

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

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared;
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared;

DEFINITIONS

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

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

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

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

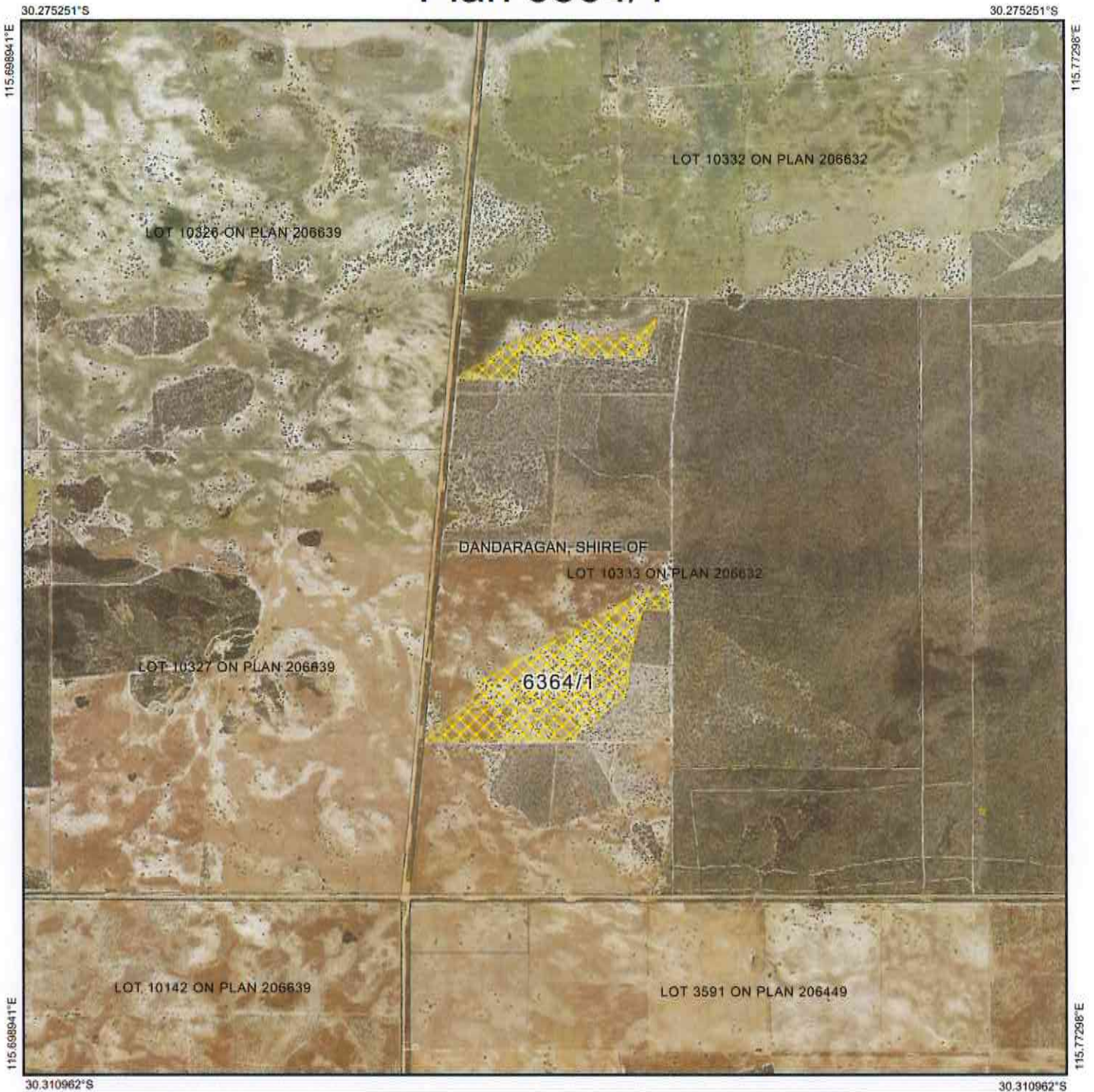


M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

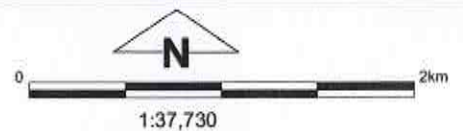
7 May 2015

Plan 6364/1



Legend

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



(Approximate when reproduced at A4)
GDA 94 (Lat/Long)
Geocentric Datum of Australia 1994

M Warnock Date 7/5/15
M Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the



1. Application details

1.1. Permit application details

Permit application No.: 6364/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Mr Graham Henry Eric Baker

1.3. Property details

Property: LOT 10333 ON PLAN 206632, BOOTHENDARRA
Local Government Authority: DANDARAGAN, SHIRE OF
DER Region: Midwest
Localities: BOOTHENDARRA

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
80		Mechanical Removal	Cropping

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 07 May 2015

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 1031 is described as Shrublands; hakea scrub-heath / Shrublands; dryandra heath (Shepherd et al, 2001).	The clearing of 80 hectares of native vegetation within Lot 10333 on Deposited Plan 206632, Boothendarra, for the purpose of cropping and pasture.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) To	The condition and description of the vegetation was determined by a site inspection undertaken by Department of Environment Regulation Officers (DER, 2015).
Mapped Beard Vegetation Association 1036 is described as Low woodland; Banksia prionotes (Shepherd et al, 2001).		Completely Degraded: No longer intact; completely /almost completely without native species (Keighery 1994)	The revised application area is in a completely degraded (Keighery, 1994) condition and comprised largely of Eucalyptus todtiana over exotic grasses and appears to have been previously parkland cleared and historically grazed (DER, 2015).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The revised clearing of 80 hectares of native vegetation within Lot 10333 on Deposited Plan 206632, Boothendarra, is for the purpose of cropping and pasture. The application was initially for the proposed clearing of 496 hectares and included vegetation in excellent (Keighery, 1994) condition. The proponent has since limited the application 80 hectares of native vegetation that has undergone significant historical disturbance and is in a degraded to completely degraded (Keighery, 1994) condition.

The revised application area has been parkland cleared and consists largely of Eucalyptus todtiana over exotic grasses. The area appears to have been consistently grazed (DER, 2015) as there are few understorey species on site.

Several rare and priority flora species have been recorded in the local area (20 kilometre radius). The closest of these are three Priority 2 species mapped approximately 3.9 kilometres north west, and 7.7 and nine kilometres south east of the application areas.

Given that the revised application area is in a degraded to completely degraded (1994) condition and contains relatively few understorey species (DER, 2015), the proposed clearing is not likely to impact on any priority flora.

There are no threatened or priority ecological communities mapped within the local area.

Several fauna species of conservation significance have been recorded within the local area.

Carnaby's cockatoo (*Calyptorhynchus latirostris*) forages on the seeds, nuts and flowers of a large variety of plants including proteaceous species (banksia, hakea, grevillea), as well as allocasuarina and eucalyptus species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). Carnaby's cockatoos are listed as rare or likely to become extinct and declared to be in need of special protection under the Wildlife Conservation Act 1950. The application area contains suitable foraging habitat for this species. However, given the degraded condition of the vegetation (DER, 2015), it is not likely that this area constitutes significant habitat, particularly given areas of higher quality vegetation adjacent (included within the initial application) and within Watheroo National Park.

There is approximately 50 per cent native vegetation remaining within the local area of the proposed clearing and 44 per cent vegetation remaining within the Shire of Dandaragan. Beard Vegetation Association 1031 which is mapped over the southern portion of the application area, is under represented and retains approximately 19 per cent of its pre-European extent (Government of Western Australia, 2013).

The revised application area has undergone significant historical disturbance and is not considered likely to contain a high level of biodiversity (DER, 2015), therefore the proposed clearing is not likely to be at variance with this Principle.

Methodology

References:

- DER (2015)
- Government of Western Australia (2013)
- Keighery (1994)
- Valentine and Stock (2008)

GIS Databases:

- 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

Proposal is not likely to be at variance to this Principle

There are nine fauna species of conservation significance mapped within the local area (20 kilometre radius), these being, Carnaby's cockatoo (*Calyptorhynchus latirostris*), grey falcon (*Falco hypoleucos*), malleefowl (*Leipoa ocellata*), fork-tailed swift (*Apus pacificus*), rainbow bee-eater (*Merops ornatus*), woma python (*Aspidites ramsayi*), south west carpet python (*Morelia spilota* subsp. *imbricata*), freshwater crustacean (*Daphnia jollyi*) and western brush wallaby (*Macropus irma*) (DPaW, 2007-).

The initial application proposed clearing 496 hectares of vegetation which included vegetation in excellent (Keighery, 1994) condition (DER, 2015), comprising medium to dense heath with a suite of native species and identified as significant habitat for fauna. The proponent has since revised the application area to include 80 hectares of native vegetation in a degraded to completely degraded (Keighery, 1994) condition.

The malleefowl (*Leipoa ocellata*) occurs in shrublands and low woodlands that are dominated by mallee vegetation (DotE, 2015). Malleefowl require a sandy substrate and abundance of leaf litter to build mounds for roosting purposes (DotE, 2015). This species has been recently recorded within the adjacent Watheroo National Park. It is unlikely that the revised application area provides suitable habitat for this species given the malleefowl's requirement for an abundance of leaf litter, which is lacking on site.

Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (banksia, hakea, grevillea), as well as allocasuarina and eucalyptus species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008), therefore the application area comprises vegetation that is the preferred foraging habitat for this species. Carnaby's cockatoos were observed flying overhead during a site inspection of the application area (DER, 2015).

The application area contains scattered *Eucalyptus todtiana* over invasive exotic grasses. Although this area has been subject to significant historical disturbance and lacks native understorey (DER, 2015), the trees provide suitable foraging habitat for Carnaby's cockatoo. However, given that there are extensively vegetated areas of suitable Carnaby's cockatoo habitat located within close proximity, including Watheroo National Park and the remnants now excluded from the application, the proposed clearing is unlikely to provide significant foraging habitat in a local context.

There were no trees with significant hollows identified on site during DER's site inspection of 14 January 2015 and therefore the vegetation is not considered to contain suitable breeding habitat for Carnaby's cockatoo. 'Breeding habitat' 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 millimeters (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).

The closest watercourse to the application area is a minor non perennial watercourse located approximately one kilometre west of the application areas, therefore the proposed clearing is not likely to impact on the freshwater crustacean (*Daphnia jollyi*).

The grey falcon (*Falco hypoleucos*) inhabits inland drainage systems favouring acacia shrublands that are crossed by tree-lined watercourses with its preferred nests usually within the tallest trees along a watercourse (Birdlife International, 2012). Given that there are no watercourses on site, and no major watercourses with large trees within close proximity to the site, the application areas are not likely to provide significant habitat for this species.

The fork-tailed swift (*Apus pacificus*) and rainbow bee-eater (*Merops ornatus*) are highly mobile avian species with large home ranges and are thus unlikely to be significantly impacted upon by the proposed clearing.

The woma python (*Aspidites ramsayi*), south west carpet python (*Morelia spilota* subsp. *imbricata*) and western brush wallaby (*Macropus irma*) all have singular records with the local area taken in 1966, 1964 and 1979 respectively. Given the length of time since these species were last recorded, the proposed clearing is not likely to impact on significant habitat for these species.

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

Methodology References:
-Birdlife International (2012)
-DPaW (2007-)
-DEC (2010)
-DER (2015)
-DotE (2015)
-Keighery (1994)
-Commonwealth of Australia (2012)
-Valentine and Stock (2008)

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

Comments **Proposal is not likely to be at variance to this Principle**
One species of rare flora has been mapped within the local area of the proposed clearing (20 kilometre radius). This species has been mapped approximately 3.4 kilometres from the application area and is a prostrate to ascending shrub, 0.08 to 0.3 metres high that flowers from October to November and has a preference for yellow and grey sand (Western Australian Herbarium, 1998-).

The nearest records for this species have been recorded growing in association with *Eucalyptus todtiana*, *Xylomelum angustifolium* and *Banksia* species (Parks and Wildlife, 2015). Although *Eucalyptus todtiana* are scattered throughout the site, the revised application area has been heavily impacted upon by historical clearing and grazing, contains little to no understorey species and is therefore unlikely to include this species or provide suitable habitat.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
-Western Australian Herbarium (1998-)
-Parks and Wildlife (2015)

GIS Databases:
-SAC Bio Datasets (Accessed January 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 **Proposal is not likely to be at variance to this Principle**
There are no threatened ecological communities mapped within the local area (20 kilometre radius), therefore the proposed clearing is not likely to comprise the whole or part of, or be necessary for the maintenance of a threatened ecological community.

The proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
-SAC Bio Datasets (Accessed January 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 **Proposal is not likely to be at variance to this Principle**
The local area (20 kilometre radius) surrounding the application areas retains approximately 50 per cent native vegetation. The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The Swan Coastal Plain, Shire of Dandaragan and mapped Beard Vegetation Associations (1031 and 1036) retain approximately 39, 44, 19 and 37 per cent of their pre-European vegetation extents respectively (Government of Western Australia, 2013).

Of these, Beard Vegetation Association (BVA) 1031, which is mapped over the 62 hectares of the southern portion of the application area, falls below the abovementioned 30 per cent threshold.

The application area is in a degraded to completely degraded (Keighery, 1994) condition, largely comprises Eucalyptus todtiana over exotic grasses and is not considered to be a significant remnant. The vegetation is not considered to be representative of BVA 1031, which is described as shrublands with hakea scrub-heath and shrublands with dryandra heath (Shepherd et al, 2001), therefore the proposed clearing is not considered to fall within an extensively cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion				
Swan Coastal Plain	1,501,222	586,975	39	36
Shire of Dandaragan	670,531	297,437	44	42
Beard Vegetation Association in Bioregion				
1031	27,730	5,352	19	14
1036	85,526	31,450	37	51

Methodology References:
-Government of Western Australia (2013)
-Commonwealth of Australia (2001)
-Keighery (1994)
-Shepherd et al (2001)

GIS Databases:
-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 **Proposal is not likely to be at variance to this Principle**
The closest watercourse to the application areas is a minor non perennial watercourse located approximately one kilometre west. A major tributary adjoining Boothendarra Creek is located approximately 1.5 kilometres west of the application areas.

There was no visible signs of a watercourse on site (DER, 2015) and there are no wetlands or watercourses mapped within or within close proximity to the application areas.

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

Methodology References:
-DER (2015)

GIS Databases:
-Hydrography, Linear
-Hydrography, Hierachy
-Geomorphic Wetlands

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

Comments Proposal is not likely to be at variance to this Principle

The Commissioner of Soil and Land Conservation (CSLC) advises that the soil types on site have been mapped mainly as Coalara 7 Subsystem, Map unit 222Co7 with lesser areas of Coalara 6 Minor valley Phase Map unit 222Co_6c and Coalara 5 plain Phase Map unit 222Co_5a. The application areas are located on the mid and upper slope positions of the landscape. The soils are mainly pale and yellow deep sands and some gravels (CSLC, 2015).

It is advised that during the 1990's the district suffered widespread wind erosion on crop and pastures grown on the deep pale sands.

Significant soil erosion was not observed on this property (Lot 10333) during this period and wind erosion is unlikely to result in appreciable land degradation on site if appropriate levels of ground cover are maintained (CSLC, 2015). The proponent has advised that the property would be clayed to maximise crop yield. Claying would further help to stabilise the dry sand soils on site.

It is advised that the risk of salinity, eutrophication, water erosion, waterlogging and flooding causing land degradation is low and the areas proposed for clearing have a moderate to high capability for the intended agricultural land use (CSLC, 2015).

The proposed clearing is not likely to be at variance to this clearing Principle.

Methodology References:
-CSLC (2015)

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

The proposed clearing is approximately two kilometres west of Watheroo National Park and Boothendarra Nature Reserve is located approximately 3.5 kilometres north west of the application area.

The application area is in a degraded to completely degraded (Keighery, 1994) condition and given that the application area has been amended to exclude the extensive remnant between the current application area and Watheroo National Park, the proposed clearing is not likely to impact on this conservation area.

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

Methodology References:
-Keighery (1994)

GIS Databases:
-Parks and Wildlife Tenure

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

The closest watercourse to the application areas is a minor non perennial watercourse located approximately one kilometre west of the application area. A major tributary adjoining Boothendarra Creek is located approximately 1.5 kilometres west of the application areas.

The Commissioner of Soil and Land Conservation has advised that the risk of salinity, eutrophication, water erosion, waterlogging and flooding causing land degradation is low (CSLC, 2015) and given the distance to the closest watercourse, it is unlikely that the proposed clearing will cause a deterioration in the quality of surface or groundwater.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
-CSLC (2015)

GIS Databases:
-Rainfall, Mean Annual
-Hydrography, Linear
-Hydrography, Hierarchy

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

Comments **Proposal is not likely to be at variance to this Principle**
Given the annual rainfall of the local area (20 kilometre radius) is 600 millimetres per annum, distance to closest mapped watercourse, and advice from the Commissioner of Soil and Land Conservation which indicates that the risk of flooding on site is low (CSLC, 2015), the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
-CSLC (2015)

GIS Databases:
-Rainfall, Mean Annual
-Hydrography, Linear
-Hydrography, Hierarchy

Planning instruments and other relevant matters.

Comments The revised clearing of 80 hectares of native vegetation within Lot 10333 on Deposited Plan 206632, Boothendarra, is for the purpose of cropping and pasture. The proponent has advised that the application area have at some stage been previously cleared and the intention is to utilise the land for agriculture to the extent that it was previously cleared. It is advised that the land would be clayed to enable sustainable farming practices.

The initial application comprised 496 hectares and included vegetation in an excellent (Keighery, 1994) condition which provides significant habitat for fauna, and may contain rare and priority flora species. The proponent has amended the application area to exclude vegetation in good to excellent (Keighery, 1994) condition, and now includes only that vegetation in a degraded to completely degraded (Keighery, 1994) condition (DER, 2015).

The Department of Agriculture and Food Western Australia (DAFWA, 2015) has advised that a Notice of Intent to Clear (NOIC) 580 hectares within Lot 10333 was received by DAFWA in 1997. The NOIC was objected to by DAFWA and no further NOIC's were lodged in relation to this property.

The proposed clearing is zoned rural under the town planning scheme.

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

Methodology References:
-EPA (2000)
-Keighery (1994)
-DER (2015)
-DAFWA (2015)

GIS Databases:
-Town Planning Scheme Zones

4. References

- BirdLife International 2012. Falco hypoleucos. The IUCN Red List of Threatened Species. Version 2014.3. www.iucnredlist.org. accessed 5 March 2015.
- Commissioner of Soil and Land Conservation (2015) Land Degradation Assessment Report for Clearing Permit Application CPS 6364/1. Site inspection undertaken 8/01/2015. DER Ref A855288.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra
- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
- DAFWA (2015) Additional information regarding Notice of Intent to Clear for Clearing Permit Application CPS 6364/1. DER Ref A876597.
- DEC (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.
- DPaW (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dec.wa.gov.au/>. Accessed January 2015.
- DER (2015) Site visit report for clearing permit application CPS 6364/1, 14 January 2015. Department of Environment Regulation, Western Australia
- DotE (2015) 'Leipoa ocellata' in Species Profile and Threats Database, Department of the Environment, Canberra.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- Government of Western Australia (2013) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2013. WA Department of Environment and Conservation, 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.
- Parks and Wildlife (2015) Species and Communities Flora Advice for Clearing Permit Application CPS 6364/1. Department of Parks and Wildlife, Western Australia.
- Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnaragara 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. <http://florabase.dpaw.wa.gov.au/> (Accessed January 2015).