



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

### PERMIT DETAILS

Area Permit Number: 5410/1  
File Number: 2012/009289-1  
Duration of Permit: From 21 July 2013 to 21 July 2015

### PERMIT HOLDER

Robert Klaassen  
Anne Elizabeth Klaassen

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 10335 on Deposited Plan 206635, Boothendarra.

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 255 hectares of native vegetation within the area hatched yellow on attached Plan 5410/1.

### NOTE

In relation to condition 1(a), the Permit Holder need only comply with either condition 1(a)(i) or condition 1(a)(ii).

In relation to condition 1(b):

- The Crown must manage the ceded land for the purpose of conservation.
- The Crown shall pay for all transaction fees associated with the transfer of the land.
- Any costs associated with the management of the land, including removal of infrastructure, will be borne by the Crown.

### CONDITIONS

#### 1. Native vegetation conservation (conservation covenant or ceding of land for conservation)

- (a) Prior to commencement of clearing authorised under this permit, the Permit Holder shall either:
- (i) enter into a conservation covenant under Section 30B of the *Soil and Land Conservation Act 1945* to reserve in perpetuity 280 hectares of native vegetation within the area cross hatched red on attached Plan 5410/1 for the protection and management of vegetation; or
  - (ii) cede the land without cost within the area cross hatched red on attached Plan 5410/1 to the Crown.
- (b) If the Permit Holder enters into a conservation covenant under condition 1(a), the Permit Holder is to execute and return to the CEO the completed conservation covenant described in condition 1(a)(i) of this permit within one month of its completion and registration on the Certificate of Title.
- (c) The conservation covenant shall include, but not be limited to, the following conditions:
- (i) native vegetation in the area subject to the conservation covenant must not be cleared, other than required under the *Bush Fires Act 1954*;
  - (ii) the land subject to the conservation covenant shall not be used for the purpose of cultivation of crops or pasture, or for the de-pasturing of any stock; and

(iii) the conservation covenant is to apply in perpetuity and be registered on the Certificate of Title of the property.

## 2. 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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) 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:

*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; and

*weeds* means any plant -

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

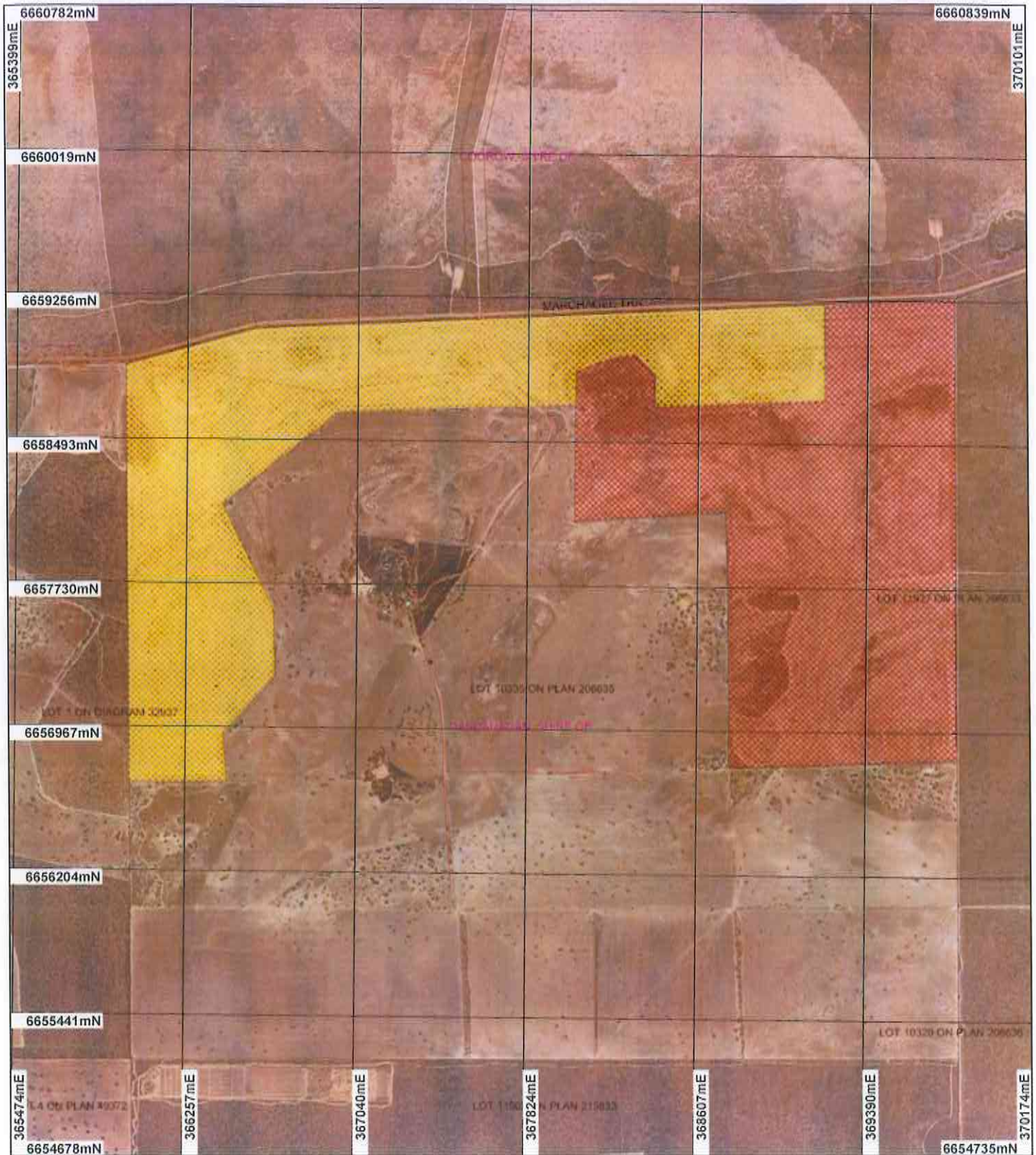


Jim Sharp  
Acting Director General  
Department of Environment and Conservation

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

21 June 2013

# Plan 5410/1



## LEGEND

- Road Centrelines  
Cadastre for labelling
- Local Government  
Authorities
- Clearing Instruments  
(cont)

- Areas Subject to Conditions
- Areas Approved to Clear  
Badgingarra 50cm  
Orthomosaic - Landgate  
2006



Scale 1:27194  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

*J Sharp* Date 21.6.13  
J Sharp

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 legend.



Department of Environment and Conservation

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\* Project Data. This data has not been quality assured. Please contact map author for details.



## 1. Application details

### 1.1. Permit application details

Permit application No.: 5410/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Robert and Anne Elizabeth Klaassen

### 1.3. Property details

Property: LOT 10335 ON PLAN 206635 (House No. 2060 MARCHAGEE BOOTHENDARRA 6521)

Local Government Area: Shire of Dandaragan

Colloquial name:

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 20 June 2013

## 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
The vegetation within the area is mapped as Beard vegetation type 1031 and described as Mosaic: Shrublands; dryandra heath / Shrublands; hakea scrub heath (Shepherd et al, 2001).	The proposed clearing of 255 hectares within Lot 10335 is for the purpose of agriculture; pasture with various perennials.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	In DEC site inspection 2007, grazing of the area was noted. In 2012 the vegetation toward the centre of the property was not regenerating as well as along the firebreaks, suggesting possible grazing impacts. The vegetation has the opportunity to regenerate to its natural state, if grazing is avoided.
	The vegetation under application has been historically cleared in 2003/2004 and chained in 2006, however the area has not been cropped or planted to pasture (DEC, 2012).	To	
	The vegetation is regenerating well and is in a good to very good (Keighery, 1994) condition.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation condition was determined through photos taken during a Department of Environment and Conservation site inspection in December 2012 (DEC 2012) and via aerial imagery (Badgingarra 50cm Orthomosaic - Landgate 2006).
	The north-west corner of the application area comprises grey sand consisting of species including xanthorrhoea, melaleuca, banksia, dryandra, eucalyptus and verticordia (DEC 2012). There is a lateritic ridge line along the western boundary consisting of species such as hakeas, hibbertia and xanthorrhoea (DEC 2012). No eucalyptus species or dryandra sessilis were present along the lateritic ridge.		
	The mid section of the western boundary comprises white sand over brown sand changing back to grey sand towards the south-west boundary of the application area. These areas consist of species including eucalyptus, banksia, proteaceae and lomandra (DEC, 2012).		
The vegetation is very sparse along the southern and south-eastern boundary of the application area (DEC, 2012).			
The north-east section of the application area comprises white sands with a diverse dense shrub layer with no emergent tree species (DEC, 2012). Species include verticordia, melaleuca, dryandra and xanthorrhoea (DEC, 2012).			

### 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 at variance to this Principle

The application area has been subject to impacts through clearing in 2003/2004 and was chained in 2006 (DEC, 2012), but has not been cropped or planted to pasture. A Department of Environment and Conservation (DEC) site inspection undertaken in 2007 noted grazing within the area. In 2012, it was noted that the vegetation in the application area is regenerating well, with apparently denser regeneration on the boundary sides, and sparser regeneration towards the centre of the property (DEC, 2012). On the margins, the weed load is relatively low, compared to the central areas. Bare areas in the application area along the outer areas are reflective of the natural conditions with this vegetation, while the bare areas towards the centre are more extensive than would be expected.

The regeneration in the grey sand areas along the Marchagee track (north boundary) is dominated by *Adenanthos* which is to be expected as this is a fast growing disturbance species. This species would normally decline after some years and be gradually replaced in dominance by the more diverse species. Given the diversity of other species noted, this secession would be expected to occur successfully.

There was also some structural integrity observed returning to the vegetation.

While regeneration of mature vegetation is expected to continue to progress rapidly and effectively around the property boundary margins of the application area, the regeneration on the inner margins would be somewhat limited. It was noted that this zone of poorer regeneration was approximately 30m in from the edge (DEC, 2012), which would support the assumption that this was caused by incursion of stock, soil disturbance and nutrient addition, creating a favourable environment for weed infestation.

The proposed clearing of 255 hectares within Lot 10335 is for the purpose of agriculture; pasture with various perennials. The vegetation is regenerating well and is in a good to very good (Keighery, 1994) condition.

Within the local area (10 kilometre radius) there are 63 species of priority flora and five species of rare flora recorded, with 15 priority species potentially occurring within the area under application (recorded within the same soil and vegetation type as the application area).

A number of priority flora occurrences are located in close proximity to the property. While some plot within the property, they are in fact located on the adjacent Marchagee Track, and hence would have been roadside collections. While no collections have been made from within the property, the vegetation through the area is similar. There is thus a reasonable likelihood that priority flora would have occurred on the property. It is, however, unknown what the regeneration potential is for these species to be regenerating in the area now.

In the 2007 and 2012 DEC site inspections, it was noted that there were *Dryandra* (*Banksia*), *Petrophile*, *Isopogon* and 'Proteaceae' species, that were not identified to species level, in the application area (DEC, 2007; DEC, 2012). It is possible that these may have included priority species as there are priority *Banksia* (including previous *Dryandra*) and *Petrophile* species nearby, which may also be mistaken for *Isopogon* or more common Proteaceae species.

There is thus a reasonable likelihood that priority flora occur in the area. The relative significance of potential occurrences is provided below.

Species most likely to occur in the area based on proximity:

- *Banksia* P3 species 1. Arrino and Eneabba to Boothendarra Nature Reserve, with occurrences in Alexander Morrison National Park and various other nature reserves. Subject land is not at extent of range.
- *Banksia* P4 species 1. Eneabba to Moore River, with local occurrences in Alexander Morrison, Watheroo and Badgingarra National Parks. Wide distribution and not of concern.
- *Banksia* P4 species 2. South Eneabba and Alexander Morrison National Park, and south to Dandaragan. Occurrences in Lesueur and Alexander Morrison National Parks. Site location is on the north east corner of property, and is the most eastern occurrence of the species.
- *Lasiopetalum* P2 species. Found in Alexander Morrison National Park (2 collections) and Boothendarra Nature Reserve (2 collections), and a disjunct location near Toodyay. The collection near the site was on the Marchagee Track adjacent to the eastern section of regenerating vegetation outside application area.
- *Lasiopetalum* P3 species. Eneabba to Moore River. Broad distribution and location is within range area.
- *Melaleuca* P3 species. Alexander Morrison National Park to Gingin. Broad distribution, but location is near the northern extent of range.
- *Petrophile* P3 species 1. Eneabba to Moore River with scattered occurrences. Not well reserved. Location is to the western edge of range.
- *Synaphea* P3 species. Broadly distributed from Yandanooka to Moore River and an outlier south of Perth. Not otherwise collected in local area of property.

Other priority species that may occur in the area:

- Banksia P3 species 2. Distributed around location.
- Banksia P3 species 3. Towards northern (disjunct) extent of range, and few collections in the area.
- Banksia P3 species 4. Distributed around location.
- Grevillea P4 species. Distributed around location.
- Petrophile P2 species. Known from three disjunct populations. The northern population is to the immediate north of the application area. Occurrence in the land would be a local range extension.
- Petrophile P3 species 2. Distributed around location.
- Verticordia P3 species 1. Distributed around location.
- Verticordia P3 species 2. Distributed around location.

Of these species, those with most conservation value to have habitat retained in the local area are Banksia P4 species 2, Banksia P3 species 4, Lasiopetalum P2 species, Melaleuca P3 species, Petrophile P3 species 1, Petrophile P2 species and Synaphea P3 species. The subject land thus has some potential habitat value for up to seven species of priority flora.

The clearing of the subject land will result in the loss of species rich vegetation that is regenerating effectively over a large proportion of the land, which is potential habitat for a number of priority species, and supports a broad range of food plants.

There is approximately 50 per cent vegetation remaining in the local area and the vegetation provides habitat for wildlife occurring within and dispersing from nearby conservation and vegetated areas as well as providing an ecological linkage with areas of remnant vegetation in the local area.

Given the large size and good to very good (Keighery, 1994) condition of the vegetation proposed to be cleared, its contribution to a ecological linkage and potential to provide habitat for priority flora species and fauna species, including small mammals and bird species, the vegetation under application comprises a high level of biological diversity.

The proposed clearing is at variance to this Principle.

The property has a strategic value in providing a vegetated buffer along the Marchagee Track and down the east side to enhance the vegetated strip running to the south from the Marchagee Track. These areas are largely outside the application area, but have been previously cleared. The section of previously cleared land that is regenerating, and is outside the application area to the east and south east is thus a priority area for retention to maintain a proportion of the priority flora habitat on the property, and retain a strategic vegetation buffer for the maintenance of regional vegetation values.

#### Methodology

Reference:

- Keighery (1994)
- DEC (2007)
- DEC (2012)

GIS databases:

- Badgingarra 50cm Orthomosaic - Landgate 2006
- Pre-European vegetation (DA 2001)
- DEC Tenure
- SAC Biodatasets (Accessed December 2012).

#### **(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 at variance to this Principle**

There are six records of conservation significant fauna species within the local area (10 kilometre radius), they are Australian Bustard and Grey Falcon (Priority 4), Woma (other specially protected fauna), Rainbow bee-eater and Fork-tailed Swift (Protected under international agreement) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) (listed as Rare or is likely to become extinct under the Western Australian Wildlife Conservation Act 1950 and Endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999). The vegetation under application may be suitable for the species listed above and other fauna indigenous to Western Australia.

The vegetation under application is considered to comprise predominantly of grey sands consisting of species including xanthorrhoea, hakea, banksia, eucalyptus and verticordia (DEC 2007; DEC 2012). There is a small area of lateritic gravelly soils consisting of species such as hakeas and banksia (DEC 2007; DEC 2012).

There is approximately 50 per cent vegetation remaining in the local area. The vegetation is considered to be in good to very good (Keighery, 1994) condition and provides habitat for wildlife occurring within and dispersing

from nearby conservation areas and an ecological linkage with areas of remnant vegetation in the local area.

A black cockatoo roost site has been recorded 25 kilometres from Lot 10335. The presence of Carnaby's cockatoo was noted in 2007 (DEC, 2007) and in 2012, flora species that are a food source for Carnaby's cockatoo were noted (DEC,2012).

It should be noted that a broad range of species, especially in the Proteaceae family, are potential food sources for Carnaby's cockatoo, and many recorded food plants were included in the species assessment for the application area. These include:

- Banksia attenuata
- Banksia prionotes
- Banksia (Dryandra) species
- Eucalyptus tottiana
- Grevillea species
- Hakea species, including Hakea incrassata
- Callitris species
- Isopogon species
- Petrophile species
- Jacksonia species
- Xanthorrhoea preissii

There are a broad range of known and potential food species for Carnaby's cockatoo present in the application area and the proposed clearing will thus result in a loss of feeding habitat for this species.

A minor tributary (Dewar Creek) stemming from the Boothendarra Creek to the west, cuts through the northern section of Lot 10335 within the proposed clearing area. This creek maybe an important water source for small fauna species.

Given the large size and good to very good (Keighery, 1994) condition of the vegetation under application which is regenerating effectively, and its contribution to an ecological linkage, the vegetation under application comprises significant habitat for fauna species, including small mammals, reptiles and bird species and feeding habitat for Carnaby's cockatoo.

The proposed clearing is at variance to this Principle.

#### Methodology

Reference:

- Keighery (1994)
- DEC (2007)
- DEC (2012)

GIS databases:

- Badgingarra 50cm Orthomosaic - Landgate 2006
- Pre-European vegetation (DA 2001)
- DEC Tenure
- SAC Biodatasets (Accessed December 2012)
- Naturemap (2007 ~)
- Hydrography linear - DoW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

#### **(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**

Within the local area (10 kilometre radius) there are five records of rare flora. All rare flora species occur within different mapped soils to that of the area under application.

These species prefer different habitat than that which was observed within the application area (DEC, 2012) and given this, there is a low likelihood of rare flora occurring within the property.

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

#### Methodology

Reference:

- DEC (2012)

GIS databases:

- Pre-European vegetation (DA 2001)
- DEC Tenure
- Soils, statewide DA 11/99

**(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 recorded threatened ecological communities (TEC's) within the local area (10 kilometre radius). The closest mapped TEC was recorded approximately 31.5 kilometres east and consists of herbaceous plant assemblages on bentonite lakes.

Given the distance from the TEC to the application and disparate soil types, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**    GIS Database:  
 - SAC Biodatasets (Accessed December 2012)  
 - Soils, statewide DA 11/99

**(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 may be at variance to this Principle**  
 The vegetation under application is described as Beard vegetation type 1031 of which there is 33 per cent of pre-European extent remaining and 35 per cent remaining within the Geraldton Sandplains bioregion (Government of Western Australia 2011).

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 removal of 255 hectares of Beard vegetation type 1031 would reduce its percentage remaining to 32.8 per cent and within the Geraldton Sandplains to 34.5 per cent. Beard vegetation type 1031 is well represented within conservation reserves vested with the Department of Environment and Conservation (44 per cent).

There is approximately 50 per cent of vegetation remaining in the local area (10 kilometre radius). The vegetation under application provides habitat for wildlife occurring within and dispersing from nearby conservation and vegetated areas as well as providing an ecological linkage with areas of remnant vegetation in the local area.

The area under application is located in the area defined in EPA Position Statement No. 2 (EPA, 2000). Significant clearing of native vegetation has already occurred in this area and any further reduction through clearing for agriculture cannot be supported by the EPA (EPA 2000).

Given the extent of vegetation remaining in the shire, bioregion and mapped vegetation type, the local area is not considered to be extensively cleared. However given the vegetation under applications role in providing an ecological linkage with remnant vegetation within the local area and is located within an area covered by EPA Position Statement No. 2, the proposed clearing may be at variance to this Principle.

The property has a strategic value in providing a vegetated buffer along the Marchagee Track and down the east side to enhance the vegetated strip running to the south from the Marchagee Track. These areas are largely outside the application area, and previously cleared. The section of previously cleared land that is regenerating, and is outside the application area to the east and south east is thus a priority area to retain a strategic vegetation buffer for the maintenance of regional vegetation values.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In DEC tenure (%)
IBRA Bioregion				
Geraldton Sandplains	3,136,026	1,408,070	45	40
Shire of Dandaragan	670,531	297,436	44	41
Beard vegetation (1031)	269,491	88,864	33	42
Beard vegetation type in the Bioregion 1031	241,350	83,413	35	44

(Government of Western Australia 2011)

**Methodology**    References:  
 - Government of Western Australia (2011)  
 - Commonwealth of Australia (2001)



GIS databases:

- Pre-European vegetation (DA 2001)
- DEC Tenure
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04

**(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 may be at variance to this Principle**

There is a minor tributary (Dewar Creek) mapped within the northern portion of the area proposed to be cleared connected to the Boothendarra Creek located 4.8 kilometres west of the application area.

The Department of Water (2013) has advised that the mapped Dewar Creek is associated with a topographic low channel which is at least 500 metres wide. Surface water flows in this area would be diffuse and slow and as such there is no defined watercourse.

It is considered that vegetation associated with the minor tributary will be impacted.

The proposed clearing is may be at variance with this Principle.

**Methodology** Reference:  
-DoW (2013)

GIS databases:

- Geomorphic Wetlands Wheatbelt
- Hydrography linear - DoW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Topographic contours statewide - DOLA and ARMY 12/09/02

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

**Comments Proposal may be at variance to this Principle**

The area proposed to be cleared lies within soil unit Wd9 which is described as broad valleys and undulating interfluvial areas with some discontinuous breakaways and occasional mesas; lateritic materials mantle the area: chief soils are sandy acidic yellow mottled soils (Northcote et al 1960 - 1968).

The soils of the majority of the property, as noted in the Commissioner of Soil and Land Conservation site report in 1997 (CSLC, 1997), are sandy surfaced. There is lateritic gravel at various depths below the surface of the sandy soils. In places the gravel is mixed with the sandy soils through to the surface (CSLC, 1997). The soils, noted in the Department of Environment and Conservation's (DEC) site inspection in 2012, were comparable (DEC, 2012).

In the areas of sandy soil there is the potential for wind erosion. Depth and aspect have an increased effect on wind erosion, especially higher more exposed positions in the landscape (CSLS, 1997). As most of the surrounding vegetation is heath or scrub heath, the windbreak effect would be minimal. Lateritic surfaces have a greater resistance to the threat of wind erosion (CSLC, 1997).

There are a number of large depressions along the northern boundary of the property (CSLC, 1997). The Commissioner of Soil and Land Conservation advised that the 'possibility of these depressions becoming waterlogged for an extended period is unlikely unless there is a significant groundwater rise to near the ground surface' (CSLC, 2013).

There is approximately 600 millimetres per year rainfall in the region and evapotranspiration rate of 500 millimetres per year. The area under application is located at an elevated position in the landscape. Groundwater salinity at the property is mapped with a range from 500 - 1,000 milligrams per litre and is mapped as an area of low salinity risk. Given this, the proposed clearing is unlikely to cause appreciable land degradation in the form of salinity, eutrophication or water erosion.

As the proposed clearing may lead to appreciable land degradation through wind erosion and waterlogging, the proposed clearing may be at variance with this Principle.

**Methodology** Reference:  
- CSLC (1997)  
- DEC (2012)  
- CSLC (2013)

- Northcote et al (1960 - 1968)

GIS Database:

- Hydrogeology, statewide - DoW 13/07/06
- Topographic contours statewide - DOLA and ARMY
- Salinity Risk LM 25m - DOLA 00
- Hydrography linear - DoW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Evapotranspiration Isopaths - WRC 29/09/98
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05

**(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 at variance to this Principle**

The area proposed to be cleared is located approximately 3.1 kilometres east of the Badgingarra National Park and approximately 3.5 kilometres south-east of the Twyata Nature Reserve.

The area proposed to be cleared is adjacent to a large vegetated parcel of unallocated Crown land (colloquially known as Big Soak Plains) and provides a north-south linkage. The removal of 255 hectares as proposed to be cleared, will impact on the functioning of this ecological linkage.

Within the local area (10 kilometre radius) there is a Land for Wildlife site and DEC covenant providing areas of conservation and vegetated links.

Given the size (255 hectares) and good to very good (Keighery, 1994) condition vegetation under application, it is considered that the area under application provides a substantial wildlife corridor to nearby conservation reserves. The proposed clearing is considered likely to impact on these nearby reserves by limiting the dispersal of flora and fauna.

The proposed clearing is at variance to this principle.

The property has a strategic value in providing a vegetated buffer along the Marchagee Track and down the east side to enhance the vegetated strip running to the south from the Marchagee Track. These areas are largely outside the application area, and previously cleared. The section of previously cleared land that is regenerating, and is outside the application area to the east and south east is thus a priority area to retain a strategic vegetation buffer for the maintenance of regional vegetation values.

**Methodology**

Reference:

Keighery (1994)

GIS Database:

- Badgingarra 50cm Orthomosaic - Landgate 2006
- Pre-European vegetation (DA 2001)
- DEC Tenure
- Land for Wildlife
- DEC covenant

**(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 may be at variance to this Principle**

The area proposed to be cleared lies within soil unit Wd9 which is described as broad valleys and undulating interfluvial areas with some discontinuous breakaways and occasional mesas; lateritic materials mantle the area; chief soils are sandy acidic yellow mottled soils (Northcote et al 1960 - 1968).

There is a minor tributary (Dewar Creek) mapped within the northern portion of the area proposed to be cleared. The Department of Water (DoW) advise that the mapped Dewar Creek is associated with a topographic low channel which is at least 500 metres wide (DoW, 2013). Surface water flows are generally to the northern boundary and into slight depressions along the northern boundary of the property (CSLC, 1997). The surface water flows in this area would be diffuse and slow and as such there is no defined watercourse (DoW, 2013).

Impacts from clearing vegetation associated with the minor tributary on site are likely to include short term sedimentation and may cause water erosion, however these impacts are likely to be minimal and manageable.

The area under application is located at an elevated position in the landscape. Groundwater salinity at the property is mapped with a range from 500 - 1,000 milligrams per litre and is mapped as an area of low salinity risk.

The hydrogeology of the area proposed to be cleared is mapped as sedimentary rocks - extensive and deep

aquifers. DoW (2013) has advised that depth to groundwater in the area proposed to be cleared is approximately 50 metres below ground level. Given the depth of the aquifers, it is unlikely that the proposed clearing will cause deterioration in the quality of underground water.

The proposed clearing may cause deterioration in the quality of surface water, and given this the proposed clearing may be at variance to this Principle.

**Methodology** Reference:  
- CSLC (1997)  
- DoW (2013)  
- Northcote et al (1960 - 1968)

GIS Database:  
- Hydrogeology, statewide - DoW 13/07/06  
- Topographic contours statewide - DOLA and ARMY  
- Salinity Risk LM 25m - DOLA 00  
- Hydrography linear - DoW 13/7/06  
- Hydrography linear (hierarchy) - DoW 13/7/06

**(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**

The application area is located at an elevated position in the landscape and slopes to the south west. The local area is well vegetated (50 per cent native vegetation remaining). There is approximately 600 millimetres per year rainfall in the region and evapotranspiration rate of 500 millimetres per year.

Given the above, the proposed clearing is not likely to cause, or exacerbate, the incident or intensity of flooding and is not likely to be at variance to this principle.

**Methodology** GIS Database:  
- Badgingarra 50cm Orthomosaic - Landgate 2006  
- Evapotranspiration Isopaths - WRC 29/09/98  
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05  
- Hydrogeology, statewide - DoW 13/07/06  
- Topographic contours statewide - DOLA and ARMY

**Planning instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

**BACKGROUND**

Extract from EPA Bulletin 1029 (September 2001): Clearing of 477 hectares of native vegetation on Victoria Location 10335, Marchagee-Coomallo Road, Shire of Dandaragan (EPA, 2001).

received by the  
was forward to the Level 3  
Memorandum of Understanding  
Region of Western  
have a significant impact  
Authority (EPA) in 1997.  
for the proposal to be  
Protection Act 1986 (EP Act), in

A Notice of Intent to Clear (NOIC) for Victoria Location 10335 (Lot 10335) was  
Commissioner of Soil and Land Conservation in August 1997. The proposal  
'Inter Agency Group (IWAG)' for consideration in accordance with the  
for the Protection of Remnant Vegetation on Private Land in the Agricultural  
Australia. The IWAG considered that there was potential for the proposal to  
on the environment and referred the proposal to the Environmental Protection  
The EPA determined that the potential environmental impacts were sufficient  
formally assessed under the provisions of Part IV of the Environmental  
April 1998.

The EPA considered the proposal in terms of whether the proposal is able to  
meet the EPA's objectives for the environmental factors of:

- (a) Bioregional conservation; and
- (b) Significant flora.

The EPA has also taken into account its Position Statement on Environmental  
Protection of Native Vegetation in Western Australia (2000).

The EPA has concluded that the proposal is unable to meet the EPA's  
objectives for Bioregional conservation. Further there is insufficient information available to advise that the  
proposal can meet the EPA objectives for Significant flora and that this could only be established through  
further investigations carried out or sponsored by the proponent. Under the circumstances the EPA does not  
consider this investigative work to be warranted for the present proposal.

The EPA is also aware that the proposal may obviate or lessen the effectiveness of the catchment restoration efforts of local landholders and the funding obtained from the Commonwealth Natural Heritage Trust and, in the absence of any mechanism to effectively offset the proposed reduction in biodiversity, would be inconsistent with the Government's Bush Heritage Trust commitment to achieving the national goal of reversing the long term decline in the quality and extent of Australia's native vegetation cover by the year 2001.

The EPA has assessed a number of land clearing proposals in recent years. As a result of information derived from these assessments and growing scientific evidence of significant and broad scale environmental degradation and reduction of biodiversity in the agricultural region resulting from the clearing of native vegetation, the EPA has formed the view that any further reduction in native vegetation in this region through agricultural clearing cannot be supported.

The EPA has therefore concluded that the proposal is environmentally unacceptable and should not be implemented.

The EPA considers however, that should the proponent put forward a proposal for clearing of a small proportion of the native vegetation on the property in order to facilitate improved efficiency of management, this could be considered, provided that formal mechanisms for long term protection of the majority of the native vegetation on the property (such as an Agreement to Reserve under the provisions of the Soil and Land Conservation Act) are committed to, as part of the new proposal.

In July 2002 in response to the proponent's letter of 3 June 2002 concerning the determination of EPA Bulletin 1029, the Minister for the Environment and Heritage advised the proponent that the proposal assessed in Bulletin 1029 cannot be implemented. The Minister advised that it remained open for the proponent to submit an alternative clearing proposal which may require environmental impact assessment by the EPA, and the option of possible purchase by the then Department of Conservation and Land Management or through a Bush Broker Scheme could be further investigated if the proponent wished.

On 27 May 2003 in response to the proponent's letter of 21 April 2003, the Minister reiterated that should the proponent decide to put forward a new proposal that was substantially different to the proposal previously assessed by the EPA, it would be considered on its merits in accordance with the laws applying at that time. The Minister noted that the EPA indicated in its assessment report that it would be prepared to consider favourably, a proposal involving a small area of native vegetation on Location 10335. This was on the proviso that such a proposal allowed for the majority of the native vegetation on the property to be protected in perpetuity.

In July 2004 the Minister wrote to the proponent advising that the area previously proposed for clearing can be considered for potential purchase under the recently established Biodiversity Adjustment Scheme (BAS) operated through the then Department of Conservation and Land Management (CALM). The scheme was established to assist landowners affected by clearing controls due to biodiversity values on their land. The Minister went on to advise that a revised clearing proposal to be considered in conjunction with CALM and the then Department of Environment such that an overall outcome which provides for a balance of acquisition of vegetation for nature conservation purposes and some further development of the property may be achieved.

#### CURRENT

Lot 10335 is leasehold land, zoned rural under the local Town Planning Scheme.

No public submissions were received.

The Department of Water (DoW) has advised that the applicant currently holds a groundwater licence to take 98,000 kilolitres per annum to irrigate 10 hectares of pasture and 5.5 hectares of sandalwood at Lot 10335. Should the 255 hectares proposed to be cleared for pasture require irrigating, the current licence will need to be amended (DoW, 2013).

DoW (2013) further advise that geospatial information suggests a non-perennial watercourse at Lot 10335, however this is associated with a topographic low channel which is at least 500 metres wide. Surface water flows in this area would be diffuse and slow and as such there is no defined watercourse. A permit to interfere with bed or banks would not be required for the proposed clearing (DoW, 2013).

The Shire of Dandaragan (2013) advise that they have no objections with the application to clear 255 hectares on Lot 10335, Boothendarra.

The area under application falls within the agricultural area defined in EPA Position Statement No. 2 (EPA 2000). EPA Position Statement No. 2 (EPA 2000) states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinisation, and therefore any further reduction in native vegetation through clearing for agriculture cannot be supported. The EPA (2000) recommends that all existing native vegetation be protected from passive clearing through, for example, grazing by stock or clearing by other means.

- In exceptional circumstances the EPA would consider supporting clearing for agriculture within this region if:
- (a) There are alternative mechanisms for protecting biodiversity.
  - (b) 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.
  - (c) The proponent demonstrates that the elements set out in Section 4.3 of Position Statement No 2 are being met. This will require extensive local and regional biodiversity work.
  - (d) 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.

**Methodology**

References:

- EPA (2000)
- EPA (2001)
- DoW (2013)
- Shire of Dandaragan (2013)

GIS Database:

- Town Planning Scheme Zones - MFP 31/08/98

**4. References**

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

CSLC (1997). Commissioner of Soil and Land Conservation site inspection report for Notice of Intent to Clear Land at Victoria Location 10335, 26 November 1997. DEC Ref: A593811

CSLC (2013). Commissioner of Soil and Land Conservation advice dated 22 February 2013 and site inspection report at Victoria Location 10335, 21 December 2012. DEC Ref: A605760

DEC (2007) Site Inspection Report for Vegetation Conservation Notice - Lot 10335 Marchagee Track, Boothendarra. Site inspection undertaken 05/10/2007. Department of Environment and Conservation, Western Australia.

DEC (2012) Site Inspection Report for Clearing Permit Application CPS 5410/1, Lot 10335 Marchagee Track, Boothendarra. Site inspection undertaken 27/12/2012. Department of Environment and Conservation, Western Australia (DEC Ref. A583816).

DoW (2013). Department of Water advice DEC Ref: A590048.

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, Western Australia.

EPA (2001). Clearing of native vegetation on Victoria Location 10335, Shire of Dandaragan. Environmental Protection Authority Perth, Western Australia Bulletin 1029 September 2001.

Government of Western Australia. (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.

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**5. Glossary**

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)