



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1961/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Clayton Lindsay, Dorothy Joy, Lindsay Brian Kennedy

### 1.3. Property details

Property: LOT 296 ON PLAN 180632 (House No. 40 HAMPTON PINJARRA 6208)  
LOT 296 ON PLAN 180632 (House No. 40 HAMPTON PINJARRA 6208)  
LOT 296 ON PLAN 180632 (House No. 40 HAMPTON PINJARRA 6208)  
Local Government Area: Shire Of Murray  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.63		Mechanical Removal	Hazard reduction or fire control

## 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
Heddlle Vegetation Complex: Bassendean Complex - Central and South - Vegetation ranges from woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> spp. to low woodland of <i>Melaleuca</i> species, and sedge lands on the moister sites. This area includes the transition of <i>E. marginata</i> to <i>E. todiana</i> in the vicinity of Perth.	The proposal is to clear 0.63 hectares for the purpose of fence line construction and fire hazard reduction.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on 19 September 2007. Vegetation is mostly in very good to excellent condition, with some bare areas being in degraded to completely degraded condition.
Beard Vegetation Association 999: Medium woodland; marri  (Shepherd 2006)	The vegetation under application in the south-west corner of the lot comprises <i>Banksia</i> woodland with <i>Kunzea glabrescens</i> thicket over <i>Conostylis</i> spp. and <i>Xanthorrhoea preissii</i> . The vegetation under application along the southern boundary of the lot comprises <i>Eucalyptus marginata</i> / <i>Corymbia calophylla</i> woodland over a diverse understorey including <i>X. preissii</i> . Vegetation in the northeast corner comprises <i>Astartea fascicularis</i> and <i>Watsonia</i> spp.		

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

Completely Degraded: No longer intact; completely/almost

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

The vegetation under application is in completely degraded; degraded; very good; and excellent condition, may include rare flora and a portion has the potential to comprise a Threatened Ecological Community. The applied vegetation also includes both wetland and upland species. In addition, the vegetation under application forms part of a large vegetated remnant that provides significant habitat for fauna in the local area that has been extensively cleared for agriculture. Given this, it is therefore considered that the vegetation under application may comprise a high level of biodiversity.

**Methodology**    DEC site visit 19/9/07

#### (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**

Within a 5km radius of the applied area the following significant fauna have been recorded:

- Chuditch (*Dasyurus geoffroii*)
- Shield-backed Trapdoor Spider (*Idiosoma nigrum*)
- Peregrine Falcon (*Falco peregrinus*).

Chuditch are known to have occupied a wide range of habitats, with a preference for woodland and mallee habitat, however they are mostly found in the Jarrah forests (DEC 2007). Shield-backed Trapdoor Spiders are confined to eucalypt-acacia dry woodlands and sclerophyll open forests east of the Darling Range and north to Moore River (Department of the Environment and Water Resources 2006). It is therefore not considered that the vegetation under application contains suitable habitat for these two species. The Peregrine Falcon has a large home range and given the small size of the area under application, it is not considered likely to comprise significant habitat for this species.

The vegetation under application includes understorey that has the potential to be utilised by ground dwelling fauna such as the Quenda, however no diggings were observed during the site visit.

The vegetation under application forms part of a large vegetated remnant, that includes both wetland and upland habitats, and that is considered to be significant habitat in that local area that has been extensively cleared for agriculture. However, the vegetation under application itself is not likely to comprise significant fauna habitat due to its limited size, and it is not considered likely that its removal would impact on the habitat values of the larger remnant. It is therefore not considered likely that the proposed clearing is at variance to this Principle.

**Methodology**    DEC site visit 19/9/07  
DEC (2007)  
Department of the Environment and Water Resources (2006)  
GIS Database: SAC Bio datasets accessed 14/9/07

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

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

There are 15 known populations of Declared Rare Flora (DRF) species *Synaphea stenoloba*, *Diuris purdiei* and *Diuris drummondii* within the local area (5km radius), with the closest being *D. purdiei* located 1km to the north of the area under application.

There are also 20 known populations of Priority flora with the following species being located 80m to the south of the applied area on the adjacent property:

- *Rhodanthe pyrethrum* (P3)
- *Myriophyllum echinatum* (P3)
- *Villarsia submersa* (P4)
- *Stylidium longitubum* (P3)
- *Aponogeton hexatepalus* (P4).

*D. purdiei* is a tuberous, perennial herb 0.15-0.35 m high with yellow flowers during September-October on moist grey-black sand in winter-wet swamps (Western Australian Herbarium 1998-). This species only flowers after fire and therefore is not likely to be observed on site.



*S. stenoloba* is a shrub 0.3-0.45 m high with yellow flowers during August-October on sandy or sandy clay soils in winter-wet flats, granite. *D. drummondii* is a tuberous, perennial herb 0.5-1.05 m high with yellow flowers during November-January in low-lying depressions, swamps (Western Australian Herbarium 1998-). The area under application includes wetland areas that have the potential to provide suitable habitat for these DRF species.

In addition the vegetation under application includes *Kunzea glabrescens* thicket in the southwest corner of the property. DEC Species and Communities branch has previously advised that the rare orchid *Drakaea elastica* is predominately found in *Banksia* woodland, particularly under thickets of *Kunzea* above winter-wet areas. It is therefore considered that the vegetation under application contains suitable habitat for this species.

Given that the area under application has the potential to provide suitable habitat for the DRF species *S. stenoloba*, *D. drummondii*, and *D. elastica* it is therefore considered that the vegetation under application may include, or be necessary for the maintenance of, rare flora.

An appropriately timed flora survey conducted in accordance with EPA Guidance Statement 51 would be required to determine whether the vegetation under application includes rare flora.

**Methodology** DEC site visit 19/9/07  
Western Australian Herbarium (1998-)  
GIS Databases:  
SAC Bio datasets accessed 05/09/07

**(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 may be at variance to this Principle**  
Within a 5km radius of the applied area there are four known occurrences of Threatened Ecological Communities (TEC) located approximately 1.8km to the northwest, which have been identified as the following Floristic Community Types (FCT):

- 9 - Dense shrub lands on clay flats;
- 3a - *Eucalyptus calophylla* - *Kingia australis* woodlands on heavy soils.

The majority of the vegetation under application comprises *Banksia* woodland with *Kunzea* thicket; and Jarrah/marri woodland. However a portion that is located with the wetland areas in the northeast corner of the lot includes *Pericalymma ellipticum*. DEC (2008) Species and Communities Branch advise that *P. ellipticum* is known to occur in FCT 9 and some other clay pan communities that are TECs, and that FCT 9 or another clay pan TEC may be found in the wetland on the property under application.

Given that a large portion of Lot 296 comprises shrubland of *P. ellipticum* that is known to occur in a TEC community, it is considered that the vegetation under application may comprise a TEC.

An appropriately timed flora survey conducted in accordance with EPA Guidance Statement 51 and Gibson et al. (2004) would be required to determine whether the vegetation under application comprises a TEC.

**Methodology** DEC site visit 19/9/07  
DEC (2008)  
Gibson et al. (2004)  
GIS Databases:  
SAC Bio datasets accessed 05/09/07

**(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 has been identified by Heddl et al. (1980) as 'Bassendean complex - central and south' which has 27.0% of pre-European vegetation extent remaining (EPA 2006).

The vegetation under application has also been identified as Beard association 999, of which there is 13.1% of pre-European extent remaining (Shepherd 2006).

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia 2001).

Bassendean Complex Central and South and Beard vegetation association 999 have less than the recommended 30% minimum of pre-European extent remaining. In addition the area under application is located within an area that has been historically extensively cleared for agriculture, with approximately 17% of pre-European extent remaining. Given this, and that the proposed clearing is limited to 0.63 hectares, it is considered that the vegetation under application may be significant as a remnant in an area that has been extensively cleared.

Pre-European (ha)	Current (ha)	Remaining %% in reserves			
Swan Coastal Plain	1,501,456	571,758	38.1**	15.9	
Shire of Murray	181,526	98,552	54.3*		
Local Area (~10km radius)	31,400	~5500	~17		
Hedde vegetation complex			***		
Bassendean Complex - Central and South		87,477	23,624	27.0	0.7
Beard vegetation association 999		115,712	15,161	13.1**	2.5

\* (Shepherd et al. 2001)

\*\* (Shepherd 2006)

\*\*\* (EPA, 2006)

**Methodology** Commonwealth of Australia (2001)  
EPA (2000)  
EPA (2006)  
Hedde et al. (1980)  
Shepherd et al. (2001)  
Shepherd (2006)  
GIS Databases:  
Hedde Vegetation Complexes - DEP 21/06/95  
Pre-European Vegetation - DA 01/01

**(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 at variance to this Principle**

A 40m section of the area under application in the eastern portion of the property is located within a Conservation Category Wetland (CCW). CCWs are wetlands with high ecological values and area the highest priority wetlands for protection (Water and Rivers Commission 2001). CCWs are recognised under objective one of the Wetlands Conservation Policy for Western Australia as valuable (Government of Western Australia 1997).

In addition a portion of the area under application is located within a multiple use wetland. The nearest watercourse is the Murray River located approximately 900m to the west.

The vegetation under application in the wetland areas comprises shrubs such as *Astartea fascicularis*; and sedges, which are generally associated with wetland habitats.

Given that the vegetation under application includes wetland dependent vegetation, is located within mapped wetlands, and a small portion is located within a CCW, it is therefore considered that the proposed clearing is at variance to this Principle.

**Methodology** DEC site visit 19/9/07  
Government of Western Australia (1997)  
Water and Rivers Commission (2001)  
GIS Databases:  
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC  
Hydrography, linear (hierarchy) - DOW

**(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**

Soils within the applied area are part of the Bassendean Dune System, with the higher areas comprising B2 phase soils, which are described as well drained bleached grey sands. These soils have a high risk of wind erosion, phosphorus export and acid sulphate soils (State of Western Australia 2005).

The low lying portion of the area under application comprises B4 phase soils, which are described as poorly drained deep grey siliceous sands or bleached sands. These soils have a high risk of phosphorus export, water logging and acid sulphate soils (State of Western Australia 2005). Given that the proposed clearing on this soil association is limited to approximately 0.07 hectares, it is not considered likely to exacerbate water logging.

In addition, given that the total area under application is limited to 0.63 hectares, it is not considered likely that the proposed clearing would cause salinity, wind erosion, phosphorus export or acid sulphate soils resulting in appreciable land degradation.

**Methodology** State of Western Australia (2005)



GIS Databases:  
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC  
Salinity Risk LM 25m - DOLA 00

**(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**

There are two DEC managed conservation reserves located approximately 200m to the south and 1.6km to the northwest.

Given the 200m distance to the nearest conservation area, it is not considered likely that the proposed clearing would have a direct or indirect impact on the environmental values of this or any conservation area.

**Methodology** DEC site visit 19/9/07  
GIS Database: CALM Managed Lands and Waters - CALM 1/07/05

**(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 under application has a moderate to low risk of acid sulphate soils and a high salinity risk. The soils identified on site also have a high risk of phosphorus export. Portions of the vegetation under application are located within a Conservation Category Wetland (CCW) and a multiple use wetland.

Given that the vegetation under application is limited to 0.63ha for fence line maintenance and fire hazard reduction, it is not considered likely that the proposed clearing would result in deterioration in the quality of groundwater through salinity or acid sulphate soils. In addition, the limited proposed clearing is not considered likely to contribute to phosphorus export causing a deterioration in the quality of surface water or groundwater.

The proposed clearing of vegetation within the wetland may result in water erosion causing a deterioration in surface water quality and it is therefore considered that the proposal may be at variance to this Principle.

**Methodology** DEC site visit 19/9/07  
GIS Database:  
Acid Sulphate Soil Risk Map, Swan Coastal Plain - DEC  
Salinity Risk LM 25m - DOLA 00

**(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 area under application is located at an elevation of 10 metres and has a low gradient. The deep grey Bassendean sands identified in the wetland areas on site have a very high risk of water logging resulting in localised flooding (State of Western Australia 2005).

Although the soils within the wetland area on site have a high risk of water logging, given that the vegetation under application is limited to 0.63 hectares, it is not considered likely that the proposed clearing would cause or exacerbate the incidence of flooding.

**Methodology** DEC site visit  
State of Western Australia (2005)  
GIS Databases:  
Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**

The land proposed to be cleared is part of a Native Title Claim however, since it is privately owned the Native Title has been extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

The Shire of Murray support the application on the condition that vegetation should only be removed for the purpose of a firebreak being 3m wide and 4.5m high. The Shire comments that it appears a firebreak has been constructed in the past and clearing should occur along this existing track. The Shire does not support the clearing in the south west corner of the lot unless it is to protect buildings, as it appears to exceed the requirements for fire protection. The proponent has advised that the proposed clearing in the south west corner is for fire protection around the existing house.

**Methodology** GIS Database: Native Title Claims - DLI

## 4. Assessor's comments

### Comment

The assessable criteria have been addressed and the proposed clearing is at variance to Principle f, and may be at variance to Principles a, c, d, e and i.

## 5. References

- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DEC (2008) Species and Communities Branch advice on clearing permit application CPS 1961/1 - DEC TRIM ref. DOC47842.
- Department of Environment and Conservation (2007) Fauna species profiles - Chuditch. Accessed 29 May 2007.
- Department of the Environment and Water Resources (2006) Species Bank - Shield-backed trapdoor spider. Accessed 29 May 2007.
- 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.
- EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
- Government of Western Australia (1997) Wetlands Conservation Policy for Western Australia.
- Heddl, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd (2006) Adapted from: 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Site Visit 19 September 2007, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC36414.
- State of Western Australia (2005) Agmaps Land Manager CD Rom.
- Water and Rivers Commission (2001) Position Statement: Wetlands.
- Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> Accessed on 19 September 2007.

## 6. 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)