



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: 3941/1

File Number: 2010/006713-1

Duration of Permit: From 24 January 2011 to 24 January 2013

### PERMIT HOLDER

Australia Western Railroad Pty Ltd

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 511 on Plan 41203, Kwinana

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 6.34 hectares of native vegetation within the area hatched yellow on attached Plan 3941/1.

### CONDITIONS

#### 1. Fauna management

(a) Prior to undertaking any clearing authorised under this Permit, the areas shall be inspected by a *fauna specialist* who shall identify *habitat/habitat tree(s)* suitable to be utilised as habitat by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)*.

(b) Prior to clearing, any *habitat/habitat tree(s)* identified by condition 1(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)*.

(c) Within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 1(b).

#### 2. Records must be kept

The Permit Holder must maintain the following records for activities done in relation to fauna management pursuant to condition 1 of this Permit:

(a) the location of each *habitat tree* identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;

(b) the species name of fauna reasonably likely to utilise, or that have been observed utilising, the *habitat/habitat tree(s)*; and

(c) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

#### 3. Reporting

(a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:

- of records required under condition 3 of this Permit; and
- concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.

- (b) Prior to 30 October 2012, the Permit Holder must provide to the CEO a written report of records required under condition 2 of this Permit where these records have not already been provided under condition 3(a) of this Permit.

#### **DEFINITIONS**

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

***fauna clearing person*** means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

***fauna specialist*** means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

***habitat tree(s)*** means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts.



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Kelly Faulkner

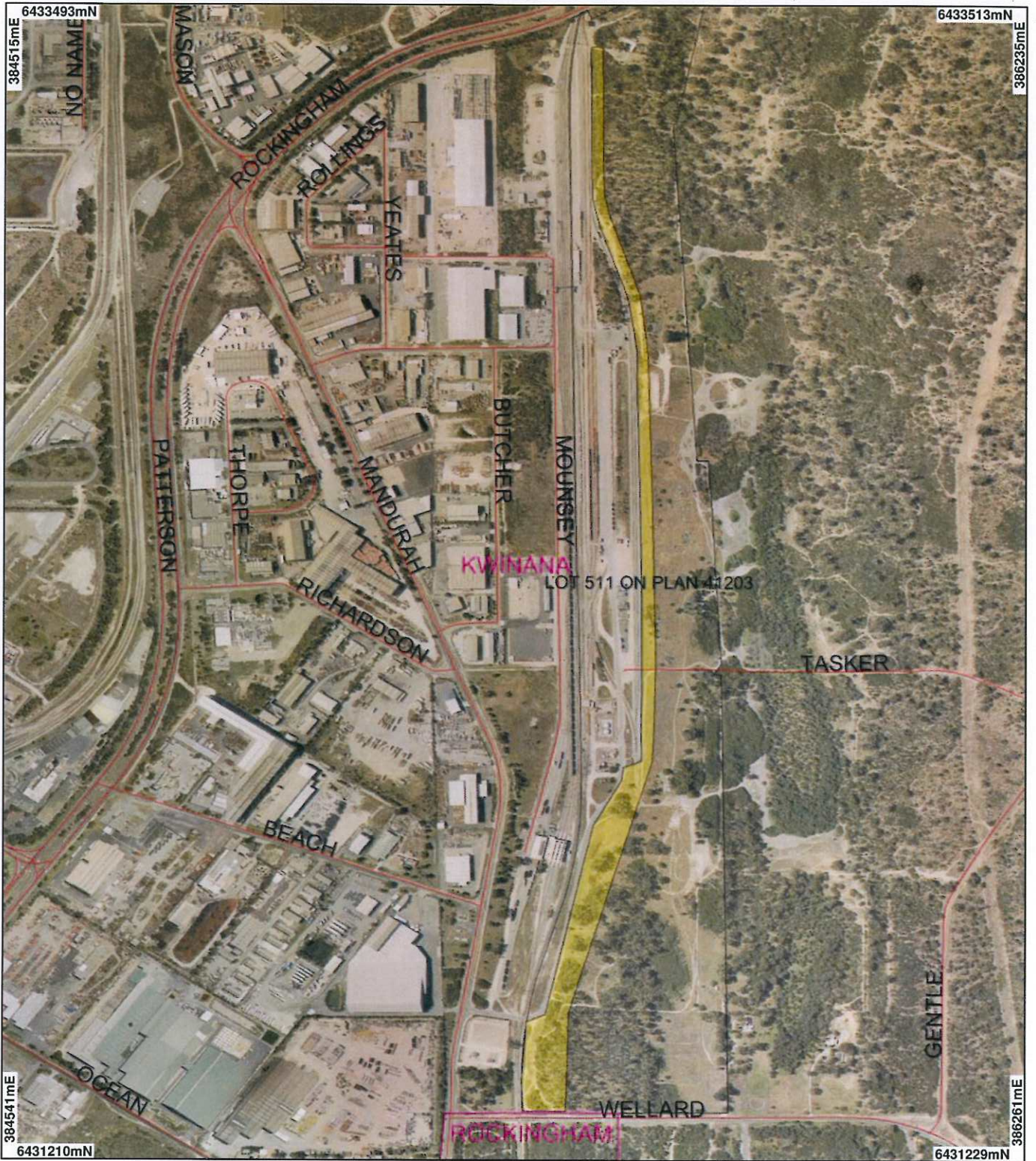
MANAGER

NATIVE VEGETATION CONSERVATION BRANCH

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

30 December 2010

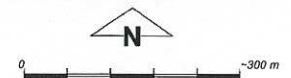
# Plan 3941/1



## LEGEND

- Cadastre
- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear
- Local Government Authorities

Swan Coastal Plain Central  
20cm Orthomosaic - Landgate  
2009



Scale 1:10091

(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.

Date 30/10/20  
K. Faulkner

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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## 1. Application details

### 1.1. Permit application details

Permit application No.: 3941/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Australia Western Railroad Pty Ltd

### 1.3. Property details

Property: LOT 511 ON PLAN 41203 ( KWINANA BEACH 6167)  
Local Government Area: Town of Kwinana  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6.34		Mechanical Removal	Railway construction or maintenance

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 30 December 2010

## 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 under application is mapped as Beard vegetation types: 998: Medium woodland; tuart 3048: Shrublands; scrub-heath on the Swan Coastal Plain (Hopkins et al 2001; Shepherd 2009)	The amended area under application is within Lot 511, a 52.3 ha property. The amended area under application is located adjacent east of the existing railway infrastructure and the purpose of the clearing is to extend the railway operations.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation description and condition was determined via aerial imagery (Swan Coastal Plain Central 20cm Orthomosaic-Landgate 2009), a site inspection conducted on the 1 October (DEC 2010) and a site inspection by Stategen (2010) in November.
Hedde Complexes: Cottesloe complex central and south: Central and South: Mosaic of woodland of <i>E. gomphocephala</i> and open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>E. calophylla</i> ; closed heath on the Limestone outcrops.	The vegetation under application is described as tuart woodland. The northern and southern sections under application (approximately 2.5 ha in total) is tuart woodland over a weed ( <i>arum lily</i> , <i>Euphorbia</i> sp and cotton bush) infested understorey in a degraded (Keighery) condition (DEC 2010).	To	
Quindalup complex: Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of <i>M. lanceolata</i> - <i>Callitris preissii</i> and the closed scrub of <i>Acacia rostellifera</i> . (Hedde et al 1980)	The remaining area of 3.84 ha is weed infested with non native trees that have been impacted by vehicle and motorbike tracks. These areas are considered to be in completely degraded (Keighery 1994) condition (DEC 2010).	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	

## 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 amended proposal is to clear 6.34 hectares of native vegetation on Lot 511 Mounsey Road, Kwinana for the purpose of expanding existing railway operations.

The vegetation under application is described as being predominately tuart woodland; encompassing the northern and southern sections under application over a weed (*arum lily*, *Euphorbia* sp and cotton bush) infested understorey in degraded (Keighery 1994) condition (DEC 2010; Stategen 2010). The remaining area under application is heavily weed infested with non native trees that have been impacted by vehicle and motorbike tracks. This area is considered to be in completely degraded (Keighery 1994) condition (DEC 2010; Stategen 2010).

The areas of tuart woodland may comprise suitable habitat for a range of fauna. However, the area under application is not considered to comprise a high level of biological diversity. Therefore the proposal is not likely to be at variance to this Principle.

**Methodology** References:  
- DEC (2010)  
- Keighery (1994)  
- Strategen (2010)  
GIS Databases:  
-SAC Bio Databases (06/10/2009)

**(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**

The Preliminary Assessment Report dated 21/10/2010 identified the proposal to be at variance to Principle (b). The application has since been amended from 37.3 ha to 6.34 ha to reduce the impact on fauna habitat and now comprises of vegetation in degraded to completely degraded (Keighery 1994) condition.

A site inspection of Lot 511, which included the area under application (DEC, 2010) observed mature tuart trees and a couple of small tree hollows, which may provide suitable nesting hollows in the future. In November 2010, Strategen (2010) estimated 237 to 287 tuart trees to be present within the amended application area, including a total of 57 stems on 50 tuart trees that had diameter at breast height of greater than 50 cm. These are of a suitable size as nesting habitat for Carnaby's black cockatoo (*Calyptorhynchus latirostris*), as well as for a number of local native avian fauna species.

Strategen (2010) assessed the health of the trees within the proposed clearing area and found the condition to range from slightly stressed to dead (old), with the majority being slightly stressed. Strategen (2010) considers that the small size and severely degraded vegetation is not likely to contain significant fauna habitat.

Given the above, the proposal is at variance to this Principle. Fauna management conditions will mitigate the impact of the proposed clearing on indigenous fauna. As the application area consists of trees that vary in health from slightly stressed to dead, offsetting for the loss of this vegetation is not considered to be necessary.

**Methodology** References:  
- DEC (2010)  
- Keighery (1994)  
- Strategen (2010)  
GIS Databases  
-SAC Bio Databases (06/10/2009)

**(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**

There are three rare flora species recorded in the local area (10 km radius) which include *Caladenia huegeli*, *Diuris micrantha* and *Drakaea elastica*. These species occur within different beard vegetation complexes and in different soils to that of the area under application. Therefore it is unlikely that these species would be found within the application area as their preferred habitats are not similar to the application area.

Given the absence of preferred habitat for rare flora and the degraded (Keighery 1994) condition of the vegetation, this principle is not likely to be at variance.

**Methodology** References  
-DEC (2010)  
-Keighery (1994)  
GIS Databases  
-SAC Bio Databases (9/10/2010)

**(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**

The closest records of threatened ecological communities are SCP 19b Woodlands over sedgelands located 1 km south-west and SCP26a - Limestone ridges which is located 2.8 km north-east of the application area. However, the vegetation under application is described as Tuart woodlands, which is not indicative of this floristic community type, and there are no limestone ridges within the application area, so it is unlikely these communities are present.

Given the degraded (Keighery 1994) condition (DEC 2010) of the application area with dense weeds and tracks present, it is unlikely that the application area comprises or maintains a threatened ecological community. Therefore this principle is not likely to be at variance.

- Methodology** References  
 -DEC (2010)  
 -Keighery (1994)  
 GIS Databases  
 -SAC Bio Databases (9/10/2010)

**(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 vegetation under application is described as Beard vegetation associations 998 and 3048 of which there is 38.5% and 31.6% of pre-European extent remaining within the bioregion (Shepherd 2009) and Heddle vegetation complexes Cottesloe Central and South, and Quindalup of which there is 41.1% and 49.5% of Pre-European extent remaining (EPA, 2006).

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. Within constrained areas (i.e. areas of urban development in cities and major towns) on the Swan Coastal Plain the target for representation of the pre-clearing extent of a particular native vegetation complex is 10 % (Commonwealth of Australia 2001).

The remaining percentage of vegetation is above the minimum of 30%, and there is still a large percentage of vegetation remaining in the local area. Also, a large percentage of the Beard vegetation associations mapped within the applied area are well represented within conservation reserves vested with DEC (40.6% and 25.3%).

Given the extent of vegetation remaining in the Town of Kwinana and the high representation of the vegetation types, the local area is not considered to be extensively cleared; also, given the degraded (Keighery 1994) condition of the vegetation it is considered to have reduced values as a remnant of native vegetation. Therefore this principle is not likely to be at variance.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain (SCP)	1,501,209	587,889	39.1	
Town of Kwinana*	11,998	4,705	39.2	
Beard vegetation type* In the Bioregion (3048 Only present within the SCP Bioregion)				
998	50,867	19,595	38.5	40.6
3048	10,415	3,293	31.6	25.3
Heddle vegetation complex**				
Cottesloe Central & South	44,995	18,474	41.1	
Quindalup Complex	36,013	17,820	49.5	

\* (Shepherd 2009)

\*\* (EPA 2006)

- Methodology** References  
 -Commonwealth of Australia (2001)  
 -EPA (2009)  
 -Keighery (1994)  
 -Shepherd (2009)  
 GIS Databases  
 -Pre-European Vegetation  
 -Mattiske Vegetation Complexes  
 -NLWRA, Current Extent of Native Vegetation  
 -Interim Biogeographic Regionalisation of Australia

**(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 Preliminary Assessment Report dated 21/10/2010 identified Principle (f) as is at variance. However, the application has been amended from 37.3 ha to 6.34 ha. The amended area under application is located approximately 120 m west of a resource enhancement wetland (REW) and is located approximately 270 m west from a conservation category wetland (CCW). Given the distance to the wetlands it is not considered that the area under application may be growing in, or in association with an environment associated with wetlands that have significant environmental values. Therefore, the clearing as proposed is not likely to be at variance to this Principle.

**Methodology** GIS Databases  
-Geomorphologic Wetlands (Mgt Categories), Swan Coastal Plain  
-Hydrography, linear

**(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 Preliminary Assessment Report dated 21/10/2010 identified Principle (g) as is at variance. However, the application has been amended from 37.3 ha to 6.34 ha. The amended area under application comprises soils mapped as calcareous deep sands (DAFWA 2008). These sandy soils have a high to extreme risk of wind erosion and a low risk of water erosion (DAFWA 2008).

Given the sandy soils present, it is considered that the clearing of the 6.34 ha vegetation may cause appreciable land degradation in the form of wind erosion. Therefore the proposed clearing may be at variance to this Principle.

**Methodology** Reference:  
- DAFWA (2008)

**(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 Preliminary Assessment Report dated 21/10/2010 identified Principle (h) as may be at variance. However, the application has been amended from 37.3 ha to 6.34 ha. The nearest conservation area is Bush Forever site 349 (known as Leda and adjacent bushland, Leda), which occurs approximately 190 m east of the amended area under application. This conservation area covers approximately 959.8 ha of bushland and is part of a regionally significant contiguous bushland/wetland linkage (Government of Western Australia 2000).

The area under application is part of an east-west and north-south bushland linkage (Government of Western Australia 2000) and is considered likely to support fauna utilising the nearby conservation area. However, the proposed clearing is long and linear (approximately 2 km long and 20 to 70 m wide), which is not likely to cause fragmentation of fauna habitat, and fauna movement and migration across the local landscape is likely to be maintained.

Given the above, it is considered the proposed clearing is not likely to impact on the environmental values of nearby conservation area. Therefore the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Reference:  
- Government of Western Australia (2000)  
GIS Databases:  
-Bushforever  
-NLWRA, Current Extent of Native Vegetation

**(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 Preliminary Assessment Report dated 21/10/2010 identified Principle (i) as is at variance. However, the application has been amended from 37.3 ha to 6.34 ha. The amended area under application is located approximately 120 m west of a resource enhancement wetland and is located approximately 270 m west from a conservation category wetland. Given the distance to the wetlands the proposal is not likely to result in deterioration in surface water.

The areas under application are not within a Priority Drinking Water Source Area (PDWSA) and have a low salinity risk. Therefore, it is unlikely for the proposed clearing to cause deterioration to the quality of underground water.

Given the distance to the wetlands and the low salinity risk, it is considered that the proposed clearing is not likely to cause deterioration in the quality in surface or underground water.

**Methodology** GIS Databases:  
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
-Hydrography, linear  
-Priority Drinking Water Source Area (PDWSA)  
-Salinity Risk

**(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 comprises soils mapped as calcareous deep sands (DAFWA). These sandy soils have a low risk of flooding due to high infiltration rates. Therefore the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Reference:  
- DAFWA (2008)

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

**Comments**  
Australian Western Railroad submitted a report prepared by Strategen (2010), which included an amended map, in response to correspondence that the Department sent on 21 October 2010. The area under application was amended from of 37.3 ha down to 6.34 ha and included the removal of the vegetation within the buffer to the resource enhancement wetland and in close proximity to a conservation category wetland. The assessment of the clearing principles has been undertaken against the amended area.  
  
Strategen's report (2010) outlines that this proposal will be referred to Department of Sustainability, Environment, Water, Population and Communities.  
  
The Town of Kwinana (2010) has no objections to the proposal and planning approval is required; the Town offered 11 recommendations including a flora and fauna survey be conducted, firebreaks are installed, the entire site be fenced, and having up to a 100 m vegetated buffer along Wellard Road. The Town of Kwinana have been advised that their recommendations may need to be addressed through the planning process.  
  
Lot 511 is freehold land, zoned Railways under the Metropolitan Regional Scheme.  
  
There are no known Aboriginal Sites of Significance within the area under application.

**Methodology** Reference:  
- Strategen (2010)  
GIS Database:  
- Metropolitan Regional Scheme

**4. References**

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.  
DAFWA (2008) Shared Land Information Platform - Natural Resource Management, Department of Agriculture and Food, Western Australia. Accessed 12 October 2010.  
DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3941/1 Lot 501 Mounsey Road Kwinana; Site Inspection Conducted 1 October 2010; Department of Environment and Conservation. DEC Ref A340491  
EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.  
Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.  
Hedde, 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.  
Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.  
Keighery BJ and Longman VM (2002) Tuart (Eucalyptus gomphocephala) and Tuart Communities), A Perth Branch Wildflower Society of Western Australia (Inc), Nedlands, 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.  
Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.  
Shepherd, D.P. (2009) 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.



## 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)