



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|--|
| Purpose permit number: | CPS 3174/1 |
| Permit holder: | Western Australian Planning Commission |
| Duration of permit: | 6 September 2009 – 6 September 2014 |

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

Burning for the purpose of fire hazard reduction.

2. Land on which clearing is to be done

Lot 614 on Plan 3475

3. Area of Clearing

The permit holder must not burn more than 3.52 hectares of native vegetation within the area shaded yellow on attached Plan 3174/1.

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.

5. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the permit holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. 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:

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

7. Dieback and weed control

- (a) When undertaking any clearing, or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of introduction and spread of *weeds* and *dieback*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall not move soil in wet conditions;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch* or *fill* or other material are brought into the area to be cleared
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

PART III - RECORD KEEPING AND REPORTING

8. Records to be kept

The Permit Holder must maintain the following records for activities done in relation to the clearing of native vegetation authorised under this Permit:

- (a) the species composition, structure and density of the cleared area;
- (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

9. 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 8 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 6 June 2014, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(a) of this Permit.

Definitions

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

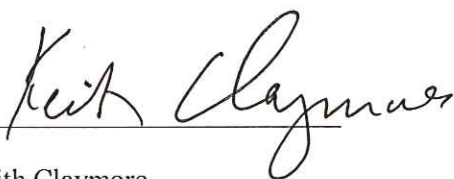
dieback means the effect of *Phytophthora* species on native vegetation;

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;

term means the duration of this Permit, including as amended or renewed;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

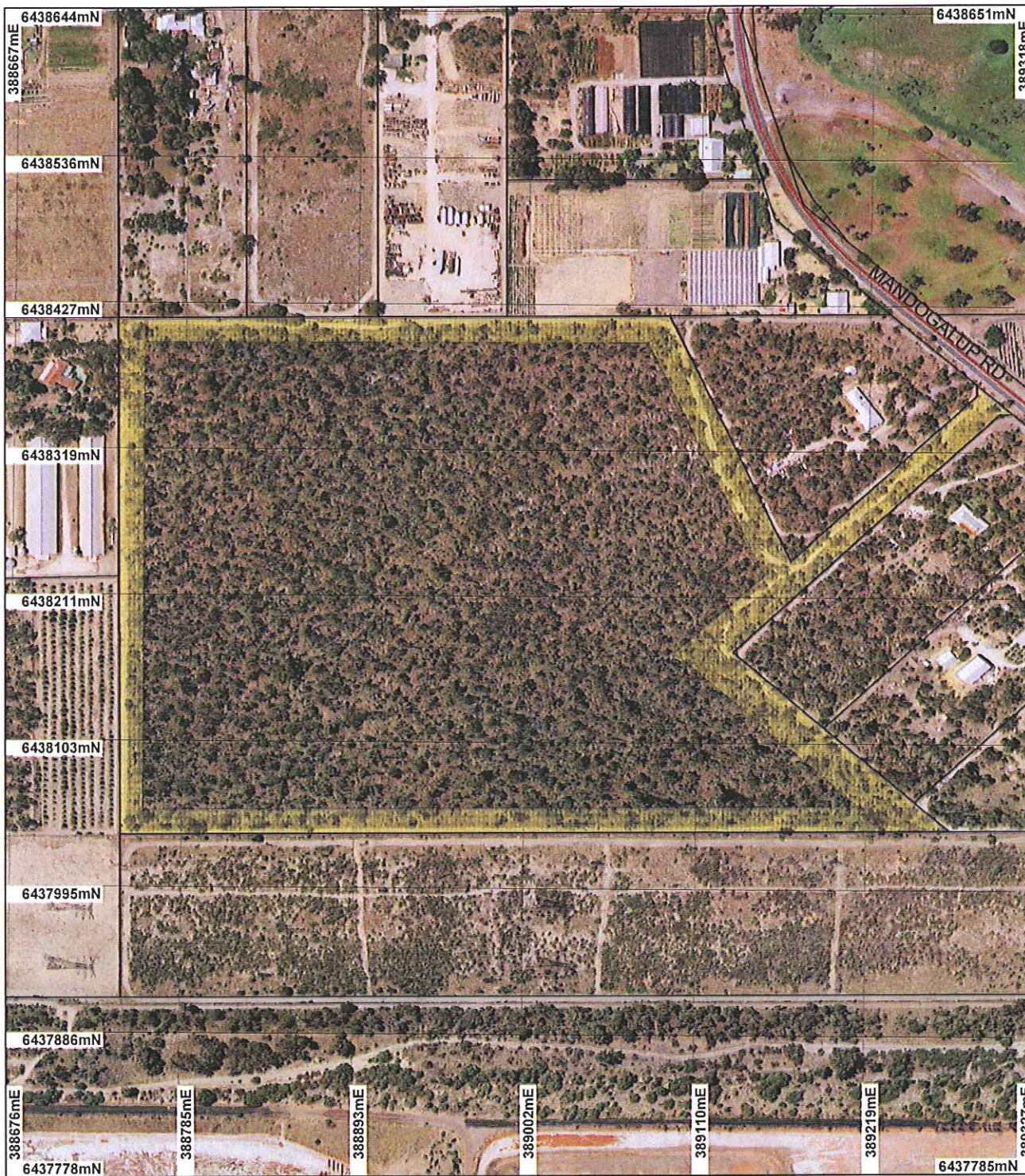


Keith Claymore
A/ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

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

6 August 2009

Plan 3174/1



LEGEND

- Clearing Instruments**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre

Perth Metropolitan Area
Central 20cm Orthomosaic -
Landgate 2007



0 100 m

Scale 1:4000

(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.

Keith Lyons 6/8/09
K Claymore

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.: 3174/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Western Australian Planning Commission

1.3. Property details

Property: LOT 614 ON PLAN 3475
Local Government Area: Town Of Kwinana
Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|----------------------------------|
| 3.52 | | Burning | 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 |
|---|---|---|--|
| Beard vegetation type: 6 - Medium woodland; tuart and jarrah (SAC Bio Datasets 27/07/2008; Shepherd, 2007) | The area under application is located within Lot 614 (16.3 ha property). The proposed clearing is for fire hazard reduction. | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994) | The condition of the native vegetation under application was sourced from the site inspection conducted on the 23 July 2009 (DEC, 2009). |
| Hedde Vegetation Complex: Karrakatta complex central and south - Predominantly open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>E. calophylla</i> and woodland of <i>E. marginata</i> - <i>Banksia</i> species. (Hedde et al 1980) | The vegetation under application can be described as jarrah-tuart-banksia low forest over mixed shrubland. The vegetation condition ranged from good to very good with localised disturbances adjacent to the existing firebreak. | | |

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

A site inspection (DEC, 2009) of the area under application identified the vegetation habitat type as Jarrah-Tuart-Banksia low forest. The vegetation under application is in very good condition supporting moderately dense vegetation, with localised disturbance adjacent to the existing firebreak (DEC, 2009). This vegetation may provide habitat for ground dwelling fauna such as Quenda, and foraging habitat for Carnaby's Black-Cockatoo.

Given the vegetation under application may provide suitable habitat for fauna and comprises some structurally intact vegetation; the area under application may comprise a high level of biological diversity.

Methodology Reference:
- DEC (2009)
GIS Database:
- SAC Bio Datasets 27/07/2009

(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 may be at variance to this Principle

Seven fauna species of conservation significance are known to occur in the local area (5 km radius) including, Quenda (*Isodon obesulus fusciventer*) and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*).

The Black-Cockatoo is known to feed on a large variety of plants including Proteaceous species (e.g. banksia, dryandra and grevillea), marri nuts (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), tuart (*Eucalyptus gomphocephala*), *Casuarina* spp and a range of introduced species, (Shah, 2006). This species is listed as a Schedule 1 species under the Wildlife Conservation (Specially Protected Fauna) Notice 2008.

The vegetation is in very good condition and potentially supporting floristically diverse vegetation with localised disturbances adjacent to the existing firebreak (DEC, 2009). A site inspection (DEC, 2009) of the area under application identified the vegetation habitat type as being Jarrah-Tuart-Banksia. Potential quenda diggings were observed and a number of passerine birds were heard during the site inspection. The vegetation is likely to provide foraging habitat for the quenda and birds.

Given the native vegetation is in very good condition with *Banksia* spp, *Eucalyptus marginata* and *Eucalyptus gomphocephala*, which may provide significant foraging habitat for the Black Cockatoo, and may comprise suitable habitat for a range of native fauna; it is considered that the vegetation under application may comprise significant habitat for fauna indigenous to Western Australia.

Methodology References:
- DEC (2009)
- Shah (2006)
GIS Databases:
- SAC Bio Datasets 27/07/2009

(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**
Two rare flora species, *Diuris micrantha* and *Drakaea elastica*, have been recorded within the local area (5 km radius), with the closest record located approximately 1.6 km south-east of the area under application.

D. micrantha and *D. elastica* are both usually found on loamy clays or grey sands, and in low-lying situations adjoining winter-wet swamps (Western Australian Herbarium 1998).

Given the vegetation under application represents upland vegetation (DEC, 2009) and the closest wetland is approximately 300 m north-east, it is considered that the area under application is not likely to include suitable habitat for *Diuris micrantha* or *Drakaea elastica*.

Methodology References:
- DEC (2009)
- Western Australian Herbarium (1998)
GIS Database:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- SAC Bio Datasets 27/07/2009

(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 is one Threatened Ecological Community (TEC) known to occur in the local area (5 km radius), being *M. huegelii* - *M. acerosa* shrublands of limestone ridges (Floristic Community Type 26a). This TEC is located approximately 2.8 km south-west of the area under application and occurs on different soils and within different vegetation complexes than the area under application. Therefore, it is considered that the vegetation under application is not likely to comprise a TEC.

Methodology GIS Databases:
- Hedde Vegetation Complexes
- SAC Bio Datasets 27/07/2009
- Soils, Statewide

(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 within the area under application is identified as a component of Beard vegetation type 6, of which there is 26.1% of Pre-European extent remaining within the Bioregion (Shepherd, 2007); and Hedde Karrakatta central and south Complex, of which there is 29.5% of Pre-European extent remaining respectively (Hedde et al, 1980).

The vegetation types under application retain less than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). However, the EPA (2006) recognises

the Perth Metropolitan Region as a constrained area, providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent.

Given the extent of vegetation remaining in the Local Government area (39.8%) and the extensive remnants within the local area (~48% vegetation remaining), it is not considered likely that the vegetation under application is located in an area that has been extensively cleared.

| | Pre-European (ha) | Current extent (ha) | Remaining (%) | In secure tenure (%) |
|----------------------------|----------------------|------------------------|------------------|-------------------------|
| IBRA Bioregion* | | | | |
| Swan Coastal Plain^ | 1,501,208 | 583,140 | 38.8 | |
| Town of Kwinana* | 12,024 | 4,793 | 39.8 | |
| Local area (5 km radius) | 7,853 | ~3,800 | ~48 | |
| Beard vegetation type* | | | | |
| 6 (within SCP Bioregion) | 56,343 | 14,749 | 26.1 | 34.2 |
| Hedde vegetation complex** | | | | |
| Karrakatta Central & South | 49,912 | 14,729 | 29.5 | 2.5 |

* (Shepherd, 2007)

** (EPA, 2006)

^ Area within Intensive Land Use Zone

Methodology References:
 - EPA (2000)
 - EPA (2006)
 - Hedde et al (1980)
 - Shepherd (2007)
 GIS Databases:
 - Interim Biogeographic Regionalisation of Australia
 - SAC Bio Datasets 27/07/2009

(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 wetlands are Wattleup Lake (mapped as a resource enhancement wetland and an EPP lake) located 300 m north-east and Pearse Road wetland (mapped as a conservation category wetland and an EPP lake) located 1 km north.

Given the distance to the nearest wetlands and that the vegetation under application represents upland vegetation (DEC, 2009), the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:
 - DEC (2009)
 GIS Databases:
 - EPP Lakes
 - Geomorphic 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 is not likely to be at variance to this Principle**
 Soils within the applied area are predominantly leached, quartz sands associated with Tamala limestone. These sandy soils have a high risk of wind erosion and phosphorus export and low risk of surface water runoff (Department of Agriculture, 2005).

The main land degradation risks are considered to be phosphorous export and wind erosion. Given the proposed clearing involves a control burn through 3.52 ha of native vegetation, which will be a short-term disturbance to the vegetation; it is not considered that the proposed clearing is likely to cause appreciable land degradation.

Methodology Reference:
 - Department of Agriculture (2005)
 GIS Database:

(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 under application is located within Bush Forever site 267 (Mandogalup Road Bushland, Hope Valley), which encompasses the 15.7 ha property (Lot 614 Mandogalup Road). Located ~300 m north-east of Lot 614 is site 393 (Wattleup Lake and adjacent bushland), ~700 m south-east is site 268 (Mandogalup Road Bushland, Mandogalup) and ~1.5 km north-east of Lot 614 is site 392 (Harry Waring Nature Reserve).

The proposed clearing is likely to impact on the environmental values of this conservation area through direct disturbance [or burning] of vegetation within Bush forever and the spread or introduction of weed species or dieback by machinery. The consequences associated with the spread of such exotic species into areas reserved for conservation, include the significant degradation of the reserve and the potential local extinction of species.

In addition, the clearing proposal involves undertaking a controlled burn approximately 10 m wide around the perimeter of the property. This clearing may alter the structure of the remaining native vegetation and encourage the growth of annual weeds in the area (Brown and Brooks, 2002; Milberg and Lamont, 1995). This could result in an indirect impact of further degradation of the vegetation communities where the clearing is proposed.

Given the area under application is located within a conservation area, which will directly impact the area through the disturbance of native vegetation and the spread of weeds and dieback it is considered the proposal at variance to this Principle.

To mitigate any impacts from the proposed clearing a weed control and dieback condition will be imposed on this permit.

Methodology

Reference:

- Brown and Brooks (2002)
- Milberg and Lamont (1995)

GIS databases:

- Bushforever
- DEC Managed Lands and Water

(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 wetlands are Wattleup Lake (mapped as a resource enhancement wetland and EPP lake) located 300 m north-east and a conservation category wetland (mapped as an EPP lake) located 1 km north.

The vegetation under application is not within the critical zone of influence (within 50m of mapped wetlands) and the secondary zone of influence (within 200m of mapped wetlands) (Hill et al, 1996); therefore, it is not likely that the wetlands will be impacted.

The area under application is not located in a Public Drinking Water Source Area and is mapped as having a low salinity risk.

Given the distance to the nearest wetlands and the low salinity risk, it is considered that the proposed burning for fire hazard reduction is not likely to cause deterioration in the quality of surface or ground water.

Methodology

References:

- Hill et al (1996)

GIS Databases:

- EPP Lakes
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrography, linear
- 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 closest wetlands are Wattleup Lake (mapped as a resource enhancement wetland and EPP lake) located 300 m north-east and a conservation category wetland (mapped as an EPP lake) located 1 km north.

Given the distance to the nearest wetlands, the clearing as proposed is not likely to be at variance to this

Principle.

- Methodology** GIS Databases:
- EPP Lakes
 - Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
 - Hydrography, linear

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

Comments

A submission (2009) for the clearing proposal was received. The submission recommended that the applicant request that the adjoining landowners install the wide strategic firebreaks, instead of clearing the Bush Forever site. The submission considered the environmental issues including preparation of a fire management plan and the potential for encouraging weed growth; these issues raised have been addressed.

Resource Protection and Management, incorporating Bush Forever (DPI, 2009) advised that there is no objection for the proposed burning of the area under application for fire hazard reduction, and recommend an offset proposal be prepared and implemented.

The Town of Kwinana (2009) advised that the proposed clearing is supported with the following considerations:

- Phytophthora dieback is properly managed; and
- Veldt grass is sprayed post-fire.

The area under application is within the gazetted Environmental Protection (Kwinana, Atmospheric Waste) Policy 1992. This Policy was established to maintain acceptable air quality from sulphur dioxide emissions.

There is no other RIWI Act Licence, Works Approval or EP Act Licence that affects the area under application.

Lot 614 on Plan 3475 is freehold land and is currently zoned rural under the Metropolitan Regional Scheme.

- Methodology** References:
- DPI (2009)
 - Submission (2009)
 - Town of Kwinana (2009)
- GIS databases:
- Cadastre
 - Metropolitan Regional Scheme

4. Assessor's comments

Comment

The assessable criteria have been addressed and the proposed clearing is at variance to Principle (h), and may be at variance to Principles (a) and (b).

5. References

- DEC (2008) Lot 614 Mandogalup Road, Hope Valley. Site inspection conducted 23 July 2009 for CPS 3174/1, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref DOC91676
- Department of Agriculture (2005) AgMaps Land Manager CD-rom for the Shires of Serpentine-Jarrahdale, Kwinana, Rockingham, Mandurah, Murray, Boddington, Waroona and Harvey. Department of Agriculture, Western Australia. ISSN: 1448-235X.
- DPI (2009) Direct Interest Submission for CPS 3174/1, Department of Planning and Infrastructure. TRIM Ref DOC91190
- 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 (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.
- 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.
- Hill, A.L., Semenuik, C. A, Semenuik, V. Del Marco, A. (1996) Wetlands of the Swan Coastal Plain. Volume 2b, Wetland mapping, classification and evaluation. Wetland Atlas. WRC and DEP. Perth WA.

- K. Brown and K. Brooks (2002) Bushland Weeds - A Practical Guide to their Management, Environmental Weeds Action Network (Inc).
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- P. Milberg and B. B. Lamont (1995) Fire Enhances Weeds Invasion of Roadside Vegetation in South-western Australia (Abstract); Biological Conservation, Vol 73, Iss 1 (online) <http://www.sciencedirect.com> (Accessed 28/07/2009)
- 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. (2007). 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.
- Submission (2009) Direct Interest Submission for CPS 3174/1. TRIM Ref DOC90483
- Town of Kwinana (2009) Direct interest submission for CPS 3174/1. TRIM Ref DOC89985
- Western Australian Herbarium (1998). FloraBase -The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 28/07/2009).

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) |