



1. Application details

1.1. Permit application details

Permit application No.: 144/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Kallamar Estate Ltd

1.3. Property details

Property: LOT 5 ON PLAN 13245
Local Government Area: Shire Of Gingin
Colloquial name: Kallamar Estate

1.4. Application

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

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
<p>Beard vegetation Association 1949: Low woodland; banksia on low sandhills, swamps in swales with tea-tree and paperbark. (Hopkins et al 2003, Shepherd et al 2001).</p> <p>Heddie Vegetation Complex - Bassendean Complex North. Vegetation ranges from a low open forest and low open woodland of Banksia species, Eucalyptus tottiana to low woodland of Melaleuca species and sedge/lands which occupy the moister sites. (Heddie et al. 1980).</p>	<p>The area subject to the proposal has historically been disturbed by grazing practices. Some parts are almost devoid of major species however there appears to be significant regeneration of native vegetation occurring at this site. Species include Banksia menziesii, B. attenuata, Casuarina sp., Nuytsia floribunda, Xanthorrea sp., Leschenaultia sp., Hakea sp., Grevillea sp., Hibbertia sp. and Eucalyptus tottiana (site visit 14/10/04).</p>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994).</p>	<p>Property, including the area subject to the proposal, has been grazed until four years ago. There is no sign of any fencing to protect the vegetation from stock (Site visit 14/10/04).</p>

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 property, including the area subject to this application, has a history of grazing. There has been no grazing on the property, including the area subject to the clearing application, over the last four years. Although it is unknown how long the property had been previously grazed, it has been considerably disturbed by that activity. It is therefore unlikely that clearing of the native vegetation would have a large impact on the biodiversity of the area. Given that the area under application has a history of grazing it is unlikely that it would be considered to contain a high level of biological diversity, particularly when compared with the Moore River National Park and various nature reserves located within the local area.

Methodology Site visit (14/10/04)
GIS Database:
- CALM Managed Lands and Water - CALM 01/08/04

(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

The area under application has been disturbed by grazing and historical disturbance and, as such, is unlikely to provide significant habitat for indigenous fauna. CALM (2004) advise the proposed clearing is likely to have minimal impact on any indigenous fauna based on the extent of remnant vegetation in the adjacent areas.

Methodology CALM (2004) (DoE TRIM Ref ND607)

(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 two populations of DRF species *Paracaleana dixonii* recorded from the same broad vegetation types as the current proposal. Eleven populations of Priority Flora are known within a 10km radius of the proposal.

CALM (2004) advised that there was a medium to high probability of the proposed area being at variance with this Principle. CALM (2004) also advised that a flora survey, undertaken at the appropriate time of year, was the only way to determine whether the proposed clearing would impact upon any flora species specifically protected by the Wildlife Conservation Act.

As a requirement of a secondary assessment request, a vegetation assessment of the area under application was conducted in October 2005 by Cardno BSD Pty Ltd (2006) with the conclusion being that "no species of DRF or Priority Flora, or TEC's pursuant to subsection 2 of Section 23F of the Wildlife Conservation Act 1950 and listed by CALM were located during the time of the survey". After viewing the survey CALM (2006) advised that it was unlikely that the proposal would be at variance with this Principle.

Methodology CALM (2004) (DoE TRIM Ref ND 607)
CALM (2006) (DoE TRIM Ref NI 1287)
Cardno BSD Pty Ltd (2006) (DoE TRIM Ref ED 629)
GIS Database:
- Declared Rare and Priority Flora List - CALM 13/08/03

(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

CALM (2004) advised there are no known occurrences of Threatened Ecological Communities within 10km of the proposal.

As a requirement of a secondary assessment request, a vegetation assessment of the area under application was conducted in October 2005 by Cardno BSD Pty Ltd (2006) with the conclusion being that "no species of DRF or Priority Flora, or TEC's pursuant to subsection 2 of Section 23F of the Wildlife Conservation Act 1950 and listed by CALM were located during the time of the survey". After viewing the survey CALM (2006) advised that it was unlikely that the proposal would be at variance with this Principle.

Methodology CALM (2004) (DoE TRIM Ref ND607)
CALM (2006) (DoE TRIM Ref NI 1287)
Cardno BSD Pty Ltd (2006) (DoE TRIM Ref ED 629)
GIS Databases:
- Threatened Ecological Community Database - CALM 15/07/03
- Threatened Plant Communities - DEP 06/95

(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 State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents a clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment 2002, EPA 2000).

The vegetation at the site is a component of Beard Vegetation Association 1949 (Hopkins et al. 2001) and Heddle Bassendean Complex North (Heddle et al 1980) of which there is 25.6% (34,012ha) and 72.0% (53,384ha) respectively of the pre-European extent remaining (Shepherd et al. 2001, Heddle et al 1980). The status of these vegetation types for biodiversity conservation are 'vulnerable' and of 'least concern' (Department of Natural Resources and Environment 2002) respectively. Furthermore the extent of native vegetation remaining within the Swan Coastal Plain Bioregion and the Shire of Gingin is 43.0% and 56.3% respectively (Shepherd et al. 2001).

The area subject to the proposal is covered by flora studies conducted by Beard (Hopkins et al 2001) and Heddle

(Hedde et al 2001) Beard's study is significantly broader than the more comprehensive study conducted by Hedde which is primarily confined to the Swan Coastal Plain. In this instance, for the same area of native vegetation, they provide a disparity in pre-European vegetation representation (25.6% for Beard and 72.0% for Hedde) with the representation of the Beard vegetation association not significantly below the benchmark of 30%. Furthermore there is in excess of 30,000ha of Beard Vegetation Association 1949 still intact.

The benchmark of 15% representation in conservation reserves (JANIS Forests Criteria 1997) has been met for Beard Vegetation Associations 1949 and Hedde's Bassendean North Vegetation Complex for which 24.4% and 27.5% respectively of the current extent of each vegetation association is in secure tenure (Shepherd et al 2001)

As part of a secondary assessment request, a vegetation assessment of the area under application was conducted in October 2005 by Cardno BSD Pty Ltd (2006). After viewing the survey CALM (2006) advised that it was unlikely that the proposal would be at variance with this Principle.

Methodology CALM (2006) (DoE TRIM Ref IN 1287)
Cardno BSD Pty Ltd (2006) (DoE TRIM Ref ED 627)
EPA (2003)
Shepherd et al. (2001)
Hopkins et al. (2001)
Janis Forests Criteria (1997)
Department of Natural Resources and Environment (2002)
GIS Databases:
- Pre-European Vegetation - DA 01/01
- Hedde Vegetation Complexes - DEP 21/06/95
- Swan Coastal Floristic Survey - CALM 98
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 at variance to this Principle**
The nearest wetland is 800m from the proposal and there are a number of other lakes and wetlands within the local area (10km radius). However vegetation associated with these waterbodies are not under application, nor is the clearing as proposed considered to have a significant impact on these waterbodies.

Methodology Site visit (14/10/04)
GIS Databases:
- Hydrography, linear - DOE 01/02/04
- Geomorphic Wetlands - Swan Coastal Plain - DOE 15/09/04
- EPP, Lakes - DEP 28/07/03
- EPP Wetlands (draft) - DEP 21/07/04
- ANCA Wetlands - CALM 08/01
- RAMSAR Wetlands - CALM 21/10/02

(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**
DAWA (2004) advise "the proposed clearing of 16.8 hectares of land within Lot 5 is not likely to cause appreciable on site and off site land degradation with the implementation of appropriate management strategies to address any resultant wind erosion." The applicant is proposing to plant olive trees in the area under application. Given that these trees will be managed in a similar manner to adjacent plantings with the retention of grasses around the trees it is unlikely that significant wind erosion will occur.

Methodology DAWA (2004) (DoE TRIM Ref ND 560)

(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 Moore River National Park, Namming Nature Reserve, Quins Hill Nature Reserve and Reserve 25591 are located within the local area (10km radius) of the proposed clearing. The vegetation within the proposal provides a limited role as a "stepping stone" for ecological connectivity with CALM managed nature reserves. Therefore the clearing as proposed is considered unlikely to have a significant impact on the surrounding conservation reserves.

The benchmark of 15% representation in conservation reserves (JANIS Forests Criteria 1997) has been met for Beard Vegetation Associations 1949 and Hedde's Bassendean North Vegetation Complex for which 24.4% and 27.5% respectively of the current extent of each vegetation association is in secure tenure.

Methodology CALM (2004) (DoE TRIM Ref ND607)
 JANIS Forests Criteria (1987)
 GIS Database:
 - CALM Managed Lands and Water - CALM 01/08/04

(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
 There is likely to be little or no runoff in this area due to the high porosity of soils. Surface flow is towards the Moore River which is 2km to the north and towards a Resource Enhancement Wetland which is 800m to the east. Down gradient from the proposal is 260ha of irrigated olive trees that, together with the proposed dryland olive plantation proposed, will compensate the water balance as a result of the loss of 16.8ha of degraded native vegetation. Water samples taken from monitoring bores on the southern side of the proposal at depths of greater than five metres from ground level were fresh at 565 mg/l and 275 mg/l (site visit 14/1/2004).

Methodology Site visit (14/10/04)
 GIS Databases:
 - Hydrography, linear - DOE 01/02/04
 - Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 21/10/04
 - Gingin 1m Orthomosaic - DOLA 6/00

(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 soils within this proposal are highly porous resulting in little likelihood of significant surface water flow as a result of the clearing.

Methodology Site visit (14/10/04)

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

Comments Proposal is not at variance to this Principle
 The Shire of Gingin had no objection to the proposal provided land clearing does not occur until planning consent for horticulture has been received.
 The Shire of Gingin (2006) issued Planning Approval on 1 August 2006.

 There is no other RIWI Act Licence, Works Approval or EP Act Licence that will affect the area that has been applied to clear.

 Note: An application for a water licence is not required as the intended horticultural activity is dryland olives which does not require irrigation.

Methodology Shire of Gingin (2004) Submission (DoE TRIM Ref ND 619)
 Shire of Gingin (2006) Planning Approval (TRIM Ref. DOC ED1105)

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Horticulture	Mechanical Removal	16.8	Grant	Subsequent to the submission of a flora survey as a requirement of a secondary assessment, all assessable criteria have been addressed and the clearing is not likely to be at variance to the Clearing Principles. The Shire of Gingin advised that planning consent will be required prior to any land clearing activity taking place. Planning Approval has now been issued (1 August 2006). Given the above, the assessing officer recommends that a permit be granted.

5. References

CALM (2004). Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE), Department of Conservation and Land Management, Western Australia. DoE TRIM Ref ND 607.
 CALM (2006) Correspondence. Department of Conservation and Land Management, Western Australia. DoE TRIM Ref NI 1287.
 Cardno BSD (2006). Vegetation Assessment Part Lot 5 Orange Spring Road, Gingin. DoE TRIM Ref ED 629.
 DAWA (2004). Land degradation assessment advice. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM Ref ND 560.
 Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity

at a multiple scales within our bioregional landscape. local. Department of Natural Resources and Environment, Victoria.

- EPA (2003) Guidance for the Assessment of Environmental Factors - level of assessment of proposals affecting natural areas within the System 8 region and Swan Coastal Plain portion of the System 7 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
- EPA (2004) Guidance for the Assessment of Environmental Factors - terrestrial flora and vegetation surveys for Environmental Impact Assessment in Western Australia. Report by the EPA under the Environmental Protection Act 1986. No 5 WA.
- 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.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALM Science after J. S. Beard. late 1960's to early 1980's Vegetation Survey of Western Australia. UWA Press.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia. Canberra.
- 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, 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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)

