



1. Application details

1.1. Permit application details

Permit application No.: 4183/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Peter Colin and Beverley Dawn Ansell

1.3. Property details

Property: LOT 1892 ON PLAN 115764 (House No. 201 DOOLING NEERGABBY 6503)
Local Government Area: Shire of Gingin
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Refused
Decision Date: 26 May 2011

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: 1014 is describes as Mosaic: Low woodland; banksia/ shrublands; teatree thicket	The proposal is to clear 5 ha for horticulture.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation under application has been through a recent controlled burn. The vegetation has the opportunity to regenerate to its natural state. The condition of the vegetation was established through a site inspection of the application area by DEC officers on the 11 February 2011 (DEC 2011).
1008 Medium open woodland; marri	The vegetation under application consists of open Banksia woodland consisting predominantly of Banksia attenuata, Banksia menziesii and Eucalyptus todtiana with a few Banksia prionotes, Holly leaf banksia Nuytsia floribunda over Xanthorrhoea brunonis, Xanthorrhoea preissii, Calytrix sp, Mesomelaena sp, Schoenus sp. There is evidence of a recent burn.		
Karrakatta Complex - North: Predominantly low open forest and low woodland of Banksia species E-Eucalyptus todtiana (Pricklybark), less consistently open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus todtiana (Pricklybark) - Banksia species.			

(Shepherd 2009, Hedde et al 1980).

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 applicant has reduced the application area from 8 ha down to 5ha and has moved the clearing area to the north of the property. It is considered the amended area consists of Banksia woodland consisting predominantly of Banksia attenuata, Banksia menziesii and Eucalyptus todtiana with a few Banksia prionotes, Holly leaf banksia Nuytsia floribunda over Xanthorrhoea brunonis, Xanthorrhoea preissii, Calytrix sp, Mesomelaena sp, Schoenus sp in an excellent (Keighery 1994) condition (DEC 2011). In addition, >300 year old Xanthorrhoea preissii trees were observed during the site visit.

The area under application is considered to contain 5ha of high quality feeding habitat for Carnaby's black cockatoos (Calyptorhynchus latirostris) and occurs ~ 270 north of Gingin Brook, a possible watering point for this species. In addition the vegetation may provide significant habitat for birds and ground dwelling fauna such as quenda. Even though the application area has reduced to 5ha and has shifted to the north allowing a ~ 6 ha area of vegetation to remain intact in the southern portion of the property, aerial imagery shows vegetated connectivity in a west-east direction to the near by watercourse (Gingin Brook). Therefore, this vegetation is considered to be a part of this linkage that is likely to support fauna utilising the watercourse and maintains fauna movement and migration across the local landscape. The proposed clearing will not remove this linkage

but it will significantly reduce its effectiveness.

In addition, the vegetation under application may align with the Priority Ecological Community (PEC) 23b: Northern *Banksia attenuata* - *Banksia menziesii* woodlands. However a flora survey is required to establish if the vegetation under application contains a PEC.

Given the above, it is considered the proposed clearing is at variance to this Principle.

Methodology References

- DEC (2011)
- Keighery (1994)
- GIS Databases
- SAC Bio Datasets (3 February 2011)

(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**

Three conservation significant fauna species have been recorded in the local area (10 km radius) including Carnaby's black cockatoo (*Calyptorhynchus latirostris*), Western Brush Wallaby (*Macropus irma*) and Quenda (*Isodon obesulus fusciventer*).

The area under application consists of open *Banksia* woodland in excellent (Keighery 1994) condition (DEC 2011).

Surveys of Carnaby's black cockatoo populations and their feeding and roosting habits show that the Northern Region of the Swan Coastal Plain appears to be an important area for Carnaby's (Shah 2006). Important native food for this species include *Banksia attenuata*, *B. menziesii*, *B. grandis*, *B. ilicifolia*, *B. sessilis*, *B. prionotes*, *Corymbia calophylla* and *Eucalyptus marginata* (Valentine and Stock 2008). After the breeding season, Carnaby's move to higher-rainfall coastal areas on the swan coastal plain that feature areas of feeding habitat, and accessible watering points (Shah 2006).

The Carnaby's black cockatoo (*Calyptorhynchus latirostris*) (Endangered, Wildlife Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) has been recorded approximately 8.2km west of the application area. Carnaby's black cockatoo meets Criterion A for Endangered as it has suffered a population decline of at least 50% over the past 45 years (Cale 2003). One of the major threats to this species is accumulative clearing of feeding habitat on the Swan Coastal Plain (Cale 2003). Therefore all feeding habitat within the Swan Coastal Plain is considered significant. Any clearing of cockatoo feeding habitat will contribute to the cumulative loss of habitat that is occurring on the Swan Coastal Plain. This cumulative loss would contribute to the decline of this species.

The area under application occurs within the northern region of the Swan Coastal Plain, contains ~ 5ha of high quality feeding habitat for Carnaby's and occurs ~ 230m north of Gingin Brook, a possible watering point for this species.

In addition the vegetation may provide habitat for birds and ground dwelling fauna such as quenda. Even though the application area has reduced to 5ha and has shifted to the north allowing a ~ 6 ha area of vegetation to remain intact in the southern portion of the property, aerial imagery shows vegetated connectivity in a west-east direction to the near by watercourse (Gingin Brook). Therefore, this vegetation is considered to be a part of this linkage that is likely to support fauna utilising the watercourse and maintains fauna movement and migration across the local landscape. The proposed clearing will not remove this linkage but it will significantly reduce its effectiveness.

Therefore, the proposed clearing is considered at variance to this Principle.

Methodology References

- DEC (2011)
- Cale (2003)
- Keighery (1994)
- Shah (2006)
- Valentine and Stock (2008)
- GIS Databases
- Sac Bio Datasets (3 February 2011)
- Hydrography, linear

(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 have been identified within the local area (10 km radius) including *Drakaea elastica* and

Eucalyptus argutifolia, both being found within the same beard vegetation type as the application area.

The area under application consists of Banksia woodland predominantly containing Banksia attenuata, Banksia menziesii in an excellent (Keighery 1994) condition (DEC 2011).

Drakaea elastica occurs in deep sandy soils in banksia woodland in low-lying areas alongside winter wet swamps (Brown et al 1998).

Eucalyptus argutifolia grows in shallow soils on limestone ridges where it emerges from heath and thickets of parrot bush and Melaleuca huegelii (Brown et al 1998).

The habitat for these two species does not occur within the application area and therefore it is not considered the proposed clearing is likely to be at variance to this Principle.

Methodology References
 -Keighery (1994)
 -DEC (2011)
 -Brown et al (1998)
 GIS Databases
 -SAC Bio datasets (2 February 2011)

(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 Threatened Ecological Community (TEC) to the application area is Floristic Community Type SCP 26a - Melaleuca huegelii - M. acerosa shrublands on limestone ridges.
 The application area consists of Banksia woodland predominantly containing Banksia attenuata and Banksia menziesii on yellow sandy soil (DEC 2011) and does not contain limestone ridges. Melaleuca sp were not observed during the site inspection (DEC 2011)
 Therefore it is not considered the proposed clearing is likely to be at variance to this Principle.

Methodology References
 -DEC (2011)
 GIS Databases
 -SAC Bio Datasets (3 February 2011)

(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 1014 (6ha) and 1008 (2ha) which there is 55.57% and 26.16% of pre-European extent remaining, respectively (Shepherd 2009). The vegetation under application is also described as Heddle Vegetation Complex Karrakatta Complex-North (8ha), of which there is 36.9% of pre-European vegetation extent remaining (EPA 2006).
 The Beard Vegetation association 1008 retains less than the threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Western Australia 2001).
 In addition, aerial imagery of the local area shows vegetated connectivity in a west-east direction to the near by watercourse (Gingin Brook) and therefore, this vegetation is considered likely to support fauna utilising the watercourse and maintains fauna movement and migration across the local landscape.
 However, the application area does not occur within an extensively cleared landscape as ~ 63.7% of pre-European vegetation extent remains in the local area (10km radius) and 55.26% remains in the Shire of Gingin. Therefore the proposal is not likely to be at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining %
IBRA Bioregion			
Swan Coastal Plain*	1501209	587889	39.16*
Shire of Gingin*	319670.7	176644.8	55.26*
Local Area (~10km radius)	31500.0	~23927.0	~75.90
Beard type in Bioregion*			
1014	41064.1	22817.8	55.57
1008	4560.8	1193.0	26.16

Hedde Complex**			
Karrakatta Complex- North	25579.0	9444.0	36.90
(Shepherd 2009)*			
(EPA 2006)**			

Methodology References
 -EPA (2006)
 -Shepherd (2009)
 -Commonwealth of Australia (2001)
 GIS Databases
 -Pre-European Vegetation
 -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 may be at variance to this Principle**
 Aerial imagery of the local area shows vegetated connectivity in a west-east direction to the near by watercourse (Gingin Brook) and therefore, this vegetation is considered likely to support fauna utilising the watercourse and maintains fauna movement and migration across the local landscape.

 Therefore the proposed clearing may be at variance to this Principle.

Methodology GIS Databases
 -Hydrography, Linear
 -Geomorphic Wetlands 9Mgt Categories), Swan Coastal plain
 -Gingin 50cm Orthomosaic - Landgate 2008

(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 landscape of the areas under application and surrounds can be described as subdued dune-swale terrain (Northcote et al, 1960). The chief soils are leached sands on the low dunes and small areas of other sandy soils (Northcote et al, 1960). Given the soils present, it is not considered likely that eutrophication of Gingin Brook would result from the proposed clearing (Commissioner of Soil and Land Conservation, 2011).

 Soils within the applied area are part of the Spearwood Dune System, which are described as well drained deep yellow sands, and unlikely to erode through water erosion. These soils have a high risk of wind erosion however; wind erosion could be controlled with good management practices (Commissioner of Soil and Land Conservation, 2011).

 Therefore, it is considered that the clearing as proposed may be at variance to this Principle.

Methodology References
 -Northcote et al (1960)
 - Commissioner of Soil and Land Conservation (2011)
 GIS Databases
 -Soils, statewide

(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 may be at variance to this Principle**
 The closest conservation areas to the proposed clearing are a property registered under the Land For Wildlife program, which occurs 600m east and Gngangara Moore River State Forest occurring 1.7km southeast and 9.5km northwest of the application area. The Gingin Stock Route Nature Reserve also occurs 1.4km west.

 The proposed clearing will contribute to the cumulative fragmentation of a north- south ecological linkage between conservation areas within a 10 km radius such as the Gngangara Moore River State Forest and the Moore River Nature Reserve to the north and the remaining area of the Gngangara Moore River State Forest and other nature reserves in the area. This may contribute to the decrease of fauna dispersal throughout the landscape.

 In addition, the area under application may also act as a stepping stone between other vegetated remnants and nearby Land For Wildlife registered property.

Therefore, it may be considered likely for the proposed clearing to impact on the environmental values of nearby conservation areas.

Methodology GIS Databases
-Bushforever
-DEC Tenure

(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 chief soils are leached sands on the low dunes and small areas of other sandy soils (Northcote et al, 1960). Given the soils present it is not considered for Eutrophication to occur to Gingin Brook from the proposed clearing (Commissioner of Soil and Land Conservation, 2011).

Therefore the proposed clearing is not at variance to this Principle.

Methodology References
-Northcote et al (1960)
- Commissioner of Soil and Land Conservation (2011)
GIS Databases
-Hydrography, Linear

(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 chief soils are leached sands on the low dunes and small areas of other sandy soils (Northcote et al, 1960). Given the sandy soils present, it is not considered for the proposed clearing to cause or exacerbate flooding.

Methodology GIS Databases
-Hydrography, Linear

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

Comments

The proposal is to clear 5 ha for the expansion of an existing citrus orchard. Currently 7 ha have been planted on the property. The property is surrounded by horticultural activities on all sides.

The applicant brought the property with the view of completing the development of planting 12 ha of citrus orchard and was based on a letter of approval for the proposal that the previous owners had received from the EPA. This letter was received in 1990 and states that the EPA do not object to the proposal of 12 ha of citrus orchard on Lot 1892. The EPA advised that improper use of nutrient and water can lead to nutrient enrichment of the downstream water bodies and that advice should be received on strategies from Department of Agriculture. Wind breaks area also recommended. The proposal was not formally referred to the EPA and this letter is informal advice on the proposal.

A submission (2011) has been received which supports the proposed clearing for the following reasons;

1. Removal of habitat for feral pigs that destroy crops on the property and are believed to frequent the area under application and state that feral animals pose a serious risk to their organic certification.
2. Removal of the application area will remove a possible fire risk to their house which occurs close to the proposed clearing.

An application for Planning Consent for 5ha of citrus orchard has been sent into the Shire of Gingin in early April 2011 (Shire of Gingin 2011). A decision on the Planning Consent application has not been finalized.

The applicant currently holds a water licence for 170650KL for Lot 1892 which is for the irrigation of 12ha of orchard and 0.5ha for irrigation of lawns and gardens. The duration of the licence is from 6 February 2007 to the 5 February 2017. Currently 7 ha of orchard have been planted.

Methodology References
-Submission (2011)
-Shire of Gingin (2011)

4. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

Cale, B (2003) Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan 2002- 2012. Department of Environment and Conservation. Wanneroo WA.

Commissioner of Soil and Land Conservation (2011); Land Degradation Advice and Assessment Report for clearing permit application CPS 4183/1 received 12 April 2011; Department of Agriculture and Food Western Australia (DEC ref 387478).

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra. DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4183/1, Lot 201 Dooling Rd, Neergabby. Site inspection undertaken 11/02/2011. Department of Environment and Conservation, Western Australia (DEC ref A368192).

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.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

McPharlin, I., Delroy, N., Jeffrey, B., Dellar, G. and Eales, M. (1990) Phosphorous retention of sandy horticultural soils on the Swan Coastal Plain, W.A. Journal of Agriculture, Volume 31, 1990

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

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

Shire of Gingin (2011) Request for Comments on Planning Consent Application for Lot 1892 Dooling Rd , Neergabby. DEC ref A386690

Submission (2011) For CPS 4183/1 - Peter Ansell - Lot 1892 Dooling Rd Neergabby. DEC ref A363238

Valentine and Stock (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) In the Gngangara Sustainability Strategy Study Area. Edith Cowen University and Department of Environment and Conservation.

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)