



1. Application details

1.1. Permit application details

Permit application No.: 2684/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Pinjar Properties Pty Ltd

1.3. Property details

Property: LOT 5 ON PLAN 13980 (House No. 11 MORNINGTON MARIGINIUP 6065)
Local Government Area: City Of Wanneroo
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6.76		Mechanical Removal	Building or Structure

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
Bead vegetation association: 6: Medium woodland; tuart and jarrah (SAC Bio Dataset 21/10/2008, Shepherd 2007).	The proposal is to clear 6.76 hectares of native vegetation (within an 8.6 ha property) for the purpose of the development of a lifestyle village. The vegetation under application is described as Banksia woodland over a low shrub land. The vegetation includes an overstorey of Banksia attenuata, Banksia grandis, Banksia menziesii, Eucalyptus marginata and Allocasuarina fraseriana over an understorey of Hibbertia sp, Stirlingia latifolia, Jacksonia sp, Petrophile linearis, Calothamnus sanguineus, Scaevola repens, Xanthorrhoea preissii and Macrozamia riedlei over a ground cover of Conostylis sp, Anigozanthos sp, Mesomelaena pseudostygia, Dasypogon bromeliifolius, Stylidium sp, Desmocladius sp and Patersonia occidentalis.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the native vegetation under application was sourced from the site inspection undertaken 22 October 2008 (DEC 2008a) and the Flora and Vegetation Assessment (ENV 2006).
Heddle vegetation complex: Karrakatta Complex Central and South; open forest and woodland (Heddle et al. 1980).	The weeds Gladiolus sp, Briza sp, Euphorbia sp and wild oats occurred in medium density along edges and up to 5 m within the area under application. These weeds were also scattered sparsely throughout the site.		

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 vegetation under application is described as Banksia woodland over shrubland in excellent condition. The vegetation includes an overstorey of Banksia attenuata, Banksia grandis, Banksia menziesii, Eucalyptus marginata and Allocasuarina fraseriana over an understorey of Hibbertia sp, Stirlingia latifolia, Jacksonia sp, Petrophile linearis, Calothamnus sanguineus, Scaevola repens, Xanthorrhoea preissii and Macrozamia riedlei over a ground cover of Conostylis sp, Anigozanthos sp, Mesomelaena pseudostygia, Dasypogon bromeliifolius, Stylidium sp, Desmocladius sp and Patersonia occidentalis.

The weeds Gladiolus sp, Briza sp, Euphorbia sp and wild oats occurred in medium density along edges and up to 5 m within the area under application. These weeds were also scattered sparingly throughout the site.

A flora survey was conducted in September 2006 for the area under application (ENV 2006) identified 91 native flora species and 15 weed species.

The vegetation under application provides suitable nesting and foraging habitat for indigenous fauna such as the Quenda (*Isoodon obesulus fusciventer*), Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) and other mammal and avifauna. In addition, the vegetation under application may also provide suitable feeding habitat for two native bees (*Hylaeus globuliferus*, *Leioproctus contrarius*) and the Graceful Sunmoth (*Synemon gratiosa*), which are of conservation significance.

Given the relatively large area proposed to be cleared (6.67 ha), the excellent vegetation condition, the high flora diversity and the potential foraging and nesting habitat for conservation significant fauna the proposed clearing is considered to be at variance to this Principle.

Methodology **References**
- ENV (2006)
- DEC (2008a)
GIS Databases
- SAC Bio Datasets 21/10/2008

(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**

There are nine fauna species of conservation significance recorded in the local area (5km radius).

A fauna assessment of the area under application was undertaken in 2007 and stated that the area lacks connectivity to other bushland as it is bordered by Coogee Rd, Mornington Drive and market gardens and that these boundaries are likely to pose constraints for fauna movement into and out of the site (ENV 2008). Predation rates within the site are also likely to be high due to the surrounding urban areas (ENV 2008).

However, the area under application contains high quality fauna habitat and high microhabitat complexity as a result of the vegetation structure (ENV 2008). The vegetation under application is in an excellent condition with an overstorey consisting of *Banksia* sp and *Eucalyptus* sp that may provide suitable foraging habitat for the conservation significant Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) which has been recorded in the local area. In addition, hollow bearing *Eucalyptus marginata* trees, which could potentially be used as nesting habitat by species of conservation significance and other local mammals or avifauna, were observed during the site inspection (DEC 2008a) and the flora and vegetation survey (ENV 2008).

The vegetation within the area under application comprises of a dense understorey and well established leaf litter layer suitable for a range of ground-dwelling fauna such as reptiles and mammals like the Quenda (*Isoodon obesulus fusciventer*) which has been recorded in the local area (5km radius).

The vegetation under application may also provide feeding habitat for two bee species of conservation significance, *Hylaeus globuliferus* found 2.7 km north west and *Leioproctus contrarius*, recorded 3.8 km northeast of the area under application. *Hylaeus globuliferus* is known to feed on the flowers of *Adenanthos cygnorum* in particular but has also been collected from the flowers of *Grevillea cagiana*, *Banksia grossa* and *Banksia attenuata* (DEC 2007). *Leioproctus contrarius* is apparently dependent on flowers of Goodeniaceae and possibly *Lechenaultia stenosepala*. This species has been recorded in a few locations from Wanneroo to Mandurah and is under great pressure from land development (DEC 2007).

Banksia attenuata occur within the area under application (ENV 2006) and two flora species belonging to the Goodeniaceae family has been recorded during the flora survey (ENV 2006). Therefore, it may be considered likely for both of these native bee species to utilize the vegetation under application.

There are two known occurrences of the conservation significant species, the Graceful Sunmoth (*Synemon gratiosa*), in the local area (5 km radius) with the closest recording being 2.7 km northwest of the area under application. This species requires *Lomandra* spp. as host plants and requires high quality vegetation (DEC 2008b) Four *Lomandra* species were recorded during the flora survey (ENV 2008) of the area under application.

A survey for *Synemon gratiosa* should be conducted within the area under application to determine if this species is present. Surveys for this species should occur in the first two weeks of March, which is the moth's main flight period. (DEC 2008b).

Given the excellent condition of the vegetation under application, the relatively large area proposed to be cleared (6.76 ha) and the potential utilisation of the area for foraging and nesting habitat by local fauna, the proposed clearing is at variance to this Principle.

Methodology **References**
-DEC (2007)
-DEC (2008a)
-DEC (2008b)

- ENV (2008)
- GIS Databases
- SAC Bio Datasets 21/10/2008

(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 rare flora species recorded within a 10 km radius being *Eucalyptus argutifolia* and *Caladenia huegelii* found 6.9 km north and 6.7 km northeast of the area under application, respectively.

E. argutifolia grows between 1.5 m and 4 m high, has smooth bark and has white flowers between March and April. It grows in shallow soils over limestone on slopes or gullies of limestone ridges or outcrops (Western Australian Herbarium 1998-). The chief soils within the area under application are leached sands on subdued dune-swale terrain (Northcote et al. 1960-68) and the area under application does not contain limestone ridges. In addition, the flora survey (ENV 2006) of the area did not identify this species as occurring on the site. Therefore, it is unlikely for this species to occur within the applied area.

C. huegelii is a tuberous, perennial herb growing from 0.25 to 0.6 m high with green, cream and red flowers during Sep and Oct. It grows in deep sandy soil in mixed woodland of jarrah and *Banksia* (Brown et al. 1980). The vegetation under application consists of a *Banksia* and *Eucalypt* woodland and occurs on sandy soil; however a flora survey of the area under application, carried out in late September, did not identify this species (ENV 2006).

Given that both of these rare flora species were not identified in the flora survey and the preferred habitat for *E. argutifolia* does not occur within the area under application, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology

References

- ENV (2006)
 - Brown et al. (1980)
 - Northcote et al. (1960-68)
 - Western Australian Herbarium (1998-)
- GIS Databases**
- SAC Bio Datasets (assessed 21/10/08)
 - Soils, Statewide

(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

There is one Threatened Ecological Communities (TEC) recorded within the local area (5 km radius) being Floristic Community Type (FCT) 20a *Banksia attenuata* woodlands over species rich dense shrublands. The nearest recording of FCT 20a is 2.9 km northwest of the area under application.

The flora and vegetation survey (ENV 2006) undertaken for the area under application identified the FCT for the site as 21a *Banksia attenuata* - *Eucalyptus marginata* woodlands. However, the quality of the floristic data and the lack of information about the method of analysis undertaken by the consultants do not provide sufficient confidence that the TEC, FCT 20a does not occur in the area under application.

DEC (2008c) considers that it is possible for FCT 20a to occur in the area under application as the location, soil and landform unit is appropriate habitat for FCT 20a.

DEC (2008c) recommends that additional scouring of existing quadrats and additional ones in late winter/early spring should occur to represent the range in vegetation present. In addition, appropriate analysis of floristic data for the quadrats against data held in Gibson et al. (1994) using a program such as PATN or Primer should occur to determine the floristic community type occurring in the area under application.

Given the uncertainty of the floristic community type occurring in the area under application, the proposed clearing may be at variance to this Principle.

Methodology

References

- DEC (2008a)
 - DEC (2008c)
 - ENV (2006)
- GIS Databases**
- SAC Bio Datasets 21/10/08

(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 associated with Beard Vegetation Association 6. There is approximately 26.18% pre-European extent remaining (Shepherd 2007). The vegetation under application is associated with the Heddle Vegetation Complex Karrakatta Complex Central and South, which has 29.5% pre-European vegetation extent remaining (EPA 2006).

The State Government is committed to the National Objectives and 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 (Commonwealth of Australia 2001). Both of the mapped vegetation complexes associated within the area under application are below the State Governments target of 30%. 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.

The area under application is located within the Perth Metropolitan Region and belongs to vegetation complexes that have over 10% of their pre-European extent. Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain [^]	1,501,209	583,141	38.8	32.5
City of Wanneroo*	12,662	3,712	29.3	38.7
Beard vegetation type*				
6	56,343	14,749	26.2	34.3
Heddle vegetation complex**				
Karrakatta Complex Central/ South	49,912	14,729	29.5	2.5

* (Shepherd, 2007)

** (EPA, 2006)

[^] Area within Intensive Land Use Zone

Methodology References
 -Commonwealth of Australia (2001)
 -EPA (2006)
 -Shepherd (2007)
 GIS Datasets
 -Heddle Vegetation Complexes
 -SAC Bio Datasets 21/10/2008

(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

There are numerous wetlands occurring within the local area (5 km radius) with the nearest being a Conservation Category Wetland (CCW) and an EPP Lake, Lake Adams, occurring ~ 628 m northeast of the area under application. The nearest watercourse is Bennett Brook ~15 km southeast of the area under application.

A minimum wetland buffer of 50 m is required for all proposed developments to protect wetland values and functions (Water and Rivers Commission 2001).

Furthermore, the vegetation under application is representative of an upland vegetation community. Observations during the site inspection (DEC 2008a) confirmed wetland dependant vegetation does not occur in the area under application.

Given this, the vegetation under application is not considered to be growing in or in association with a watercourse or wetland.

Methodology Reference
 - DEC (2008a)
 - Waters and Rivers Commission (2001)

GIS Databases:

- 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 may be at variance to this Principle

Soils within the applied area described as leached sands on subdued dune-swale terrain (Northcote et al. 1960-68). These soils have a high risk of wind erosion and phosphorus export and low risk of surface water runoff (Department of Agriculture 2005).

Given the relatively large area under application to be cleared (6.76 ha) and the high risk of wind erosion, without appropriate ground cover, windbreaks or adequate dust suppression on exposed surfaces the proposed clearing may be at variance to this Principle.

Methodology

References

- Department of Agriculture (2005)
- Northcote et al. (1960-68)
- 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 is not likely to be at variance to this Principle

The vegetation under application is ~ 700 m southeast of the Bush Forever site 147; Mariginiup Lake and Adjacent Bushland. This Bush Forever site is recognised as part of a regionally significant fragmented bushland/wetland linkage and is part of Greenways 16 and 15 (Government of Western Australia 2000). In addition, the Gnaragara Moore River State Forest and Lake Joondalup Nature Reserve occur ~1.2 km northeast and ~3.5 km southwest of the area under application, respectively.

The vegetation under application does not provide a linkage to any remnants or conservation reserves in the local area.

Given the distance and the lack of ecological linkages to these conservation areas it is considered unlikely for the proposed clearing to directly impact the environmental values of a conservation reserve.

Methodology

References

- Government of Western Australia (2000)
- GIS Databases
- Bushforever
- DEC Managed Lands and Waters

(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 are numerous wetlands occurring within the local area (5 km radius) with the nearest being a Conservation Category Wetland (CCW) and an EPP Lake, Lake Adams, occurring ~ 628 m northeast of the area under application. The nearest watercourse is Bennett Brook ~15 km southeast of the area under application.

A minimum wetland buffer of 50 m is required for all proposed developments to protect wetland values and functions (Water and Rivers Commission 2001). Given the distance to the nearest wetland and watercourse the proposed clearing is not considered likely to cause deterioration to the quality of surface water in the local area.

Salinity risk and groundwater salinity for the area under application is considered low and therefore the proposed clearing is not considered likely to cause deterioration to the quality of groundwater in the local area.

Given this and the distance from the nearest wetland and watercourse, the proposed clearing is not considered likely to be at variance to this Principle.

Methodology

Reference

- Waters and Rivers Commission (2001)
- GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Groundwater Salinity, Statewide
- 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

There are numerous wetlands occurring within the local area (5 km radius) with the nearest being a Conservation Category Wetland occurring ~ 628 m northeast of the area under application. The nearest watercourse is Bennett Brook ~15 km southeast of the area under application.

Given the distance of the nearest wetland and watercourse to the area under application; and the sandy leached soils of the area (Northcote et al. 1960-68), the proposed clearing is not considered likely to cause, or exacerbate the incidence or intensity of flooding.

Methodology References

- Northcote et al. (1960-68)
- GIS Databases
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrography, Linear

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

Comments

The proposal is to clear 6.76 ha of native vegetation for the development of a lifestyle village.

The area under application is zoned Rural under the Metropolitan Region Scheme and the City of Wanneroo Town Planning Scheme.

Pinjar properties have applied for the rezoning of Lots 4 and 5 Mornington Drive from Rural to Private Clubs/Recreation zone. This rezoning was assessed by the Environmental Protection Authority (EPA) and was considered that the proposed zone amendment should not be assessed under the Environmental Protection Act (1986). EPA provided the advice that conditions should be imposed on future development. These include relocating fauna species present on site to the satisfaction of DEC, an appropriate buffer between the development and the surrounding market gardens to be determined prior to the residential development being approved and that a Preliminary Site Inspection for contaminated sites should be undertaken prior to the rezoning of the land.

The City of Wanneroo has advised that to date, the proponent have not supplied all information required for the City of Wanneroo to fully assess the application for rezoning of Lot 4 and 5 Mornington Drive. The proponent has not submitted a Development Application for the area under application.

The City of Wanneroo (2008) (direct interest submission) advised that the property is currently zoned Rural and the provisions of this zone do not prevent the construction of a building or structure; however planning and building approval is required. The City of Wanneroo states that the construction of a building is unlikely to require the clearance of 6.76 ha of native vegetation from the property. The City of Wanneroo also states that the vegetation complex occurring on the property is poorly conserved and therefore a clearing permit should only be granted for the vegetation required to construct the proposed building. In addition, it was noted that the Carnaby's Black Cockatoo may also potentially use this site and that care should be taken to mitigate adverse impacts on surrounding vegetation that is to be retained within the property.

Methodology References

- City of Wanneroo (2008)
- EPA (2008)
- GIS Databases
- Metropolitan Regional Scheme
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principles (a) and (b) and may be at variance to Principles (d) and (g).

5. References

City of Wanneroo (2008) Direct Interest Submission. TRIM Ref DOC64186.

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.

DEC (2008a) Site Inspection Report for Clearing Permit Application CPS 2684/1, Lot 5 Mornington Drive, Mariginiup. Site

inspection undertaken 22/10/2008. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC66113).

DEC (2008b), Science Division, Science Research Centre, Advice on the Graceful Sunmoth. TRIM Ref DOC27059

DEC (2008c) Advice Regarding the Threatened Ecological Community 20a. Department of Environment and Conservation, Western Australia.

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.

ENV Australia (2006) National Lifestyle Villages, Lot 5 Mornington Drive, Mariginiup Flora and Vegetation Assessment, Perth, Western Australia

ENV Australia (2008) National Lifestyle Villages; Lot 5 Mornington Drive, Mariginiup Fauna Assessment, Perth, 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.

EPA (2008) Environmental Protection Authority, Advice on Proposed Scheme Amendment -City of Wanneroo - Rezone from Rural to Recreational Zone Lots 4 and 5 Mornington Drive, Mariginup, Perth, 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.

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

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.

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.

Water and Rivers Commission (2001). Position Statement: Wetlands, Water and Rivers Commission, Perth.

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)

