



1. Application details

1.1. Permit application details

Permit application No.: 856/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Grahame Niven

1.3. Property details

Property: LOT 487 ON PLAN 202744 (No. 40 Doghill Road BALDIVIS 6171)

Local Government Area: City Of Rockingham

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.0		Burning	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
Beard Associations: 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina	The proposal includes clearing of 3 hectares of native vegetation for horticultural purposes. The area under application has previously been cleared for the same purpose.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The description and condition of the vegetation under application was obtained during a site visit on Tuesday 4th April 2006.
Heddl Complexes: Dardanup Mosaic of vegetation types characteristic of adjacent vegetation complexes such as Serpentine River, Southern River and Guildford.	The vegetation under application is dense <i>Kunzea glabrescens</i> woodland, with an occasional <i>Allocasuarina fraseriana</i> and one <i>Eucalyptus marginata</i> . The understorey consists of grasses and weed species including Arum Lily <i>Zantedeschia aethiopica</i> .		

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 area under application has been previously disturbed and the vegetation under application primarily comprises *Kunzea glabrescens* over grass and weed species, and is in degraded condition. It is therefore not considered likely that the area under application comprises a high level of biodiversity.

Methodology Site visit 4/4/06

(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 vegetation under application contains primarily *Kunzea glabrescens*, with one mature *Eucalyptus marginata* that could potentially provide habitat hollows for fauna. The grass understorey and woody debris present also have the potential to provide some habitat for ground dwelling fauna such as Quenda.

Although the vegetation under application has the potential to provide some habitat for fauna, it is not

considered likely to be significant when compared to the nearby Bush Forever sites and Leda Nature Reserve.

Methodology Site visit 4/4/06
 GIS Databases:
 Bush Forever - MFP 07/01
 CALM Managed Lands and Waters - CALM 1/07/05

(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 is one known population of Declared Rare Flora (DRF) and one known occurrence of Priority Flora within a 5km radius of the area under application, both of which are located approximately 5km to the south. These populations are found on different soil associations and are therefore not likely to occur within the area under application.

Given the degraded condition of the vegetation under application, and the absence of DRF in the local area, it is not considered likely to include, or be necessary for the continued existence of, rare flora.

Methodology Site visit 4/4/06
 GIS Databases:
 Declared Rare and Priority Flora List - CALM 01/07/05
 Soils, Statewide - DA 11/99

(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 are three known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius) of the application. These TEC are located 3.5km to the northeast and are identified as Floristic Community Type 3c (*Eucalyptus calophylla* - *Xanthorrhoea preissii* woodlands and shrublands).

Given that the vegetation under application comprises mainly *Kunzea glabrescens* in a degraded condition, and given the distance to the nearest TEC, it is not considered likely to comprise, or be necessary for the maintenance of, a TEC.

Methodology Site visit 4/4/06
 GIS Database:
 SAC Bio datasets 030507

(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 defined as Beard vegetation association 1001 (Shepherd et al. 2001), which has a pre-European settlement representation of 27.6% and is considered vulnerable (Department of Natural Resources and Environment 2002). The vegetation under application is also defined as Dardanup Complex (Heddie et al. 1980) of which there is 7.9% of pre-European extent remaining and which is considered endangered (Department of Natural Resources and Environment 2002).

While these representation figures classify the vegetation complexes within the applied area as vulnerable and endangered, the vegetation on site consists primarily of *Kunzea glabrescens* in a degraded condition and is not considered to be representative of these communities.

	Pre-European (ha)	Current (ha)	Remaining %	Conservation status***	% in reserves
Swan Coastal Plain	1,529,235	657,450	43*	Depleted	
City of Rockingham	24,326	8,534	35.1*	Depleted	
Local Area (~10km radius)					
Heddie vegetation complex			**		
Dardanup Complex	9,504	754	7.9	Endangered	0.0
Beard vegetation association 1001	68,475	18,907	27.6	Vulnerable	4.2

* (Shepherd et al. 2001)

** (EPA, 2003)

*** (Department of Natural Resources and Environment 2002)

Methodology Department of Natural Resources and Environment 2002
 EPA 2000
 GIS Databases:

(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

A number of Conservation Category Wetlands (CCW) are located within the local area of the application, the closest being approximately 3.3km to the northeast. The area under application is located within a large multiple use wetland.

Other waterbodies located within the local area of the application include the Serpentine River, which is located 3.6km to the southeast, and the Peel Main Drain, which is located 1.8km to the west.

The vegetation under application comprises primarily *Kunzea glabrescens*, which is found in sandy soils at the 'edges of swamps, lakes, rivers, moist depressions' (Western Australian Herbarium 1995) and therefore may be considered to grow in association with watercourses and wetlands.

The area under application is located within a large multiple use wetland, and the vegetation under application includes a species found in association with wetlands. It is therefore considered that the vegetation under application may be growing in, or in association with a wetland.

Methodology Site visit 4/4/06
Western Australian Herbarium (1995)
GIS Databases:
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04
Hydrography, linear (hierarchy) - DOE 13/4/05

(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 Department of Agriculture (2005) advised that the majority of the area under application consists of extremely low to very low relief dunes, undulating sand plain and discrete rises. The remainder of the property comprises dune ridges and undulating sand plains. These soil types have a high risk of wind erosion, water erosion and eutrophication. Drainage from the property is north to northwesterly and nutrients may discharge into the nearby wetlands and into the Peel Main Drain, which drains into the Peel Harvey Estuary. This is likely to contribute to eutrophication of these waterbodies.

The Department of Agriculture (2005) advised that the proposed clearing is likely to be at variance with this principle due to the associated land degradation risks, however these risks can be minimised by the adoption of adequate management strategies. These management strategies include maintaining adequate wind breaks and groundcover to reduce wind erosion, and management of fertiliser application to reduce eutrophication risks.

Methodology Department of Agriculture (2005)
GIS Database:
Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04
Salinity Risk LM 25m - DOLA 00
Soils, Statewide - DA 11/99

(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

A number of Bush Forever sites are located within the local area (5km radius) of the application, the closest of which is located 1.6km to the south. Leda Nature Reserve is also located 4km to the northwest of the area under application. The land between the area under application and the conservation reserves is used for agricultural and residential purposes.

Given the surrounding land uses, and that the area under application comprises vegetation in a degraded condition, the clearing as proposed is not considered likely to impact the environmental values of any nearby conservation area.

Methodology Site visit 4/4/06
Hedde et al 1980
Shepherd et al. 2001
GIS Databases:
Bush Forever - MFP 07/01

(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 may be at variance to this Principle

The Department of Agriculture (2005) advised that the area under application has a very high risk of eutrophication due to the sandy soils. Bleached sands have poor phosphorus holding potential, however deep-rooted perennials normally prevent it from draining into waterbodies through nutrient uptake. Removal of deep-rooted perennials from the area under application will result in phosphorus export from the soil and into the groundwater. The proposal therefore has the potential to cause deterioration in the quality of surface water through eutrophication of the nearby wetland and the Peel Harvey Estuary.

Methodology State of Western Australia (2005)
Department of Agriculture (2005)
GIS Databases:
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04
Hydrography, linear (hierarchy) - DOE 13/4/05
Rainfall, Mean Annual - BOM 30/09/01

(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 has a general relief to the north and is situated on pale, deep sands, which have a low risk of water logging due to high infiltration rates (Department of Agriculture 2005). It is therefore not considered likely that the proposal will cause, or exacerbate, the incidence of flooding.

Methodology State of Western Australia (2005)
Department of Agriculture (2005)
Site visit 4/4/06
GIS Databases:
Soils, Statewide - DA 11/99
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The lot under application is part of a Native Title Claim however, since it is privately owned the Native Title has been extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

In a direct interest submission the City of Rockingham (2005) advised that it has not received a development application for Lot 487 Doghill Road, and emphasised that planning approval is required before the commencement of any works, including the clearing of vegetation.

Due to the nature of the proposed horticultural development the proponent is required to apply for development approval from the local council, which must be finalised prior to the approval of a permit to clear vegetation, and a groundwater licence from the Department of Water. A Nutrient Irrigation Management Plan is also required either under the groundwater licence issued by the Department of Water or the Development approval issued by the local council.

The proponent has advised that the proposed development is a rose flower nursery where the roses are grown hydroponically. This development is planned to eventually replace the existing nursery on an adjacent property. The nutrient rich water in a hydroponic nursery is recycled through the facility and fertiliser application can be tightly managed. Water from this process is required to periodically changed with the waste water being irrigated over pasture or crops to ensure nutrients within the wastewater is used and not lost to the environment. This should be adequately managed through a Nutrient Irrigation Management Plan that is either required under a groundwater licence issued by the Department of Water or the Development approval issued by the local council.

The area under application is within the gazetted Peel Harvey Catchment. On 4 January 1989 the Minister for Environment approved a management strategy for the Peel Inlet and Harvey Estuary.

This was followed in October of 1991 by conditions that were placed on the Minister for Agriculture, Minister for Transport (Read current Minister for Planning and Infrastructure) and the Minister for Waterways (read current Minister for Environment). Condition 5 of this ministerial statement imposed a moratorium on land clearing in the gazetted Peel Harvey Catchment until such time as the Minister for Environment was satisfied that land clearing within the catchment was environmentally acceptable.

Strong consideration of the proposed clearings impact on land degradation should be made in relation to the intentions of the condition set at a ministerial level to impose a moratorium on land clearing in the catchment. The retention of deep rooted perennials within the Peel Harvey Catchment and minimising activities likely to lead to nutrient loss within the catchment must be considered at this level to ensure consistency with water quality improvement objectives currently being finalised under the proposed EPA Water Quality Improvement Plan for the Catchment.

Additionally Under section 51P of the Environmental Protection Act 1986, the CEO must refuse to grant a clearing permit if the CEO considers that the associated effect on the environment would be inconsistent with any approved policy. This requirement should be considered in relation to the existing Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992 and as noted above the Water Quality Improvement Plan for the Catchment that is currently being finalised.

Methodology City of Rockingham submission (DoE TRIM ref 2006I/1417)
GIS Database: Native Title Claims - DLI 7/11/05

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Horticulture	Burning	3	<p>The assessable criteria have been addressed and the clearing as proposed may be at variance to Principles f, g and i.</p> <p>Principle (f): The vegetation under application is located in a multiple use wetland and comprises a species that is can be considered to grow in association with wetlands.</p> <p>Principle (g): the proposal has the potential to cause appreciable land degradation in the form of wind erosion, water erosion and eutrophication. The risk of wind and water erosion should be minimised as the proposed activity will occur in sheds, and the risk of eutrophication should be adequately managed through a Nutrient Irrigation Management Plan required under a groundwater licence issued by the Department of Water or the Development approval issued by the local council.</p> <p>Principle (i): the proposal has the potential to cause deterioration in the quality of surface water through eutrophication, however this should be managed through a Nutrient Irrigation Management Plan.</p> <p>In addition to the aforementioned environmental issues, a development approval has not been issued by the City of Rockingham. The assessing officer therefore recommends that the permit be refused.</p>

5. References

- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref 2006I/583.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- 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.
- 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.
- 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.
- State of Western Australia (2005) Agmaps Land Manager CD Rom.

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)



1. Application details

1.1. Permit application details

Permit application No.: 856/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: MR Grahame Niven
Postal address: Lot 12 Doghill Rd Baldivis WA 6171
Contacts: Phone: 9524 1274
Fax: 9524 1028
Email: flowers@southwest.com.au

1.3. Property details

Property: Lot 487 on Plan 202744 (No. 40 Doghill Road BALDIVIS 6171)
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.0		Burning	Horticulture

2. Background

2.1. History (including previous clearing permits, compensation paid, caveats on title deeds etc.)

Date	Comments
15 January 2007	Request for Development approval sent 23/1/2007 TRIM REF DOC14095 . Has it been received?
30 May 2006	Letter sent to Mr Niven advising in principle agreement to grant permit but require planning consent first. Provided 6 months to obtain development approval (Trim Ref HP3167)
21 November 2005	Mr Niven telephoned requesting an update on the progress of his application. Mr Niven was informed that comment has been received from the City of Rockingham advising that development approvals would be required from them prior to works on site. Mr Niven was advised by Officer Richardson to contact the City of Rockingham. Mr Niven was also informed that advice was still outstanding from external government agencies, and assessment was not likely to progress before all information was obtained.
22 September 2005	Application advertised 26th September 2005

2.2. Existing environment and information

2.2.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Associations: 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina	The proposal includes clearing of 3 hectares of native vegetation for horticultural purposes. The area under application has previously been cleared for the same purpose.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The description and condition of the vegetation under application was obtained during a site visit on Tuesday 4th April 2006.
Hedde Vegetation Complexes: Dardanup Complex: Mosaic of vegetation types characteristic of adjacent vegetation complexes such as Serpentine River, Southern River and Guildford.	The vegetation under application is dense <i>Kunzea glabrescens</i> woodland, with an occasional <i>Allocasuarina fraseriana</i> and one <i>Eucalyptus marginata</i> . The understorey consists of grasses and weed species including Arum Lily <i>Zantedeschia aethiopica</i> .		

2.2.2. Items of interest

Theme	Value	Within meters
Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04	2	
Declared Rare and Priority Flora List - CALM 01/07/05	CC	10000
Declared Rare and Priority Flora List - CALM 01/07/05	HOW	10000
Declared Rare and Priority Flora List - CALM 01/07/05	NON	10000
Declared Rare and Priority Flora List - CALM 01/07/05	PRI	10000
Declared Rare and Priority Flora List - CALM 01/07/05	SHI	10000
Declared Rare and Priority Flora List - CALM 01/07/05	UNK	10000
Declared Rare and Priority Flora List - CALM 01/07/05		10000
EPP, Areas - DEP 06/95	Peel Harvey	1000
EPP, Lakes - DEP 1/12/92	1154	5000
EPP, Lakes - DEP 1/12/92	1155	5000
EPP, Lakes - DEP 1/12/92	598	5000

	Advice Received	wind erosion, water erosion and eutrophication.
01 March 2006	Site Visit	Conducted site visit. Vegetation was predominantly dense <i>Kunzea glabrescens</i> over weed species, with an occasional <i>Allocasuarina spp.</i> and one <i>Eucalyptus marginata</i> . Vegetation is considered to be in degraded condition.
10 May 2006	Decision Pending	
10 May 2006	Waiting for additional information from applicant	

4. 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 area under application has been previously disturbed and the vegetation under application primarily comprises *Kunzea glabrescens* over grass and weed species, and is in degraded condition. It is therefore not considered likely that the area under application comprises a high level of biodiversity.

Methodology Site visit 4/4/06
Officer Megan Stalker

(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 vegetation under application contains primarily *Kunzea glabrescens*, with one mature *Eucalyptus marginata* that could potentially provide habitat hollows for fauna. The grass understorey and woody debris present also have the potential to provide some habitat for ground dwelling fauna such as Quenda.

Although the vegetation under application has the potential to provide some habitat for fauna, it is not considered likely to be significant when compared to the nearby Bush Forever sites and Leda Nature Reserve.

Methodology Site visit 4/4/06
 GIS Databases:
 Bush Forever - MFP 07/01
 CALM Managed Lands and Waters - CALM 1/07/05
Officer Megan Stalker

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Comments **Proposal is not likely to be at variance to this Principle**
 There is one known population of Declared Rare Flora (DRF) and one known occurrence of Priority Flora within a 5km radius of the area under application, both of which are located approximately 5km to the south. These populations are found on different soil associations and are therefore not likely to occur within the area under application.

Given the degraded condition of the vegetation under application, and the absence of DRF in the local area, it is not considered likely to include, or be necessary for the continued existence of, rare flora.

Methodology Site visit 4/4/06
 GIS Databases:
 Declared Rare and Priority Flora List - CALM 01/07/05
 Soils, Statewide - DA 11/99
Officer Megan Stalker

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 There are three known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius) of the application. These TEC are located 3.5km to the northeast and are identified as Floristic Community Type 3c (*Eucalyptus calophylla* - *Xanthorrhoea preissii* woodlands and shrublands).

Given that the vegetation under application comprises mainly *Kunzea glabrescens* in a degraded condition, and given the distance to the nearest TEC, it is not considered likely to comprise, or be necessary for the maintenance of, a TEC.

(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 Department of Agriculture (2005) advised that the majority of the area under application consists of extremely low to very low relief dunes, undulating sand plain and discrete rises. The remainder of the property comprises dune ridges and undulating sand plains. These soil types have a high risk of wind erosion, water erosion and eutrophication. Drainage from the property is north to north-westerly and nutrients may discharge into the nearby wetlands and into the Peel Main Drain, which drains into the Peel Harvey Estuary. This is likely to contribute to eutrophication of these waterbodies.

The Department of Agriculture (2005) advised that the proposed clearing is likely to be at variance with this principle due to the associated land degradation risks, however these risks can be minimised by the adoption of adequate management strategies. These management strategies include maintaining adequate wind breaks and groundcover to reduce wind erosion, and management of fertiliser application to reduce eutrophication risks.

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GIS Database:
Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04
Salinity Risk LM 25m - DOLA 00
Soils, Statewide - DA 11/99

Officer Megan Stalker

(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

A number of Bush Forever sites are located within the local area (5km radius) of the application, the closest of which is located 1.6km to the south. Leda Nature Reserve is also located 4km to the northwest of the area under application. The land between the area under application and the conservation reserves is used for agricultural and residential purposes.

Given the surrounding land uses, and that the area under application comprises vegetation in a degraded condition, the clearing as proposed is not considered likely to impact the environmental values of any nearby conservation area.

Methodology Site visit 4/4/06
Hedde et al 1980
Shepherd et al. 2001
GIS Databases:
Bush Forever - MFP 07/01
CALM Managed Lands and Waters - CALM 1/07/05

Officer Megan Stalker

(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.

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Methodology State of Western Australia (2005)
Department of Agriculture (2005)
GIS Databases:
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04
Hydrography, linear (hierarchy) - DOE 13/4/05
Rainfall, Mean Annual - BOM 30/09/01

Officer Megan Stalker

(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 has a general relief to the north and is situated on pale, deep sands, which have a

Principle (f): The vegetation under application is located in a multiple use wetland and comprises a species that is can be considered to grow in association with wetlands.

Principle (g): the proposal has the potential to cause appreciable land degradation in the form of wind erosion, water erosion and eutrophication. The risk of wind and water erosion should be minimised as the proposed activity will occur in sheds, and the risk of eutrophication should be adequately managed through a Nutrient Irrigation Management Plan required under a groundwater licence issued by the Department of Water or the Development approval issued by the local council.

Principle (i): the proposal has the potential to cause deterioration in the quality of surface water through eutrophication, however this should be managed through a Nutrient Irrigation Management Plan.

In addition to the aforementioned environmental issues, a development approval has not been issued by the City of Rockingham. The assessing officer therefore recommends that the permit be refused.

6. References

DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref 2006i/583.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

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.

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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.

State of Western Australia (2005) Agmaps Land Manager CD Rom.