



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5784/1
File Number: DEC14876
Duration of Permit: From 2 August 2014 to 2 August 2021

PERMIT HOLDER

Stargaze Asset Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 5 on Plan 7892 (Bullsbrook)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 6 hectares of native vegetation within the area cross hatched yellow on attached Plan 5784/1.

CONDITIONS

1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 2 August 2016

2. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within six months following completion of the extractive activities, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) reshaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under condition 2(a) on the cleared area(s); and
 - (iv) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
 - (v) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (c) within 24 months of undertaking *revegetation* and *rehabilitation* in accordance with condition 2(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 2(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.

- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 2(c)(ii) of this permit, the Permit Holder shall repeat condition 2(c)(i) and 2(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 2(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 2(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 2(c)(ii).

3. Records must be kept

The Permit Holder must maintain the following records in relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 2:

- (a) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) a description of the *revegetation* and *rehabilitation* activities undertaken;
- (c) the size of the area *revegetated* and *rehabilitated* (in hectares); and
- (d) the species composition, structure and density of *revegetation* and *rehabilitation*, and
- (e) a copy of the environmental specialist's report.

4. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 3 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 2 May 2021, the Permit Holder must provide to the CEO a written report of records required under condition 3 of this Permit where these records have not already been provided under condition 4(a) of this Permit.

DEFINITIONS

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

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist: means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist.

local provenance means native vegetation seeds and propagating material from natural sources within 10 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area; and

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.



M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

3 July 2014

Plan 5784/1



LEGEND

- | | |
|-----------------------------|---|
| Clearing Instruments | Perth Metropolitan Area
Central 15cm Orthomosaic -
Landgate 2012 |
| Areas Approved to Clear | Road Centrelines |
| Road Centrelines | Local Government Authorities |
| Cadastre | Towns |



Scale 1:7000
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994
Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M Warnock Date 3/7/14
M Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 5784/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Stargaze Asset Pty Ltd

1.3. Property details

Property: LOT 5 ON PLAN 7892 (House No. 91 WALYUNGA BULLSBROOK 6084)

Local Government Area: City of Swan

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
6		Mechanical Removal	Extractive Industry

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 3 July 2014

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 Association 3: Medium forest Jarrah-marri (Shepherd et al, 2001)	Clearing six hectares of native vegetation on Lot 5 being Plan 7892, Bullsbrook, for the purpose of sand extraction.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation under application consists of small to medium Marri, Jarrah and Acacia trees with juvenile Grass trees scattered through the applied area. There was no midstorey present and the ground cover consisted of grasses/weeds.
Mattiske Vegetation Complex Forrestfield FO: Mosaic of open forest of Corymbia calophylla-Eucalyptus wandoo-Eucalyptus marginata subsp. elegantella and open forest of Eucalyptus marginata subsp. m (Mattiske and Havel, 1998)		To Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The area under application appears to have been previously disturbed, possibly subject to past activities such as grazing and clearing. The vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition (DER, 2013). The condition and structure of the vegetation under application was obtained through a site inspection undertaken by the Department of Environment Regulation (DER) on 9 September 2013 (DER, 2013).
Hedde Vegetation Complex Forrestfield: Vegetation ranges from open forest of Corymbia calophylla (Marri) - Eucalyptus wandoo (Wandoo) - Eucalyptus marginata (Jarrah) to open forest of Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) - Allocasuarina fraseriana (Sheoak) - Banksia species. Fringing woodland of Eucalyptus rudis (Flooded Gum) in the gullies that dissect this landform (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 not likely to be at variance to this Principle**

The application is to clear six hectares within a 12.5 hectare footprint for the purpose of sand extraction approximately 6.7 kilometres from the Bullsbrook town site.

The vegetation under application is very open, consisting of small to medium Marri, Jarrah and Acacia trees with juvenile Grass trees scattered through the applied area. There was no midstorey present and the ground cover consisted of grasses/weeds. The area under application appears to have been previously disturbed, possibly subject to past activities such as grazing and clearing. The vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition (DER, 2013).

Several records of priority flora have been mapped within 10 kilometres of the area under application. Of the recorded species, none have been recorded within the same soil and vegetation types that occur within the area under application.

Given that the vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition (DEC, 2013), it is considered that the clearing area does not comprise of a high level of biological diversity.

The application is not likely to be at variance to this principle.

Methodology - DER (2013)
- Keighery (1994)

GIS Databases
- SAC Bio Datasets (Accessed October, 2013)

(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**

Within 10 kilometres of the area under application several fauna species of conservation significance have been recorded. These species include *Calyptorhynchus baudinii* (Baudin's cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Dasyurus geoffroii* (Western Quoll), *Macrotis lagotis* (Bilby) and *Petrogale lateralis* subsp. *lateralis* (Black-flanked Rock-wallaby) (DEC, 2007-).

A site inspection undertaken by DER identified the vegetation under application to be very open consisting of Marri, Jarrah and Acacia trees over ground cover of weeds with juvenile grass trees scattered throughout the clearing area (DER, 2013). The application area had no midstorey and very little native understorey present, therefore it is unlikely to offer significant habitat for ground dwelling fauna that occur in the area.

Of the identified trees within the applied area, none were observed as having hollows that could potentially be suitable for breeding purposes for both cockatoo species. It is also considered that given the size of the trees (small to medium) within the applied area, it is unlikely the trees would provide a viable food source for black cockatoo species (DER, 2013).

Considering the above, the proposed clearing is not likely to be at variance to this principle.

Methodology References
DEC (2007)
DER (2013)

(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**

Within 10 kilometres of the area under application numerous rare flora species have been recorded. Of the known species none have been identified as occurring within the same soil type and vegetation association/complex mapped within the applied area.

Considering the above and that the vegetation under application is in a degraded to completely degraded (Keighery, 1994) condition (DER, 2013), it is unlikely the area under application contains rare flora or provides suitable habitat for rare flora species.

The application is not likely to be at variance to this principle.

Methodology References
- DER (2013)

- Keighery (1994)

GIS Databases

- SAC Bio Datasets (Accessed October 2013)

(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 at variance to this Principle

A 10 kilometre radius of the area under application has recorded a total of six threatened ecological communities (TEC). The recorded TEC's comprise of Eucalyptus - Kingia australis woodlands, Eucalyptus calophylla - Xanthorrhoea preissii woodlands and shrublands, Forests and woodlands of deep seasonal wetlands, Herb rich shrublands in clay pans and Shrublands and woodlands on Muchea Limestone.

The area under application is not a representation of the above mentioned TEC's nor is the proposed clearing likely to impact upon the identified TEC's.

The application is not at variance to this principle.

Methodology GIS Databases

- SAC Bio Datasets (Accessed October 2013)

(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 area proposed for clearing has been identified as Beard Vegetation Association 3, which has 18.5 percent of pre-European vegetation remaining in the Swan Coastal Plain Bioregion (Government of Western Australia, 2013). The vegetation under application is also represented by Mattiske Vegetation Complex Forrestfield (Fo) and Heddle Vegetation Complex Forrestfield which have 16 and 11 percent respectively of their pre-European vegetation remaining (Mattiske and Havel, 1998 and Heddle et al, 1980).

The National Objectives and Targets for Biodiversity Conservation include a target that prevents the clearance of ecological communities with an extent below 30 percent of that present pre-European settlement (Commonwealth of Australia, 2001). The mapped Beard vegetation associations associated with the area under application are below the 30 percent threshold, as is the mapped Heddle vegetation complex. However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region as a constrained area, which provides for the reduction of vegetation complexes to a minimum of 10 per cent of the pre-European extent (EPA, 2006). The vegetation types mapped on site retain greater than the 10 per cent threshold recommended by the EPA.

The application area is located in the Swan Coastal Plain Bioregion in the City of Swan. There is approximately 35 percent of pre-European native vegetation remaining within 10 kilometres of the area under application, this includes large remnants within conservation areas (13 Bushforever sites, six nature reserves and one national park). The vegetation proposed to be cleared is in a degraded to completely degraded (Keighery 1994) condition, is not likely to comprise a high level of biological diversity and therefore is not likely to be a significant remnant. In addition the area under application is not located within an extensively cleared landscape nor does the vegetation act as a corridor to facilitate fauna movement between areas of vegetation.

The proposed clearing is not likely to be at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,221	587,708	39	35
Shire				
City of Swan	104,252	45,543	43.5	28.5
Beard Vegetation Association in Bioregion 3	17,364	3,216	18.5	11
Heddle Vegetation Complex Forrestfield Complex	20,168	2,204	11	1.5
Mattiske Vegetation Complex Forrestfield (FO)	3,708	606	16	6

Methodology References

- Commonwealth of Australia (2001)

- EPA (2006)
- Government of Western Australia (2013)
- Heddlé et al (1980)
- Mattiske and Havel (1998)

GIS Databases:

- Heddlé Vegetation Complexes
- Interim Biogeographic Regionalisation of Australia
- Mattiske Vegetation
- Pre-European Vegetation

(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 closest water course/body to the area under application is an unnamed multiple use and resource enhancement wetland mapped approximately 100 metres west of the area under application.

A site inspection of the application area identified that the vegetation under application consists predominately of Marri, Jarrah and Acacia trees with juvenile Grass trees scattered through the applied area (DER, 2013). The vegetation under application is not growing in association with the nearby multiple use or resource enhancement wetland.

The proposed clearing is not at variance to this Principle.

Methodology References
DER (2013)

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 is not likely to be at variance to this Principle

The soils within the applied area comprise of hard acidic yellow soils containing ironstone gravels (Northcote et al, 1960-68).

Sandy soils are prone to wind erosion, however given the sparseness of the vegetation under application and that it is in degraded to completely degraded (Keighery, 1994) condition (DER, 2013), it is not likely that wind erosion causing appreciable land degradation will occur.

Leached sands are highly permeable, and given the moderate average rainfall (800 millimetres) and topography on site it is not likely that the proposed clearing will result in water erosion.

The proposed clearing is not likely to be at variance to this principle.

Methodology References
- DER (2013)
- Keighery (1994)
- Northcote et al, 1960-68)

GIS Databases

- Topographic Contours, 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 at variance to this Principle

The closest conservation area to the application area is Bushforever site 412, located approximately 150 metres east of the area under application. Bushforever site 412 is made up of two areas, combined they comprise of an area of approximately 48 hectares.

Aerial imagery indicates the vegetation within the applied area and Bushforever site 412 are not linked and nor does the application area act as stepping stone to facilitate the movement of fauna to Bushforever site 412.

The application is not a variance to this principle.

Methodology GIS Databases
- DEC Tenure
- Swan Coastal Plain North 20cm Orthomosaic - Landgate 2012

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**

The closest water course/body to the area under application is an unnamed multiple use and resource enhancement wetland mapped approximately 100 metres west of the area under application. The Ellen Brook is approximately 500 metres away from the proposed clearing area.

The proposed clearing may cause some short term localised surface water sedimentation that may impact upon the nearby wetlands and Ellen Brook. However, the clearing area, wetlands and Ellen Brook are separated by a road and any surface water runoff is likely to be contained within the existing road infrastructure such as table drains, batters and slopes within the road reserve. Therefore the infrastructure will prevent surface water runoff reaching the Ellen Brook and wetlands.

The Ellen Brook is fed by groundwater and is the most eutrophic waterway of the Swan Coastal Plain (Ellen Brockman Integrated Catchment Group Inc, 2013). The property slopes towards the Brook meaning groundwater flow under the application area is likely to feed into the Brook. Onsite vacuum drilling in May, 2011, showed groundwater levels to be between 10 and 11 metres below ground level (DER, 2013a). Given the condition of the vegetation and that a substantial amount of the vegetation is not deep rooted (grass trees), it is unlikely that the proposed clearing will raise groundwater levels thus increasing flows which transport nutrients within the soil profile towards Ellen Brook.

Groundwater salinity is mapped at 500 to 1000 total dissolved salts milligrams per litre (marginal) on site. Given this low salinity level, and the degraded to completely degraded (Keighery, 1994) condition of the vegetation under application (DER, 2013), it is not likely the proposed clearing will lead to a perceptible rise in the watertable and thus an increase in groundwater salinity levels.

Methodology References
- DER (2013)
- DER (2013a)
- Ellen Brockman Integrated Catchment Group Inc (2013)
- Keighery (1994)

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrography, linear
- Groundwater Salinity, Statewide

(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 have been no watercourses or wetlands mapped or observed as being within the applied area (DER, 2013). The soils within the application area are of a sandy nature which are considered to be well drained.

Considering the above, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding and therefore is not likely to be at variance to this principle.

Methodology References
- DER (2013)

GIS Databases
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrography, linear

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

Comments

The City of Swan has granted planning approval to the applicant subject to conditions for the excavation area within Lot 5 Walyunga Road, Bullsbrook.

The Western Australian Planning Commission has issued the applicant with approval to commence development for Stage 3 - Industry Extractive. The approval is subject to conditions with the decision being issued pursuant to the provisions of the Metropolitan Region Scheme.

The applicant has given the civil contractors of the state funded infrastructure project 'the Perth Airport Link',

Gateway WA, a commitment to exclusive use of the sand resource subject to a clearing permit being granted.

The area under application falls within the Swan Groundwater and Swan River System Surface Water Areas, proclaimed under the Rights in Water and Irrigation Act 1914. The Department of Water (2013) has been advised of the proposal, assessed the application and provided no comments.

The applicant holds a current licence with DER to operate a class 1 inert landfill site and solid waste depot from Lot 5, Walyunga Road, Bullsbrook. A condition of the licence is a separation distance between the base of the landfill and the highest groundwater level shall not be less than two metres. Currently groundwater is being monitored every six months from four groundwater bores within the property (DER, 2013b).

A submission from the Ellen Brockman Integrated Catchment Group Inc (2013) was received with concerns that the proposed clearing will impact the Ellen Brook located approximately 500 metres from the proposed clearing. The concerns raised in the submission has been addressed within principle (i) of this assessment report. Impacts as a result of end land use are managed through local government development approvals and licenced premises under Part V of the *Environmental Protection Act 1986*.

Methodology	References
	DER (2013b) DoW (2013) Ellen Brockman Integrated Catchment Group Inc (2013)
	GIS Databases
	- RIWI Act, Groundwater Areas - RIWI Act, Surfacewater Areas

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DER (2013) Site Inspection Report for Clearing Permit Application CPS 5784/1, Lot 5 Walyunga Road, Bullsbrook. Site inspection undertaken 9 September, 2013. Department of Environment Regulation, Western Australia (TRIM Ref. DOC:A690584).
- DER (2013a) Works Approval Granted - Environmental Assessment Report over Lot 5, Walyunga Road, Bullsbrook (DER Ref:A692710)
- DER (2013b) Industry Regulation - Email received in relation to water monitoring over Lot 5, Walyunga Road, Bullsbrook (DER Ref:A692718)
- DoW (2013) Advice received in relation to Clearing Permit Application CPS 5784/1 (DER Ref:A682054)
- DPaW (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment Regulation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed October 2013
- Ellen Brockman Integrated Catchment Group Inc (2013) Submission received in relation to Clearing Permit Application CPS 5784/1 - Stargaze Asset Pty Ltd (DER Ref:A692710)
- 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.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Heddle, 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.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.