



1. Application details

1.1. Permit application details

Permit application No.: 723/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Cockburn Cement Limited

1.3. Property details

Property:
 ROAD RESERVE (LEDGE POINT 6043)
 ROAD RESERVE (LEDGE POINT 6043)
 ROAD RESERVE (LEDGE POINT 6043)
 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	Mineral Production

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 129: Bare areas; drift sand.	The proposal is for the clearing of up to 5 hectares of native vegetation within a project area of ~65 hectares for the development of a limesand and limestone mine (Cockburn Cement Ltd, 2003). Approximately 1.5 hectares of vegetation will be cleared in order to widen the Old Ledge Point Road and improve access along the existing track which extends from Old Ledge Point Road into the proposed mining area. The remainder of the clearing will be required to remove the sparsely distributed vegetation across the mobile dunes within the mining area.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Old Ledge Point Road runs along the eastern margin of mining lease M70/697. Landform Research (2005) advised that the vegetation to the east of Old Ledge Point Road has been increasingly disturbed in recent years with partial clearing and stocking of the land, which has resulted in incursions of pasture and weed species. The Old Ledge Point Road is also used for coastal access to fishing spots.
Beard vegetation association 1026: Mosaic Shrublands; Acacia rostellifera, A. cyclops (in the south) and Melaleuca cardiophylla (in the north) thicket.			During the flora surveys, a maximum of 55 taxa were recorded within 3 metres either side of Old Ledge Point Road and the access track which runs from Old Ledge Point Road into the mining area (Landform Research, 2005). Of these, 14 were exotic pasture and weed species of which only one, Marram Grass (<i>Ammophila arenaria</i>), occurs along the access track. Cockburn Cement has made commitments within the Notice of Intent to Mine (NOIM) for this proposal to develop and comply with a Weed Management Plan (Cockburn Cement, 2003). The NOIM was submitted to the Department of Industry and Resources (DoIR) for approval on 9 December 2003.
(Hopkins et al. 2001; Shepherd 2006).			
Hedde Vegetation Complex: Quindalup complex - coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance, and the mobile and stable dune alliance. Local variations include the low closed forest of <i>M. lanceolata</i> - <i>Callitris preissii</i> and the closed scrub of <i>Acacia rostellifera</i> .	The site will be worked in stages of about 2 hectares, commencing with areas free of vegetation. Rehabilitation of the site will progressively take place following excavation.		The NOIM for this proposal was referred to the EPA, who advised in April 2004 that it had issued the level of assessment as 'Not Assessed - Public Advice Given'. Subsequently, on 21 April 2004 the Conservation Council of Western Australia appealed the level of assessment set by the EPA (Cockburn Cement, 2005). On 30 July 2004, the Office of the Appeals Convenor advised that the appeal had been dismissed and the Minister for the Environment supported the EPA's level of assessment for the proposal.
(Hedde et al. 1980)			
Two flora surveys have been conducted by Landform Research (2005) across the areas proposed to be cleared along Old Ledge Point Road, and the track which will be used to	The project area is within the Swan Coastal Plain IBRA Region, the occupied Ledge Point town site, as well as within 2 km of the coastline, all of which are non-permitted areas as defined in Schedule 1,		

access the mobile dune area where mining will take place. The latter track extends west from Old Ledge Point Road into the mining lease M70/697. The first of these flora surveys was undertaken on 28 November 2003, with a follow-up survey carried out on 28 October 2004 (Landform Research, 2005).

The vegetation across the area under application is typical of a coastal heathland and has been described as a single community (Landform Research, 2005):

1. Coastal Acacia Heathland/Thicket comprising *Acacia lasiocarpa* var *lasiocarpa*, *Acacia rostellifera*, *Spyridium globulosum*, *Acanthocarpus preissii*, *Olearia axillaris*, *Scaevola crassifolia* and *Myoporum insulare*.

Clause 4 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Currently, an exemption exists on clearing of up to 10 hectares per financial year for clearing authorised under the Mining Act 1978 in an authority area. This exemption does not apply in non-permitted areas; hence the proposal must be assessed in accordance with the provisions of the Environmental Protection Act 1986.

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 proposal is for the clearing of up to 5 hectares of native vegetation within a project area of ~65 hectares for the development of a limesand and limestone mine (Cockburn Cement Ltd, 2003). This clearing includes approximately 1.5 hectares of vegetation will be cleared in order to widen the Old Ledge Point Road and improve access along the existing track which extends from Old Ledge Point Road into the proposed mining area. The remainder of the clearing will be required to remove the sparsely distributed vegetation present across the mobile dunes within the mining area.

Numerous exotic pasture and weed species have been identified along Old Ledge Point Road, and to a lesser extent the access track that links Old Ledge Point Road to the mining area (Landform Research, 2005). This has impacted on the condition and biodiversity value of the vegetation proposed to be cleared. Cockburn Cement has committed to implementing a weed management plan and the EPA has confirmed that the NOIM for this project submitted on 9 December 2003, adequately addresses weed management (Office of the Appeals Convenor, 2004).

Although no signs of dieback disease have been observed throughout the project area, Cockburn Cement have committed to implementing a Dieback Disease Management Program where all vehicles and plant equipment will be sterilised prior to entering the site (Cockburn Cement, 2003; Office of the Appeals Convenor, 2004).

The area proposed to be cleared is small, and the vegetation is dominated by species typical of the Quindalup Complex which is dominant in coastal areas north of Perth (Landform Research, 2005). It is unlikely that the biodiversity at the site is greater than that of the surrounding area.

The EPA advised that the removal of lime sand from the bare areas on the mining tenement is unlikely to significantly affect the soil features, assemblages, systems and processes of the site (Office of the Appeals Convenor, 2004). In addition, CALM (2006) advised that as Stages 1-7 occur on predominantly unvegetated sand dunes, the ecological value of these areas is considered to be lower than that of the remnant vegetation which remains on the mining tenement and the surrounding coastal dune system.

It is considered by the EPA that any progressive rehabilitation of the site will re-establish the ecological features that have been previously lost across the bare dune systems (Office of the Appeals Convenor, 2004).

Given the above, it is determined that the proposal is not likely to be at variance to this Principle (CALM, 2006).

- Methodology** **References:**
- CALM (2006)
 - Cockburn Cement (2003)
 - Landform Research (2005)
 - Office of the Appeals Convenor (2004)

(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 along Old Ledge Point Road has been previously disturbed and contains at least 14 exotic pasture and weed species (Landform Research, 2005). Consequently, the richness and density of any vegetation within the proposed clearing area is likely to be significantly reduced when compared to undisturbed remnants within the local area.

Considering that much of the area under application comprises bare dune systems, and any clearing along Old Ledge Point Road and the access track will be restricted to the 3 metres either side of these tracks (Landform Research, 2005), it is unlikely that significant habitat for fauna of conservation significance will be impacted upon by this proposal. The mobile dunes which are almost totally free from vegetation can be expected to have a reduced faunal assemblage (Cockburn Cement, 2003).

This application only refers to Stages 1-7 within the project area, and relates to the access road and dunal areas that have little or no vegetation. Cockburn Cement has commitment (within their NOIM) to conduct a comprehensive fauna survey prior to clearing the more heavily vegetated areas comprising Stages 8-11 of the project (Cockburn Cement, 2003). Cockburn Cement will be required to submit a clearing application for the second stage of the project in due course.

Given the above, it is not likely that the proposal is at variance to this Principle (CALM, 2006).

- Methodology** **References:**
- CALM (2006)
 - Cockburn Cement (2003)
 - Landform Research (2005)

(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

The EPA recommended that a flora survey for Declared Rare and Priority flora species should be conducted within the area under application (Office of the Appeals Convenor, 2004). The EPA further advised that higher order ecological information on the areas to be excavated, which comprise largely unvegetated, mobile dunes, is not necessary. CALM (2006) concur with the advice previously provided by the EPA that a survey of the predominantly bare mobile sand dunes is not necessary considering the low probability of conservation significant flora being present in these areas.

Following recommendations made by the EPA, a survey of the vegetation under application was conducted by Landform Research along Old Ledge Point Road and the access track within M70/697 on 28 November 2003, with a follow-up survey carried out on 28 October 2004 (Landform Research, 2005). The bare, dune areas that comprise Stages 1-7 of the NOIM were not surveyed in accordance with the advice provided by the EPA (Office of the Appeals Convenor, 2004). Cockburn Cement have made a commitment to complete comprehensive flora studies prior to any excavation on Stages 8-11 of the tenement as these are more heavily vegetated (Cockburn Cement, 2003).

Prior to the field survey, a search for Declared Rare and Priority flora species previously recorded or likely to occur within the vicinity of the area proposed to be cleared was undertaken using the following databases: CALM's Threatened (Declared Rare) Flora database; the Western Australian Herbarium Specimen database; and CALM's Declared Rare and Priority Flora List (Landform Research, 2005). According to the datasets there are no known records of Declared Rare Flora species identified within 10 km of the area under application. There are 14 known records of three Priority Flora species within the local area (10 km radius).

Flora surveys of the areas likely to be impacted by the proposed clearing did not identify any Declared Rare or Priority Taxa (Landform Research, 2005). Landform Research (2005) advised that the taxa identified are typical of the Quindalup Complex as identified by Hedde et al (1980).

Given the vegetation under application does not represent significant habitat for Declared Rare or Priority Flora species it is unlikely that this clearing proposal is at variance to this Principle (CALM, 2006).

- Methodology** **References:**
- CALM (2006)
 - Cockburn Cement (2003)

- Landform Research (2005)
 - Office of the Appeals Convenor (2004)
 - Heddle et al (1980)
- GIS Database:
- SAC Bio datasets 7/09/2007

(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 no known records of Threatened Ecological Communities identified within the local area (10 km radius). The nearest known Ecological Community, a Priority Ecological Community, is located approximately 20.6 km north of the area under application. Subsequently, it is not likely that the clearing as proposed is at variance to this Principle.

Methodology GIS Database:
 - SAC Bio datasets 7/09/2007

(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 under application is located within the Intensive Land-use Zone (Shepherd et al. 2001) and is located in the area defined in EPA Position Statement No. 2 (EPA 2000). Significant clearing of native vegetation has already occurred in this area and any further reduction through clearing for agriculture is not supported (EPA 2000).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia 2001). The Vegetation Associations within the area under application is above the recommended minimum of 30% representation.

The vegetation in the application area is recorded as Beard vegetation association 129: Bare areas; drift sand, and Beard vegetation association 1026: Mosaic Shrublands; *Acacia rostelifera*, *A. cyclops* (S) and *Melaleuca cardiophylla* (N) thicket (GIS Database). According to Shepherd et al (2006), approximately 57.7% and 89.2% of these vegetation types respectively remain, with 43.5% and 52.4% respectively held in reserves. The area proposed to be cleared does not represent a significant remnant of native vegetation (CALM, 2006).

However, it is noted that the Heddle vegetation complex (Quindalup complex) is poorly represented in conservation reserves.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation status****	In secure tenure (%)
IBRA Bioregion - Swan Coastal Plain*	1, 501,456	571,758	38.1	Depleted	
Shire of Gingin**	315,560	177,688	56.3	Least Concern	
Vegetation type:*					
Beard: Unit 129	95,293	54,994	57.7	Least Concern	43.5
Beard: Unit 1026	70,704	63,068	89.2	Least Concern	52.4
Heddle Complex:***					
Quindalup complex	38,238	18,000	47.1	Depleted	5.2

- * (Shepherd 2006)
- ** (Shepherd et al 2001)
- *** (EPA 2006)
- **** (Department of Natural Resources and Environment 2002)

Methodology References:
 - CALM (2006)
 - Commonwealth of Australia (2001)
 - Department of Natural Resources and Environment (2002)
 - EPA (2006)
 - EPA (2000)
 - Shepherd et al (2001)
 - Shepherd (2006)
 GIS Databases:
 - Pre-European Vegetation - DA 01/01

- Heddle et al (1980)
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments Proposal is not at variance to this Principle

There are no watercourses or wetlands present within the area proposed to be cleared. Furthermore, Cockburn Cement (2003) advised that no surface drainage exists across the area under application due to the permeable and porous nature of the lime sand and underlying partially lithified dune material.

Given the above, the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:

- Cockburn Cement (2003)
- GIS Databases:
 - Hydrography, linear - DOE 01/02/04
 - Lakes 250K - GA

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

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

DAWA (2006) advised that the area under application comprises marine shoreline Aeolian deposits over Tamala limestone. The proposed land clearing will not cause additional land degradation in the form of soil erosion as the land in question comprises mobile sand dune. Rehabilitation post mining is critical. It is concluded that the proposed clearing is unlikely to cause soil erosion or salinity or eutrophication.

Cockburn Cement acknowledge that sand and coastal communities are difficult to re-establish and that mobile dune systems such as these are generally very species poor (Office of the Appeals Convenor, 2004). Locally collected seed and tube plants will be used to rehabilitate the site, and that where necessary, windbreak fences will be constructed to control wind erosion (Cockburn Cement, 2003). In addition, revegetation will occur on deep-ripped limestone surfaces which will be less susceptible to wind erosion, thereby improving the potential success of rehabilitation across the project area. The EPA comment that as the area proposed for mining is mostly unvegetated, attempts to rehabilitate this area should be encouraged, and that rehabilitation will re-establish the ecological features that have been lost as a result of the blowout of the mobile dune systems (Office of the Appeals Convenor, 2004). Should the proposed rehabilitation techniques prove to be inadequate, Cockburn Cement will be required to implement other methods in order to fulfil their mining tenement conditions as regulated by the Department of Industry and Resources (Office of the Appeals Convenor, 2004).

DoIR confirm that the commitments and rehabilitation prescriptions provided in the NOIM document will become legally binding following the imposition on the NOIM document as a condition of the mining lease M70/697, and the approval issued by DoIR (E. Bouwhuis, Environmental Officer, Minerals Branch, DoIR pers. comm. 15th May 2006).

Landform Research (2005) advise that 14 known exotic pasture and weed species were identified along Old Ledge Point Road, of which only one, Marram Grass (*Ammophila arenaria*) occurs along the access road from Old Ledge Point Road. Cockburn Cement has committed to implementing a weed management plan and the EPA has confirmed that the supporting information submitted with the NOIM for this project adequately addresses weed management (Office of the Appeals Convenor, 2004).

Concerns have been expressed regarding the potential for limestone road base to carry the seed of Geraldton Carnation Weed (*Euphorbia terracina*). Cockburn Cement advised that limestone used for road base will generally be sourced from onsite and taken from weed-free material found some metres below the ground surface (Office of the Appeals Convenor, 2004).

Landform Research (2005) reported no signs of dieback diseases (*Phytophthora cinnamomi* or *Armillaria luteobubalina*) were observed during the flora survey. CALM generally recognises that dieback is less likely to impact on vegetation on Quindalup, Spearwood or Cottesloe land systems (Landform Research, 2005). Cockburn Cement have committed to implementing a Dieback Disease Management Program where all vehicles and plant will be sterilised prior to entering the site (Cockburn Cement, 2003; Office of the Appeals Convenor, 2004). CALM (2006) has advised that an appropriately implemented Weed Management Plan will provide considerable protection against various dieback diseases (including *P. cinnamomi* and *A. luteobubalina*) and the EPA has confirmed that the NOIM for this project adequately addresses weed management (Office of the Appeals Convenor, 2004).

Conditions have been imposed on this permit regarding weed management so as to prevent the introduction or further spread of weeds and dieback diseases throughout the area under application.

Given the above, it is not likely that the clearing as proposed is at variance to this Principle.

- Methodology** **References:**
- CALM (2006)
 - Cockburn Cement (2003)
 - DAWA (2006)
 - Landform Research (2005)
 - Office of the Appeals Convenor (2004)

(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**

Lancelin and Edwards Island Nature Reserve is 6.1 km north-west of the area under application. However, this reserve is offshore and will not be impacted upon through the clearing associated with this proposal.

Nilgen Nature Reserve is 7.3 km north-east of the project area. However, as the area proposed to be cleared is largely devoid of vegetation, it is not considered likely to provide a significant ecological linkage to this conservation area.

The EPA have advised that the unvegetated area's function as an ecological linkage is currently considerably reduced, and that it will be greatly improved following mining and subsequent rehabilitation (Office of the Appeals Convenor, 2004).

CALM has stated within its 'Strategic Review of Limesand Resources for the Central West Coast' that it prefers the mining of mobile dunes as opposed to vegetated dunes, and prefers mining outside the conservation estate (Office of the Appeals Convenor, 2004). CALM (2006) believes that this particular landform is adequately represented in Western Australia's conservation estate.

Given the above, the proposed clearing is not likely to be at variance to this Principle (CALM, 2006).

- Methodology** **References:**
- CALM (2006)
 - Office of the Appeals Convenor (2004)
- GIS Database:**
- DEC Managed Lands and Water - CALM 1/07/05

(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 area to be cleared does not fall within a Public Drinking Water Source Area. However, a PDWSA-Priority One (Ledge Point Water Reserve) is adjacent to Old Ledge Point Road.

There are no watercourses or wetlands present within the proposed clearing area. Cockburn Cement (2003) advised that no surface drainage exists across the area under application due to the permeable and porous nature of the lime sand and underlying partially lithified dune material. Subsequently, the clearing of vegetation associated with this proposal will not result in sedimentation, erosion, turbidity or eutrophication of waterbodies on or off-site.

The water table is about 12 metres below the ground surface at Ledge Point, located 1.6 km south of the project area, and increases to 26 metres in the east due to rises in the elevation of the land surface (Cockburn Cement, 2003). Average annual rainfall for the area is approximately 620 mm, and the evaporation rate is approximately 1,800 mm/year. Cockburn Cement (2003) advised that annual groundwater recharge is about 25 mm/year, and most of the recharge area is under native vegetation to the north-east. DAWA (2006) advise that the clearing of vegetation will not increase the salinity risk across the project area.

Given the above, the clearing as proposed is not likely to be at variance to this Principle.

- Methodology** **References:**
- Cockburn Cement (2003)
 - DAWA (2006)
- GIS Databases:**
- Hydrography, linear - DOE 01/02/04
 - Public Drinking Water Source Areas (PDWSAs) - DoW

(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 proposal is for the clearing of 5 hectares of vegetation within a ~65 hectare project area, comprising predominantly of bare mobile dunes (Cockburn Cement, 2003). There are no low lying, flood prone areas within the area under application, and due to the lack of vegetation to be cleared it is unlikely that infiltration will increase as a result of the clearing. Similarly, the clearing associated with this proposal will not lead to a rise in the water table, or incremental increase in peak flood height or duration.

The area under application is not subject to flooding and excavation will be limited to three metres above the highest known water table (Cockburn Cement, 2003).

Given the above, the clearing as proposed is not likely to be at variance to this Principle.

Methodology Reference:
- Cockburn Cement (2003)

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

Comments

A submission was received on 7 October 2005 expressing concern that the mining resource may be available on land already cleared, and that additional clearing would be unnecessary. Cockburn Cement (2003) advised that the resource will be extracted from the bare, mobile dune area across which a minimal amount of clearing will be required. There was also concern about the size of the clearing. However, the application was amended to the extent that Cockburn Cement is only seeking to clear up to 5 hectares of vegetation, opposed to the 62 hectares for which Cockburn Cement originally applied.

There is one Aboriginal site of significance (Site ID 3237) within the area under application. It is the proponent's responsibility to comply with the Aboriginal Heritage Act 1972 and ensure that no sites of Aboriginal significance are damaged through the clearing process.

An NOIM for this project was forwarded to the State Mining Engineer for approval on 9 December 2003. This was referred to the EPA which advised in April 2004 that it had determined the level of assessment as 'Not Assessed - Public Advice Given'. Subsequently, on 21 April 2004 the Conservation Council of Western Australia appealed the level of assessment set by the EPA (Cockburn Cement, 2005).

On 30 July 2004, the Office of the Appeals Convenor advised that the appeal had been dismissed and the Minister for the Environment supported the EPA's level of assessment for the proposal. The Minister stated "In summary, given the nature of the proposal and its restriction to largely bare mobile dunes, commitments from Cockburn Cement to survey vegetation and rehabilitate with species native to the area, conditions for rehabilitation and weed and disease management to be imposed by the DoIR through its mining licence and advice from the EPA and CALM, the Minister for Environment has decided to support the EPA's level of assessment for this approval" (Cockburn Cement, 2005).

The mining tenement M70/697, situated on Reserve 31258, is vested in the Shire of Gingin for lime sand purposes (Cockburn Cement, 2003). The Shire of Gingin advised that the Shire Council raise no objection to a Permit to Clear Native Vegetation for this proposal (Shire of Gingin, 2005). Further, the Shire of Gingin (2007; TRIM Ref DOC23280) advised that the Shire authorises the clearing within the Old Ledge Point Road Reserve and the taking of lime sand out of the sand dune within M70/697. However, this authorisation does not extend to the use of extra-mass vehicle configurations in the transportation of lime sand.

A Notice of Intent was submitted to the Department of Industry and Resources (DoIR) in April 2007. Subsequently, an Approval for Notice of Intent (No. 4499) for Mining Lease 70/697 was issued by DoIR in October 2007. No further approvals to commence mining are required (Cockburn Cement, 2007; TRIM Ref DOC 39674).

Methodology References:
- Cockburn Cement (2003)
- Shire of Gingin (2005)
- Submission (2005)
GIS Databases:
- Aboriginal Sites of Significance - DIA 04/07/02
- Native Title Claims - DLI 19/12/04

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Mineral Production	Mechanical Removal	5	The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986. The clearing as

5. References

- CALM (2006) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia. TRIM Ref ED1669
- Cockburn Cement (2003) Notice of Intent for Proposed Limesand Quarry - M70/697. Excavation and Rehabilitation Management Plan, Old Ledge Point Road, Ledge Point. Prepared by Cockburn Cement Limited. TRIM Ref ED1679
- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DAWA (2006). Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. TRIM Ref ED1668
- 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.
- DoE (2006) Water allocation/licence advice. Department of Environment, Western Australia.
- 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.
- EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 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.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Landform Research (2005) Vegetation Survey - Access Road M70/697 and Old Ledge Point Road, Ledge Point Limesand Quarry. Prepared by Landform Research on behalf of Cockburn Cement Ltd. TRIM Ref ED1680
- Office of the Appeals Convenor (2004) Appeal decision summary on Appeal Number 032 of 2004. Prepared by the Office of the Appeals Convenor. TRIM Ref ED1678
- Shepherd, D.P. (2006). 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.
- 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.
- Shire of Gingin (2005) Shire Council submission with regard to application to Clear Native Vegetation - Lot 8616 Old Ledge Point Road, Ledge Point (Reserve 31258). Shire of Gingin. October 2005.

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)