



1. Application details

1.1. Permit application details

Permit application No.: 882/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Department of Conservation and Land Management (CALM)

1.3. Property details

Property: ROE LOCATION 2607
ROE LOCATION 2608
LOT 2605 ON PLAN 209982
LOT 2573 ON PLAN 209982
ROE LOCATION 2874
LOT 3191 ON PLAN 35761

Local Government Area: Shire Of Kent
Colloquial name: Roe Loc 3191

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 519: Shrublands; mallee scrub, Eucalyptus eremophila	Refer to Appendix 1 (DoE TRIM ref ED786).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Syrinx Environmental Pty Ltd (2005 a,b) found that the vegetation condition in the area under application ranged from excellent to dead using the following scale: Excellent: <10% dead, no evidence of permanent stress Good: <25% dead, no evidence of permanent stress Degraded: 25-50% dead, community recruitment noted Very degraded: 50-70% dead, community recruitment noted Dead: 70-100% dead, no community recruitment noted.
Beard vegetation association 936: Medium woodland; salmon gum (Shepherd et al 2001, Hopkins et al 2001).			The majority of the area under application is in degraded to very degraded condition, according to the classification used by Syrinx Environment (Pty Ltd 2005 a,b), and degraded according to the Keighery 1994 classification. The comments on the vegetation type and condition for the areas not surveyed by Syrinx Environmental were sourced from the Conservation Officer, Lake Bryde Recovery Catchment, CALM (pers. comm. CALM 2005).

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 occurs within the Lake Bryde Recovery Catchment, which is recognised as an area

of high biological value by the State Salinity Council of Western Australia. The area under application is also within the Lakeland, Lake Janet and Lake Bryde Nature Reserves (CALM 2005a).

The high biological values in the Lake Bryde Recovery Catchment, particularly those in the valley floors, are under threat from rising salinity and waterlogging levels. The condition of the vegetation on the valley floor is declining and populations of the Declared Rare and Priority plant species *Muehlenbeckia horrida* subsp. *abditia*, *Acacia mutabilis* subsp. *stipulifera* and *Fitzwillia axilliflora* and the Threatened Ecological Communities within the Lakeland and Lake Bryde reserve areas are at risk (CALM 2005a; Mattiske Consulting 2005).

If implemented, the proposed surface water management channel will improve the continuity of flow through inundated areas of the valley floor and is likely to protect valley floor vegetation in the short-term while longer-term surface water management strategies are implemented in the wider catchment (Mattiske Consulting 2005; Farmer et al 2002).

The vegetation within the area under application ranges from dead to excellent condition with the majority being in degraded to very degraded condition (Syrinx Environmental Pty Ltd 2005 a,b; pers. comm. CALM 2005) and is therefore unlikely to contain higher biodiversity values than those in the same broad vegetation associations in the local area.

Methodology CALM (2005a) DoE TRIM ref NI1218
Farmer et al (2002) DoE TRIM ref N1289
Mattiske Consulting (2005) DoE TRIM ref IN25150
Personal communication, CALM (2005)
Syrinx Environmental Pty Ltd (2005a) DoE TRIM ref NI1216
Syrinx Environmental Pty Ltd (2005b) DoE TRIM ref NI1217
GIS databases:
- CALM Managed Lands and Water - CALM 01/07/05

(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**
Three Threatened fauna species and 2 Priority fauna species are known to occur within the local area including the:
- Threatened *Botaurus poiciloptilus* (Australian Bittern)
- Threatened *Leipoa ocellata* (Malleefowl)
- Threatened *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo)
- Priority 4 *Macropus irma* (Western Brush Wallaby)
- Priority 5 *Macropus eugenii derbianus* (Tamar Wallaby) (CALM 2005a)

Under the EPBC Act the Malleefowl is listed as Vulnerable and Carnaby's Black Cockatoo as Endangered (CALM 2005a).

Other fauna have been sighted in the southern part of the Lake Bryde Recovery Catchment, in particular in Lake Magenta Nature Reserve, including the:

- Threatened *Dasyurus geoffroii* (Chuditch), which is listed as Vulnerable under the EPBC Act;
- Priority 5 *Isoodon obesulus* (Quenda);
- *Trichosurus vulpecula* (Brush-tail Possum); and
- *Tachyglossus aculeata* (Echidna) (CALM 2005a).

The proposed waterway will impact on valley floor vegetation, which is dominated by mixed mallees over dense thickets of *Melaleuca* shrubs. This habitat may be utilised by the two Priority species of wallaby that have been recorded in the local area. However, if waterlogging and salinity levels continue to increase there is a high probability that vegetation condition, and thus habitat, will decline throughout the valley floor and, as a result, this habitat could be permanently lost. If implemented, this proposal will reduce waterlogging and secondary salinisation in the valley floor and have a positive impact on vegetation health and therefore on the habitat value of the vegetation within the area under application (CALM 2005a).

In addition, the proposed clearing is long and linear in shape and this would reduce the severity of the impact on fauna habitat when compared to wider or block shaped clearing. It is therefore considered that the clearing as proposed is not likely to be at variance to this Principle.

Methodology CALM (2005a) DoE TRIM ref IN25150

(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**
Declared Rare Flora (DRF) and Priority Flora occur within the Lakeland, Lake Janet and Lake Bryde Nature Reserves (CALM 2005a) however there are no records of DRF or Priority Flora occurring within the area under

application (Syrinx Environmental Pty Ltd 2005 a, b).

Within the Lakeland, Lake Janet and Lake Bryde reserve areas, the following species are at risk from local changes in salinity and waterlogging levels:

- Declared Rare *Muehlenbeckia horrida* subsp. *abdit*a;
- Priority 1 *Acacia mutabilis* subsp. *stipulifera*; and
- Priority 2 *Fitzwillia axilliflora* (CALM 2005a; Mattiske Consulting 2005).

One population of *Muehlenbeckia horrida* subsp. *abdit*a occurs approximately 1.5km north of the area under application within Lake Bryde Nature Reserve and 1 population occurs approximately 7km east of the area under application (CALM 2005a; Mattiske Consulting 2005).

One population of *Acacia mutabilis* subsp. *stipulifera*. occurs 1.5km north of the area under application within Lakeland Nature Reserve and three populations occur 1.5km north of the area under application within Lake Janet Nature Reserve (CALM 2005a; Mattiske Consulting 2005).

One population of *Fitzwillia axilliflora* occurs 1.5 km north of the area under application within Lakeland Nature Reserve (CALM 2005a; Mattiske Consulting 2005).

The proposed waterway will predominantly be of benefit to these species, which may otherwise be at risk from local changes in salinity and waterlogging levels within the Lakeland, Lake Janet and Lake Bryde reserve areas. While the initial site works and short-term changes in hydrology may have a short-term negative affect, in the short to long-term the reduction in waterlogging in the valley floor will be of benefit to these species (CALM 2005a; Mattiske Consulting 2005).

Methodology CALM (2005a) DoE TRIM ref IN25150
Mattiske Consulting (2005) DoE TRIM ref NI1218
Syrinx Environmental Pty Ltd (2005a) DoE TRIM ref NI1216
Syrinx Environmental Pty Ltd (2005b) DoE TRIM ref NI1217
GIS databases:
- Pre-European Vegetation - DA 01/01
- Declared Rare and Priority Flora List - CALM 13/08/03

(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

Two critically endangered Threatened Ecological Communities (TECs) occur within Lake Bryde Nature Reserve and the Crown Reserve encompassing Lake Bryde East. No TECs are recorded within the area under application (CALM 2005a; Mattiske Consulting 2005).

The two TECs are described as 'Unwooded freshwater wetlands of the southern Wheatbelt dominated by *Muehlenbeckia horrida* subsp. *abdit*a and *Tecticornia verrucosa*' and occur within the lake beds of Lake Bryde, approximately 400 meters north of the area under application, and Lake Bryde East, approximately 7km east of the area under application. These TECs are key biological values within the Lake Bryde catchment that contribute to its status as a Natural Diversity Recovery Catchment (CALM 2005a; Mattiske Consulting 2005).

The main threats to the survival of these TECs include waterlogging and increasing salinity, as a result of changes to the natural hydrology of the area resulting from land clearing and agricultural development. If salinity levels continue to increase it is likely that salt-tolerant species will thrive at the expense of the freshwater-dependant *Muehlenbeckia horrida* subsp. *abdit*a and *Tecticornia verrucosa*. If implemented this proposal is expected to have an immediate impact on the surface water hydrology of the valley floors within the Lakeland and Lake Bryde reserve areas and therefore is anticipated to benefit the survival of these TECs (CALM 2005a; Mattiske Consulting 2005).

Methodology CALM (2005a) DoE TRIM ref IN25150
Mattiske Consulting (2005) DoE TRIM ref NI1218
GIS databases:
- Pre-European Vegetation - DA 01/01
- Threatened Ecological Communities - CALM 12/04/05

(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 at variance to this Principle

The area under application is part of Beard vegetation associations 936 and 519 of which 89.2% (906 826 ha) and 60.6% (1 346 958 ha) remains respectively. The area under application falls within the Mallee IBRA Region, of which 55.1% of the original vegetation remains (Shepherd et al 2001; Hopkins et al. 2001; Department of Natural Resources and Environment 2002).

Only 4% of Beard vegetation association 936 is within secure tenure and therefore the benchmark of 15% representation in conservation reserves has not been met (JANIS Forests Criteria 1997). However with 89.2% of the original extent remaining this vegetation type is of least concern for biodiversity conservation. There is 18.9% of Beard vegetation association 519 in secure tenure and this vegetation type is also of least concern for biodiversity conservation (Shepherd et al 2001; Hopkins et al. 2001; Department of Natural Resources and Environment 2002).

There is approximately 36% remnant vegetation coverage within the Lake Bryde Recovery Catchment and it is estimated that the proposed clearing will affect less than 0.2% of this vegetation. Increasing waterlogging and salinity levels are impacting significantly on the valley floor vegetation in the Lake Bryde catchment and vegetation health will continue to decline if action is not taken. The proposed surface water management project is expected to reduce waterlogging and salinity and therefore have a positive impact on the health of vegetation in the valley floor (CALM 2005a; Mattiske Consulting 2005).

Additionally, 350ha of agricultural land in Reserve 47384 will be revegetated. CALM purchased Reserve 47384, which is adjacent to Lakeland and Lake Bryde Nature Reserves, for the implementation of the proposed surface water management project. It is anticipated that 110 ha will be revegetated in 2006/2007 (pers comm. CALM 2005; CALM 2005b).

Methodology CALM (2005b) DoE TRIM ref NI1219
Department of Natural Resources and Environment (2002)
Hopkins et al. (2001)
JANIS Forests Criteria (1997)
Mattiske Consulting (2005) DoE TRIM ref NI1218
Shepherd et al (2001)
GIS databases:
- Pre-European Vegetation - DA 01/01

(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

The proposed clearing of 46ha to construct a surface water drain involves the clearing of vegetation associated with ephemeral lakes and drainage lines within the Lakeland, Lake Janet and Lake Bryde Nature Reserves, Crown Reserve 47384 and the Lake Bryde, Newdegate-Pingrup and Bairstowe road reserves.

Lake Bryde is a Natural Diversity Recovery Catchment under the State Salinity Council of Western Australia (2000) because its high biological values are threatened by salinity. Lake Bryde, approximately 400 m from the area under application, and Lake Bryde East, approximately 7 km east of the area under application, are also recognised as significant wetlands on a national level through the Directory of Important Wetlands (Department of Environment and Heritage 2005; Mattiske Consulting 2005).

The high biological values for which these wetlands have been recognised at State and National levels are under threat from increasing waterlogging and salinity levels, a result of widespread clearing in the catchment (Mattiske Consulting 2005).

The implementation of the proposed surface water management project is expected to directly benefit biodiversity values through a reduction in waterlogging and salinity in the valley floor (Mattiske Consulting 2005). Although the native vegetation under application is associated with the wetlands and drainage lines of the Lake Bryde valley floor, the rehabilitation activities proposed are considered integral to the maintenance and improvement of existing environmental values of the area.

Methodology Department of Environment and Heritage (2005)
Mattiske Consulting (2005) DoE TRIM ref NI1216
GIS databases:
- Hydrography, linear - DOE 01/02/04

(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 risk of increased wind erosion associated with the proposed clearing is unlikely due to the lineal nature of the proposed clearing activity, in which the area under application will be protected by surrounding vegetation (DAWA 2005).

The area under application is located within a valley floor system, which typically exhibits continuous gradients of less than 1% (Farmer et al 2002). The low gradient and the lineal nature of the proposed clearing activity will reduce the risk of water erosion (DAWA 2005).

The clearing of a very small percentage (0.9%) of the remnant vegetation in the Lakeland, Lake Janet and Lake Bryde Nature Reserves is unlikely to contribute to groundwater rise either on or off-site (DAWA 2005). Overall the implementation of the surface water management project will reduce waterlogging by increasing conveyance of surface water runoff accumulating in the valley floor (Farmer et al 2002).

Methodology DAWA (2005) DoE TRIM ref IN25008
Farmer et al (2002) DoE TRIM ref N1289
Mattiske Consulting (2005) DoE TRIM ref NI1216

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal may be at variance to this Principle

The proposed clearing of 46 ha will have a direct impact on a number of conservation areas.

The area under application falls within the Lake Bryde Natural Diversity Recovery Catchment. Under the State Salinity Strategy 2000, recovery catchments for natural diversity were identified to help recover and protect significant natural areas, particularly wetlands, from salinity (CALM 2005a).

The area under application is almost entirely within CALM-managed lands. Of the proposed 46 ha, 38.15 ha are within CALM lands. Lands directly impacted by the proposed clearing activity include:

- 27.92 ha in Lakeland Nature Reserve;
- 5.23 ha in Lake Bryde Nature Reserve (north of Lake Bryde Rd);
- 4.2 ha in Crown Reserve 47384 (freehold land purchased by CALM in 2002 for the implementation of the surface water management project); and
- 0.8 ha in Lake Janet Nature Reserve (CALM 2005b).

The remaining 6.02 ha proposed to be cleared is within road reserves managed by the Shires of Kent and Lake Grace that are located adjacent to Lakeland Nature Reserve (CALM 2005b).

Other CALM-managed lands in the local area, not directly impacted by the proposed clearing, include:

- Lake Bryde Nature Reserve (south of Lake Bryde Rd), approximately 1500 m east of the area under application;
- The unnamed Crown Reserve 28173, approximately 8.5 km west of the area under application; and
- Lake Magenta Nature Reserve, also a System 4 area, approximately 9 km south of the area under application (CALM 2005a).

Other conservation areas in the local area, not directly impacted by the proposed clearing are:

- A Land for Wildlife site, approximately 5.4 km from the area under application; and
- Three DAWA covenants, the nearest approximately 2.1 km from the area under application (CALM 2005a).

Waterlogging and salinity levels in the Lake Bryde Recovery Catchment are increasing and, consequently, the health of the valley floor vegetation is declining and will continue to decline, therefore impacting directly on the conservation values of Lakeland, Lake Janet and Lake Bryde Nature Reserves.

While the proposed clearing of 46ha will have a direct impact on conservation areas and remnant vegetation adjacent to conservation reserves, the implementation of the surface water management project is expected to directly benefit these reserves through a reduction in waterlogging and salinity in valley floors (CALM 2005a; Mattiske Consulting 2005).

Methodology CALM (2005a) DoE TRIM ref IN25150
CALM (2005b) DoE TRIM ref NI1219
Mattiske Consulting (2005) DoE TRIM ref NI1218
GIS databases:
- CALM Managed Lands and Water - CALM 01/07/05

(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

Lake Bryde and East Lake Bryde are unusual for the Wheatbelt in that they are less saline than most other lakes associated with salt lake chains (Mattiske Consulting 2005).

The salinity of Lake Bryde when it is full is approximately 200 mS/m and increases to 2000 mS/m when the lake is almost empty. Regular monitoring since 1979 has seen marked fluctuations in salinity levels (Mattiske Consulting 2005).

The groundwater beneath Lake Bryde is hypersaline at 4000-6000 mS/m (Mattiske Consulting 2005).

Salinity in the lake system generally is increasing due to widespread clearing in the catchment and the trend is likely to continue (Mattiske Consulting 2005).

The clearing of a very small percentage (0.9%) of the remnant vegetation in the Lakeland, Lake Janet and Lake Bryde Nature Reserves is unlikely to contribute to groundwater rise either on or off-site (DAWA 2005). Overall the implementation of the surface water management improvement project will lead to less ponding and hence reduce recharge into the valley system (Mattiske Consulting 2005).

Methodology DAWA (2005) DoE TRIM ref NI25008
Mattiske Consulting (2005) DoE TRIM ref NI1218

(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 is located within the broad valley floor of the Lake Bryde catchment. It is only during major rainfall events that there is a likelihood of flooding for which the Lake Bryde system is designed to compensate and sustain floodwaters. The proposed clearing of 46ha of native vegetation is therefore unlikely to increase the risk of flooding.

The construction of a broad, shallow channel through major inundation areas will reduce the impact of ponding during low to medium flow events. The proposed waterway will channel additional water from these events into temporary disposal lakes within Lakeland Nature Reserve, which will lead to increased waterlogging in these areas. The two lakes closest to Bairstowe Rd will provide the main termination and evaporation points for the majority of excess water from these low to medium flows.

During peak flows the carrying capacity of the channel will quickly be exceeded, therefore the inflows required to flush the lake and naturally inundate the valley system will not be affected (Maunsell 2005; Farmer et al 2002).

Generally, flows from the proposed waterway are likely to be minimal, unless there are major flow events in which case these lakes will flood naturally (Mattiske Consulting 2005; Maunsell 2005).

Methodology Farmer et al (2002) DoE TRIM ref N1289
Mattiske Consulting (2005) DoE TRIM ref NI1218
Maunsell (2005) DoE TRIM ref N1289

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

Comments

CALM referred the Lake Bryde Recovery Catchment Surface Water Management Improvement Program to the EPA in September 2005. The EPA considered that the overall environmental impact of the proposal was not so severe as to require formal assessment or advice (EPA 2005; CALM 2005b). A public third party referred the proposal to the EPA in January 2006 (Public submission 2006a). The EPA has informed this third party of the previous decision that the environmental impact of the proposal was not so severe as to require formal assessment or advice (EPA 2006).

Other stakeholders have endorsed the proposal including:

- Conservation Commission of Western Australia, in which Lakeland, Lake Janet and Lake Bryde Nature Reserves are vested (CALM 2005c);
- Shire of Lake Grace who have approved the proposed works subject to final engineering design approval and funding (Shire of Lake Grace 2005);
- Shire of Kent who have authorised the surface water management works to be undertaken on Council road reserves subject to Council plant and labour being contracted to complete the works (Shire of Kent 2005); and
- Water Corporation, who have given approval for CALM to undertake conservation works within Reserve 28667 and have agreed to a transfer of the vesting of this reserve to the Conservation Commission of Western Australia, although the transfer has yet to be finalised (CALM 2005c).

Comment regarding Native Title interests was sought from the South West Aboriginal Land and Sea Council. The Council has no comment or objection to the proposed clearing. They will request that CALM allow Aboriginal Monitors to be present during earthworks (SWALSC 2006).

A public third party has made two submissions in relation to the proposed clearing (Public submission 2005; Public submission 2006b). The details of these submissions and responses are detailed in Appendix 2 (DoE TRIM ref ED791).

Methodology CALM (2005b) DoE TRIM ref NI1219
CALM (2005c) DoE TRIM ref IN23613
Public Submission (2005) DoE TRIM ref HD26189
Public Submission (2006a) DoE TRIM ref CRN217269
Public Submission (2006b) DoE TRIM ref 26907

EPA (2005) DoE TRIM ref CRN215703
 EPA (2006) DoE TRIM ref CRN217269
 Shire of Kent (2005) DoE TRIM ref NI1233
 Shire of Lake Grace (2005) DoE TRIM ref CRN215703
 SWALSC (2006) DoE TRIM ref NI1330

4. Assessor's recommendations

Purpose	Method Applied	Applied area (ha)/ trees	Decision	Comment / recommendation
Building or Structure	Mechanical Removal	46	Grant	<p>The area proposed to be cleared has been assessed against the clearing principles and may be at variance to Principles (f) and (h). For Principle (f) and (h), while the native vegetation under application is associated with the wetlands and drainage lines of the Lake Bryde valley floor and the removal will have a direct impact on a number of conservation areas, the implementation of the proposed surface water management project is expected to directly benefit these conservation reserves and associated biodiversity values through a reduction in waterlogging and salinity in the local area.</p> <p>Given the above, the assessing officer recommends that a permit be granted with the following conditions:</p> <ol style="list-style-type: none"> 1. The Permit Holder shall record the area cleared in hectares for each instance of clearing. 2. The Permit Holder shall provide a report to the CEO in relation to clearing conducted in accordance with this permit by 1 June 2008 and again by 1 June 2011, setting out the total area of native vegetation cleared. <p>It is also recognised that while the implementation of this surface water management is intended to reduce waterlogging and salinity in the short to medium term, remediation for long term efforts have been factored in and will be implemented. These include revegetating up to 350 ha in an adjacent reserve, fencing off remnant vegetation, surface water management in the upper catchment; and encouraging farmers to adopt farming practices such as modified tillage and incorporation of deep-rooted cropping systems into farm rotations.</p>

5. References

- CALM (2005a) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref IN25150
- CALM (2005b) Referral of a proposal to the Environmental Protection Authority under Section 38(1) of the Environmental Protection Act. DoE TRIM ref NI1219
- CALM (2005c) Letter and supporting documents accompanying application for a clearing permit. Prepared for Department of Environment by Department of Conservation and Land Management. DoE TRIM ref IN23613
- CALM (2006a) Correspondence to DoE. CALM response to third party submission. DoE TRIM ref NI1256.
- CALM (2006b) Correspondence to DoE. Use of saline soil for revegetation. DoE TRIM ref NI1267.
- DAWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref IN25008
- Department of Environment and Heritage (2005) Australian Wetlands Database (online) <http://www.deh.gov.au/water/wetlands/database/>. Department of Environment and Heritage, Australian Government.
- 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.
- EPA (2005) Advice to CALM on surface water engineering works in Lake Bryde Catchment. Environmental Protection Authority, Western Australia. DoE TRIM ref CRN215703
- EPA (2006) Advice to Conservation Council of Western Australia on clearing of 46ha of native vegetation for water management (CPS 882/1) Shires of Kent and Lake Grace. Environmental Protection Authority, Western Australia. DoE TRIM ref CRN217269.
- Farmer, D., Stanton, D. and Coles, N.A (2002) Lake Bryde Recovery Catchment surface water assessment and recommendations. Prepared for Department of Conservations and Land Management by Engineering Water Management Group, Department of Agriculture Western Australia. DoE TRIM ref N1289
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- 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 Consulting Pty Ltd (2005) Review of the risks associated with Environmental Impact Assessment of the surface water management proposal for the Lake Bryde Recovery Catchment. Prepared for Department of Conservation and Land

Management. DoE TRIM ref N11218

Mattiske Consulting Pty Ltd (2006) Vegetation and degradation assessment monitoring within the lake Bryde Recovery Catchment valley floor. Prepared for Department of Conservation and Land Management. DoE TRIM ref N11326.

Maunsell Australia Pty Ltd (2005) Lake Bryde surface water assessment: Lake Bryde surface water engineering improvements programme. Prepared for Department of Conservation and Land Management. DoE TRIM ref N1289

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 Kent (2005) Letter of Support for Lake Bryde Surface Water Management proposal. Prepared by Shire of Kent for Department of Conservation and Land Management. DoE TRIM ref N11233

Shire of Lake Grace (2005) Letter of support for Lake Bryde Recovery Catchment Surface Water Management project. Prepared by Shire of Lake Grace for Department of Conservation and Land Management. DoE TRIM ref IN231813

South West Aboriginal Land and Sea Council (2006) Correspondence to DoE. Native Title response. DoE TRIM ref N11330.

Syrinx Environmental Pty Ltd (2005a) Impact of proposed waterway on nature conservation values: Lake Bryde to Lakelands Nature Reserve. Prepared for Department of Conservation and Land Management. DoE TRIM ref N11216

Syrinx Environmental Pty Ltd (2005b) Impact of proposed waterway on nature conservation values: Lake Bryde to Lakelands Nature Reserve Stage 2. Prepared for Department of Conservation and Land Management. DoE TRIM ref N11217

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)