



## 1. Application details

### 1.1. Permit application details

Permit application No.: 641/1  
 Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Tandar Pty Ltd

### 1.3. Property details

Property: LOT 2683 ON PLAN 203057 (Lot No. 2683 GALE KALOORUP 6280)  
 Local Government Area: Shire Of Busselton  
 Colloquial name: Kolhagen Rd Vol 1907 Fol 634 - Sussex Location 2683

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.7		Mechanical Removal	Dam construction or maintenance

## 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 1181: Medium woodland; jarrah & Eucalyptus haematoxylon (Whicher Range)  (Hopkins et al. 2001; Shepherd et al. 2001).	The proposal includes clearing of 0.7ha of existing riparian vegetation for the purpose of dam construction.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Observed during site visit: Several areas are completely barren, most probably due to the area not being fenced from the stock on the property. Pasture species existed throughout the understorey, however are not yet dominant.
Mattiske Vegetation Complex Yelverton (Yw): Woodland of Allocasuarina fraseriana-Nuytsia floribunda-Agonis flexuosa-Banksia attenuata on slopes and open forest of Corymbia calophylla-Eucalyptus patens-Eucalyptus marginata subsp. marginata on the lower slopes and woodland of Eucalyptus rudis-Melaleuca raphiophylla on valley floors in the humid zone  (Mattiske Consulting 1998).	The vegetation under application is riparian/woodland comprising Eucalyptus rudis (flooded gum), Melaleuca raphiophylla (swamp paperbark) and sedge spp. (DEC 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 may be at variance to this Principle**  
 The proposed clearing of 0.7 ha is of degraded to good condition, riparian vegetation consisting of scattered Corymbia calophylla over Melaleuca spp. with a pasture dominated understorey. Isolated sedge spp. also exist (DEC Site visit 2005).

The vegetation proposed for clearing occurs within a narrow corridor of remnant riparian vegetation that may provide linkage to other remnants within the cleared landscape. The proposed clearing will reduce this (corridor) value.

The vegetation under application is located in an extensively cleared area predominantly used for agriculture.

The area is within approximately 1km of the Blackwood State Forest. The linear size and shape of vegetation under application gives it a high edge:area ratio, and it is also open to continuous stock grazing.

The high level of disturbance at the site and extensive weed invasion suggests that the original biodiversity has been significantly compromised, however there is a high likelihood the area would be self-sustaining in the future if managed appropriately.

To mitigate any loss in biodiversity, the proponent will be required to revegetate an equivalent area with local endemic species on completion of the dam construction.

The proposal therefore may be at variance to this Principle.

**Methodology** DEC Site visit (2005);  
Keighery (1994);  
GIS Database:  
- Busselton 50cm ORTHOMOSAIC - DLI03

**(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**

Biodiversity Coordination Section (BCS), DEC (2005) advise that 'the application area occurs within a narrow corridor of remnant riparian vegetation bordering Ironstone Gully. Clearing of the notified area is likely to reduce the value of the vegetation corridor particularly for very mobile fauna species such as the Chuditch, whilst they are moving through an otherwise extensively cleared landscape. However, the area that is proposed to be cleared is relatively small and unlikely to represent 'significant' habitat for Chuditch'.

'Photographs taken during a site inspection depict habitat that is potentially suitable for the *Engaewa reducta* (Dunsborough Burrowing Crayfish), which is listed as Endangered under the Wildlife Conservation Act. The Department of Environment field inspection report map shows a border of native vegetation approximately 20 to 30m wide that will be left intact on all sides surrounding the dam except for the cleared and grazed area to the south. Provided this border of native vegetation is retained, this proposal is not likely to be at variance to this principle'.

The area under application has been left largely open to stock access, therefore limited ground cover and understorey regrowth is present (DEC Site Visit 2005).

The border of vegetation recommended to be left intact by BCS is not within the area under application. The proponent has also agreed to revegetate an existing area of degraded vegetation abutting the area under application, and fence this entire area from stock access.

The notified area is nearby State Forest which is likely to provide habitat of equal or better value (Biodiversity Coordination Section, DEC 2006).

Given the above, it is unlikely the proposal is at variance to this Principle.

**Methodology** DEC Site visit (2005);  
Biodiversity Coordination Section, DEC (2005);  
GIS Database:  
- Busselton 50cm Orthomosaic - DLI 03

**(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**

*Dryandra nivea* subsp *vliginosa* (Declared Rare Flora, DRF) occurs 1.3km west of the area under application. There are 24 other DRF species in the local area (10km radius). The *Dryandra nivea* subsp *vliginosa* specimen is located within same Mattiske vegetation type as the area proposed for clearing.

There are eight Priority 1 species in the local area. *Andersonia ferricola* is found 1.3km west of the area under application and occurs within the same Mattiske vegetation type as the area under application.

There are five Priority 2 species in the local area. The closest is *Synaphea petiolaris* subsp. *simplex*, which is 1.3km east of the area under application. The species occurs within the same Mattiske vegetation type as the area under application.

There are thirteen Priority 3 species in the local area. The closest is *Loxocarya magna*, found 0.9km west south west of the area under application and is within the same Mattiske vegetation type as the area proposed for clearing.

Fourteen Priority 4 species are found within the local area. *Calothamnus* sp. Whicher is found 2.1km north of the vegetation under application and is located in the same Matiske vegetation type.

Biodiversity Coordination Section, DEC (2005) advised that '*Dryandra squarrosa* subsp. *argillacea* is likely to have been in flower at the time of the visit, (if present), and *Dryandra nivea* subsp. *uliginosa* and *Gastrolobium modestum* are distinctive even when not in flower and should have been identifiable'. No specimens of the above mentioned species were observed during the site inspection of the property.

Given the vegetation's condition was considered to vary between good and degraded (Keighery, 1994) and BCS advice determined the area was not likely to support any DRF or priority flora, it is concluded the clearing proposal is not likely to be at variance to the principle.

**Methodology** Biodiversity Coordination Section, DEC (2005);  
GIS Database:  
- 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**

Biodiversity Coordination Section, DEC (2005) advise "there are ten known occurrences of the Threatened Ecological Community (TEC) SCP10b (Shrublands on southern Swan Coastal Plain Ironstones) within the local area (10km radius)". This TEC is listed as Endangered under the EPBC Act; and Critically Endangered under WA criteria. Other significant TECs known to occur in the area include one occurrence of SCP1b (*Corymbia calophylla* woodlands on heavy soils of the southern SCP); listed as Vulnerable under State criteria, and one known occurrence of SCP10a (Shrublands and dry flats); listed as Endangered under State criteria.

Over 150 Threatened Plant Communities (TPCs) are also known to occur within the local area (10km radius), with the closest located 1.1km from the proposed clearing.

Following a site visit by the Departments Blackwood District, it was found that "the area has exposed ironstone but has been heavily grazed over the past 2 to 3 years" and "the only species of any slight significance is *Xyris inaequalis*, which is a poorly collected species predominantly from the Margaret River area" (Biodiversity Coordination Section, DEC 2005). Therefore, it is unlikely that there is an occurrence of TEC Type SCP10b within the notified area.

In addition, the Blackwood District indicated that it is unlikely that TEC Type SCP1b occurs within the notified areas as two Eucalypts are the only species listed that are typical of this floristic community; also, it is also unlikely that TEC Type SCP10a occurs within the notified area as dry clay flats do not appear to be present (Biodiversity Coordination Section, DEC 2005).

Therefore, it is unlikely that the proposed clearing is at variance with this Principle.

**Methodology** Biodiversity Coordination Section, DEC (2005);  
GIS databases:  
- Threatened Ecological Communities - CALM 15/7/03;  
- Threatened Plant Communities - DEP 06/95

**(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 may be at variance to this Principle**

The application is located in the Jarrah Bioregion in the Shire of Busselton. The extent of native vegetation in these areas is 58.3% and 44.5% respectively (Shepherd et al. 2001). There is approximately 40% of native vegetation remaining in the local area. The majority of this vegetation is found to the south and south east of the property and is within state forest. The remaining vegetation within the local area consists of small fragmented remnants.

The vegetation under application is a component of Matiske Yelverton (Y) Complex of which there is 12% (Matiske 1998) of the pre-European extent remaining and therefore of a 'vulnerable' status for Biodiversity conservation (Department of Natural Resources and Environment 2002).

The proponent has agreed to replant an equivalent area of vegetation, with local endemic species, around the dam on completion of its construction. This revegetation will also be fenced from stock access.

Biodiversity Coordination Section, DEC (2005) advised the weeds existing within the area under application are not dominant yet and that the area may regenerate if grazing was removed.

Given the vegetation's current condition and considering the proponent has committed to revegetating an equivalent area once the dam is constructed (with weed management), the rehabilitated area will consist of a more diverse range of species and be a better representation of the pre-European complex than what currently exists.

Taking into account there is approximately 40% of vegetation remaining in the local area, and given that the majority of this is protected in conservation areas eg Blackwood State Forest, the 0.7 hectares of vegetation, in degraded to good condition, is not considered to be a significant remnant in an extensively cleared area.

**Methodology** Biodiversity Coordination Section, DEC (2005);  
Department of Natural Resources and Environment 2002;  
Shepard et al. 1980;  
Hopkins et al. 2001;  
Heddle et al 1980;  
GIS database:  
- MattiskeVegetation - CALM 24/03/98;  
- Interim Biogeographic Regionalisation of Australia - EM 18/10/00;  
- Local Government Authorities - DLJ 8/07/04;  
- 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 is at variance to this Principle**

The applicant is proposing to construct a dam on a minor perennial watercourse, Ironstone Gully stream, which is a tributary of the Buayanyup River.

Large areas covered predominantly by Multiple Use wetlands, as well as some Conservation Category and Resource Enhancement wetlands exist approximately 5 to 6km north of the area under application. An EPP Lake exists 8.5km from the area under application.

The purpose of the proposed clearing is for a dam, therefore the area under application is within an environment associated with a watercourse.

To mitigate the clearing of vegetation associated with a watercourse, the proponent has committed to revegetate an equivalent area around the dam once construction is complete and to fence the area from stock, who currently have access to the watercourse.

Although these conditions will minimise further degradation of the watercourse, the clearing of riparian vegetation is be at variance to this Principle.

**Methodology** GIS database:  
- EPP Lakes - DEP 28/07/03  
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain - DoE 15/9/04  
- Hydrography Linear - DoE 1/2/04

**(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 area under application has been mapped as having a low salinity risk and the groundwater salinity within the area is approximately 500mg/L.

On completion of construction of the dam, the proponent has committed to revegetating the area with local endemic species, resulting in a low risk of wind erosion occurring.

Given the conditional revegetation of the cleared areas, and considering the area under application is 0.7ha, it is concluded the proposal is not likely to be at variance to this principle.

**Methodology** Slade Ag Tech Development Report 09/06/04  
GIS Database:  
- Salinity Risk LM 25m - DOLA 00  
- Groundwater Salinity, Statewide - 22/02/00

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

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

The Blackwood State Forest exists 900m directly south of the area under application and a Nature Reserve also exists 1.2km west of the proposed clearing. Neither of these two conservation areas are vegetatively linked to the area under application.

Biodiversity Coordination Section, DEC (2005) advise that 'aerial photography of the area suggests that clearing

of the notified area is unlikely to have an impact on the environmental values of any lands that are managed for conservation in the local area, since the notified area is relatively small, is downstream from the State Forest, and little vegetation remains between the application area and the closest nature reserve'.

Given the above information it is concluded the proposal is not likely to be at variance to this principle.

**Methodology** Biodiversity Coordination Section, DEC (2005);  
GIS Database:  
- CALM Managed Lands and Waters - CALM 1/06/04

**(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 proposed to be cleared is within the Buayanup River Catchment, with a low salinity risk mapped for the area under application, and it is not within a proclaimed surface water area. The area is however within the Busselton-Capel RIWI groundwater area.

The proponent has committed to replanting around the dam when construction is completed and will also ensure the dam wall is grassed to hold any loose material within the dam site. The entire area will be fenced from stock access.

Given the small size of the proposed clearing, the condition of the vegetation and the proponent's commitment to replant and exclude the area from stock access, degradation of local water quality is unlikely to occur. It is believed these actions, when undertaken, are likely to improve the current state of the surface water quality.

**Methodology** Slade Ag Tech (2004);  
GIS Database:  
- Hydrographic Catchments, Catchments - DoE 29/11/04;  
- RIWI Act, Groundwater Areas WRC 13/06/00;  
- Topographic Contours, Statewide - DOLA 12/09/02

**(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 at variance to this Principle**  
Flooding impacts are unlikely to occur as a result of the proposal due to its size and location. Lot 2683 is located approximately 6km east from the nearest major watercourse (river). It is considered that the removal of vegetation from the site would have no impact on peak flood height or duration.

**Methodology** GIS Database:  
- Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**  
The property is zoned general farming under the Town Planning Scheme Zone.

A submission from the Shire of Busselton stated that 'if approval to clear is given, the Shire of Busselton would like to see an equivalent area of vegetation replanted elsewhere on the property, such as around the proposed dam with local native species. This rehabilitation should be to a standard suitable for habitat function, ensuring a diverse mix of local native trees, shrubs, rushes and sedges are utilised. The revegetated area should be fenced permanently to exclude stock access.

Slade Ag Tech (2004) advise 'the valley system on this property is broad based with a steep gradient on the north side and a lesser gradient on the south side. The velocity of the winter stream flow will be slowed at the tail section of the water storage area of the dam and any silt loads will be dropped in this section of the dam storage area. The flows down stream will be clear of silt as the pipe through the wall will only allow stored surface water to be bypassed.

The proponent has agreed to replant an equivalent area to that cleared, around the dam once constructed and to fence the entire area from stock. It is recommended conditions be placed on the permit requiring the proponent to carry out these actions.

The proponent has obtained planning and development approval from the Shire of Busselton.

**Methodology**

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Dam construction or maintenance	Mechanical Removal	0.7	<p>Assessable criteria have been addressed and no objections were raised. The assessment of the vegetation under application revealed the proposal is at variance to Principle (f), given the vegetation being cleared is within a watercourse for the construction of a dam. Conditions will be imposed to ensure an equivalent area is replanted with riparian species and the total area is fenced from stock access.</p> <p>Assessment also determined the proposal may be at variance to Principles (a) for biodiversity and (e) for a remnant in an extensively cleared area.</p> <p>Principle (a): The high level of disturbance at the site and weed invasion suggests that the original biodiversity has been significantly compromised, however the vegetation proposed for clearing does occur within a narrow corridor of remnant riparian vegetation that may provide linkage to other remnants within the cleared landscape. The proposed clearing will reduce this value. To mitigate any biodiversity loss, conditions requiring an equivalent area be replanted around the edge of the dam, and for this to be fenced from stock access is recommended to be placed on the permit.</p> <p>Principle (e): The vegetation complex under application is poorly represented (Mattiske Yelverton 12% pre-1750 remaining), however in its current condition, and taking into account the area being at total of 0.7 hectares, it was determined the vegetation under application is not a significant remnant in an extensively cleared area.</p> <p>The assessing officer therefore recommends the permit be granted with conditions requiring the replanting of an equivalent area, and for this area, and the remaining riparian vegetation in the north west corner of the property to be fenced to exclude stock access.</p>

## 5. References

- Biodiversity Coordination Section, DEC (2006). Land Clearing Proposal Advice.
- DEC Site visit (2005). Department of Environment and Conservation, Bunbury.
- 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.
- 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 (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- 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.
- Slade Ag Tech (2004). Smith D Dam Development Application DOC LOC 2683 GALE RD JINDONG.

## 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)