



## 1. Application details

### 1.1. Permit application details

Permit application No.: 3784/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Denmark Community Windfarm Limited

### 1.3. Property details

Property: LOT 7625 ON PLAN 216756 (House No. 900 OCEAN BEACH OCEAN BEACH 6333)  
Local Government Area: Shire of Denmark  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2		Mechanical Removal	Geotechnical investigations

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 2 February 2012

## 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; 423 - Shrublands; Acacia scrub-heath (unknown spp.) (Shepherd, 2009).	The application is to clear 3 hectares of native vegetation in very good (Keighery, 1994) condition for the purpose of constructing a Windfarm and access tracks.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation clearing description and condition were determined from aerial orthomosaics and from a site inspection (DEC, 2010).  The area under application was inaccessible due to the denseness of the vegetation. The vegetation within the applied was observed from an old track adjacent to the proposed alignment.

## 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 to clear 2 hectares of native vegetation in very good (Keighery, 1994) condition within Reserve 24913 for the purpose of preliminary planning work for the future construction and installation of a wind farm.

The vegetation under application is described as dense coastal heath and comprises *Agonis flexuosa*, *Spyridium*, *Acacia littorea*, *Banksia sessilis*, *Lepidosperma* spp, *Leucopogon* spp and *Acacia pulchella* (DEC, 2010) within the area proposed to provide access to the Reserve 24913. The vegetation within the access track and Reserve 24913 is mapped as Shrublands; *Acacia* scrub-heath (unknown spp.) (Shepherd, 2009). Given that the vegetation is in very good (Keighery, 1994) condition, the area under application is likely to provide suitable habitat for a range of ground dwelling fauna species such as small mammal species, reptile species and foraging bird species.

There are 14 priority flora species which have been recorded within the local area (10km radius) of which, only *Thomasia quercifolia* (P3), *Boronia virgata* (P3), *Drosera fimbriata* (P4), *Drepanocladus aduncus* (P2) and *Banksia sessilis* var. *cordata* (P4) are found within the same vegetation complex and soil type to that found within the area under application.

During the DEC site inspection (DEC, 2010) within the area proposed to provide access to Reserve 24913, infestation of *Phytophthora cinnamoni* (dieback) and the priority flora species *Thomasia quercifolia* (P3) and *Banksia sessilis* var. *cordata* (P4) were observed within 100m of the applied area. However, whilst the removal of *T. quercifolia* and *B. sessilis* var. *cordata* will not significantly affect the conservation status of these taxon, the spread of dieback will reduce the biological diversity of the area. Additionally, the applicant has advised that road will be constructed to avoid any plants of *T. quercifolia*.

Given that the area under application (2 hectares within a 54 hectares application area) is contained in an approximately 500 hectare remnant within Crown Reserve 24913 with most of the surrounding vegetation in a similar or better condition than that found on site, the applied vegetation under application is not considered to comprise a high level of biological diversity.

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

**Methodology**    References:  
- DEC (2010)  
- Keighery (1994)  
- Shepherd (2009)  
- Shire of Denmark (2010)  
GIS Databases:  
- SAC Bio Datasets (16/07/2010)

**(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 dense vegetation under application is likely to provide suitable habitat for a number of ground dwelling fauna species such as the Quenda, snakes, lizards and local foraging bird species, including the Black-faced Cuckoo-shrike which was observed within the area proposed for access into Reserve 24913 (DEC, 2010).

Given the absence of suitable feeding habitat the vegetation under application is not considered to provide significant foraging habitat for black-cockatoo species.

Given the proposed clearing of 2 hectares (of which temporary clearing will be rehabilitated after works) is surrounded by vegetation in a similar condition and there is a large amount of vegetation in the local area (approximately 50 percent retained), the vegetation under application is not considered to be significant habitat for native fauna species.

Therefore the proposed clearing is not likely to be at variance to this Principle

**Methodology**    References:  
- DEC (2010)  
  
GIS Databases:  
-SAC Bio Datasets (4/10/2011)  
-NLWRA, Current Extent of Native Vegetation  
- Denmark 1.4m Orthomosaic - Landgate 2001

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments**    **Proposal is not likely to be at variance to this Principle**  
There is one known record of rare flora species occurring within the local area (10km radius) identified as *Kennedia glabrata*, which is located approximately 5.4km from the applied and is found within the same vegetation complex and soil type to that found on site.

Although *K. glabrata* is mapped within the same vegetation complex and soil type to that found on site, the identified rare flora species is recorded as occurring on granite outcrop on the margin of a wetland.

Given that the area under application is located on coastal limestone and sand dunes, it is unlikely that the vegetation under application includes, or is necessary for the continued existence of, rare flora.

**Methodology**    GIS Databases:  
- Pre-European Vegetation  
- SAC Bio datasets - accessed 4/10/2011  
- Soils, Statewide DA 11/99

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments**    **Proposal is not likely to be at variance to this Principle**  
There are no known records of Threatened Ecological Communities (TEC's) within a 10km radius of the applied area.

Therefore the vegetation under application is not likely to comprise whole or part of, or be necessary for the

maintenance of a TEC.

**Methodology** GIS Database:  
- Pre-European Vegetation  
- SAC Bio datasets accessed 4/10/2011  
- Soils, Statewide DA 11/99

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments** **Proposal is not likely to be at variance to this Principle**  
The vegetation under application is described as Beard vegetation association 423 of which there is 81.65 percent of pre-European extent remaining in the Bioregion (Shepherd, 2009).

The area under application is located within the Shire of Denmark, within which there is 77.52 percent of pre-European extent remaining (Shepherd et al, 2009).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Given the local area (10km radius) is well vegetated (approximately 50 percent vegetation retained), the vegetation under application is not considered significant as a remnant in the local area.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)
IBRA Bioregion* Warren	833,981	667,164	80.0
Shire of Denmark*	190,533	147,705	77.52
Beard vegetation type* 423	15,175	12,390	81.65

\* (Shepherd et al, 2009)

**Methodology** References:  
- Commonwealth of Australia (2001)  
- Shepherd et al (2009)  
GIS Database:  
- Local Government Authorities - DLI 8/07/04  
- NLWRA, Current Extent of Native Vegetation  
- Pre-European Vegetation - DA 10/01  
- Denmark 1.4m Orthomosaic - Landgate 2001

**(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 likely to be at variance to this Principle**  
There are no wetlands or watercourses mapped within the area under application. However, there are 4 Unclassified wetlands within the local area (10km radius), the closest (Pooryonggup wetland) being approximately 1.8km north. In addition the Wilson Inlet and the coastline are respectively located approximately 900m north and 350m south of the applied area.

The closest major watercourses are the Denmark River and a un-named perennial watercourse which are respectively located approximately 8km northeast and 4.5km north of the area under application. In addition, there is a minor perennial watercourse which is located approximately 1.7km northwest of the applied area.

Given the distance to the nearest wetland and watercourse, the vegetation under application is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland.

Therefore the clearing as proposed is not likely to be at variance to this Principle.

**Methodology** GIS Databases:  
- Hydrography, Lakes (medium scale, 250K GA)  
- Hydrography, linear - DOE 1/2/04  
- Hydrography linear (hierarchy) - DoW 13/7/06  
- South Coast Significant Wetlands

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

**Comments Proposal may be at variance to this Principle**

The chief soils within the area under application are described as leached sands of the coastal dunes and plains (Northcote et al, 1968).

Although the local area is well vegetated (approximately 50 percent native vegetation retained), given that the area under application is located in close proximity (approximately 300m) to the ocean at an elevation of 40-70m and that dune vegetation is slow to recover in unstable sands (Shire of Denmark, 2010), the removal of deep rooted native vegetation may exacerbate the risk of wind erosion. The applicant has advised that access roads will be sited low in the landscape to minimise the rise of blowouts (DCW, 2011).

Therefore the clearing as proposed may be at variance to this Principle.

**Methodology References:**

- Northcote et al (1960-68)
- Shire of Denmark (2010)
- DCF (2011)

**GIS Databases:**

- Hydrography, linear - DOW 13/7/06
- Soils, Statewide DA 11/99
- 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 at variance to this Principle**

The area under application is located within Class A Reserve No. 24913 which is vested for the purpose of Parklands and Recreation. The proposed clearing will directly impact this conservation area by clearing of native flora and fauna habitat and will indirectly impact the conservation area through the introduction and spread of weeds and *Phytophthora cinnamoni* (dieback). During the DEC site inspection of the proposed access site to the Reserve (DEC, 2010), infestations of dieback were observed along old tracks and trails, in close proximity (approximately 50-100m) of the area under application.

Given the above, the proposed clearing is considered to be at variance to this Principle. Conditions to managed the spread of weeds and dieback may mitigate the impacts to the Reserve.

**Methodology References:**

- DEC (2010)

**GIS Databases:**

- DEC Tenure

**(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 watercourses are the Wilson Inlet and minor perennial watercourses, which are respectively, located approximately 900m north and 1.7km northwest of the applied area. The area under application is situated within the Denmark Coast Catchment, but is not located within a Public Drinking Water Source Area (PDWSA).

Given the limited size (2ha) of the area under application, the distance to the nearest watercourse and that the vegetation under application is not associated with a surface water expression, the clearing as proposed is not considered likely to cause deterioration in the quality of surface and/or underground water.

Therefore the clearing as proposed is not likely to be at variance to this Principle.

**Methodology GIS Databases:**

- Hydrographic Catchments - Catchments - DOW - 01/06/07
- Hydrography, linear - DoW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Public Drinking Water Source Areas (PDWSAs)
- South Coast Significant Wetlands



**(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 approximately 900m south of the Wilson Inlet and approximately 1.8km south of the Pooryonggup wetland, at an elevation of 40-70 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is unlikely that the proposed removal of vegetation would impact on peak flood height or duration.

**Methodology**

GIS Databases:  
- Hydrography, linear - DoW 13/7/06  
- Hydrography linear (hierarchy) - DoW 13/7/06  
- South Coast Significant Wetlands  
- Topographic Contours, Statewide

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

**Comments**

The proposal is to clear 2ha for the purpose of constructing a windfarm and access tracks within Reserve A24913.

The applicant has received a licence from the Department of Regional Development and Lands (DRDL) to undertake preliminary planning work for the future construction and installation of a wind farm (DEC Ref: AA470603).

DRDL has advised that it intends to issue a lease to the applicant within Reserve A24913 once survey, valuation and lease documents are all finalised (DEC Ref: A470976).

The Shire of Denmark endorse the clearing permit application, subject to the following conditions:

- A maximum 5.5m cleared width of roadway;
- The proposed route alignment must be inspected by the Shire of Denmark's Natural Resource Management officer and Revegetation officer prior to the commencement of any works, for the presence of priority flora *Thomasia quercifolia*, which is known to occur in the area. If this plant is located, the Shire requires that the road alignment is moved to avoid the plant, or the plant is relocated, whichever is more feasible for the survival of the plant;
- There should be minimal disturbance as possible to the adjacent dune vegetation, as it is slow to recover in unstable sands with drying climatic conditions;
- Road surfaces should be crushed limestone to avoid importing dieback (*Phytophthora cinnamomi*), and changes to pH and environmental nutrient conditions; and
- Vegetation cleared must be mulched on site or replaced onto exposed surfaces for stabilisation, or removed from site so as not to create any additional fire hazard.

The South West Aboriginal Land and Sea Council advised that the submission period was insufficient and that a decision should be delayed until after 31 August 2010, when the next Future Acts Sub Committee is due to be held (South West Aboriginal Land and Sea Council, 2010). No further comments have been received.

The vegetation under application is located within the agricultural area defined in EPA Position Statement No. 2 (EPA 2000), which states that significant clearing of native vegetation has already occurred on agricultural land, leading to a reduction in biodiversity and increase in land salinisation. The proposed clearing is not for agricultural purposes.

**Methodology**

References:  
- DRDL (2010)  
- EPA (2000)  
- Shire of Denmark (2010)  
- South West Aboriginal Land and Sea Council (2010)

**4. References**

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DCF (2011). Denmark Community Windfarm Ltd. Development application - 2 Wind Turbines, Wilson Head, Denmark. August 2011.
- DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3784/1, Denmark Community Windfarm Inc. Site inspection undertaken 8 July 2010. Department of Environment and Conservation, Western Australia (DEC ref. A317151).
- Department of Regional Development and Lands (2010) Advice on lease arrangements for Denmark Community Windfarm Inc. (DEC ref: A3198500).
- 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,

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.
- 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. (2009) 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.
- Shire of Denmark (2010) Direct interest submission for CPS 3784/1 - Denmark Community Windfarm Inc. (DEC ref A313030).
- South West Aboriginal Land and Sea Council (2010) Direct interest submission for CPS 3784/1 - Denmark Community Windfarm Inc. (DEC ref A316123).
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 13/7/2010)

## 5. 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)