



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2206/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Woodside Energy Ltd

### 1.3. Property details

Property: LOT 3019 ON PLAN 51727 ( BURRUP 6714)  
 LOT 3000 ON PLAN 194276 ( BURRUP 6714)  
 Local Government Area: Shire Of Roebourne  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
47.4		Mechanical Removal	Industrial

## 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 Association 117: Hummock grasslands, grass steppe; soft spinifex	90% of the application area has been previously cleared and rehabilitated (Biota, 2002).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation condition was determined from a flora survey conducted by Biota (2007) Environmental Services.
Beard Association 117: Hummock grasslands, grass steppe; soft spinifex	10% of the vegetation on the application area is in very good condition. It consists of the following vegetation communities (Biota, 2007): * >5% Acacia bivenosa, mixed Acacia species, Tridoia angusta (Burrup form) * >5% Corymbia hamersleyana, Acacia bivenosa, Tridoia angusta (Burrup form) * >5% Corymbia hamersleyana, Grevillia pyramidalis subsp. pyramidalis, Triodia epactia (Burrup form) * >5% Triodia wiseana (Burrup form)	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation condition was determined from a flora survey conducted by Biota (2007) Environmental Services.

## 3. Assessment of application against clearing principles

### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

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

The application is to clear 47.4 hectares of vegetation to construct a laydown area and expansion of an access track. The area proposed to be cleared consists of beard vegetation association 117 which there is approximately 96% of the Pre-European extent remaining (Shepherd et al., 2001). More than 90% of the vegetation on site shows signs of disturbance with weed species such as Cenchrus ciliaris (Buffel grass) and Aerva javanica (Kapok). The majority of the application site has been previously used for temporary accommodation (SKM, 2007). The disturbed area is now dominated by Acacia species, many not endemic to

the Burrup Peninsula (Biota, 2002). Roughly 10% of vegetation is in very good condition, this vegetation is mostly found along the boundary of the proposed clearing area.

There are a number of weeds common to the Pilbara region (including the two mentioned above) which could be introduced to site and surrounding areas as a result of this proposal. Strategies to reduce the introduction and spread of weeds should be undertaken. Stockpiling of topsoil will also require management for weeds until it is required for rehabilitation activities.

Given that the majority of the vegetation is of a degraded condition, it is unlikely that the application area represents an area of higher biodiversity value when compared to representative vegetation in a local and regional context.

**Methodology** Biota (2002)  
Shepherd et al. (2001)  
SKM (2007)

**(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**

Several species of conservation significance have been previously recorded within a 20km radius of the application area. The fauna recorded include:

- \* *Mormopterus loriae cobourgiana* (Little North-western Mastiff Bat) - Priority 1;
- \* *Numenius madagascariensis* (Eastern Curlew) - Priority 4
- \* *Macroderma gigas* (Ghost Bat) - Priority 4;
- \* *Falco peregrinus* (Peregrine Falcon) - Other Specially Protected Fauna;
- \* *Burhinus grallarius* (Bush Stonecurlew) - Priority 4;
- \* *Liasis olivaceus barroni* (Pilbara Olive Python) - Vulnerable; and

The Little North-western Mastiff Bat and the The Eastern Curlew (a migratory bird) are likely to occur in mangroves mudflats etc. close to the coast (DEWR, 2008). Given the vegetation within the habitat is not representative of mangroves, it is unlikely that the Little North-western Mastiff Bat and Eastern Curlew will require the use of vegetation within the application area.

The Ghost bat is likely to occur in the region, but as there are no known caves or abandoned mines within the application areas, the likelihood of them roosting within the proposed clearing area is very low (AMO, 2007).

Peregrine Falcon is known to predominately live and nest on cliffs (Peregrine Falcon, 2008) and the Bush Stonecurlew's most threatening process is degradation of habitat (Bush Stonecurlew, 2008). Given the area is of low topography (10-20 AHD) with no cliffs and the application area is already 90% degraded it is unlikely that both species would rely on the area for food and habitat.

Pilbara Olive Python prefers deep gorges and water holes, none of which are within the application area (Olive Python, 2008).

The fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna. Given, the degraded condition of the majority of the application area, it is unlikely to be necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

**Methodology** AMO, 2008  
Bush Stonecurlew, 2008  
DEWR, 2008  
Ecologia, 2004  
Olive Python, 2008  
Peregrine Falcon, 2008  
GIS Layer:  
- Sac Bio datasets 290108  
- Topography

**(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 are five known records of priority flora located within a 20km radius of, and within the same vegetation and soil type (Northcote et al., 1960) as the application area. They are:

- \* *Terminalia supranitifolia* - Priority 3

- \* *Gymnanthera cunninghamii* - Priority 3
- \* *Stackhousia clementii* - Priority 1
- \* *Drummondita ericoides* - DRF
- \* *Acacia glaucocaesia* - Priority 3

A flora survey conducted by Biota (2002) was completed in October/November 2007. The best time to conduct a flora survey is after the summer rains when most of the areas annual rainfall occurs (EPA, 2004). This may reflect in no growth or poor growth of flora that usually would be present.

*T. supranitifolia* populations were recorded on rocky outcrops adjacent to the application area (Biota, 2002). *T. supranitifolia* are found on sand amongst basalt rocks (WA Herbarium, 2008). Vegetation mapping of the application area shows rocky outcrops adjacent to the area but not within. *G. cunninghamii*, *D. ericoides* and *S. clementii* are known to be found on or near rocky outcrops also (WA Herbarium, 2008).

*Acacia glaucocaesia* prefer Red loam, sandy loam and clay soils and are know to found on flood plains (Herbarium, 2008).

Given that the majority of the vegetation is of a degraded condition, it is unlikely that the application area is necessary for the continued existence of rare flora.

**Methodology** EPA (2004)  
Herbarium (2007)  
Northcote et al., (1960)  
GIS Layer:  
- Sac Bio Datasets 290108

**(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 records of threatened ecological communities within a 20km radius of the application area. However, two vegetation types (Trudgen, 2002) adjacent to the application area are considered to have high conservation significance as follows:

\* Rockpile/ Rocky Outcrop Vegetation - *Alectryon oleifolius* subsp. *oleifolius*, *Brachychiton acuminatus*, *Ficus brachypoda* (various types), *Rhagodia eremaea*, *Scaevola spinescens* (broad form) open shrubland covering 1.3 ha; comprising Priority 1 Flora (*Terminalia supranitifolia*) and considered that substantial representation elsewhere on the Burrup is unlikely;

\* Rockpile/ Rocky Outcrop Vegetation - *Brachychiton acuminatus*, *Erythrina vespertilio* scattered shrubs to open shrubland over *Triodia epactia* (Burrup fomr) open hummock grassland covering 0.1ha; supports Priority 1 Flora (*Terminalia supranitifolia*) and is the only known location on the Burrup.

Given that the majority of the vegetation is of a degraded condition and does not consist of the above vegetation types, it is unlikely that the application is at variance to this principle.

**Methodology** Trudgen (2002)  
GIS Layer:  
- Sac Bio datasets 290108

**(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**

Pre-European	Current extent (ha)	Remaining (ha)	% Extent in IUCN (%)	1 - 4
IBRA Bioregions**				
Pilbara	17,804,193	17,794,650	99.9	6.3
Subbioregion				
Roebourne 1,844,158	1,834,869	99.5	3.1	
Shire*				
Roebourne 1,513,581	1,501,974	99.2	0.2	
Beard Vegetation Complex**				
117	919,161	886,203	96.4	13.1

\* (Shepherd et al. 2006)  
\*\* (Shepherd et al. 2001)

Approximately 99.9% and 99.5% of the Pre-European vegetation remains in the IBRA Pilbara bioregion and Roebourne IBRA sub-region respectively, within which this proposal is located (Shepherd et al., 2001).

The vegetation applied to be cleared is part of Beard Vegetation association 117, which has approximately 96.4% of the Pre-European extent remaining and therefore the 47.4 ha area proposed to be cleared is not considered to be a significant remnant of native vegetation within an extensively cleared area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Shepherd et al. 2006  
Shepherd et al. 2001  
GIS Layer:  
- Interim Biogeographical Regional Area  
- Interim Biogeographical Regional Area - subregion  
- Pre-European Vegetation

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

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

The application area receives a lot of surface runoff from the rocky outcrop to the north west. The outcrop reaches heights of 90m AHD approximately 600m from the application area. There are numerous drainage lines and watercourses cutting through the site from the outcrop, draining into Hearson Cove 900m south east of the application area.

All drainage lines and watercourses within the application area are ephemeral (only have water in them for a few days after rain).

Given the above, clearing within the application area may be likely to impact on drainage lines or watercourses. Though as the majority of the vegetation is of a degraded condition, the impact would be low.

**Methodology** GIS Layers:  
- Topography  
- Hydrography, linear\_3 (Hyd\_Type)  
- Hydrography, linear (medium scale, 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**

Topography of the proposed clearing area is of low relief (10-20 AHD), situated on rocks with low permeability. The rocky outcrop to the north west which reaches heights of 90m AHD, contributes to surface water runoff into the application area after heavy rains. Given that the rainfall and evapotranspiration rates for the local area (20km radius) are both 300mm, there is a low risk of waterlogging through rainfall within the proposed clearing area.

Given that the majority of the vegetation is of a degraded condition, it is unlikely that the clearing of native vegetation within the application area will cause appreciated land degradation.

**Methodology** GIS Layers:  
- Rainfall - mean annual  
- Evapotranspiration - Area Actual  
- Hydrogeology, statewide  
- Topography

**(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**

There are four conservation areas within 20km radius of the application area. They consist of:

- \* Burrup Peninsula - North Area - 8km north east
- \* Dampier Archipelago - 7.2km
- \* Dampier Art Site - 10.8km south west

\* Dampier Climbing Men Area - 1.5km north

Given the proximity of the conservation reserve to the applications area, it is unlikely that the clearing of 47.4ha of native vegetation will have an impact on the environmental values of any nature conservation areas.

**Methodology** GIS Layer:  
- Register of National Estate

**(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 topography of the application area is of low relief it is unlikely that sediment will build up in any surrounding watercourses.

Clearing of 47.4 hectares of vegetation is unlikely to have a significant impact on groundwater in the proposed area given the average annual rainfall of the site is 300mm, with most rainfall occurring over the summer months (BoM, 2008), and an evapotranspiration rate of 300mm per annum. Groundwater salinity is 1000-3000mg/L which is brackish.

**Methodology** BoM (2008)  
SKM (2007)  
GIS Layer:  
- Rainfall - mean annual  
- Groundwater salinity  
- Evapotranspiration rate  
- RIWI Groundwater

**(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 limited amount of clearing proposed (47.4 hectares) in comparison with the extent of the Port Hedland coastal catchment area (which is approximately 744,300 hectares) is unlikely to result in an increase in peak flood height or flood peak duration.

Clearing of 47.4ha is unlikely to have a significant impact on quality or quantity of groundwater given the mean annual rainfall for the site is 300mm with most rainfall occurring around the summer months, and an evapotranspiration rate of 300mm per annum (BoM, 2008).

Given the above, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

**Methodology** BoM (2008)  
GIS Layers:  
Rainfall - mean annual  
Evapotranspiration rate - Actual area

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

**Comments**

The area applied to be cleared does not occur within a Public Drinking Water Source Area under the Country Areas Water Supply Act 1947. The proposed area does however, lie within The Pilbara Groundwater Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

The proposed area lies within The Pilbara Groundwater Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water. Woodside do not require the use of groundwater or surface water.

Woodside received planning and development approval and approval to clear on Shire land (Lot 3000) from the Shire of Roebourne.

Woodside have received from the DPI an extension of the Lease on Western Australian crown land (Lot 3019) to 2010.

A submission was received from Yamatji Land and Sea Council stating that the grant and use of the permit to clear...will destroy ...dreaming and/or archaeological Aboriginal sites and areas of environmental significance.

The assessment of the application did not raise any environmental issues. Aboriginal heritage sites are protected under the Aboriginal Heritage Act 1972 and the proponent must comply with its obligations under this Act. There are two Native Title claims over the area under application. DEC considers that Traditional Owners have a direct interest in the subject matter of the application and accordingly has invited the native title claimants under section 51E(4) to comment on the application and by section 51E(5) to take those comments into account when deciding whether to grant or refuse Woodside's purpose permit.

**Methodology** GIS Layers:  
 - Native Title  
 - RIWI Act - Groundwater

#### 4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Industrial	Mechanical Removal	47.4	Laydown to support project. The application may be at variance to principle (f) and not likely to be at variance to any of the principles.

#### 5. References

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BoM 2008. Bureau of Meteorology - Rainfall of Karratha 2007. Sited on 1/1/2008 at <http://www.bom.gov.au/climate/dwo/IDCJDW6064.latest.shtml>

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Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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WA Herbarium (2008). Department of Environment and Conservation. 2007. Sited on 17/01/07 at <http://florabase.dec.wa.gov.au/>

#### 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)