



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3646/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Origin Energy Development Pty Ltd

### 1.3. Property details

Property: Production Licence 11  
Local Government Area: Irwin  
Colloquial name: Wolf 1 Appraisal Well

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7.54		Mechanical Removal	Petroleum Production

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

##### Vegetation Description

The vegetation of the application area is broadly mapped as Beard vegetation association 378: shrublands; scrub-heath with scattered *Banksia spp.*, *Eucalyptus tottiana* & *Xylomelum angustifolium* on deep sandy flats in the Geraldton Sandplain region (GIS Database).

Mattiske Consulting (2010) describe the vegetation of the application area as:

Floristic Community Type (FCT) 4a: Species rich Woodland and Heaths on grey sand in the eastern portion of the Eneabba sandplain.

##### Clearing Description

Origin Energy Developments Pty Ltd (Origin Energy) proposes to clear up to 7.54 hectares of native vegetation on Petroleum Production Licence 11. Origin Energy proposes to construct access tracks and a drill pad for a gas appraisal well.

Clearing is proposed to be conducted mechanically with a lowered blade, however a raised blade will be used where possible (Origin Energy, 2010)

##### Vegetation Condition

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);

to

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

##### Comment

The vegetation condition of the application area has been derived from the vegetation descriptions provided by Mattiske Consulting (2010), and aerial photography viewed by the assessing officer.

## 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 application area is situated approximately 30 kilometres south-east of Port Denison, within the Lesueur Sandplains subregion of the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The subregion exhibits extremely high floristic endemism, with over 250 species of flora endemic to the subregion (Department of Conservation and Land Management, 2002).

The vegetation of the application area has been described as Floristic Community Type (FCT) 4a: species rich Woodland and Heaths on grey sand in the eastern portion of the Eneabba sandplain (Mattiske Consulting, 2010). By reason of its description the vegetation does contain a high level of floristic biodiversity. This FCT is relatively common in the local area, with 10,480 hectares being mapped to date (Mattiske Consulting, 2010).

Based on the above, the proposed clearing may be at variance to this Principle.

Approximately one Declared Rare Flora species and 25 priority flora species have been recorded growing in association with the mapped extent of FCT 4a, however, there are no records of such listed species within the application area (Mattiske Consulting, 2010). Additionally, a targeted search for rare flora species in the application area did not find any occurrences of conservation significant flora (Mattiske Consulting, 2010).

The fauna diversity of the application area is likely to be similar to much of the land surrounding the application area. This postulation has been based on the lack of any specific landform or biological feature within the application area that would encourage fauna diversity such as caves, watercourses, wetlands, hills, ridges or

changes in vegetation formation and type (GIS Database; Mattiske Consulting, 2010).

Although the application area occurs within an area noted for its high floristic diversity, information provided by Mattiske Consulting (2010) indicates that the application area itself does not appear to support higher floristic diversity than surrounding areas. Similar numbers of vascular flora species and similar floristic community structures have been recorded in surveys conducted in the local area (Mattiske Consulting, 2010).

To assist the environment in recovering biodiversity lost as a result of the proposed clearing, it is recommended that should a permit be granted conditions be placed on the permit for the purposes of weed control and rehabilitation.

**Methodology** Department of Conservation and Land Management (2002)  
Origin Energy (2009)  
Mattiske (2010)  
GIS Database:  
- IBRA WA (Regions Sub-regions)  
- Mingenew 1.4m Orthomosaic 2001

**(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**

A search of the Department of Environment, Water, Heritage, and the Arts (DEWHA) (2010) Protected Matters Database and the Department of Environment and Conservation's Naturemap Database revealed one Threatened species and four migratory species which may occur within the application area. These were:

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) (Endangered – *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999)*);
- Cattle Egret (*Ardea ibis*) (Migratory – *EPBC Act 1999*);
- Fork-tailed Swift (*Apus pacificus*) (Migratory – *EPBC Act 1999*);
- Great Egret (*Ardea alba*) (Migratory – *EPBC Act 1999*);
- Rainbow Bee-eater (*Merops ornatus*) (Migratory – *EPBC Act 1999*).

Upon viewing aerial imagery of the application area it is evident that there is a high level of similar intact vegetation in the vicinity (GIS Database). Given the relatively small size (7.54 hectares) of the proposed clearing, it is unlikely the vegetation represents a significant habitat for fauna indigenous to Western Australia.

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

**Methodology** DEWHA (2010)  
GIS Database:  
- Mingenew 1.4m Orthomosaic 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**

Mattiske Consulting (2010) conducted a Declared Rare and Priority Flora survey over the application area. This consisted of reviewing literature completed by Woodman Environmental Consultants and publically available databases such as Florabase and Naturemap. Reconnaissance work was undertaken on 12 and 13 January 2010 by four botanists (Mattiske Consulting, 2010).

The vegetation of the application area has been described as Floristic Community Type (FCT) 4a: species rich Woodland and Heaths on grey sand in the eastern portion of the Eneabba sandplain (Woodman Environmental Consulting, 2009). One Declared Rare Flora species has been recorded as growing in association with this vegetation type: *Paracaleana dixonii* (Woodman Environmental Consulting, 2009). This species is listed as Schedule 1 – Extant taxa *Wildlife Conservation (Rare Flora) Notice 2010* and as endangered under the *Environment Protection and Biodiversity Conservation Act 1999*.

*Paracaleana dixonii* flowers in the summer months from December to February (DEWHA, 2009), therefore the flora survey was undertaken within an ideal time to record this species. No Declared Rare Flora (DRF) or Priority Flora species were recorded in the application area (Mattiske Consulting, 2010).

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

**Methodology** DEWHA (2009)  
Mattiske Consulting (2010)  
Woodman Environmental Consulting (2009)

**(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 Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest registered TEC's occur approximately 25 kilometres east of the application area (GIS Database). It is unlikely these communities will be impacted by this proposal.

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

**Methodology** GIS Database:  
- Threatened Ecological Sites

**(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 application area is located within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). According to Shepherd (2007) there is approximately 42.8% of the pre-European vegetation remaining in the Geraldton Sandplains bioregion which places it as 'depleted' according to the 'Biological Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002).

The application area falls within the Shire of Irwin. The Shire of Irwin is within the Intensive Land Use Zone of the south-west of Western Australia which has been extensively cleared for agriculture. Consequently, 48.2% of its pre-European vegetation extent remains within the shire (Shepherd, 2007). This places the Shire at 'Depleted' according to the Bioregional Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002).

One Beard Vegetation Association was located within the application area; 378 (GIS Database). Shepherd (2007) report that approximately 63.7% of this pre-European vegetation association still exists in this bioregion. This vegetation type is represented in International Union for Conservation of Nature (IUCN) Class I-IV Reserves within both the bioregion, and subregion (refer to table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA bioregion – Geraldton Sandplains	3,136,024	1,341,266	~42.8	Depleted	15.3
IBRA subregion – Lesueur Sandplains	1,171,777	495,451	~42.3	Depleted	17.8
Local Government – Irwin	236,969	114,176	~48.2	Depleted	N/A
<b>Beard veg assoc. – State</b>					
378	95,109	60,550	~63.7	Least concern	13.3 (20.9)
<b>Beard Veg Assoc. – bioregion</b>					
378	95,109	60,550	~63.7	Least concern	13.3 (20.9)
<b>Beard Veg Assoc. – subregion</b>					
378	90,923	60,370	~66.4	Least concern	13.9 (21)

\* Shepherd (2007)

\*\* Department of Natural Resources and Environment (2002)

The proposed clearing of 7.54 hectares is unlikely to significantly reduce the extent of Beard vegetation association 378 below current threshold levels. Therefore, the vegetation within the application area is not likely to be a significant remnant in an area that has been extensively cleared.

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

**Methodology** Department of Natural Resources and Environment (2002)  
Shepherd (2007)  
GIS Database:  
- IBRA WA (Regions-Sub-regions)  
- 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 is not at variance to this Principle**

There are no watercourses or wetlands within the application area (GIS database).

The vegetation of the application area, as described by Mattiske Consulting (2010), is not classed as riparian vegetation.

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

**Methodology** Mattiske Consulting (2010)  
GIS database:  
- Hydrography, linear

**(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 application area is unlikely to cause appreciable land degradation for the following reasons:

- The application area is relatively small totalling approximately 7.54 hectares, consisting of linear access tracks and drill pad (Origin Energy, 2010).
- There are no watercourses in the vicinity of the application area, reducing the chances of water erosion (GIS Database).
- There are no sand dunes in the vicinity of the application area, reducing the chances of wind erosion (Origin Energy, 2010).
- There will be limited excavation, resulting in little disturbance to the soil structure.
- The application area will be rehabilitated upon completion of drilling activities.

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

**Methodology** Origin Energy (2010)  
GIS database:  
- Hydrography, linear

**(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 Yordanogo Nature Reserve and an un-named nature reserve occur approximately six kilometres west and south of the application area respectively (GIS Database). There is a very high level of vegetation cover surrounding the application area (GIS Database). Given this, the removal of approximately 7.54 hectares of native vegetation is unlikely to impact any ecological corridors into the two nature reserves. Therefore there is unlikely to be an impact on the environmental values of these nature reserves.

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

**Methodology** GIS Database:  
- DEC Tenure  
- Mingenew 1.4m Orthomosaic

**(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 application area is not within a Public Drinking Water Source Area (GIS Database) and therefore will not cause an incremental deterioration in the quality of water in any such areas.

There are no watercourses or water bodies within, or in close proximity to the application area (GIS Database). Therefore, it is unlikely the clearing of native vegetation associated with this proposal will cause a deterioration in surface water quality.

Due to the small size of the proposed clearing (7.54 hecatres), it is unlikely the clearing associated with this proposal will cause a deterioration in ground water quality.

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

**Methodology** GIS databases:  
- Hydrography, linear  
- Public Drinking Water Source Areas

**(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**

Given the small size (7.54 hectares) of the proposed clearing it is unlikely to cause an incremental rise in the frequency or duration of flooding. In addition, the application area has a slight relief with no bodies of water, or watercourses in close proximity (GIS Database).

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

**Methodology** GIS databases:  
- Hydrography, linear  
- Topographic Contours, Statewide

**Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.**

**Comments**

The clearing permit application was advertised on 22 March 2010 by the Department of Mines and Petroleum, inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the application area; WC04/002. This claim has been registered with the Native Title Tribunal on behalf of the claimant group (GIS Database). However, the petroleum title has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act, 1993*.

There are no known Aboriginal Sites of Significance located within the clearing permit application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

**Methodology** GIS Database:  
-Aboriginal Sites of Significance  
-Native Title Claims

**Officer** Chris HEARY

#### 4. Assessor's comments

**Comment**

The proposal has been assessed against the Clearing Principles, and the proposed clearing may be at variance to Principle (a) and is not likely to be at variance to Principles (b), (c), (d), (e), (g), (h), (i) and (j) and is not at variance to Principle (f).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of weed management, rehabilitation, record keeping and permit reporting.

#### 5. References

- Department of Conservation and Land Management (2002). Geraldton Sandplains 3 (GS3 - Lesueur Sandplain Subregion) in A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Report published by CALM, Perth, Western Australia.
- 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.

- DEWHA (2009). Approved Conservation Advice for *Paracaleana dixonii* Hopper & A.P.Br. nom.inval (Sandplain Duck Orchid). Advice issued on 16/12/2008 and accessed on 8/12/2009.
- DEWHA (2010). Protected Matters Search Tool. Coordinates 115-10-45 E, 29-26-02 S, within a 10 kilometre radius. Search conducted on 13/4/2010.
- Keighery, B.J. (1994). Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Origin Energy (2009). Environmental Management Plan 2010 Drilling Program.
- Mattiske Consulting (2010). DRF and Priority Flora Search of Redback North1, Redback 2, Wolf 1 and Dugite 1 Explorartion Areas. Unpublished report prepared for Origin Energy Limited
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Woodman Environmental Consulting (2009). Flora and Vegetation Studies, Regional FCT Analysis. Unpublished report for Tiwest Joint Venture.

## 6. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government.
<b>CALM</b>	Department of Conservation and Land Management, Western Australia.
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia.
<b>DA</b>	Department of Agriculture, Western Australia.
<b>DEC</b>	Department of Environment and Conservation
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DoE), Western Australia.
<b>DIA</b>	Department of Indigenous Affairs
<b>DLI</b>	Department of Land Information, Western Australia.
<b>DMP</b>	Department of Mines and Petroleum, Western Australia.
<b>DoE</b>	Department of Environment, Western Australia.
<b>DoIR</b>	Department of Industry and Resources, Western Australia.
<b>DOLA</b>	Department of Land Administration, Western Australia.
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environment Protection Act 1986, Western Australia.
<b>EPBC Act</b>	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
<b>GIS</b>	Geographical Information System.
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia.
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>RIWI</b>	Rights in Water and Irrigation Act 1914, Western Australia.
<b>s.17</b>	Section 17 of the Environment Protection Act 1986, Western Australia.
<b>TECs</b>	Threatened Ecological Communities.

### Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

<b>P1</b>	<b>Priority One - Poorly Known taxa:</b> taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
<b>P2</b>	<b>Priority Two - Poorly Known taxa:</b> taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
<b>P3</b>	<b>Priority Three - Poorly Known taxa:</b> taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
<b>P4</b>	<b>Priority Four – Rare taxa:</b> taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
<b>R</b>	<b>Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):</b> taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
<b>X</b>	<b>Declared Rare Flora - Presumed Extinct taxa:</b> taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been

destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-**

- Schedule 1**    **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2**    **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3**    **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4**    **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

**{CALM (2005). Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia} :-**

- P1**            **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2**            **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3**            **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4**            **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5**            **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)**

- EX**            **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)**        **Extinct in the wild:** A native species which:  
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR**            **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN**            **Endangered:** A native species which:  
(a) is not critically endangered; and  
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU**            **Vulnerable:** A native species which:  
(a) is not critically endangered or endangered; and  
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD**            **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.