



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3616/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Perangery Pastoral Co

1.3. Property details

Property: Mining Lease 70/1126
Local Government Area: Shire of Perenjori
Colloquial name: Gypsum Mine

1.4. Application

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

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
<p>Beard Vegetation Associations have been mapped at a 1:250,000 scale for the whole of Western Australia and are useful to look at vegetation extent in a regional context. Two Beard Vegetation Associations are located within the proposed clearing area (GIS Database):</p> <ul style="list-style-type: none"> - Beard Vegetation Association 352: Medium woodland; York gum; and - Beard Vegetation Association 631: Succulent steppe with woodland and thicket; York gum over <i>Melaleuca thyoides</i> & samphire. <p>It should be noted that the application area is composed entirely of samphire open shrubland associated with salt lakes (Fordyce, 2009). Neither of the vegetation associations listed above are found within the application area; this was confirmed by the assessing officer during a site visit on the 25 February 2010. Although samphire is part of the Beard Vegetation Association 631, the other components of the vegetation association such as York gum and <i>Melaleuca thyoides</i> are not located within the application area.</p> <p>A flora and vegetation survey was undertaken by Dr Ian Fordyce in October 2009, the results showed that the vegetation of the salt lake is composed of samphire species. There were two vegetation communities recorded on the lake, these include:</p> <ul style="list-style-type: none"> -Blue Greyish Samphire: open samphire shrubland (20-30 centimetres tall) composed of subspecies of <i>Tecticornia halocnemoides</i>, (<i>Tecticornia halocnemoides</i> subsp. <i>catenulata</i>), cover varies from 1-10%, it has recently been recognised as a species in its own right, (<i>Tecticornia loriae</i>). -Bright Green Samphire: composed of <i>Tecticornia halocnemoides</i>, which is slightly taller (30-50 centimetres) and higher cover (20-40%). Other plants in this zone in places include rosette grass, <i>Eragrostis dieslii</i>, and the succulent bluebush, <i>Maireana amoena</i> as well as the cannonball saltbush (<i>Atriplex holocarpa</i>) and the yellow flowered daisy (possibly a species of <i>Cotula</i>). 	<p>Perangery Pastoral Company has applied to clear seven hectares of native vegetation for the implementation of a gypsum mine which is located on a salt lake within the Yarra Yarra lake system.</p> <p>Clearing will be undertaken by the use of an excavator which will remove samphire/chenopod species and then mine up to 700 millimetres of gypsum. The top 150 millimetres of topsoil will be retained for rehabilitation purposes.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>The application area is located approximately 17 kilometres to the north-west of Perenjori (GIS Database).</p> <p>The vegetation condition was based on results from the flora and vegetation survey undertaken by Fordyce (2009), and confirmed by the assessing officer during a site visit on the 25 February 2010.</p>

(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 no known occurrences of Declared Rare Flora in the application area (GIS Database).

A flora and vegetation survey of the application area was undertaken by Dr Ian Fordyce in October 2009. The survey included an initial desktop study to search for any listed flora and ecological communities of the local area, and a reconnaissance survey to determine if significant habitat for these species is found within the application area (Fordyce, 2009).

The only conservation significant flora species previously reported in saline environments and considered a potential to occur in the application area was *Gunniopsis rubra* (Priority 3) (Fordyce, 2009). During the reconnaissance survey there were no DRF or Priority flora recorded within the application area (Fordyce, 2009).

There was one Priority flora species recorded on Mining Lease 70/1126 named *Ptilotus halophilus* (Priority 4) (Fordyce, 2009). However, this specimen was recorded outside of the application area on the southern boundary of this tenement at the edge of fringing York gum woodland (Fordyce, 2009). It is unlikely there will be any significant impacts to this specimen as it lies well outside of the application area.

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

Methodology Fordyce (2009).

GIS Database:

Declared Rare and Priority Flora List

(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) in the application area (GIS Database; Fordyce, 2009). However, the application area lies within the buffer zone of a TEC named 'Plant assemblages of the Koolanooka System' (GIS Database). This TEC is found approximately seven kilometres to the north-west of the application area and appears to be associated with ridge line type habitats (GIS Database). The proposed clearing is located on a salt lake where samphire vegetation occurs away from ridgeline type habitats. Given the distance between the application area and the TEC (seven kilometres), it is unlikely there will be any significant impacts to the TEC from the proposed clearing.

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

Methodology Fordyce (2009).

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 may be at variance to this Principle

The application area falls within the Avon Interim Biogeographic Regionalisation of Australia (IBRA) bioregion within which approximately 15.17% of the Pre-European vegetation remains (see table overleaf) (GIS Database; Shepherd, 2007).

The vegetation of the application area has been mapped as:

-Beard Vegetation Association 352: Medium woodland; York gum; and

-Beard Vegetation Association 631: Succulent steppe with woodland and thicket; York gum over *Melaleuca thyooides* & samphire.

Vegetation of the application area is composed entirely of samphire open shrubland associated with salt lakes, approximately 20-30cm tall (Fordyce, 2009). Neither of the vegetation associations listed above, are entirely found within the application area; which was confirmed by the assessing officer during a site visit on the 25 February 2010. Although samphire is part of the Beard Vegetation Association 631, the other components of the vegetation association such as York gum and *Melaleuca thyooides* are not located within the application area.

According to Fordyce (2009), the salt lake in which the application area lies is one of several thousand along the Yarra Yarra salt lake system. The vegetation of the salt lake is largely composed of *Tecticornia loriae*, with scattered individuals and clusters of cannonball saltbush (*Atriplex holocarpa*), pockets of *Tecticornia halocnemoides* and *Rosette Grass (Eragrostis dielsii)*, whilst the succulent bluebush *Maireana amoena* also occurs within this area (Fordyce, 2009). According to the Western Australian Herbarium (2010) all of the flora

(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 application area is not located within a conservation reserve (GIS Database). The application area is located approximately 2.3 kilometres south of the former Lochada pastoral lease (GIS Database). Based on this distance, and the small amount of clearing proposed (seven hectares), it is unlikely the environmental values of Lochada pastoral lease will be compromised from the proposed clearing.

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

Methodology GIS Database:
- 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 application area is not located within any Public Drinking Water Source Areas (GIS Database).

The area proposed to be cleared is located on a salt lake within the Yarra Yarra salt lake system (Fordyce, 2009; GIS Database). This lake has a shallow water table and contains water that is highly saline and of poor quality (Perangery Pastoral Company, 2010). Groundwater salinities of the area are in excess of 35,000mg/L of Total Dissolved Solids (GIS Database). It is unlikely that the removal of seven hectares of samphire vegetation will significantly decrease the quality of the already hypersaline underground water.

Potential impacts upon surface water quality within the application area are anticipated to be minimal. The proponent has committed to undertake progressive clearing during the life of the project; where up to one hectare will be required per year (Perangery Pastoral Company, 2010). Additionally, progressive rehabilitation will be undertaken during the life of the project. This will minimise areas open to erosional forces at any one time.

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

Methodology Fordyce (2009).
Perangery Pastoral Company (2010).
GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear (medium scale)
- Public Drinking Water Source Areas (PDWSAs)

(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 climate of the region is described as a Mediterranean-type climate, characterised by hot, dry summers and mild, wet winters (Bureau of Meteorology (BoM), 2010). The average annual rainfall is 400 millimetres, with rains occurring in winter from cold fronts from the west, whilst in summer thunderstorms can produce heavy localised falls in short periods (BoM, 2010). Based on an average annual evaporation rate of 2,600 millimetres (GIS Database), any surface water resulting from rainfall events is likely to be relatively short lived.

The proposed clearing of seven hectares of samphire vegetation within a salt lake is unlikely to result in an increase in surface water runoff; nor is it likely to increase the incidence or intensity of flooding.

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

Methodology BoM (2010).
GIS Database:
- Evapotranspiration, Point Potential

DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DMP	Department of Mines and Petroleum, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	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} :-

- P1** **Priority One - Poorly Known taxa:** 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.
- P2** **Priority Two - Poorly Known taxa:** 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.
- P3** **Priority Three - Poorly Known taxa:** 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.
- P4** **Priority Four – Rare taxa:** 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.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** 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.
- X** **Declared Rare Flora - Presumed Extinct taxa:** 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