



## 1. Application details

### 1.1. Permit application details

Permit application No.: 912/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Ms Helen Baker Black Swan Nickel Pty Ltd

### 1.3. Property details

Property: M27/200  
M27/214  
Local Government Area: City Of Kalgoorlie/Boulder  
Colloquial name:

### 1.4. Application

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

## 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 20: Low woodland; Mulga mixed with <i>Allocasuarina cristata</i> and <i>Eucalyptus</i> species.  (Hopkins et al. 2001; Shepherd et al. 2001)	The proposal is for the clearing of 55 hectares of native vegetation for the expansion of the Black Swan Nickel waste rock dump. A flora survey of the area proposed to be cleared was conducted by Onshore Environmental, during which no Declared Rare or Priority flora species were recorded (Onshore Environmental, 2006).  Vegetation across the survey area was described as a single vegetation complex; Open low woodland (Onshore Environmental, 2006). This comprised of <i>Eucalyptus oleosa</i> over a scrub understorey of <i>Acacia aneura</i> , <i>A. acuminata</i> , <i>Senna artemisioides</i> ssp. <i>filifolia</i> , <i>S. stricta</i> , <i>Eremophila metallicorum</i> and <i>Prostanthera althoferi</i> ssp. <i>althoferi</i> .	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The proposed area for clearing is located to the east of the existing waste rock dump. There is a small amount of undisturbed habitat located in the south-western corner of the proposed waste dump expansion area, however, the majority of the site is disturbed and fragmented by vehicle tracks, exploration drill sites and historical logging and grazing activities (ATA Environmental, 2006). Photographs of the area proposed to be cleared further indicate that the vegetation has been disturbed as a result of the above mentioned factors.

## 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 area proposed to be cleared is largely comprised of a Mulga woodland, a dominant vegetation association within the Murchison region (Shepherd, 2001; Cowan, 2001).

ATA Environmental conducted a fauna assessment of the areas proposed to be cleared on the 6<sup>th</sup> and 10<sup>th</sup> January 2006 (ATA Environmental 2006). ATA Environmental state in their report that from a fauna perspective, the surrounding habitats outside of the area proposed to be cleared are similar to that found within the area under application. A small section of relatively undisturbed habitat can be found in the south-western corner of the area proposed to be cleared, however, the majority of the site has been disturbed and fragmented by vehicle tracks, exploration drill sites and historical logging activities (ATA Environmental, 2006). Aerial and various other photographs submitted in support of the application also show the vegetation to be largely disturbed as a result of the above mentioned activities.

No Declared Rare or Priority flora species are known to occur within the area under application (GIS Database), and none were recorded during the recent flora survey conducted in February 2006 across the waste rock dump expansion area (Onshore Environmental, 2006).

No species listed under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, or the *Wildlife Conservation Act 1950* are likely to be significantly impacted by the proposed clearing of this land (ATA Environmental, 2006). Furthermore, the faunal assemblage that is currently present on the site, and which will be impacted on during clearing, is unlikely to differ from that found in similar habitat located elsewhere in the bioregion.

It is unlikely that the biodiversity at the site of this proposal would be considered outstanding, or of a higher diversity than in the Murchison bioregion, the City of Kalgoorlie/Boulder or the local area. CALM (2006) advise that the proposal is unlikely to have an impact on any significant environmental values, and on this basis is unlikely to be at variance to this principle.

**Methodology** CALM (2006).  
ATA Environmental (2006).  
Onshore Environmental (2006).  
Cowan (2001).  
Shepherd (2001).  
GIS Databases:  
- Pre-European Vegetation - DA 01/01.  
- Declared Rare and Priority Flora List - CALM 01/07/05.

**(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 fauna assessment of the area proposed to be cleared was conducted by ATA Environmental on the 6<sup>th</sup> and 10<sup>th</sup> January 2006. A search of the Western Australian Museum's online database (FaunaBase), CALM's Threatened and Priority fauna database and the Commonwealth Department of Environment and Heritage's *EPBC Act 1999* online database was conducted prior to a reconnaissance survey and grid search of the area under application.

A number of species of conservation significance are listed as potentially being found within the study site, however, no species listed under the *EPBC Act 1999* or the *Wildlife Conservation Act 1950* are likely to be significantly impacted upon by the proposed clearing (ATA Environmental, 2006).

The Carnaby's Cockatoo (*Calyptorhynchus latirostris* - Schedule 1), is endemic to the forests, woodlands and wheatbelt of the south-west. During the survey particular attention was paid to potential foraging sites and breeding trees for Carnaby's Cockatoo. No trees were found with suitable hollows that could be used for breeding. As they do not normally come this far north-east of their normal distribution in the south-west of the state, it is therefore highly unlikely that they would be seen in the area (ATA Environmental, 2006).

The Red-tailed Phascogale (*Phascogale calura*- Schedule 1), has not been caught in the general area and was not recorded in the search of FaunaBase for this area. It is unlikely that this species will be in the vicinity of the area proposed to be cleared (ATA Environmental, 2006).

The Chuditch (*Dasyurus geoffroyi* - Schedule 1), has a patchy distribution throughout the Jarrah forest and mixed Karri/Marri/Jarrah forest of south-west WA and other isolated areas. CALM records show that one specimen was recorded in 1974 in Kambalda East, therefore it is possible that this species is in the general region. However, there are no records of them in the goldfields east of Kalgoorlie and it is therefore highly unlikely that they would be found on this site (ATA Environmental, 2006).

The Slender-billed Thornbill (*Acanthiza iredalei iredalei*), listed as a Vulnerable species under the *EPBC Act 1999*, has a preference for chenopod shrubland in close association with samphire flats. The preferred habitat for this species is very different to that found on the site and the proposed clearing is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Malleefowl (*Leipoa ocellata* - Schedule 1), builds distinctive nests that comprise a large mound of soil/rock covering a central core of leaf litter. ATA Environmental found no Malleefowl mounds in the general area and the open woodland with limited understorey is not the preferred habitat for Malleefowl. As a result, clearing is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Numbat (*Myrmecobius fasciatus* - Schedule 1), was formally widespread across southern semi-arid and arid Australia. It is now only present at Dryandra and the Perup/Kingston area east of Manjimup. A single individual was noted to the south of Kalgoorlie in 1961 and there have been some recent unconfirmed sightings between Hyden and Norseman, however, they have not been seen north of Kalgoorlie for many years.

It is unlikely that the species will be in the vicinity of the area proposed to be cleared (ATA Environmental, 2006).

The Great Egret, White Egret (*Ardea alba*), listed as a Migratory species under the EPBC Act 1999, prefers shallow freshwater and salt water lakes and waterways, and the adjacent samphire flats, and is rarely seen in dry pastures. It is unlikely that this species will be seen in the vicinity of the area proposed to be cleared (ATA Environmental, 2006).

The Fork-tailed Swift (*Apus pacificus*), listed as a Migratory species under the EPBC Act 1999, may be an occasional visitor to the area although it has not been recorded in previous surveys. Given that the proposed land clearing represents a very small fraction of similar habitat in the general area, it is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Rainbow Bee-eater (*Merops ornatus*), listed as a Migratory species under the EPBC Act 1999 and widespread. Given that the proposed land clearing represents a very small fraction of similar habitat in the general area, it is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Carpet Python (*Morelia spilota imbricata* - Schedule 4), has been caught in the open woodland areas in the Goldfields and in habitat approximately 20km east of the site. Given that the proposed land clearing represents a very small fraction of similar habitat in the general area, it is highly unlikely to have any significant impact on this species (ATA Environmental, 2006).

*Branchinella denticulata* is listed as Vulnerable on the 2000 IUCN Red List of Species. This crustacean is known from Gidgi Lake north of Kalgoorlie. Given the area to be cleared does not include a salt lake or samphire flats, it is highly unlikely to occur in the vicinity of this site (ATA Environmental, 2006).

*Jalmenus aridus* is a butterfly listed as a Priority 1 species with CALM. CALM reported sightings of this species in the vicinity of Lake Douglas, near Kalgoorlie. It is known from only a single colony, on a single Acacia tree. Subsequent searches having failed to reveal additional colonies. The proposed clearing of this site is unlikely to have a significant impact on this species as it is highly unlikely to be on the study area (ATA Environmental, 2006).

*Ogyris subterrestris petrina*, a butterfly listed as a Priority 1 species with CALM, is known from the Lake Douglas area near Kalgoorlie (Field, 1999 as cited in ATA, 2006). It is highly unlikely to be on the study area (ATA Environmental, 2006).

The Shy Heathwren (*Hylacola cauta whitlocki* - Priority 4) has been recorded by Johnstone and Storr (2004) as locally moderately common or common, but generally scarce or uncommon and patchily distributed. Kalgoorlie is on the north-east boundary of its geographic distribution. Given that the proposed clearing represents a very small fraction of similar habitat in the area, it is unlikely to have any significant impact on this species (ATA Environmental, 2006).

A search of FaunaBase indicated that the Western Rosella (*Platycercus icterotis xanthogenys* - Priority 4), has been recorded in the vicinity of Kalgoorlie. Given that the proposed clearing represents a very small fraction of similar habitat in the area, it is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Australian Bustard (*Ardeotis australia* - Priority 4) lives in wooded grasslands (including spinifex), chenopod flats, low heathland and farmed areas. Although not reported in the survey by McKenzie et al., (1992), local environmental staff working in the mining operations have reported them in the area in recent years. Given that the proposed clearing represents a very small fraction of similar habitat in the general area, it is unlikely to have any significant impact on this species (ATA Environmental, 2006).

The Crested Bellbird (*Oreoica gutturalis gutturalis* - Priority 4), was not recorded during the fauna survey, however, it was sighted in nine habitats during the CALM regional survey (McKenzie, et al., 1992). It is ATA's assessment that the proposed clearing of this site is unlikely to have any significant impact on this species because if it is in the area it will quickly move to adjacent areas, where there are many hectares of similar habitat (ATA Environmental, 2006).

The White-browed Babbler (*Pomatostomus superciliosus ashbyi* - Priority 4), prefers arid and semi-arid areas, on the edges of thickets and scrub, including Mulga, Wattle and Acacia. This species has not been recorded in the area, however, it was sighted in six habitats during the CALM regional survey (McKenzie, et al., 1992). It is ATA's assessment that the proposed clearing of this site is unlikely to have any significant impact on this species because if it is in the area it would quickly move to adjacent areas (ATA Environmental, 2006).

The Hooded Plover (*Charadrius rubricollis* - Priority 4), frequents the margins and shallows of salt lakes, and also along coastal beaches. It is found along the southern coast and salt lakes north to Port Gregory, Three Springs, Mt Gibson, Lake Brown, Lake Barlee, Lake Cowan and Eyre. It is an uncommon to common resident on the southern sea beaches from Cape Naturalist east to Eyre. It is probable that they breed in the samphire habitat along the boundary of some of the salt lakes in the bioregion. The proposed clearing is not in habitat frequented by this species, therefore, the proposed clearing is unlikely to have any significant impact on this

species (ATA Environmental, 2006).

The Thick-billed Grass-wren (*Amytornis textilis textilis* - Priority 4), has not been recorded in the Goldfields since 1910 (Johnstone and Storr, 2004 as cited in ATA, 2006). Given that this species is considered extinct in the Goldfields, it is ATA's assessment that the proposed clearing of this site is highly unlikely to have any significant impact on this species (ATA Environmental, 2006).

ATA Environmental (2006) advise that the area proposed for clearing is replicated many times over in the adjacent areas and contains only a few hectares of undisturbed habitat. This habitat type has been comprehensively surveyed elsewhere in the bioregion and there is nothing in the available data to suggest that the faunal assemblage at this site is likely to be unique, have particular conservation significance or contains fauna habitat that is limited in the area and is therefore significant. It is therefore ATA's assessment that the proposed clearing of this site is unlikely to have any significant affect on species or ecosystems of conservation significance (ATA Environmental, 2006).

CALM (2006) advise that the proposal is unlikely to have an impact on any significant environmental values, and on this basis is unlikely to be at variance to this principle.

**Methodology** CALM (2006).  
ATA Environmental (2006).

**(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**

According to the available CALM datasets, no Priority or Declared Rare Flora (DRF) species are known to occur within the area under application (GIS Database).

A targeted flora survey of the area proposed to be cleared was carried out by Onshore Environmental in February 2006. A search of CALM's Declared Rare and Priority flora database was conducted prior to field survey, to identify rare and priority species that may exist within the project area. The results of the database search revealed that no species of conservation significance had previously been recorded within the search area (Baker pers. comm. 2006).

A total of 48 plant taxa (including varieties and subspecies) from 20 families and 26 genera were recorded from the survey area (Onshore Environmental, 2006). Species representation was greatest among the *Chenopodiaceae* (12), *Myoporaceae* (7) and *Mimosaceae* (6) families, with these three providing over half of the total species richness recorded at the site.

No plant taxa gazetted as Declared Rare Flora pursuant to subsection (2) of section 23F of the *Wildlife Conservation Act* 1950 were recorded within the survey area (Onshore Environmental, 2006). Similarly, no Priority flora were recorded from the survey area.

Based on the above considerations and the fact that the vegetation associations present across the survey area have both extensive local and regional coverage, it is unlikely that the vegetation proposed to be cleared is necessary for the in-situ existence of significant flora species. In addition, CALM (2006) advise that the proposal is unlikely to have an impact on any significant environmental values, and on this basis is unlikely to be at variance to this principle.

**Methodology** CALM (2006).  
Onshore Environmental (2006).  
Helen Baker, Environmental Coordinator, Black Swan Nickel Mine (pers. comm. 31/03/2006).  
GIS Databases:  
- Pre-European Vegetation - DA 01/01.  
- Declared Rare and Priority Flora List - CALM 01/07/05.

**(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 have been no known Threatened Ecological Communities (TECs) identified within the area subject to be cleared (GIS Database). The nearest known TEC is approximately 163 km south-east of the area under application. Furthermore, no known TECs are listed in the Murchison 1 - East Murchison IBRA subregion (Cowan, 2001). CALM (2006) advise that the proposal is unlikely to have an impact on any significant environmental values, and on this basis is unlikely to be at variance to this principle.

**Methodology** CALM (2006).  
Cowan (2001).  
GIS Databases:  
- Threatened Ecological Community Database - CALM 12/4/05.

**(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 State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment, 2002; EPA, 2000).

While the benchmark of 15% representation in conservation reserves (JANIS Forests Criteria, 1997) has not been met for Beard vegetation association 20, approximately 99.6% of the pre-European extent remains for this association and it is therefore of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment, 2002).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% in reserves/CALM-managed land*
IBRA Bioregion - Murchison	28,206,195	28,206,195	~100%	Least concern	
City of Kalgoorlie/Boulder	No information available				
Beard vegetation associations - 20	1,558,296	1,552,012	~99.6%	Least concern	13.1%

\* Shepherd et al. (2001)

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

**Methodology**

Shepherd et al. (2001).  
Hopkins et al. (2001).  
EPA (2000).  
JANIS Forests Criteria (1997).  
Department of Natural Resources and Environment (2002).  
GIS Databases:  
- Pre-European Vegetation - DA 01/01.  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.

**(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 watercourses or wetlands present within the proposed clearing area (GIS Database). Several minor, non-perennial watercourses are situated in close proximity to the area under application, however, these are upslope of the project area and will not be impacted upon by any clearing associated with this proposal. In consideration of the above factors, the proposal is not likely to be at variance to this principle.

**Methodology**

GIS Databases:  
- Hydrography, linear - DOE 01/02/04.  
- Lakes 250K - GA.  
- Topographic Contours, Statewide - DOLA 12/09/02.

**(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**

According to the Department of Agriculture, the area proposed to be cleared is located on the Helag land system which is described as hard pan plains and central drainage tracts with mulga and minor chenopod shrublands (DAWA, 2006). DAWA (2006) advise that the red earth on hard pan soils likely to be encountered on the site, and land down gradient are prone to erode where natural surface flows are altered. Loss of native vegetation down gradient is also likely to occur through water starvation if the sheet flow regime is altered.

Black Swan Nickel (2006) advise that the topography across the site is flat and there are no salt lakes, clay pans, creeks, tributaries or other significant surface hydrological features within a 5 km radius of the project area. Drains are installed around the Black Swan Nickel site to divert surface water flow around the mining activities and redirect this flow back to the course of the natural flow. The redirection of this sheet flow regime avoids any potential starvation of native vegetation down gradient.

In addition, Black Swan Nickel advise that a V-notch drain will be installed around the footprint of the waste dump to eliminate erosion (Black Swan, 2006). The area will be cleared incrementally and the dumping of waste will commence within weeks of clearing to further avoid the incidence of erosion. Topsoil and vegetation will be removed and stockpiled separately for later use in rehabilitation programs.

In consideration of the above, DAWA (2005a) advise that the proposed management strategies should be adequate to avoid land degradation impacts identified in the assessment of this proposal. It is therefore considered that the proposal is unlikely to be at variance to this principle.

**Methodology** DAWA (2006).  
DAWA (2006a).  
Black Swan Nickel (2006).

**(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 Bullock Holes Timber Reserve, located approximately 9.2 km south-east of the area proposed to be cleared, is the nearest CALM managed conservation areas to the proposal (GIS Database). It is not considered that the vegetation within the project area would provide a significant ecological linkage to this conservation area. Furthermore, the vegetation associations present within the area under application are also well represented within the Bullock Holes Timber Reserve.

CALM (2006) advise that the proposal is unlikely to have an impact on any significant environmental values, and based on the separating distance between the project area and the nearest CALM managed reserve, the proposed clearing is not likely to be at variance to this principle.

**Methodology** CALM (2006).  
GIS Databases:  
- Pre-European Vegetation - DA 01/01.  
- CALM Managed Lands and Water - CALM 1/07/05.

**(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**

There are no watercourses or wetlands within the area proposed to be cleared (GIS Database), consequently, the mining developments associated with this proposal will not have any impact upon surface water quality. Furthermore, the area to be cleared does not fall within a Public Drinking Water Source Area (PDWSA) (GIS Database).

Several bores are located alongside the existing waste rock dump, and these are routinely monitored and hydrological measurements are taken (Baker pers. comm. 2006). According to Rockwater (2005), the pH of the groundwater across the area under application is mostly in the range of 7 to 8, and is unlikely to be impacted upon by the clearing associated with this proposal. Depth to groundwater ranges between 14 and 42 metres, and the size of the clearing associated with this proposal is not likely to significantly increase rainfall recharge so as to impact on the depth to groundwater. The natural salinity of the groundwater in the project area varies from between 28,000 to 56,000 milligrams per litre of Total Dissolved Solids (TDS) and is considered saline-hypersaline. The quality of groundwater is not likely to be impacted upon by the clearing activity.

The area of native vegetation to be cleared is unlikely to have an impact on regional groundwater levels considering the magnitude of the regional Yilgam-Goldfields groundwater province (>296,000 sq km) and the extent of native vegetation remaining in the Murchison Bioregion, which is approximately 100% (Shepherd et al, 2001).

In consideration of the above factors, the proposal is not likely to be at variance to this principle.

**Methodology** Rockwater (2005).  
Shepherd et al. (2001).  
Helen Baker, Environmental Coordinator, Black Swan Nickel Mine (pers. comm. 31/03/2006).  
GIS Databases:  
- Hydrography, linear - DOE 01/02/04.  
- Lakes 250K - GA.  
- River 250K - GA.  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.  
- Groundwater Provinces - WRC 98.  
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06.

**(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**

Kalgoorlie-Boulder has a dry climate with hot summers and cool winters. With average annual rainfall of 260 mm and annual average evaporation of 2,664 mm (BoM, 2006), there is likely to be little surface flow during normal seasonal rains. Thunderstorms provide most of the summer rainfall, often producing heavy localised

falls in short periods (BoM, 2006). Although rare, decaying tropical cyclones, originating off the north-west coast can move through the Goldfields, producing heavy rains and sometimes flooding.

Based on the above information and the fact that the size of the clearing is unlikely to create a catchment area large enough to increase the incidence of flooding, it is unlikely that the proposal is at variance to this principle.

**Methodology** BoM (2006).

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

**Comments**

There are two native title claims over the area under application; WC98/027 and WC99/030. These claims have been registered with the National Native Title Tribunal on behalf of the Widji and Central East Goldfields claimant groups respectively. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act* 1993 and the nature of the act (ie. 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 Aboriginal sites of significance within the area under application. It is the proponent's responsibility to comply with the *Aboriginal Heritage Act* 1972 and ensure that no sites of Aboriginal significance are damaged through the clearing process.

The proponent has an EP Licence (6933/11) valid until 25 April 2005 (DoE, 2005).

The proponent also holds two 'inforce' water licences (79277 & 154690) for the purposes of dust suppression and mineral processing. These expire in 2006 and 2010 respectively (DoE, 2005).

**Methodology** DoE (2005).

GIS Databases:

- Aboriginal Sites of Significance - DIA 04/07/02.
- Native Title Claims - DLI 19/12/04.

**4 Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Stockpile	Mechanical Removal	55	Grant	<p>An assessment of the application has been completed, and it has been determined that the proposal is not likely to be at variance to any of the principles.</p> <p>The assessing officer therefore recommends that the permit be granted subject to the following conditions:</p> <ol style="list-style-type: none"> <li>1. The Permit Holder shall record the following for each instance of clearing: a) location of where the clearing occurred (using Geocentric Datum Australia 1994); b) purpose of clearing; c) area cleared in hectares; and d) area rehabilitated in hectares.</li> <li>2. The Permit Holder shall provide a report to the Director, Environment, DoIR by 31 March each year, setting out the records required under condition 1 of this permit in relation to clearing carried out between 1 January and 31 December of the previous year.</li> </ol>

**5. References**

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ATA Environmental (2006) Fauna assessment - Proposed clearing for a waste rock dump expansion, Black Swan Nickel - Report 2006/40. Prepared for LionOre Australia Pty Ltd, March 2006.

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BoM (2006) Bureau of Meteorology website - www.bom.wa.gov.au.

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Cowan, S. (2001) Murchison 1 (MUR1 - East Murchison subregion) in 'A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002'. Report published by the Department of Conservation and Land Management, Perth, Western Australia.

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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.

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Rockwater (2005) Quarterly Report - Water Quality Data, November 2005. Prepared by Rockwater for Black Swan Nickel Pty Ltd.

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.

## 6. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government.
<b>CALM</b>	Department of Conservation and Land Management, Western Australia.
<b>DAWA</b>	Department of Agriculture, Western Australia.
<b>DA</b>	Department of Agriculture, Western Australia.
<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>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>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} :-

- 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 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.

