



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3958/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: St Ives Gold Mining Company Pty Ltd

### 1.3. Property details

Property: Mining Lease 15/476  
Mining Lease 15/884  
Mining Lease 15/1561

Local Government Area: Shire of Coolgardie

Colloquial name: Diana Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
67		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>Vegetation within the application area has been mapped at a 1:250,000 scale as Beard Vegetation Associations (Shepherd et al., 2007; GIS Database):</p> <p>936: Medium woodland; salmongum.</p> <p>Botanica Consulting undertook a flora and vegetation survey over the Diana, West Idough and Bellarophon project areas between 22 and 24 September 2009. The following two vegetation communities were recorded within the 'Diana project' application area (Keith Lindbeck and Associates, 2010):</p> <ol style="list-style-type: none"> <li><i>Eucalyptus salubris</i> woodland;</li> <li><i>Eucalyptus oleosa</i> over <i>Triodia scariosa</i>;</li> </ol>	<p>St Ives Gold Mining Company has applied to clear up to 67 hectares within an application area of approximately 168 hectares for the purpose of constructing a mine and associated infrastructure (Keith Lindbeck and Associates, 2010).</p> <p>The proposed programme will comprise of waste dumps, open pit, a Run of Mine pad (ROM), Go line, and a haul road. Clearing will be undertaken by mechanical means.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994)</p>	<p>The clearing application area is located approximately 25 kilometres south-east of Kambalda (GIS Database).</p> <p>The vegetation condition was assessed by botanists from Botanica Consulting.</p> <p>A total of three weed species were identified during the flora survey: <i>Anagallis arvensis</i> (Pimpernel); <i>Solanum nigrum</i> (Blackberry Nightshade) and; <i>Oncosiphon suffruticosum</i>. None of these species identified within the flora survey are listed as declared weeds by the Western Australian Department of Agriculture and Food (WA) (Botanica Consulting, 2010a). Further, these species are all located outside of the application area.</p>

## 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
	<p>The application area is located within the Eastern Goldfields subregion of the Coolgardie (C003) Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). At a broad scale, vegetation can be described as Mallees, Acacia thickets and shrub-heaths on sandplains with diverse Eucalyptus woodlands occurring around salt lakes, on ranges and in valleys (CALM, 2002).</p> <p>The vegetation within the application area consists of Beard vegetation association 936 which is considered common and widespread through the Coolgardie region, with approximately 98% remaining of the pre-European vegetation remaining (GIS Database).</p>

Fauna habitats present within the application area were identified as common and widespread in the wider area (Botanica Consulting, 2010b). The survey did not identify any significant fauna habitat features such as caves, tree hollows or wetlands within the application area (Botanica Consulting, 2010b). The habitat areas within the application area are likely to be well represented within the Coolgardie bioregion given the extent of pre-European vegetation remaining is 98.4% (Department of Natural Resources and Environment, 2002; Shepherd et al. 2007).

Based on previous records and known habitat distributions there are 35 fauna species of conservation significance that have the potential to occur within the application area (Botanica Consulting, 2010b). No fauna species of conservation significance were observed in the application area, however 7 species of the 35 were identified as likely to utilise the area (Botanica Consulting, 2010b). These species are the: Southern Carpet Python (*Morelia spilota imbricata*), Australian Bustard (*Ardeotis australis*), Rainbow Bee-eater (*Merops ornatus*), Fork-tailed Swift (*Apus pacificus*), Peregrine Falcon (*Falco peregrinus*), Shy Heathwren (western ssp) (*Hylacola cauta whitlocki*), and the Central Long-eared Bat (*Nyctophilus timoriensis timoriensis*).

The South-west Carpet Python (*Morelia spilota imbricata*) is listed as Schedule 4 under *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)* and a P4 species on the Department of Environment and Conservation's Priority fauna list. This species has been observed at Lake Cowan, 30 kilometres south of the application area (Botanica Consulting, 2010b) and is known to have a variety of habitats such as Banksia woodlands, Eucalyptus woodlands and grasslands (Department of Environment and Conservation, 2009b). The presence of this species cannot be discounted (Botanica Consulting, 2010b), therefore the loss of habitat due to clearing whilst not impacting on the conservation of this species overall may have an impact at a local scale.

The Rainbow Bee-eater (*Merops ornatus*) is listed as a migratory bird by the Japan-Australia Migratory Bird Agreement (JAMBA) and is protected under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Rainbow Bee-eater is found across most of Australia and inhabits open forests and woodlands, shrublands and various cleared or semi-cleared habitats (Department of Environment, Water, Heritage and Arts, 2009). This species was observed foraging and roosting in a number of areas north of the application area. Breeding activity may occur within the application area although populations are not likely to be significant (Botanica Consulting, 2010b).

The Peregrine Falcon (*Falco peregrinus*) is a species listed as Schedule 4 under the *Western Australian Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)* - fauna that is rare or likely to become extinct. This species does have a wide range over most of the state and utilises tall trees for nesting, large hollows, broken spouts of trees for nesting (Botanica Consulting, 2010b; Johnston and Storr, 1998). No nesting sites were observed for the Peregrine Falcon during the survey within the application area although the study site may form part of the larger home range (Botanica Consulting 2010b). The proposed clearing is not likely to significantly impact on this species.

The Shy Heathwren (western ssp) (*Hylacola cauta whitlocki*) is a P4 species on the Department of Environment and Conservation's Priority fauna list. This species was observed in a survey area north of the application area and in the general area by other observers and therefore may occur in denser shrubland sections of the application area (Botanica Consulting 2010b). The proposed clearing may have an impact on this species at a local scale.

The Australian Bustard (*Ardeotis australis*) is a P4 species on the Department of Environment and Conservation's Priority fauna list. Botanica Consulting (2010b) observed potential tracks for this species however the evidence was inconclusive. Observations in the area are rare for this species and it is unlikely to be present in significant numbers (Botanica Consulting, 2010b).

The Fork-tailed Swift (*Apus pacificus*) is listed as a migratory bird by the Japan-Australia Migratory Bird Agreement (JAMBA) and is protected under the EPBC Act 1999. This species is a seasonal visitor, may forage in the area but is unlikely to roost (Botanica Consulting, 2010b). This species does not breed in Australia but does visit all states and territories in Australia (Department of Environment, Water, Heritage and Arts, 2010). The proposed clearing is not likely to have an impact on this species at a local scale.

The Central Long-eared Bat (*Nyctophilus timoriensis timoriensis*) is a P4 species on the Department of Environment and Conservation's Priority fauna list and has been recorded in the St Ives Mining Area (Botanica Consulting, 2010b). This species is known to be widespread in the arid Coolgardie bioregion, being common but patchy in mixed eucalypt woodlands with prominent scrub strata (Van Dyck and Strahan, 2008). The proposed clearing may have an impact on this species at a local scale.

The Malleefowl (*Leipoa ocellata*) is listed as Schedule 1 under *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)*, a migratory bird by the Japan-Australia Migratory Bird Agreement (JAMBA) and is protected under the EPBC Act 1999. Habitats (inactive mounds) have been found during past surveys in the general area but available evidence suggests the species is locally extinct (Botanica Consulting, 2010b). Given the understorey vegetation within the application area is likely to be comparable to that of the general area, it would not be unreasonable to consider the application area as having potential Malleefowl habitat. Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-european % in IUCN Class I-IV Reserves (and post clearing %)*
IBRA Bioregion – Coolgardie	12,912,204	12,707,623	~98.4	Least Concern	10.87 (11.04)
Beard veg assoc. – State					
936	698,753	675,658	~96.7	Least Concern	2.25 (2.2)
Beard veg assoc. – Bioregion					
936	586,792	586,792	~100	Least Concern	1.2 (1.2)

\* Shepherd et al., (2007)

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

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)

Presumed extinct	Probably no longer present in the bioregion
Endangered+	<10% of pre-European extent remains
Vulnerable+	10-30% of pre-European extent exists
Depleted+	>30% and up to 50% of pre-European extent exists
Least concern+	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

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

**Methodology** Department of Natural Resources and Environment (2002)  
Shepherd et al. (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 likely to be at variance to this Principle**

According to available databases there are no watercourses or wetlands within the application area (GIS Database).

The vegetation proposed to be cleared is not associated with any watercourses, wetlands or wetland dependent vegetation (Keith Lindbeck and Associates, 2010). Lake Lefroy is located approximately 2 kilometres west of the application area (GIS Database), whilst the nearest waterbodies are two non-perennial lakes located within approximately 390 metres and 680 metres of the application area (GIS Database).

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

**Methodology** Keith Lindbeck and Associates (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 located within the Kambalda Soil-Landscape Zone (Tille, 2006). This zone is characterised by flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton (Tille, 2006).

The application area has been identified as comprising of four land system units (known as the Lakeland Land System (Saffer, 2010), these are:

1. Sandy sheets - level to gently undulating plains;
2. Dunes - ill defined linear sandy rises, crests and dunes up to 8 metres above the sandy sheets, becoming more distinct near margins with adjacent salt lake systems;
3. Loamy plains - level to very gently inclined plains slightly lower than sandy sheets; and

Coolgardie Post Office weather station is 264 millimetres (Bureau of Meteorology, 2010), therefore surface water flow is likely to be low during normal seasonal rains. Further, as the application area experiences an average annual evaporation rate of 2400-2600 millimetres (GIS Database) during normal rainfall events, surface water within the application area is likely to evaporate or be used by vegetation quickly.

Given there is a low average annual rainfall and there are no watercourses within the application area, the proposed clearing is not likely to cause sedimentation or deteriorate the quality of surface water in nearby areas.

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

**Methodology** Bureau of Meteorology (2010)  
Keith Lindbeck and Associates (2010)  
GIS Database  
-Evaporation Isopleths  
- Groundwater Salinity  
- Hydrography, linear  
- Public Drinking Water Source Areas (PDWSA's)

**(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 application area is located in the Coolgardie bioregion and is characterised by hot summers and mild wet winters (ANRA, 2010).

Average annual rainfall determined from the Coolgardie Post Office weather station is low at 264 millimetres (Bureau of Meteorology, 2010). The region is mostly free from intense cyclonic activity associated with the north western coastal areas of Western Australia, however, considerable rainfall is received as a result of degenerating cyclonic depressions (Keith Lindbeck and Associates, 2010). Based on an average annual evaporation rate of 2400-2600 millimetres (GIS Database), any surface water resulting from normal rainfall events is likely to be relatively short lived.

There are no watercourses or wetlands within the application area (GIS Database). The application area is relatively flat and is surrounded by large tracts of intact remnant vegetation (Keith Lindbeck and Associates, 2010).

The application area is within the Lake Lefroy catchment area which covers 2,488,250 hectares (GIS Database). Given the size of the area to be cleared (67 hectares) in relation to the size of the catchment area, the proposed clearing is not 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** ANRA (2010)  
Bureau of Meteorology (2010)  
Keith Lindbeck and Associates (2010)  
GIS Database  
- Evaporation Isopleths  
- Hydrographic Catchments - catchments  
- Hydrography, linear  
- Rainfall, Mean Annual

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

**Comments**

The clearing permit application was advertised on 20 September 2010 by the Department of Mines and Petroleum inviting submissions from the public. Two submissions were received in relation to this application regarding aboriginal heritage issues. A written response was provided on the matters raised.

There are two native title claims (WC98\_027 and WC99\_002) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure 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 registered Aboriginal Sites of Significance within the 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.

## 6. Glossary

### Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
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 Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

### 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.