



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 9294/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Bardoc Gold Limited

### 1.3. Property details

Property: Mining Leases 24/649, 24/662, 24/720, 24/779 and 24/956,  
Miscellaneous Licences 24/202 and 24/243  
Local Government Area: City of Kalgoorlie-Boulder  
Colloquial name: Aphrodite Gold Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
730		Mechanical Removal	Mineral Production and Associated Activities

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 2 December 2021

## 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 the following Beard vegetation associations:

529: Succulent steppe with open low woodland; mulga & sheoak over bluebush; and  
2903: Medium woodland; Salmon gum, goldfield blackbutt, gimlet & *Allocasuarina cristata* (GIS Database).

Woodman Environmental Consulting Pty Ltd (hereafter referred to as Woodman) conducted a Level 2 Flora and Vegetation Assessment of the Aphrodite Project area (a 5,950ha study area that included the clearing permit application area and surrounds) between 21 and 29 September 2016. The following seven vegetation types were recorded (Woodman, 2017):

**LWCpAhPo** - Low open woodland of *Casuarina pauper* over mid open shrubland dominated by *Acacia hemiteles*, *Eremophila* sp. Mt Jackson (G.J. Keighery 4372) and *Senna artemisioides* subsp. *filifolia* over low sparse shrubland dominated by *Ptilotus obovatus* on hill slopes and low rises on stony red loam soils.

**LWEcEsEp** - Low woodland dominated by *Eucalyptus celastroides* subsp. *celastroides*, *Eucalyptus clelandii* and *Eucalyptus hypolaena* over tall sparse shrubland dominated by *Eremophila scoparia* and *Eremophila* sp. Mt Jackson (G.J. Keighery 4372) over low sparse shrubland dominated by *Eremophila parvifolia* subsp. *auricampa*, *Maireana sedifolia* and *Olearia muelleri* on low hills and rises on stony red to white loam soils.

**LWCpAbDI** - Low open woodland of *Casuarina pauper* over tall sparse shrubland dominated by *Acacia burkittii* over mid sparse to open shrubland dominated by *Dodonaea lobulata* and *Senna artemisioides* subsp. *filifolia* over mid sparse shrubland dominated by *Maireana sedifolia* and *Scaevola spinescens* over low sparse shrubland of *Ptilotus obovatus* on slopes of low hills and on minor drainage features on stony red clay loam soils.

**LWEcAh** - Low woodland of *Eucalyptus concinna* over mid sparse shrubland dominated by *Acacia hemiteles*, *Dodonaea lobulata* and *Senna artemisioides* subsp. *filifolia* on flats to midslopes on red to brown sandy loam and clay soils.

**WEsCpMs** - Mid open woodland to woodland dominated by *Eucalyptus salmonophloia* and *Eucalyptus salubris* over low open woodland of *Casuarina pauper* over mid sparse shrubland dominated by *Eremophila scoparia* and *Maireana sedifolia* over low sparse chenopod shrubland of mixed species including *Maireana georgei*, *Maireana triptera* and *Sclerolaena diacantha* on stony flats and lower slopes on red to brown-white clay loam and clay soils.

**LWCpEoMp** - Low open woodland of *Casuarina pauper* over tall sparse shrubland dominated by *Eremophila oldfieldii* subsp. *angustifolia* and *Templetonia incrassata* over mid sparse shrubland dominated by *Maireana pyramidata* and *Maireana sedifolia* over low sparse shrubland dominated by *Ptilotus obovatus* over low sparse chenopod shrubland of mixed species including *Maireana trichoptera* and *Sclerolaena diacantha* on flats and drainage lines on red clay soils.

**SMpMgSd** - Mid sparse shrubland dominated by *Maireana pyramidata* over low sparse chenopod shrubland of mixed species including *Maireana georgei*, *Sclerolaena diacantha* and *Sclerolaena patentispis* on stony flats on red clay soils.

Botanica Consulting Pty Ltd (hereafter referred to as Botanica) conducted a detailed flora and vegetation survey over a 2,098 hectare study area that included the proposed Aphrodite haul road component of this clearing permit application area, and a 500 metre radius, between 1 and 9 September 2020. The following vegetation associations were recorded (Botanica, 2020):

Landform	Major Vegetation Group	Floristic Group	Vegetation Code
Clay-Loam Plain	Casuarina Forest and Woodlands (MVG 8)	Low woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> spp. and low mixed shrubland on clay-loam plain	CLP-CFW1
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus oleosa</i> / <i>E. salmonophloia</i> over mid shrubland of <i>Acacia</i> spp. and low mixed shrubland on clay-loam plain	CLP-EW1
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus moderata</i> / <i>E. salmonophloia</i> over mid shrubland of <i>Acacia</i> / <i>Eremophila</i> spp. and low chenopod shrubland on clay loam plain	CLP-EW2
Clay-Loam Plain	Eucalypt Woodlands (MVG 5)	Low woodland of <i>Eucalyptus salubris</i> over mid shrubland of <i>Eremophila</i> / <i>Senna</i> spp. and low chenopod shrubland on clay-loam plain	CLP-EW3
Open Depression	Casuarina Forest and Woodlands (MVG 8)	Low woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> spp. and low chenopod shrubland in open depression	OD-CFW1
Rocky Hillslope	Acacia Forest and Woodlands (MVG 6)	Low woodland of <i>Acacia acuminata</i> / <i>A. caesaneura</i> over mid shrubland of <i>Acacia</i> / <i>Melaleuca</i> spp. and low mixed shrubland on rocky hillslope	RS-AFW1
Rocky Hillslope	Casuarina Forest and Woodlands (MVG 8)	Low open woodland of <i>Casuarina pauper</i> over mid shrubland of <i>Acacia</i> / <i>Senna</i> spp. and low open shrubland of <i>Ptilotus obovatus</i> on rocky hillslope	RS-CFW1
Rocky Hillslope	Eucalypt Woodlands (MVG 5)	Low open woodland of <i>Eucalyptus clelandiorum</i> / <i>E. griffithsii</i> over tall open shrubland of <i>Acacia</i> spp. and low mixed shrubland on rocky hillslope	RS-EW1
Sand-Loam Plain	Mallee Woodland and Shrublands (MVG 13)	Mallee woodland of <i>Eucalyptus concinna</i> / <i>E. oleosa</i> over mid to low shrubland of <i>Acacia</i> / <i>Senna</i> spp. on sand-loam plain	SLPMWS1

**Clearing Description** Aphrodite Gold Project  
Bardoc Gold Limited proposes to clear up to 730 hectares of native vegetation within a boundary of approximately 2,451 hectares, for the purpose of mineral production and associated activities. The project is located approximately 65 kilometres north of Kalgoorlie, within the City of Kalgoorlie-Boulder.

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

To:

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

**Comment** The vegetation condition was derived from vegetation surveys conducted by Botanica (2020) and Woodman (2017).

The proposed clearing is for development of an open pit and underground mine, processing facility, tailings storage facility, power plant, waste rock landforms, run of mine pad, dewatering bores, haul road and other ancillary infrastructure.

### 3. Assessment of application against Clearing Principles

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

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

The clearing permit application area is located within the Eastern Murchison subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Murchison Bioregion (GIS Database). The Eastern Murchison subregion is characterised by its internal drainage, and extensive areas of elevated red desert

sandplains with minimal dune development. Broad plains of red-brown soils and breakaway complexes as well as red sandplains occur, while salt lake systems are associated with the occluded paleodrainage system. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and *Tecticornia* shrublands (CALM, 2002).

Woodman (2017) recorded 177 native flora taxa, representing 36 families and 90 genera during its September 2016 flora survey, which included the clearing permit application area and surrounds. Woodman (2017) considered the study area to be of moderate floristic diversity, noting the limited diversity of topography and soil types across the study area. It was noted that the flora survey coincided with a good flowering season, with a high number of annual taxa recorded (59 taxa). No Threatened flora, Threatened Ecological Communities or Priority Ecological Communities were recorded in the study area. At the time the Woodman (2017) survey report was authored, *Gunniopsis propinqua* was a Priority 3 flora species recorded within the study area. However, according to a current search of the Western Australian Herbarium's Florabase, this species is no longer listed as a Priority species (Western Australian Herbarium, 1998-). Woodman (2017) also noted that two species recorded in the study area were of interest due to significantly limited known distributions in Western Australia (*Ixiochlamys nana* and *Rhodanthe uniflora*). The recorded locations of these species are outside of the proposed clearing area and therefore they won't be directly impacted by this proposal.

Botanica (2020) recorded 131 flora taxa during its September 2020 flora survey, which included the proposed haul road component of this clearing permit application, and surrounds. No Threatened flora, Threatened Ecological Communities, Priority flora or Priority Ecological Communities were recorded in the survey area. Botanica (2020) concluded that vegetation within the survey area is not considered to be of high biological diversity and is well represented in the local area.

Both Woodman (2017) and Botanica (2020) identified several weed species within their respective survey areas. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

From a faunal perspective, 360 Environmental (2017) noted that the broad fauna habitat types in the Aphrodite study area are common and widespread in the region. Similarly, Botanica (2020) noted that the Aphrodite haul road survey area comprises of broad fauna habitats, typical of the wider region. No unique habitats such as caves, rocky outcrops or pools occur. Based on the common habitat types present, fauna diversity in the application area is not expected to be higher than other areas locally or regionally.

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

**Methodology** 360 Environmental (2017)  
Botanica (2020)  
CALM (2002)  
Western Australian Herbarium (1998-)  
Woodman (2017)

GIS Database:  
- IBRA Australia  
- Pre-European Vegetation  
- Threatened and Priority Ecological Communities Boundaries  
- Threatened and Priority Ecological Communities Buffers  
- Threatened and Priority Flora  
- Threatened Fauna

**(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.**

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

360 Environmental (2017) undertook a level 1 fauna assessment of the Aphrodite Project area (a 6,135ha study area which included part of this clearing permit application area and surrounds) between 13-16 September 2016 and 8-9 March 2017. The fauna assessment involved desktop studies, a level 1 fauna survey and a targeted search for Malleefowl (*Leipoa ocellata*), listed as Vulnerable under the EPBC Act and BC Act.

The fauna assessment identified four broad habitat types in the study area:

1. Eucalypt Woodland – 68% of the study area;
2. Shrubland – 16% of the study area;
3. Casuarina Woodland – 14% of the study area; and
4. Creekline – 0.6% of the study area.

360 Environmental (2017) considered all four broad habitat types to be widespread and common in the region. No evidence of Malleefowl (mounds, tracks, feathers, etc) was recorded, despite walking approximately 27 kilometres of transects and searching nine plots (each 6.25ha in size). The only conservation significant fauna

species recorded during 360 Environmental's fauna assessment was the Rainbow Bee-eater (*Merops ornatus*). This species is listed as Marine under the EPBC Act and is one of the most common and widespread birds in Australia, with a distribution that covers the majority of Australia (360 Environmental, 2017). Given its widespread nature, the Rainbow-Bee-eater would not be specifically reliant on habitat within the application area.

Botanica Consulting (2020) observed evidence of one conservation significant fauna species during their September 2020 fauna survey of the proposed Aphrodite haul road: Malleefowl (*Leipoa ocellata*). Three malleefowl mounds were recorded within the survey area. One of the mounds was identified as inactive however the other two mounds were identified as active, with motion camera footage showing Malleefowl actively working one of the mounds. Available information therefore suggests that a breeding population of this species is present in the survey area (Botanica, 2020). Potential impacts to Malleefowl may be minimised by the implementation of a fauna management condition requiring further searches for Malleefowl if clearing during the breeding season and avoidance of active mounds, if present.

In 2020, the critically endangered Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*), listed under the BC Act and EPBC Act, was recorded north of the northern extremity of the application area, within sand-loam plain habitat with a similar vegetation structure to the locally extinct Lake Douglas record (i.e. *E. concinna* mallee woodland) (Botanica, 2021a). This species was observed within the ex. Goongarrie Station UCL (LR3068/801) which is managed by DBCA (Botanica, 2021a). The Lake Douglas sub-population of the Arid Bronze Azure Butterfly (located approximately 12km southwest of Kalgoorlie) is presumed extinct, with no record there since 1993 (Botanica, 2021a). The 2020 record at Goongarrie Station, if confirmed, is therefore highly significant and may represent a new population of the species.

Based on the recent butterfly record nearby and the presence of suitable habitat within the application area, Botanica (2021a) undertook a targeted survey of the Aphrodite Project area for the Arid Bronze Azure Butterfly between 15 and 19 July 2021. The bases of 200 trees were searched for the Butterfly's host ant species (*Camponotus* sp. nr. *Terebrans*), which is consistent with DBCA's recommended survey methodology for this species (DBCA, 2020). Two ant colonies (located 1.4km apart from one another) were recorded within the clearing permit application area. Based on host ant colonies being detected, and as per DBCA's recommended survey methodology, Botanica Consulting (2021b) subsequently undertook three targeted field surveys of the Aphrodite Project area for the Arid Bronze Azure Butterfly on 10 September, 23 September and 8 October 2021. The survey effort included walking transects of approximately two kilometres around each of the two known host ant colonies during each visit to site. In addition, other areas of the project area were searched, concentrating on the proposed mine infrastructure areas. No Arid Bronze Azure Butterflies were observed during these targeted surveys.

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

**Methodology** 360 Environmental (2017)  
Botanica (2020)  
Botanica (2021a)  
Botanica (2021b)  
DBCA (2020)

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.**

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

There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Botanica, 2020; Woodman, 2017).

The vegetation associations within the application area are common and widespread within the region (Botanica, 2020; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora.

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

**Methodology** Botanica (2020)  
Woodman (2017)

GIS Database:  
- Pre-European Vegetation  
- Threatened and Priority Flora

**(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 (TECs) located within or in close proximity to the application area (GIS Database).

Flora and vegetation surveys of the application area did not identify any TECs (Botanica, 2020; Woodman, 2017).

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

**Methodology** Botanica (2020)  
Woodman (2017)

GIS Database:  
- Threatened and Priority Ecological Communities Boundaries  
- Threatened and Priority Ecological Communities Buffers

**(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 at variance to this Principle**

The application area falls within the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Murchison Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 529: Succulent steppe with open low woodland; mulga & sheoak over bluebush; and 2903: Medium woodland; Salmon gum, goldfield blackbutt, gimlet & *Allocasuarina cristata* (GIS Database). Approximately 96% - 100% of the pre-European extent of these vegetation associations remain uncleared at the state and bioregional level (Government of Western Australia, 2019).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Murchison	28,120,586	28,044,823	~99	Least Concern	7.78
Beard vegetation associations – WA					
529	102,579.86	102,479.14	~100	Least Concern	4.37
2903	28,308	27,330	~96	Least Concern	-
Beard vegetation associations – Murchison Bioregion					
529	62,202	62,102	~100	Least Concern	4.46
2903	28,295	27,317	~96	Least Concern	-

\* Government of Western Australia (2019)

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

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

**Methodology** Department of Natural Resources and Environment (2002)  
Government of Western Australia (2019)

GIS Database:  
- IBRA Australia  
- 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 at variance to this Principle**

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database; Botanica, 2020; Woodman, 2017). Multiple ephemeral drainage lines pass through the application area (GIS Database; Botanica, 2020; Woodman, 2017). Drainage lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. Minor drainage features were present in the majority of vegetation types defined by Woodman (2017) and Botanica (2020) noted that floristic group OD-CFW1 is associated with drainage lines, and accounted for approximately 9% of the flora survey area.

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to vegetation growing in or in association with watercourses may be minimised by the implementation of watercourse management condition.

**Methodology** Botanica (2020)  
Woodman (2017)  
GIS Database:  
- Hydrography, Lakes  
- Hydrography, linear

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

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

The application area lies within the Bunyip, Campsite, Illaara, Laverton and Moriarty land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Bunyip land system is described as gilgaided tracts draining greenstone hills, supporting mixed halophytic shrublands occasionally with a black oak overstorey. The Bunyip land system is slightly susceptible to soil erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. Impedance to natural drainage features can initiate accelerated soil erosion and cause loss of vigour in vegetation from water starvation (Pringle et al., 1994).

The Campsite land system consists of alluvial plains supporting eucalypt woodlands with halophytic understoreys and acacia shrublands. Alluvial plains are slightly susceptible to soil erosion if perennial shrub cover is substantially reduced, as are stony plains if protective stone mantles are disturbed or removed. Impedance to natural drainage characteristics can initiate accelerated soil erosion and cause loss of vigour in vegetation downslope due to water starvation (Pringle et al., 1994).

The Illaara land system is described as plains with ironstone gravel or calcrete mantles, supporting eucalypt woodlands and mulga-casuarina shrublands. This land system is not generally susceptible to erosion (Pringle et al., 1994).

The Laverton land system is described as greenstone hills and ridges with acacia shrublands. Stone mantles protect most of this land system against soil erosion, the exception being narrow drainage tracts, which are mildly susceptible to water erosion (Pringle et al., 1994).

The Moriarty land system is described as low greenstone rises and stony plains, supporting chenopod shrublands with patchy eucalypt overstoreys. Slopes of low rises without protective stone mantles, alluvial plains and narrow drainage tracts are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed (Pringle et al., 1994).

Based on the above, the proposed clearing of 730 hectares of native vegetation may be at variance to this Principle. Bardoc (2021) will implement the following measures to minimise the potential for land degradation:

- The proposed haul road route has been designed to minimise the removal of large trees where possible;
- Project design is compact to avoid excess clearing;
- Clearing will be undertaken progressively and incrementally as required;
- Cleared vegetation will be stockpiled as growth medium for future rehabilitation; and
- Topsoil will be stripped to a depth of approximately 150 millimetres and be stockpiled for use in rehabilitation.

A staged clearing condition will be imposed on the clearing permit to ensure vegetation clearing is done progressively. Bardoc's mine rehabilitation commitments will be adequately regulated by requirements under the *Mining Act 1978*, including tenement conditions and Mine Closure Plan obligations.

**Methodology** Bardoc (2021)

Pringle et al. (1994)

GIS Database:  
- Landsystem Rangelands

**(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, or immediately adjacent to, any conservation areas. The nearest DBCA (formerly DPaW) managed land is the former Goongarrie Station (UCL, LR3068/801), which is located approximately 2.3 kilometres north west of the application area, at its nearest point (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

**Methodology** GIS Database:  
- DPaW 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**

There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). A number of number seasonal drainage lines run off from the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to the quality of surface water flows.

Groundwater within the proposed clearing area is saline to hypersaline, ranging between 14,000 and 35,000 milligrams/Litre Total Dissolved Solids (GIS Database). The proposed clearing is not likely to cause groundwater water quality within the application area to alter significantly.

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

**Methodology** GIS Database:  
- Groundwater salinity, State wide  
- Hydrography, Lakes  
- 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**

The climate of the Eastern Murchison is mostly hot and dry, with highly variable rainfall throughout the year. The climate is arid, with a mean annual rainfall of 200 millimetres, mainly occurring during winter (CALM, 2002). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002).

There are no permanent water courses or water bodies within the application area (GIS Database), however a number seasonal drainage lines run off from the application area. Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

**Methodology** CALM (2002)  
  
GIS Database:  
- Hydrography, linear  
- Topographic Contours, Statewide

## Planning Instrument, Native Title, previous EPA decision or other matter.

### Comments

The clearing permit application was initially advertised on 11 January 2021 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. Subsequent to the initial advertising period closing, Bardoc Gold Limited increased the area applied to clear from 290 hectares to 730 hectares, including increasing the boundary within which clearing is proposed. Consequently, DMIRS readvertised the revised application for public comment on 15 October 2021. No submissions were received in relation to this application, during either of the public advertisement periods.

There are two native title claims (WC2017/001 and WC2017/007) over the area under application (DPLH, 2021). These claims have been registered with the National Native Title Tribunal by the Federal Court on behalf of the claimant groups. 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 (DPLH, 2021). 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 Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

It is noted that the permit covers habitat for Malleefowl (*Leipoa ocellata*), which is listed as a 'matter of national environmental significance' (MNES) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Actions which are likely to have a significant impact on an MNES require approval under the EPBC Act. The proponent is encouraged to contact the Department of Agriculture, Water and the Environment for further information regarding its responsibilities under the EPBC Act.

**Methodology** DPLH (2021)

## 4. References

- 360 Environmental (2017) Aphrodite Gold Deposit Level 1 Fauna Survey. Report prepared for Aphrodite Gold Limited by 360 Environmental, April 2017, Western Australia.
- Bardoc (2021) Clearing Permit Application for Bardoc Gold Project. Supporting information for CPS 9294/1, November 2021, North Fremantle, Western Australia.
- Botanica (2020) Detailed Flora/Vegetation Survey & Basic Fauna Survey: Aphrodite Haul Road. Reported prepared for Bardoc Gold Limited by Botanica Consulting Pty Ltd, November 2020, Boulder, Western Australia.
- Botanica (2021a) Survey for the Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*) Aphrodite Project. Prepared for Bardoc Gold Limited, by Botanica Consulting, July 2021, Version 1, Boulder, Western Australia.
- Botanica (2021b) Memorandum: Arid Bronze Azure Butterfly Survey. Memo prepared for Bardoc Gold Limited by Botanica Consulting, 1 November 2021, Boulder, Western Australia.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DBCA (2020) Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia. September 2020, Perth, WA.
- DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage.  
<https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 25 November 2021).
- 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.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth.  
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pringle, H.J.R., Van Vreeswyk, A.M.E and Gilligan, S.A (1994) An inventory and condition survey of rangelands in the north-eastern Goldfields, Western Australia. Department of Agriculture, South Perth.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 25 November 2021).
- Woodman (2017) Aphrodite Gold Deposit Level 2 Flora and Vegetation Assessment. Report prepared for Aphrodite Gold Ltd by Woodman Environmental Consulting Pty Ltd, March 2017, Applecross, Western Australia.

## 5. Glossary

### Acronyms:



<b>BC Act</b>	<i>Biodiversity Conservation Act 2016</i> , Western Australia
<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia (now DPLH)
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia (now DPIRD)
<b>DAWE</b>	Department of Agriculture, Water and the Environment, Australian Government
<b>DBCA</b>	Department of Biodiversity, Conservation and Attractions, Western Australia
<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DoEE</b>	Department of the Environment and Energy (now DAWE)
<b>DoW</b>	Department of Water, Western Australia (now DWER)
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia (now DBCA)
<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia
<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora (now known as Threatened Flora)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<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>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

#### **T** Threatened species:

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

**Threatened fauna** is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

**Threatened flora** is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

#### **CR** **Critically endangered species**

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

#### **EN** **Endangered species**

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

#### **VU** **Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation*

(*Specially Protected Fauna*) Notice 2018 for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

**Extinct Species:**

**EX Extinct species**

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

**EW Extinct in the wild species**

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

**Specially protected species:**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

**MI Migratory species**

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**CD Species of special conservation interest (conservation dependent fauna)**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**OS Other specially protected species**

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**P Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near

threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

**P1 Priority One - Poorly-known species**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

**P2 Priority Two - Poorly-known species**

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

**P3 Priority Three - Poorly-known species**

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

**P4 Priority Four - Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.