

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	4696/4
Permit type:	Purpose Permit
Applicant name:	St Ives Gold Mining Company Pty Ltd
Application received:	4 July 2024
Application area:	151 hectares
Purpose of clearing:	Mineral Production
Method of clearing:	Mechanical Removal
Tenure:	General Purpose Lease 15/22
	Mining Lease 15/22
	Mining Lease 15/570
	Mining Lease 15/1542
	Mining Lease 15/1543
	Mining Lease 15/1578
	Mining Lease 15/1579
	Mining Lease 15/1580
	Mining Lease 15/1582
	Mining Lease 15/1630
	Mining Lease 15/1631
	Mining Lease 15/1632
	Mining Lease 15/1633
	Mining Lease 15/1634
Location (LGA area):	Shire of Coolgardie
Colloquial name:	Bellerophon Project

1.2. Description of clearing activities

St Ives Gold Mining Company Pty Ltd proposes to clear up to 151 hectares of native vegetation within a boundary of approximately 851 hectares, for the purpose of mineral production. The project is located approximately 15 kilometres southeast of Kambalda, within the Shire of Coolgardie (GIS Database).

Clearing permit CPS 4696/1 was granted by the Department of Mines and Petroleum (now the Department of Energy, Mines, Industry Regulation and Safety) on 12 January 2012 and was valid from 4 February 2012 to 30 April 2020. The permit authorised the clearing of up to 151 hectares of native vegetation within a boundary of approximately 851 hectares, for the purpose of mineral production.

CPS 4696/2 was granted on 14 April 2016 and was valid until 30 April 2020, amending the permit to change the annual reporting dates from financial year to calendar year (1 January to 31 December), and to change the annual reporting date to 31 January each year. The area of clearing authorised and the permit boundaries remained unchanged.

CPS 4696/3 was granted on 14 November 2019, amending the permit to extend the permit duration to 30 April 2025. The area of clearing authorised and the permit boundaries remained unchanged.

On 4 July 2024, the Permit Holder applied to amend CPS 4696/3 to extend the duration of the permit by five years to 30 April 2030. According to the latest Annual Clearing Report, 126.04 hectares had been cleared as of December 2024 under this clearing permit (St Ives Gold Mining Company Pty Ltd, 2025).

1.3. Decision on application and key considerations						
Decision:	Grant					
Decision date:	29 April 2025					
Decision area:	151 hectares of native vegetation					

1.4. Reasons for decision

This clearing permit amendment application was submitted, accepted, assessed, and determined in accordance with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix F), additional information provided by the applicant (Appendix A), including the results of flora and vegetation, and fauna surveys (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011, 2023; Appendix F), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to conservation significant flora;
- impacts to conservation significant fauna;
- the loss of native vegetation that is suitable habitat for conservation significant fauna; and
- potential impacts to minor, non-perennial salt lakes and claypans.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- a pre-clearance targeted flora survey condition for conservation significant flora;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- · commence activities no later than six months after undertaking clearing to reduce the risk of erosion; and
- a pre-clearance survey condition for malleefowl and arid bronze azure butterfly.

The assessment has not changed since the assessment for CPS 4696/3, except in the case of principle (a) and principle (b), which have changed in light of updated information on species, guidance documents (Appendix F), and records (Section 3.2.1; Section 3.2.2; Appendix B).

The Delegated Officer determined that the proposed extension of duration is not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

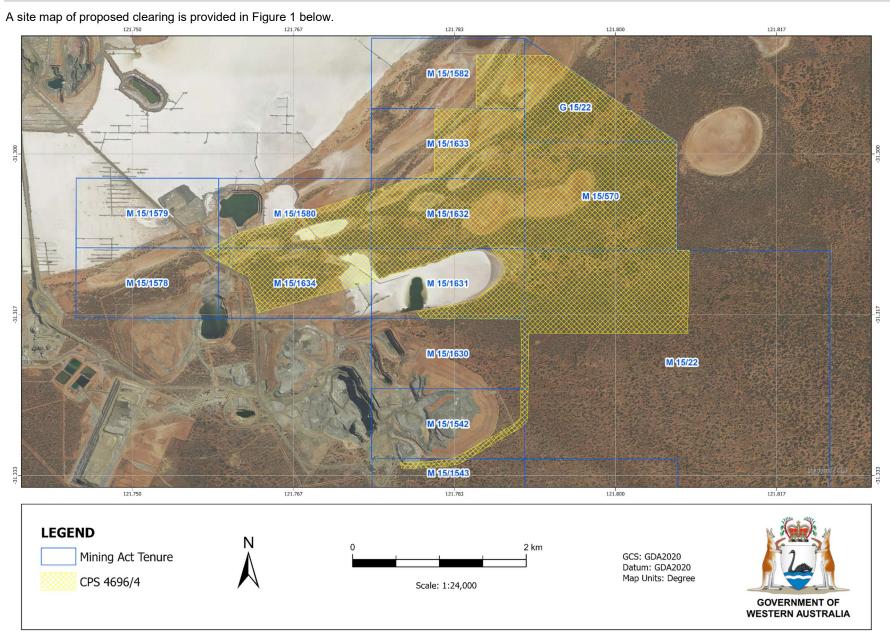


Figure 1: Map of the application area. The yellow area indicates the area within which conditional authorised clearing can occur under the granted clearing permit. CPS 4696/4 Page 3

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 510 of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- Biodiversity Conservation Act 2016 (WA) (BC Act)
- Biosecurity and Agriculture Management Act 2007 (BAM Act)
- Conservation and Land Management Act 1984 (WA) (CALM Act)
- Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)
- Mining Act 1978 (WA)

Relevant agreements (treaties) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

The key guidance documents which inform this assessment are:

- A guide to the assessment of applications to clear native vegetation (DER, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2021)
- Guidance for the Assessment of Environmental Factors Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004)
- Guidance for the Assessment of Environmental Factors Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004)
- Technical guidance Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016a)
- Technical guidance Terrestrial Fauna Surveys for Environmental Impact Assessment (EPA, 2016b)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

St Ives Gold Mining Company Pty Ltd noted the following avoidance and mitigation measures in their application for this amendment (St Ives Gold Mining Company Pty Ltd, 2024):

- ongoing identification and avoidance of any potential protected species, using existing surveys and pre-clearance inspections; and
- potential retention of cleared vegetation and timber for beneficial reuses as part of local forestry schemes where possible.

Although commitments have been made, the Delegated Officer was not satisfied that all reasonable efforts had been made to avoid and minimise potential impacts of the proposed clearing on environmental values, due to operating in the context of outdated biodiversity knowledge and potential risks to environmental values. Potential impacts associated with avoidance and mitigation measures will be addressed in the conditions implemented on this permit.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 4696/3, however updated information on flora and fauna species has been incorporated into this assessment.

The assessment against the clearing principles with this current information identified that the impacts of the proposed clearing present a risk to biological values (fauna and flora). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora) - Clearing Principle (a)

Assessment

Botanica Consulting conducted several flora and vegetation surveys over different parts of the application area for the application of CPS 4696/1. Appendix E Figure 2 indicates the different parts of the application area where these surveys were conducted (St Ives Gold Mining Company Pty Ltd, 2011). The surveys were:

• 22-24 September 2009 - Level 2 survey of the flora and vegetation of the Diana, West Idough and Bellerophon project areas, a total area of approximately 1,181 hectares;

- 14 September 2010 Level 2 survey within a 91 hectare area, an additional Bellerophon area directly north of the main Bellerophon survey area; and
- 6 September 2011 Level 1 survey within a 223 hectare of the Thunderer project area (St Ives Gold Mining Company Pty Ltd, 2011).

Phoenix Environmental Sciences Pty Ltd (Phoenix, 2017) undertook the following flora and vegetation assessment:

• 7-15 November 2016 - Level 1 Regional flora and vegetation assessment for St Ives Gold Mining Company Pty Ltd's larger St Ives operation. The on-ground assessment consisted of three quadrats and 92 relevés which were conducted across a 60,223.8 hectare regional study area. Of the 92 relevés conducted, 12 were located within application area (Appendix E Figure 3). Phoenix (2017) noted that, despite above average rainfall in August 2016, during the survey, many of the expected annuals were not present or were dead and at the end of their lifecycle and that several species could not be definitively identified due to insufficient taxonomic features.

Phoenix (2017) reported that the R1 vegetation type identified in the application area may be considered locally significant as it is uncommon or restricted within the regional or local context. The R1 in the application area represents approximately half (15.5 hectares) of the 29.8 hectares recorded within the Phoenix (2017) larger regional study area (60,223.8 hectare) (Appendix E Figure 3) (GIS Database). R1 vegetation represents suitable habitat for priority flora species; *Tecticornia mellarium* (P1) and *Pityrodia scabra subsp. dendrotricha* (P3). Aerial imagery indicates that this vegetation type has the potential to be present in adjacent environments outside of the Phoenix (2017) regional study area, therefore, impacts to this vegetation type are unlikely to be regionally significant (GIS Database). The proponent has committed to minimising impacts where possible within this vegetation type.

No threatened or priority flora species were recorded within the application area during the flora surveys (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011). A review of available databases revealed no records of threatened flora species within 50 kilometres of the application area and records of 15 priority flora species within 20 kilometres of the application area (see Table B.3) (Western Australian Herbarium, 1998-; GIS Database). While none of these species have been recorded within the application area, a desktop assessment of available information including presence of suitable habitat, proximity and distribution of known records, the age of the survey (eight to sixteen years old) and the level of the surveys undertaken (reconnaissance), indicate that there is potential for the following species to occur within the application area:

- Calandrinia lefroyensis (previously known as Calandrinia sp. Widgiemooltha (F. Obbens & E. Reid FO 9/05)) P1
- Chrysocephalum apiculatum subsp. norsemanense P3
- Eremophila perglandulosa P1
- Pityrodia scabra subsp. dendrotricha (a taxonomic synonym of Pityrodia sp. Yilgarn) P3
- Sowerbaea multicaulis P4
- Tecticornia flabelliformis P2
- Tecticornia mellarium P1
- Trachymene pyrophila P2

Given the age of the surveys and that the presence of these priority flora species within the application area is unverified, the risk to these species is difficult to verify. Lake Lefroy is approximately 40 kilometres in length and covers an area of approximately 54,798 hectares (GIS Database). A review of available databases indicates that the area is under-surveyed and that potential habitat for these species is likely to be available in adjacent environments outside of the Phoenix (2017) regional study area (GIS Database).

The proposed clearing is not considered likely to significantly impact on the majority of the aforementioned species as suitable habitat is available in the surrounding areas and across the bioregion and a number of the individuals have been recorded at several locations, including within lands managed for conservation.

A review of available information indicates there is potential for the proposed clearing to have a significant impact to the following flora species as they are only known from a few locations, and/or have not been recorded on lands managed for conservation (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011; Western Australian Herbarium, 1998-; GIS Database):

- Calandrinia lefroyensis (previously known as Calandrinia sp. Widgiemooltha (F. Obbens & E. Reid FO 9/05)) P1
- Eremophila perglandulosa P1
- Tecticornia flabelliformis P2

Any potential clearing of individuals of these three species could significantly impact the species at a local and regional scale. Potential impacts from the proposed clearing may be managed by implementing a flora management condition requiring preclearance flora surveys to be undertaken prior to any clearing.

Introduced flora

Five weed species were recorded within the application area: *Anagallis arvensis*, *Lysimachia arvensis*, *Oncosiphon suffruticosum*, *Solanum nigrum* and *Sonchus oleraceus* (St Ives Gold Mining Company Pty Ltd, 2011). None of these species are listed as Weeds of National Significance or declared pest plants in Western Australia under the *Biosecurity and Agriculture Management Act 2007*, however weeds have potential to outcompete native flora and reduce biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by maintaining the weed management condition.

Conclusion CPS 4696/4

For the reasons set out above, it is considered that the potential impacts of the proposed clearing on conservation significant flora can be managed by taking steps to minimise the risk of the introduction and spread of weeds, undertake appropriate targeted flora surveys prior to clearing, and implementing buffers to avoid conservation significant flora.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- pre-clearance targeted flora surveys; and
- no clearing occurs within 10 metres of identified priority flora.

3.2.2. Biological values (fauna) - Clearing Principles (a) and (b)

Assessment

Two terrestrial fauna assessments were undertaken for the application of CPS 4696/4:

- A Level 1 Terrestrial Fauna Survey of the Proposed Bellerophon Mine Area was conducted by Greg Harewood (St Ives Gold Mining Company Pty Ltd, 2011). This survey covered the majority of the application area (refer to Figure 4 in Appendix E). Field work for this survey was conducted on:
 - 24 September 2009;
 - 14 September 2010; and
 - additional opportunistic observations made in nearby areas on the 22nd and 23rd September 2009 (Diana and West Idough) and the 17th November 2009 (Pistol Club) were also included.
- A Level 1 Terrestrial Fauna Survey of the Thunderer Mine Area was conducted by Greg Harewood on 6 September 2011 (St Ives Gold Mining Company Pty Ltd, 2011) and covered another part of the application area (refer to Figure 5 below).

The following habitats were considered to be present within the 2009 and 2010 survey area within the application area (Figure 4), based on the vegetation structure recorded in the Bellerophon project area (St Ives Gold Mining Company Pty Ltd, 2011).

- 1. Open woodland over open shrubland over grassland (Triodia)
- 2. Low open woodland over shrubland over low shrubland
- 3. Chenopod shrubland
- 4. Dunal shrubland
- 5. Low woodland over shrubland over low shrubland
- 6. Salt Lakes/Claypans

The following habitats were considered to be present within the 2011 survey area within the application area (Figure 5), based on the vegetation structure recorded in the Thunderer project area (St Ives Gold Mining Company Pty Ltd, 2011).

- 1. Tree Mallee (Eucalyptus platycorys) over mid dense hummock grassland dominated by Triodia irritans.
- 2. Very Open tree mallee (Eucalyptus platycorys) over dwarf scrub of Cratystylis subspinescens.
- 3. Tree Mallee (Eucalyptus platycorys) mallee over mixed dwarf Scrub and Cratystylis conocephala.
- 4. Low Woodland (Callitris columellaris) over Hummock Grassland dominated by Triodia irritans on sand dune.
- 5. Mixed low scrub of Atriiplex nummularia over Open dwarf scrub of Tecticornia halocnemoides on clay pan.
- 6. Dwarf scrub of mixed Chenopods over *Tecticornia halocnemoides* in a depression.
- 7. Salt Lake
- 8. Rehabilitated Eucalyptus salicola low woodland over dwarf scrub Atriplex bunburyana

It is noted that the biological surveys used to assess and inform the previous decision reports are dated, with the fauna surveys undertaken in 2009, 2010 and 2011 (St Ives Gold Mining Company Pty Ltd, 2011). A desktop review of current information undertaken for this amendment assessment indicates potential for additional conservation significant species to utilise the proposed clearing area, including species not previously discussed in the assessment of CPS 4696/1 and subsequent amendments. Appendix B.4 contains a list of current and past conservation significant fauna species that have potential to be present in or nearby the application area (GIS Database). While none of the species currently considered conservation significant have been recorded within the application area, the presence of suitable habitat, the proximity of records, a review of aerial imagery, the age of the survey (over fifteen years old), and the level of the surveys undertaken (Level 1) indicate there is potential for these species to occur within the application area.

The survey reports (St Ives Gold Mining Company Pty Ltd, 2011) regarded the following conservation significant species as possibly utilising the study area:

- Central long-eared bat (Nyctophilus major tor, P3);
- hooded plover (Charadrius rubricollis, P4);
- various migratory shorebirds/waders (at least 5 potential species, MI);
- fork-tailed swift (Apus pacificus, MI);
- peregrine falcon (*Falco peregrinus,* OS); and
- rainbow bee-eater (*Merops ornatus*, Marine).

The following species were previously considered as conservation significant species with the potential to occur within the application area (St Ives Gold Mining Company Pty Ltd, 2011). State and Federal level reviews of these species undertaken since CPS 4696/1 have resulted in the removal of their conservation category status. The proposed clearing is not considered likely to significantly impact the following species:

- Australian bustard (*Ardeotis australis*);
- shy heathwren (western ssp) (Hylacola cauta whitlocki);
- slender-billed thornbill (western ssp) (Acanthiza iredalei iredalei); and
- southern carpet python (Morelia spilota imbricata).

Two conservation significant fauna species that have the potential to be present within the application area were not previously discussed in the assessment of CPS 4696/1 and its amendments. These were:

- Malleefowl (*Leipoa ocellata*, *VU*); and
- arid bronze azure butterfly (ABAB) (Ogyris petrina, CR).

The following species identified in Appendix B.4 warranted further discussion:

Malleefowl

Malleefowl (*Leipoa ocellata* - VU) is a large ground-dwelling bird that occurs in a range of habitat types, primarily found in semiarid to arid shrublands and low woodlands (3-8 metres in height) dominated by mallee and associated habitats and are also found in some shrublands dominated by Acacia and occasionally in woodlands dominated by eucalypts such as wandoo (*E. wandoo*), marri (*Corymbia calophylla*) and mallet (*E. astringens*) in Western Australia (DCCEEW, 2024a). The nest is constructed in sandy soils and leaflitter by building a large mound for egg incubation (Commonwealth of Australia, 2008). This species favours mallee that has been long unburnt and ungrazed (Commonwealth of Australia, 2008).

The 2010 and 2011 fauna survey reports (St Ives Gold Mining Company Pty Ltd, 2011) determined that while some inactive Malleefowl mounds had been recorded during various surveys in the general area, current available evidence suggested that this species was locally extinct. According to available databases, malleefowl have since been recorded 40 times within 50 kilometres of the application area. Malleefowl field verification surveys have been carried out in relation to a nearby St Ives Gold Mining Company Pty Ltd clearing permit (CPS 3143/5). A 2023 survey recorded six inactive mounds adjacent to the application area, some with signs showing recent activity (St Ives Gold Mining Company Pty Ltd, 2023). While the application area does contain some disturbances, there are areas that remain uncleared (GIS Database). Flora and vegetation surveys and aerial imagery indicate that potential breeding and foraging habitat is likely to be present within the application area and malleefowl should be considered as likely to occur (St Ives Gold Mining Company Pty Ltd, 2011; GIS Database).

Given the above information, this species has the potential to utilise the application area for breeding and foraging and therefore have potential to be impacted by the proposed clearing. A condition to minimise impact to malleefowl will be applied.

Arid bronze azure butterfly (ABAB)

Arid bronze azure butterfly (ABAB) (*Ogyris petrina* - CR) is listed as Critically Endangered under the BC Act and the EPBC Act. ABAB populations are severely fragmented, restricted in geographic range and sensitive to clearing and habitat disturbance (DBCA, 2020). ABAB has an obligate association with sugar ant *Camponotus* sp. nr. *terebrans* (DBCA, 2020). Habitat where this species has previously been described is vegetation of mature mixed gimlet (*Eucalyptus salubris*), salmon gum (*Eucalyptus salmonophloia*) woodlands on red-brown loam soils, with an open understorey (DBCA, 2020).

ABAB have the potential to be present within the application area. Further research on this species since the initial granting of CPS 4696/1 has revealed new populations and an expansion in the extent of occurrence (DBCA, 2024). The application area occurs within the mapped potential habitat area for ABAB's host ant (*Camponotus* sp. nr. *terebrans*) (DBCA, 2020) and potentially suitable habitat is present in in the application area in the form of Eucalypt woodlands (St Ives Gold Mining Company Pty Ltd, 2011). In the absence of suitable surveys, this species should be considered as having the potential to occur within the application area.

Given this butterfly is only known from two subpopulations in Western Australia (DBCA, 2024), if present, the proposed clearing has the potential to have a species level impact. Potential impacts to ABAB can be minimised with the implementation of a preclearance survey to determine presence of host ant and if present, avoidance of critical habitat.

Inland hairstreak butterfly

Inland hairstreak butterfly (*Jalmenus aridus* - P1) is listed as priority 1 and is data deficient. Similarly to ABAB, the fauna survey report (St Ives Gold Mining Company Pty Ltd, 2011) noted that the distribution of this species was restricted to Lake Douglas, however further research on this species has expanded the extent of occurrence (Eastwood *et al.*, 2023). Although available databases do not contain recent records for this species, recent research indicates this species has been recorded at at least ten locations within 100 kilometres of Kalgoorlie (Eastwood *et al.*, 2023). The application area is located approximately 75 kilometres from Kalgoorlie (GIS Database).

This species' preferred habitat is open woodlands with *Senna artemisioides* subsp. *filifolia* and mixed flowering shrubs, including *Eremophila*, *Scaevola*, and *Maireana*, along with open areas of exposed ground and good drainage near older *Senna* shrubs (Eastwood *et al.*, 2023). The flora surveys (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011) identified species that form suitable habitat within the application area.

While potential habitat may be present in the application area, given the widespread nature of the preferred habitat in the local area, the size of the proposed work, and the recent findings of new populations, if present in the application area this species is unlikely to be significantly impacted at a regional or species scale.

Western rosella (inland)

The western rosella inland subspecies (*Platycercus icterotis xanthogenys* - P4) occurs across the wheatbelt, where it has declined in range considerably since 1970 and is now a rare and uncommonly recorded species (Fox *et al.*, 2016; Mawson and Long, 1995). This subspecies inhabits open eucalypt forest and eucalypt and sheoak woodlands and scrubs, and is more commonly recorded in areas with over 15 per cent tree cover (BirdLife Australia, 2024b; DEC, 2009; Fox *et al.*, 2016). These birds may move around the landscape depending on water and food availability, however during breeding they likely confine themselves to their breeding territories (Fox *et al.*, 2016). Western rosellas nest in hollows, including in marri (*Corymbia calophylla*), wandoo (*Eucalyptus wandoo*), york gum (*Eucalyptus loxophleba*), flooded gum (*Eucalyptus grandis*) and salmon gum (*Eucalyptus salmonophloia*) (DEC, 2009).

The fauna survey reports noted that the survey area was outside of the documented range of this sub-species and that it was therefore considered unlikely to frequent the area. The reports also noted that the species had been recorded once in a reserve to the south of the survey area over 30 years ago. However, it was considered that lack of records further north indicate that the habitat can be considered unsuitable although it may occur very occasionally (St Ives Gold Mining Company Pty Ltd, 2011). This species has since been recorded within 31 kilometres of the application area (GIS Database). The location of this record is connected to the area by contiguous and suitable habitat, including potential breeding, roosting, and foraging habitat, and the species has potential to utilise or be present in the application area (St Ives Gold Mining Company Pty Ltd, 2011; GIS Database). The survey reports did not report on presence or absence of hollows within the application area and therefore the potential for breeding habitat is unknown, however given the tree species reported in the flora survey, potential breeding habitat is likely to be present (St Ives Gold Mining Company Pty Ltd, 2011). Research on the minimum dimensions of nest hollows preferred by western rosellas appears to be limited, however this bird has been recorded in nest hollows with a minimum internal width of 95 millimetres (Whitford, 2001). While the application area contains potentially suitable habitat for these species, it is unlikely these species will be significantly impacted at a species level, however there is potential for it to be impacted at a local and regional level. It is recommended that large trees be inspected for hollows prior to clearing and avoided where possible to avoid clearing any potential nesting or roosting habitat to minimise impacts to this species.

Rainbow bee-eater

The rainbow bee-eater (*Merops ornatus* - Marine) is found across most of Australia and is said to be seasonally common and locally abundant throughout much of its range (Commonwealth of Australia, 2008). This species inhabits open forests and woodlands, shrublands and various cleared or semi-cleared habitats (Commonwealth of Australia, 2008). Rainbow bee-eaters were observed foraging and roosting in a number of areas north of the Bellerophon study area during the survey period and was considered to have potential to breed in the application area, but that population levels would be unlikely to be significant. (St Ives Gold Mining Company Pty Ltd, 2011). Given this bird's migratory habits, the widespread nature of this species, and the expanse of native vegetation surrounding the application area, it is unlikely that the proposed clearing will significantly impact the conservation status of this species.

It is noted that since the granting of CPS 4696/3, rainbow bee-eater (*Merops ornatus*) has since been removed from the list of migratory species under section 209 of the EPBC Act in 2016 and is no longer listed as a migratory bird by the Japan-Australia Migratory Bird Agreement (JAMBA). They are however listed as a marine species under section 248 of the EPBC Act.

Conclusion

For the reasons set out above, it is considered that the impacts to potential habitat for several conservation significant fauna species can be managed by slow directional clearing to allow fauna to move into adjacent vegetation and a pre-clearance survey condition for malleefowl and ABAB.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- direction of clearing undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- a fauna management (malleefowl) condition requiring areas proposed to be cleared to be inspected to identify
 malleefowl mounds, and to maintain a 200 metre buffer around identified active mounds during the months of
 September to January and a 50 metre buffer around identified inactive mounds;
- a fauna management (ABAB) condition requiring areas proposed to be cleared to be surveyed to identify critical habitat, ant colonies, and ABAB individuals and no clearing within 100 metres of ant colonies.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 16 August 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WCD2017/002 - Ngadju Part B) over the area under application (DPLH, 2025). This claim has been determined by the Federal Court 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 (DPLH, 2025). 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 noted that the proposed clearing may impact on malleefowl (*Leipoa ocellata*, VU) and ABAB (*Ogyris petrina*) which are a protected matter under the EPBC Act. The proponent may be required to refer the project to the (Federal) Department of Climate Change, Energy, the Environment and Water for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the Mining Act 1978; and
- A Mining Proposal / Mine Closure Plan approved under the Mining Act 1978.

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.

Appendix A. Additional information provided by applicant					
Summary of comments	Consideration of comment				
On 21 November 2024, the department requested shapefiles showing the location of all disturbance that has been undertaken since CPS 4696/1 was originally granted.	The shapefiles were provided per request of the Environmental Officer. It was used to assess principles (a), (b), (c), and (d).				
On 10 February 2025, the department contacted proponent to determine if updated biodiversity information was available.	The Regional flora and vegetation survey for St Ives Gold Mine - Prepared for St Ives Gold Mining Company Pty Ltd March 2017 - Final Report (Phoenix, 2017) was provided on 18 March 2025.				

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details				
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation, mining operations, pastoral leases and rural townships (GIS Database). The proposed clearing area is approximately 350 metres east of Lake Lefroy at its closest point.				
	The area is located within the Eastern Goldfield subregion of the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). This subregion is characterised by gently undulating plains interrupted in the west with low hills and ridges of Archaean greenstones and in the east by a horst of Proterozoic basic granulite (CALM, 2002). A series of large playa lakes in the western half are the remnants of an ancient major drainage line (CALM, 2002). At a broad scale, the vegetation can be described as mallees, Acacia thickets and shrubheaths on sandplains. Diverse Eucalyptus woodlands occur around salt lakes, on ranges, and in valleys. Salt lakes support dwarf shrublands of samphire (CALM, 2002).				
Ecological linkage	A review of aerial imagery and spatial data indicates that the area is not likely to function as a significant ecological linkage or fauna movement corridor (GIS Database).				
Conservation areas	The application area is not located within any conservation areas (GIS Database). The nearest conservation areas are the Kambalda Nature Reserve and Kambalda Timber Reserve, both adjacent to each other and located approximately 15 kilometres north-west of the application area (GIS Database).				
Vegetation description	 The vegetation of the application area is broadly mapped as the following Beard vegetation association: 936: Medium woodland; salmon gum (GIS Database). 				
	Flora and vegetation surveys were conducted by Botanica Consulting over different parts of the application area in 2009, 2010 and 2011 (St Ives Gold Mining Company Pty Ltd, 2011) and by Phoenix Environmental Sciences Pty Ltd in 2016 (Phoenix 2017). Refer to Appendix E for maps of the survey areas.				
	The 2009 and 2010 surveys, conducted over the West Idough and Bellerophon project areas, and an additional Bellerophon area directly north of the main Bellerophon survey area (refer to Appendix E, Figure 2), identified the following vegetation communities within the application area (St Ives Gold Mining Company Pty Ltd, 2011):				
	 Dunal shrubland; Chenopod shrubland; <i>Eremophila scoparia</i> over chenopod shrubland; Mixed <i>Eucalyptus</i> woodland; <i>Eucalyptus platycorys</i> over <i>Triodia irritans</i>; and <i>Eucalyptus salubris</i> over <i>Eremophila scoparia</i>. 				
	 The 2011 survey, conducted over the Thunderer project area, identified the following vegetation communities within the application area (St Ives Gold Mining Company Pty Ltd, 2011). 1. <i>Eucalyptus platycorys</i> tree mallee over mixed dwarf Scrub/<i>Cratystylis conocephala</i>; 2. Mixed low scrub of <i>Atriplex nummularia</i> over open dwarf scrub <i>Tecticornia</i> 				
	 halocnemoides on clay pan; 3. Eucalyptus platycorys tree mallee over mid dense hummock grass Triodia irritans; 				

Characteristic	Details
	4. Very open tree mallee <i>Eucalyptus platycorys</i> over dwarf scrub <i>Cratystylis</i>
	<i>subspinescens</i> ; 5. Dwarf scrub mixed Chenopods over <i>Tecticornia halocnemoides</i> in a depression;
	 Bwain scrub mixed cheropous over <i>recticomia nalochemolaes</i> in a depression, Rehabilitated <i>Eucalyptus salicola</i> Low Woodland over dwarf scrub Atriplex bunburyana
	7. Callitris columellaris Low Woodland over Hummock Grass Triodia irritans on sand
	dune; and
	8. Salt lake.
	Phoenix (2017) determined that the following vegetation communities were present across the application area:
	1. R1: Acacia ligulata, Jacksonia arida and Melaleuca spp. mid isolated shrubs to open mixed shrubland occasionally with an overstorey of Allocasuarina spp. and/or Callitris columellaris low open woodland;
	2. W4: Eucalyptus lesouefii and/or E. oleosa subsp. oleosa mid woodland over Cratystylis conocephala, Eremophila scoparia and Scaevola spinescens mid shrubland
	occasionally with <i>Triodia scariosa</i> or <i>T. irritans</i> low sparse hummock grassland; 3. W6: <i>Eucalyptus striaticalyx</i> mid woodland over <i>Acacia ligulata</i> mid sparse to open
	 shrubland over <i>Triodia irritans</i> low hummock grassland; 4. W7: Mosaic of <i>Eucalyptus</i> spp. mid woodland over sparse mixed shrubland over <i>Triodi</i>.
	irritans hummock grassland;
	5. W11: Eucalyptus griffithsii, E. oleosa subsp. oleosa, E. salmonophloia and E. salubris mid woodland over Dodonaea spp. tall shrubland over Senna artemisioides subsp.
	<i>petiolaris</i> and <i>Scaevola spinescens</i> mid shrubland; 6. Salt lake playa; and
	7. Disturbed/developed area.
Vegetation condition	The biological surveys recorded the vegetation condition within the proposed clearing area as completed degraded to pristine ((Keighery, 1994), with the majority of the vegetation in the application area recorded as excellent to pristine (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011).
	These vegetation conditions are described by Keighery (1994) as:
	Pristine: Pristine or nearly so, no obvious signs of disturbance.
	 Excellent: Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
	 Very good: Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence o some more aggressive weeds, dieback, logging and/or grazing.
	 Good: Vegetation structure significantly altered by very obvious signs of multiple
	 Good. Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example disturbance to vegetation structure caused by very frequent fires, the presence of som very aggressive weeds at high density, partial clearing, dieback and/or grazing.
	Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent.
	 fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing. Completely degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with
	isolated native trees or shrubs.
	The full Keighery (1994) condition rating scale is provided in Appendix D.
	The 2010 and 2011 survey reports (St Ives Gold Mining Company Pty Ltd, 2011) noted that the disturbance which reduced the vegetation condition was due to mining development, exploration activities, exploration tracks and drilling and heavy grazing.
Climate and landform	The climate of the Eastern Goldfields IBRA subregion is described as arid to semi-arid, with mainly winter rainfall (CALM 2002). The nearest weather station (Kalgoorlie-Boulder Airport) recorded an average rainfall of approximately 265.1 millimetres per year (BoM, 2025). The application area is mapped with an elevation of 300 metres AHD (GIS Database).
	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 soil is mapped as
Lefroy system (265Lf) - Salt lakes and fringing saline plains, sandy plains and dunes
with chenopod low shrublands;
 Lefroy Lake Bed subsystem (265LfLB) - Bare lake beds inundated for short periods ofter raise
 after rain; Lakeside system (265Ls): Sandplains with occasional sand dunes and prominent
claypans, supporting mallee eucalypts and spinifex;
 Moriarty system (265Mo): Low greenstone rises and stony plains supporting chenopod
shrublands with patchy eucalypt overstoreys; and
Gumland system (265Gm): Extensive pedeplains supporting eucalypt woodlands with
halophytic and non-halophytic shrub understoreys (DPIRD, 2025).
The salt lakes in the application area are naturally highly saline (GIS Database).
The salt lakes in the application area are naturally highly saline (GIS Database).
The application area falls within multiple land systems and the land degradation risk to these
systems from clearing is described below (DPIRD, 2025; Waddell and Galloway, 2023):
Lefense level eventeers. All wild plains are assessible to villing when should even is reduced as
Lefroy land system: Alluvial plains are susceptible to rilling when shrub cover is reduced or surface flows from degraded areas upslope affect flow regimes below. Loss of vegetation may
cause water erosion on alluvial plains and exacerbate wind erosion of lake margins; dunes; and
sandy banks and lunettes.
Lakasida land system: Lask of slans, sandy sails and dance vegetation make meet of this land
Lakeside land system: Lack of slope, sandy soils and dense vegetation make most of this land system resistant to erosion. Loss of stabilising perennial vegetation may exacerbate wind
erosion of sandy surfaces in this system.
Moriarty land system: 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.
Gumland land system: Alluvial plains, drainage tracts and alluvial fan or drainage focus are
susceptible to erosion if perennial shrub cover is substantially reduced, as are footslopes if
protective mantles are disturbed.
The desisten approximation of active imageny indicated that approximation near percential solt
The desktop assessment and aerial imagery indicated that several minor, non-perennial salt lakes and claypans are within the area proposed to be cleared (GIS Database).
The application area is approximately 350 metres from Lake Lefroy, a large salt lake, at its
closest point (GIS Database). There are numerous small salt lakes surrounding Lake Lefroy and
the Chenopods/Samphire vegetation are common throughout these lakes (St Ives Gold Mining
Company Pty Ltd, 2011).
The application area is located within the Goldfields Groundwater Area, which is legislated by th
<i>Rights in Water and Irrigation Act 1914</i> (RIWI Act) (GIS Database). The application area is not
within any Public Drinking Water Source Areas (PDWSA) (GIS Database). The nearest PDWSA
is the Broad Arrow Dam Catchment Area which is located approximately 102 kilometres
northwest of the application area (GIS Database).
The mapped groundwater salinity is 14,000 to 35,000 milligrams per litre total dissolved solids
(TDS) which is considered saline (GIS Database).
Between 1966 and 2016, the nearest weather station (Kalgoorlie-Boulder Airport) recorded a
mean annual evaporation of 2,628 millimetres (BoM, 2025), approximately ten times the annual
average rainfall.
A review of available databases revealed records of one threatened flora species within 50
kilometres of the application area and records of 15 priority flora species within 20 kilometres of
the application area (GIS Database). Refer to Appendix B.3.
There are no known records of Threatened Ecological Communities (TECs) or Priority Ecological
Communities (PECs) within the application area (GIS Database). The nearest known ecological
community is a PEC is approximately 38 kilometres south east of the application area (GIS
community is a PEC is approximately 38 kilometres south east of the application area (GIS Database).

Characteristic	Details
Fauna	There are 13 conservation significant fauna species that have the potential to occur within the application area (St Ives Gold Mining Company Pty Ltd, 2011; GIS Database). Refer to Appendix B.4.

B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current extent in all DBCA Managed Land (proportion of pre- European extent) (%)		
IBRA Bioregion Coolgardie	12,912,204.35	12,648,491.39	97.96	2,114,349.37	16.37		
Beard vegetation as - State	sociations						
Veg Assoc No. 936	698,752.00	676,689.18	96.84	28,010.13	4.01		
Beard vegetation associations - Bioregion (Coolgardie)							
Veg Assoc No. 936	586,792.23	584,336.14	99.58	18,103.64	3.09		

Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix F.1), and biological survey information (Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011; Western Australian Herbarium, 1998-; GIS Database), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
Calandrinia lefroyensis (previously known as Calandrinia sp. Widgiemooltha (F. Obbens & E. Reid FO 9/05))	P1	Y	<15	11
Chrysocephalum apiculatum subsp. norsemanense	P3	Y	<11	18
Cyathostemon divaricatus (previously known as Astartea sp. Red Hill (K.R. Newbey 8462))	P1	Ν	<14	7
Eremophila perglandulosa	P1	Y	<18	8
Eucalyptus x brachyphylla	P4	N	<8	24
Melaleuca coccinea	P3	N	<7	35
Phlegmatospermum eremaeum	P3	N	<20	18
Pityrodia scabra subsp. dendrotricha (a taxonomic synonym of Pityrodia sp. Yilgarn)	P3	Y	<16	27
Prostanthera splendens	P1	N	<21	13
Ricinocarpos digynus	P1	N	<15	10
Sowerbaea multicaulis	P4	Y	<7	22
Tecticornia flabelliformis	P2	Y	<13	7
Tecticornia mellarium	P1	Y	<13	21
Trachymene pyrophila	P2	Y	<20	10
Xanthoparmelia xanthomelanoides	P2	Y	<12	5

B.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix F.1), and biological survey information (St Ives Gold Mining Company Pty Ltd, 2011; GIS Database), impacts to the following fauna species required further consideration. Habitat suitability, likelihood of occurrence, and impact was determined utilising a range of sources, and each species known distribution and habitat preferences were evaluated and compared to the available fauna habitats within the application area (BirdLife Australia, 2024a, 2024b; Commonwealth of Australia, 2008; DBCA, 2020, 2024; DCCEEW, 2024a, 2024b; DEC, 2009; Eastwood, 2024; Menkhorst, 2010, 2017; St Ives Gold Mining Company Pty Ltd, 2011; TSSC, 2014; GIS Database).

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Comment
BIRDS				
Australian bustard (<i>Ardeotis australis</i>)	- (previously Priority 4)	Y	-	Both fauna survey reports noted that tracks potentially of this species were observed during a previous nearby survey though evidence was inconclusive. This species was previously considered as a conservation significant species with potential to occur within the application area under CPS 4696/1, however this species has since been removed from the DBCA priority list and the proposed clearing is unlikely to have a significant impact.
Common sandpiper (Actitis hypoleucos)	МІ	Y	49	This species has the potential to forage within the salt-lakes and clay pans when inundated. Given the presence of nearby suitable habitat, the application area is unlikely to represent significant habitat for this species.
Fork-tailed swift (<i>Apus pacificus</i>)	МІ	Y	90	Fork-tailed swift has potential to be an occasional seasonal visitor to and forage within the application area. Given the presence of nearby suitable habitat, the application area is unlikely to represent significant habitat for this species.
Hooded plover (Charadrius cucullatus)	Priority 4	Y	-	Hooded plovers have the potential to forage within the salt-lakes and clay pans when inundated. Hooded plovers also have the potential to breed on the shore of the lakes. Given the presence of nearby suitable habitat, the application area is unlikely to represent significant habitat for this species.
Malleefowl (Leipoa ocellata)	VU	Y	4	Discussed in Section 3.2.2.
Peregrine falcon (<i>Falco peregrinus</i>)	OS	Y	28	Found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water. Given the species' highly dispersal nature and lack of preferred habitat within the application area, the proposed clearing is unlikely to lead to a significant impact.
Rainbow bee-eater (<i>Merops ornatus</i>)	Marine	Y	-	Discussed in Section 3.2.2.
Red-necked stint (<i>Calidris ruficollis</i>)	МІ	Y	50	This species has the potential to forage within the salt-lakes and clay pans when inundated. Given the presence of nearby suitable habitat, the application area is unlikely to represent significant habitat for this species.
Shy heathwren (Hylacola cauta whitlocki)	- (previously Priority 4)	Y	Recorded in application area (St Ives Gold Mining Company Pty Ltd, 2011).	Shy heathwren was recorded in the application area during the Level 1 Terrestrial Fauna Survey of the Proposed Bellerophon Mine Area. While habitat for this species is present and this species is known to occur, this species has since been removed from the DBCA priority list and the proposed clearing is unlikely to have a significant impact on this species.

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Comment
Sharp-tailed sandpiper (<i>Calidris acuminata</i>)	MI	Y	17	This species has the potential to forage within the salt-lakes and clay pans when inundated. Given the presence of nearby suitable habitat, the application area is unlikely to represent significant habitat for this species.
Slender-billed thornbill (<i>Acanthiza iredalei</i>)	- (previously Vulnerable (EPBC Act))	Y	-	This species was previously considered as a conservation significant species with potential to occur within the application area under CPS 4696/1, however this species has since been removed from the DBCA priority list and the proposed clearing is unlikely to have a significant impact.
Western rosella (inland) (<i>Platycercus icterotis</i> <i>xanthogenys</i>)	Priority 4	Y	31	Discussed in Section 3.2.2.
INVERTEBRATES				
Inland hairstreak butterfly (<i>Jalmenus aridus</i>)	Priority 1	Y	64	Discussed in Section 3.2.2.
Arid bronze azure butterfly (ABAB) (<i>Ogyris petrina</i>)	CR	Y	60	Discussed in Section 3.2.2.
MAMMALS				
Chuditch, western quoll (<i>Dasyurus geoffroii</i>)	VU	Y	17	The nearest record is from 1974. There are no more recent records within 100 kilometres of the site in available databases. The application area is approximately 70-80 kilometres outside of the current estimated distribution for this species. While suitable habitat is present on site, the proposed clearing is unlikely to have a significant impact on this species.
Central long-eared Bat (Nyctophilus major tor)	Priority 3	Y	Recorded in the St Ives area in 2006 (St Ives Gold Mining Company Pty Ltd, 2011)	The species has potential to be present. The application area contains some potentially suitable habitat for this species to forage and roost and this species was recorded in the general St Ives area in 2006. There is potential for the loss of existing roosting and foraging habitat however given the presence of suitable habitat nearby and the clearing that has already taken place on site, it is unlikely that this species will be significantly impacted. It is recommended however that large trees be inspected for hollows prior to clearing and avoided where possible to avoid clearing potential nesting or roosting habitat to minimise impacts to this species.
Red-tailed phascogale, kenngoor (<i>Phascogale calura</i>)	CD (BC Act), VU (EBPC Act)	N	40	While this record is from 2005, the certainty of the record is "uncertain", and the application area is currently outside the known current range for this species. The record is likely to be an outlier. It is unlikely that the proposed clearing will significantly impact this species.
REPTILES		1	1	
Southern carpet python (<i>Morelia spilota imbricata</i>)	- (previously Priority 4)	Y	-	This species was previously considered a conservation significant species with potential to occur within the application area under CPS 4696/1, however this species has since been removed from the DBCA priority list and the proposed clearing is unlikely to have a significant impact.

Assessment against the clearing principles	Variance level	Is further consideration required?	
Environmental value: biological values			
Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."	May be at variance	Yes	
Assessment:	(changed from	Refer to Section	
The area proposed to be cleared contains potential habitat for conservation significant lora and fauna.	CPS 4696/3)	3.2.1, above.	
Several priority flora species have the potential to occur within the application area Phoenix, 2017; St Ives Gold Mining Company Pty Ltd, 2011; GIS Database). The application area contains potential habitat for conservation significant fauna.			
<u>Principle (b):</u> "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."	May be at variance	Yes Refer to Section	
Assessment:	(changed from	3.2.2, above.	
The area proposed to be cleared contains potential foraging, roosting, and breeding nabitat for conservation significant fauna.	CPS 4696/3)		
Principle (c): "Native vegetation should not be cleared if it includes, or is necessary for he continued existence of, threatened flora."	Not likely to be at variance	No	
Assessment:	(as per CPS		
The area proposed to be cleared is unlikely to contain flora species listed under the BC Act. However, one threatened species has previously been recorded within 50 kilometres of the application area (GIS Database).	4696/3)		
Principle (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."	Not likely to be at variance	No	
Assessment:	(as per CPS		
There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database). A flora and vegetation assessment of the area did not identify any TECs (St Ives Gold Mining Company Pty td, 2011). The vegetation present is unlikely to be necessary to maintain a TEC.	4696/3)		
Environmental value: significant remnant vegetation and conservation areas	1	I	
Principle (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."	Not at variance	No	
Assessment:	(as per CPS		
The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	4696/3)		
<u>Principle (h):</u> "Native vegetation should not be cleared if the clearing of the vegetation s likely to have an impact on the environmental values of any adjacent or nearby	Not likely to be at variance	No	
conservation area."	(as per CPS 4696/3)		
Assessment: Given the distance to the nearest conservation area, the proposed clearing is not	+000/0/		
ikely to have an impact on the environmental values of nearby conservation areas.			
Environmental value: land and water resources			
Principle (f): "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."	At variance	No	
Assessment:	(as per CPS 4696/4)		
There are no permanent wetlands or watercourses within the application area, nowever there are several non-perennial salt lakes (GIS Database). The application	,		

Assessment against the clearing principles	Variance level	Is further consideration required?
area is approximately 350 metres from Lake Lefroy, a large salt lake, at its closest point (GIS Database). There are numerous small salt lakes surrounding Lake Lefroy and the Chenopods/Samphire vegetation is common throughout these lakes (St Ives Gold Mining Company Pty Ltd, 2011). It is therefore considered unlikely that the proposed clearing will have a significant impact upon vegetation growing in association with salt lakes locally or regionally.		
<u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."	May be at variance	No
Assessment:	(as per CPS	
The mapped soils are susceptible to erosion, particularly when vegetation cover is removed or reduced. The salt lakes in the application area are naturally highly saline. Noting the extent of the application area the proposed clearing is likely to have an appreciable impact on land degradation. Potential erosion as a result of the proposed clearing may be minimised by the continued implementation of a staged clearing condition.	4696/4)	
<u>Principle (i):</u> "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."	Not likely to be at variance	No
Assessment:	(as per CPS	
No Public Drinking Water Sources Areas (PDSWA) are recorded within the application area. The nearest PDWSA is the Broad Arrow Dam Catchment Area approximately 102 kilometres north northwest of the application area (GIS Database). Given this distance, it is unlikely that the proposed clearing will impact on the quality of a PDWSA. There are several non-perennial wetlands within the application area (GIS Database). Based on the low average annual rainfall and annual evaporation rate of the area, any surface water resulting from rainfall events is likely to be relatively short lived. The mapped groundwater salinity in the area is considered saline and the proposed clearing of 151 hectares in the Goldfields Groundwater Area is considered unlikely to impact on groundwater salinity. Given the above and the relative flatness of the application area, the proposed extension to the permit duration is unlikely to increase the impact surface or ground water quality.	4696/4)	
<u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."	Not likely to be at variance	No
Assessment:	(as per CPS	
The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	4696/4)	
Given several wetlands are recorded within the application area, the proposed clearing may contribute to waterlogging, however based on the average annual rainfall and annual evaporation rate of the area, any surface water resulting from rainfall events is likely to be relatively short lived.		
Given the above, the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding or waterlogging.		

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E.

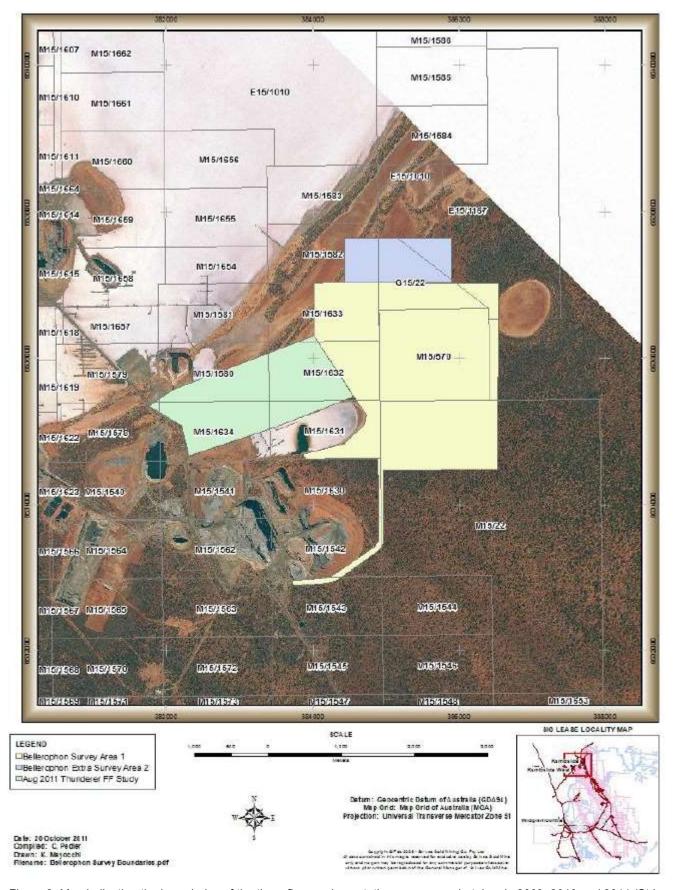


Figure 2: Map indicating the boundaries of the three flora and vegetation surveys undertaken in 2009, 2010 and 2011 (St Ives Gold Mining Company Pty Ltd, 2011).

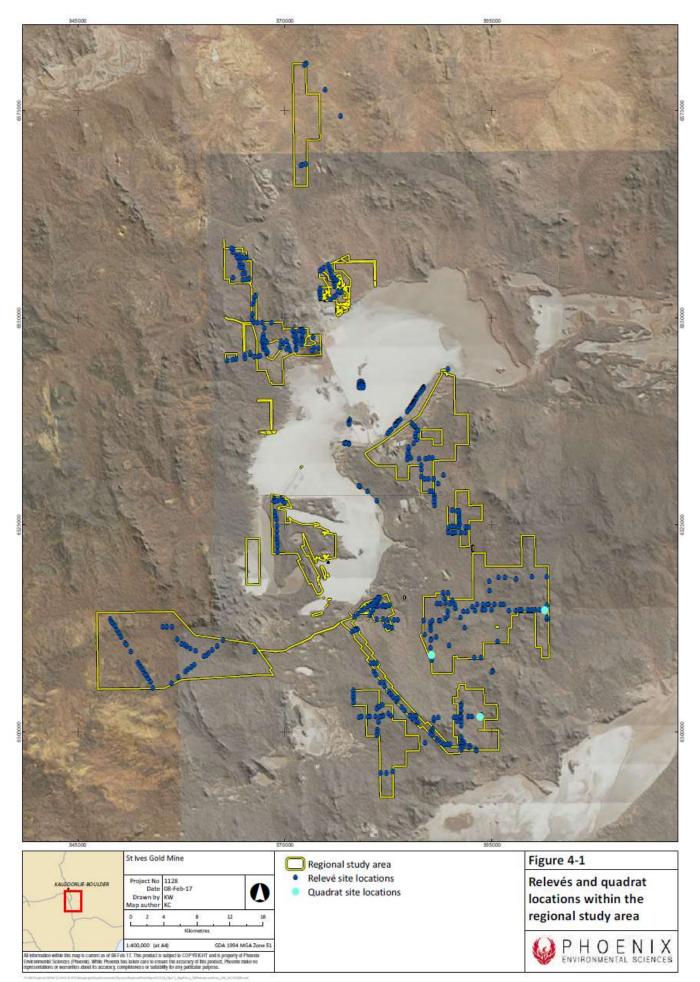


Figure 3: Relevés and quadrat locations within the regional study area of the 2017 Regional flora and vegetation survey for St Ives Gold Mine (Phoenix, 2017).

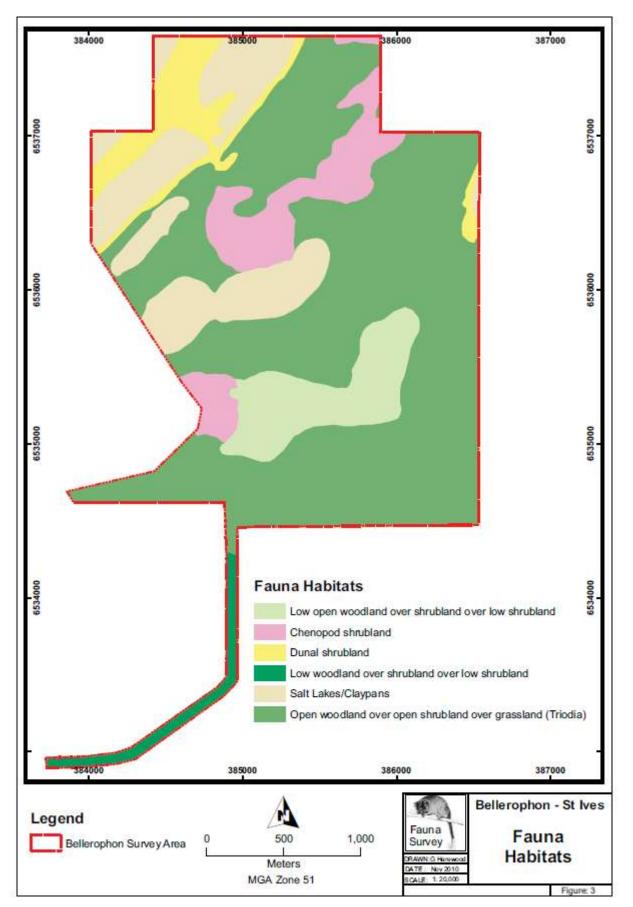


Figure 4: Map of the fauna habitats identified in the 2010 Terrestrial Fauna Survey (Level 1) of the Proposed Bellerophon Mine Area – St Ives – Kambalda report (St Ives Gold Mining Company Pty Ltd, 2011) which covered part of the application area.

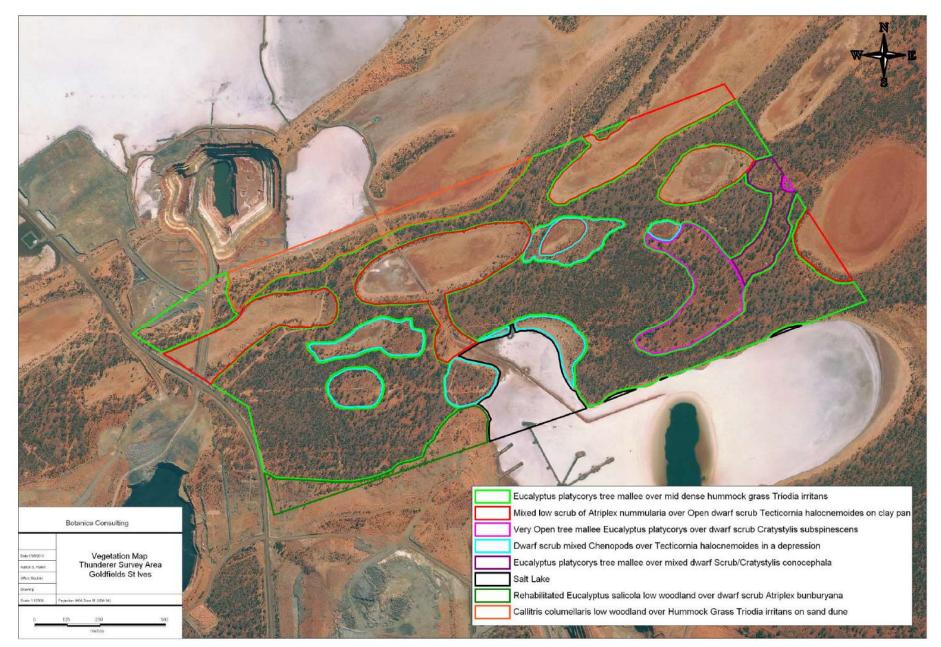


Figure 5: Map of the broadscale fauna habitats in the 2011 Terrestrial Fauna Survey (Level 1) of Thunderer Mine Area – St Ives – Kambalda report (St Ives Gold Mining Company Pty Ltd, 2011) which covered part of the application area.

CPS 4696/4

Appendix F. Sources of information

F.1.GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- Clearing Regulations Schedule One Areas (DWER-057)
- DBCA Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments Catchments (DWER-028)
- Hydrography Inland Waters Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Local Planning Scheme Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping Best Available (DPIRD-027)
- Soil Landscape Mapping Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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4. Glossary

Acronyms:

BC Act	Biodiversity Conservation Act 2016, Western Australia
ВоМ	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government

DBCA DEMIRS DER	Department of Biodiversity, Conservation and Attractions, Western Australia Department of Energy, Mines, Industry Regulation and Safety Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	Environmental Protection Act 1986, Western Australia
EPA	Environmental Protection Authority, 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
PEC	Priority Ecological Community, Western Australia
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T <u>Threatened species:</u>

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 the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species.

Threatened flora is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species.

The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of <u>Ministerial Guideline Number 1</u> and <u>Ministerial Guideline</u> <u>Number 2</u> that adopts the use of the International Union for Conservation of Nature (IUCN) <u>Red List</u> of <u>Threatened Species Categories and Criteria</u>, and is based on the national distribution of the species.

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.

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.

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.

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).

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.

Specially protected species:

EW

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).

Migratory species include birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) or 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.

CD Species of special conservation interest (conservation dependent fauna)

Species of special conservation need that are 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).

Currently only fauna are listed as species of special conservation interest.

OS Other specially protected species

Species 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).

Currently only fauna are listed as species otherwise in need of special protection.

P Priority species:

Priority is not a listing category under the BC Act. The Priority Flora and Fauna lists are maintained by the department and are published on the department's website.

All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey 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 prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

Species that are adequately known, meet criteria for near threatened, or are rare but not threatened, or that have been recently removed from the threatened species list or conservation dependent or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of priority status 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 – known from few locations, none on conservation lands 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, for example, 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.

CPS 4696/4

Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

P2 Priority Two - Poorly-known species – known from few locations, some on conservation lands 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, for example, national parks, conservation parks

lands managed primarily for nature conservation, for example, 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 for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

P3 Priority Three - Poorly-known species – known from several locations

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. These species need 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 a conservation dependent specially protected species.

(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.

(d) Other species in need of monitoring.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (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.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened 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.
- (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.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (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.
- (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.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.