



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	8248/2
Permit type:	Purpose Permit
Applicant name:	Agnew Gold Mining Company Pty Ltd
Application received:	21 September 2022
Application area:	80.7 hectares
Purpose of clearing:	Power station, wind farm and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 36/32 Mining Lease 36/53 Mining Lease 36/149 Mining Lease 36/174 Mining Lease 36/314
Location (LGA area/s):	Shire of Leonora
Colloquial name:	Alternative Power Project (APP) Expansion

1.2. Description of clearing activities

Agnew Gold Mining Company Pty Ltd (Agnew) proposes to clear up to 80.7 hectares of native vegetation within a boundary of approximately 224.8 hectares, for the purpose of expanding their Alternative Power Project (APP), which includes a wind farm, power station and supporting infrastructure. The project is located approximately 18 kilometres south west of Leinster, within the Shire of Leonora.

Clearing permit CPS 8248/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Industry Regulation and Safety) on 7 February 2019 and was valid from 2 March 2019 Year to 1 March 2024. The permit authorised the clearing of up to 65.7 hectares of native vegetation within a boundary of approximately 202.8 hectares, for the purpose of a power station, wind farm and associated activities.

On 21 September 2022, the Permit Holder applied to amend CPS 8248/1 to increase the permit boundary from 202.8 hectares to 224.8 hectares, and to increase the clearing area from 65.7 hectares to 80.7 hectares.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	20 December 2022
Decision area:	80.7 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 21 September 2022. DMIRS 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 A), relevant datasets (Appendix E), supporting information provided by the applicant including the results of a flora and vegetation survey, 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 Delegated Officer also took into consideration the purpose of the clearing to expand the existing Alternative Power Plant project at the Agnew Gold Mine.

The assessment has not changed since the assessment for CPS 8248/1. The Delegated Officer determined that the proposed additional clearing of 15 hectares is not likely to lead to an unacceptable risk to environmental values.

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 51O 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values. The proponent has outlined the following management measure to minimise impacts to native vegetation (MBS Environmental, 2022).

- A 50 metre buffer will be applied to all drainage lines;
- Drainage control strategies will be implemented so natural hydrological regimes are maintained via the construction of nominal bunds and allowing sheet flow to pass around infrastructure;
- Localised erosion will be managed during operations through diversion bunds, surface water controls and sedimentation controls to prevent heavy sediment loads in surface water flows;
- Any spills will be controlled, contained and cleaned up and disposed appropriately;
- Off-road vehicle use will be strictly controlled, with no driving permitted off designated routes; and
- Vehicle hygiene procedures will be implemented in accordance with a Weed Management Procedure and all personnel will complete a site induction to reinforce awareness of the Weed Management Procedure.

3.2. Assessment of impacts on environmental values

A review of current environmental information reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 8248/1.

To support the clearing permit amendment application for future development of the solar farm and energy storage infrastructure (APP Expansion), Stantec completed a reconnaissance flora and vegetation survey and Basic fauna survey in 2021 on three potential locations for the APP expansion (see Figure 1 in Appendix D for a map of the survey area). The total area surveyed was approximately 35.62 hectares, adjacent to the current APP area (CPS 8248/1) (Stantec, 2022). The north-west Polygon (Figure 1 in Appendix D) has been selected as the APP expansion area (i.e the amendment area) (MBS Environmental, 2022).

The vegetation within the amendment area is predominantly in completely degraded condition and is not considered to contain significant habitat for fauna or conservation significant flora. This is consistent with the vegetation in the original permit area. The amendment area abuts an ephemeral seasonal drainage line and has poorly defined drainage tributaries within the amendment area. The seasonal drainage line is associated with the “drainage line” fauna habitat type (Stantec, 2022). The “drainage line” fauna habitat type has upper and lower vegetation cover, tree hollows and leaf litter/debris which may provide shelter for a range of mammal’s birds and reptiles (Stantec, 2022). When seasonally flooded the drainage areas may provide habitat for amphibians and wetland birds (Stantec, 2022). However, this fauna habitat type is typical throughout the Murchison region and the “drainage line” habitat type within the amendment area is not considered to hold higher biodiversity values that similar landscapes in the region.

The current conditions applied to CPS 8248/1 are considered to be sufficient for this amendment area with the addition of a watercourse management condition to minimise potential impacts to vegetation associated with a watercourse or drainage line.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 8 November 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There are two native title claims over the area under application (DPLH, 2022). One claim (WC2011/007) has been determined by the Federal Court, and one claim (WC1999/010) has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2022). 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.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

End

Appendix A. Site characteristics

A.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 mining operations, pastoral leases and rural townships (GIS Database).
Ecological linkage	According to available databases, there are no formal ecological linkages within the application area (GIS Database).
Conservation areas	There are no conservation areas within the application area. The nearest DBCA managed land is the Wanjarri Nature Reserve which is located approximately 55 kilometres northeast of the application area, at its nearest point (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association: 18: Low woodland; mulga (<i>Acacia aneura</i>) (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area and surrounding areas by Stantec Australia Pty Ltd (Stantec) on 8 - 14 May 2018 and 12 - 13 September 2018 (Stantec, 2018a). The following eight vegetation associations were recorded within the survey area (Stantec, 2018a):</p> <p>AaAiEsEffEeMp: <i>Acacia aneura</i> and <i>Acacia incurvaneura</i> open tall shrubland over <i>Eremophila spectabilis</i> (<i>E. forrestii</i> subsp. <i>forrestii</i>) open shrubland over <i>Eragrostis eriopoda</i> (Poaceae sp. and <i>Monachather paradoxus</i>) very open grassland. This was the most commonly occurring vegetation type within the survey area;</p> <p>AappEffEp: <i>Acacia aneura</i> and <i>A. ayersiana</i> (narrow phyllode variant) tall shrubland over <i>Acacia craspedocarpa</i> (hybrid) and <i>Eremophila fraseri</i> subsp. <i>fraseri</i> low shrubland over <i>Enneapogon polyphyllus</i> very open tussock grassland;</p> <p>AcAiEff: <i>Acacia craspedocarpa</i> (hybrid) and <i>A. incurvaneura</i> tall open shrubland over <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open low shrubland to open shrubland;</p> <p>AcAnEffEs: <i>Acacia caesaneura</i> open low woodland over <i>Acacia aneura</i> (?<i>Santalum lanceolatum</i>) tall shrubland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> shrubland over <i>E. spectabilis</i> low open shrubland;</p> <p>AiEspP.SsMPsEm: <i>Acacia incurvaneura</i> tall open shrubland over <i>Eremophila fraseri</i> subsp. <i>fraseri</i>, <i>Senna</i> sp. Meekatharra, <i>E. latrobei</i> subsp. <i>latrobei</i>, <i>Ptilotus schwartzii</i> and <i>E. margarethae</i> open shrubland over <i>Eriachne mucronata</i> very open tussock grassland;</p> <p>AsppEspPSeEpAc?Ta: <i>Acacia quadrimarginea</i>, <i>A. caesaneura</i> and <i>A. tetragonophylla</i> tall open shrubland over <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. serrulata</i> and <i>Sida ?ectogama</i> low open shrubland over <i>Enneapogon polyphyllus</i> and <i>Aristida contorta</i> very open to open tussock grassland and <i>?Tragus australianus</i> very open grasses;</p> <p>EffAtEmPoAcCa: <i>Eremophila fraseri</i> subsp. <i>fraseri</i> and <i>Acacia tetragonophylla</i> open shrubland over <i>Eremophila ?margarethae</i> and <i>Ptilotus obovatus</i> open low shrubland over <i>Aristida contorta</i> and <i>Cymbopogon ambiguus</i> open tussock grassland; and</p> <p>EffEm: <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. margarethae</i> open low shrubland.</p> <p>An additional survey was completed by Stantec in November 2021 to support the APP expansion project and this clearing permit amendment application (Stantec, 2022). The following vegetation types were recorded within the amendment area, which are consistent with the originally identified vegetation types (Stantec, 2022):</p> <p>AsppEspPSeEpAc?Ta: <i>Acacia quadrimarginea</i>, <i>A. caesaneura</i> and <i>A. tetragonophylla</i> tall open shrubland over <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. serrulata</i> and <i>Sida ?ectogama</i> low open shrubland over <i>Enneapogon polyphyllus</i> and <i>Aristida contorta</i> very open to open tussock grassland and <i>?Tragus australianus</i> very open grasses; and</p>

Characteristic	Details
	EffEm: <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. margarethae</i> open low shrubland.
Vegetation condition	The vegetation survey (Stantec, 2022) indicate the vegetation within the proposed amended clearing area is in Good to Completely Degraded (Trudgen, 1991) condition. The full (Trudgen, 1991) condition rating scale is provided in Appendix C.
Climate and landform	The climate of the region is semi-arid (CALM, 2002). The total annual rainfall recorded at Leinster Aero station (#12314) in 2021 was approximately 215.2 millimetres (BoM, 2022). The landform within the application is relatively flat with elevations ranging between 500 and 510 metres Australian Height Datum (mAHD).
Land System	The proposed clearing area is mapped as occurring within the Nubev and Tiger land systems (GIS Database). The Nubev land system is described as gently undulating stony plains, low rises and drainage flows, supporting mulga and halophytic shrublands (Pringle et al., 1994). The Tiger land system consists of hardpan plains and sandy banks, supporting mulga shrublands and grasses (Pringle et al., 1994).
Land degradation risk	The Tiger land system is generally not susceptible to soil erosion and the Nubev land system is moderately susceptible to soil erosion, if stony mantles are disturbed or vegetation cover is removed (Pringle et al., 1994).
Waterbodies	There are no permanent water courses or waterbodies within the application area and one minor ephemeral drainage line passes through the application area (GIS Database). The nearest ephemeral lake, Lake Miranda, occurs approximately 26 km north, an unnamed non-perennial lake system also occurs approximately 32 kilometres south. The nearest nationally important wetland is the Lake Barley System, 112 kilometres southwest of the Expansion Survey Area (Stantec 2022; GIS Database).
Hydrogeography	Groundwater salinity in the area ranges between 500 – 1000 milligrams per litre of total dissolved solids (TDS) (GIS Database). Surface water drainage is via a combination of sheet flow (with shallow flow depths and low velocities) and poorly defined drainage lines (Stantec, 2018a). Drainage lines within the APP are not considered regionally prominent and do not contain vegetation communities or species that are confined to watercourses or wetlands, nor are they groundwater dependant (Stantec, 2018a). There are no public drinking water areas within 10 kilometres of the Expansion Survey Area (GIS Database)
Flora	Stantec (2022) completed a reconnaissance flora, vegetation and fauna survey in November 2021. The survey area comprised three potential locations for the APP expansion, which totalled approximately 35.62 hectares. From the survey, a total of 45 flora species were recorded from the Survey Area (Stantec, 2022). No Threatened or Priority flora species were recorded within Survey Area. One flora species, <i>Goodenia modesta</i> (P3), is considered 'possible' to occur within the Survey Area based on the post-survey likelihood assessment. No species of other significance were recorded in the Survey Area.
Ecological communities	No Threatened Ecological Communities or Priority Ecological Communities have been recorded within the application area (GIS Database), and none were found during the flora and vegetation survey within the amendment area (Stantec, 2022).
Fauna	A total of 12 terrestrial vertebrate fauna species were opportunistically recorded within the amendment area during the survey (Stantec, 2022). These comprised seven birds, three mammals, and two reptiles. No fauna species of conservation significance were recorded in the survey area or are expected to occur based on previous records in the area and the habitats present. The post survey likelihood assessment identified three species of significance that were 'possible' to occur: Fork-tailed swift (M1), Peregrine falcon (OS), and Northern shield-backed trapdoor spider (P3) (MBS Environmental, 2022; Stantec, 2022). The findings from the survey within the amendment area are consistent to the survey findings for the original application area.

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u></p> <p>The additional area proposed to be cleared has the potential to contain conservation significant flora and fauna habitats (Stantec, 2022). However, during the reconnaissance flora and fauna survey, no conservation significant flora or fauna were recorded within the amendment area (Stantec, 2022). The findings and outcomes from the field survey are consistent with the findings and outcomes of the original survey and assessment for CPS 8248/1, with the exception of suitable habitat present in the amendment area for one flora species (<i>Goodenia modesta</i> P3).</p> <p><i>Goodenia modesta</i> has a broad distribution beyond the Murchison Bioregion including Central Ranges, Gibson Desert, Great Sandy Desert, Little Sandy Desert and Tanami bioregions (Western Australian Herbarium, 1998-). Given this, and the good to completely degraded vegetation condition within the amendment area, the proposed clearing is unlikely to significantly impact this species on a local or regional scale.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 8248/1)</p>	<p>No</p>
<p><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.”</p> <p><u>Assessment:</u></p> <p>The field survey recorded a total of 12 species of vertebrate fauna within the amendment area and no species of conservation significance were recorded (Stantec, 2022).</p> <p>The following three fauna species of conservation significance were considered to possibly occur within the application area, based on available habitats: Fork-tailed Swift, <i>Apus pacificus</i> (MI); Peregrine Falcon, <i>Falco peregrinus</i> (OS); and Northern shield-backed trapdoor spider <i>Idiosoma clypeatum</i> (P3) (Stantec, 2022). However, the amendment area is unlikely to represent significant habitat for any of these species, even if present.</p> <p>Four broad habitats were identified within the November 2021 survey, which include:</p> <ul style="list-style-type: none"> • Shrubland • Drainage line • Open plain • Cleared <p>The majority of the amendment area is mapped as open plain habitat and a small proportion is identified as drainage line and shrubland habitats (Stantec, 2022). The open plain habitat is considered to hold minimal habitat for fauna given the lack of shelter or foraging habitat. The drainage line habitat type may provide habitat for fauna during periods of water flow, however, this is noted to be in degraded condition (Stantec, 2022). The shrubland habitat type is in degraded condition and both of these habitat types are common to the Murchison bioregion (GIS Database).</p> <p>As such, the vegetation proposed to be cleared is unlikely to represent significant habitat for fauna in either a local or regional context.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 8248/1)</p>	<p>No</p>
<p><u>Principle (c):</u> “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within or in close proximity to the amendment area (Stantec, 2022; GIS Database). The flora survey of the application area and surrounding areas did not record any species of Threatened flora (Stantec, 2022). The vegetation associations within the amendment area are common and widespread within the region (Stantec, 2022; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 8248/1)</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Principle (d): <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the amendment area or original application area (GIS Database).</p> <p>A flora and vegetation survey of the amendment area did not identify any TECs (Stantec, 2022).</p>	<p>Not likely to be at variance</p> <p><i>(as per CPS 8248/1)</i></p>	<p>No</p>
Environmental value: significant remnant vegetation and conservation areas		
<p>Principle (e): <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>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, 2018). The application area is broadly mapped as Beard vegetation association 18: Low woodland; mulga (<i>Acacia aneura</i>) (GIS Database). Approximately 99% of the pre-European extent of this vegetation association remains uncleared at both 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.</p>	<p>Not at variance</p> <p><i>(as per CPS 8248/1)</i></p>	<p>No</p>
<p>Principle (h): <i>“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></p> <p><u>Assessment:</u></p> <p>There are no conservation areas within the application area. The nearest DBCA managed land is the Wanjarri Nature Reserve, which is located approximately 55 kilometres northeast of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.</p>	<p>Not likely to be at variance</p> <p><i>(as per CPS 8248/1)</i></p>	<p>No</p>
Environmental value: land and water resources		
<p>Principle (f): <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). There is a minor drainage line that pass through the amendment and original application area (GIS Database) with one of the vegetation communities identified within the amendment area are attributed to watercourses (Stantec, 2022). Ephemeral drainage lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002) and there are mitigation measures in place to minimise impacts to vegetation associated with drainage lines (Section 3.1)</p> <p>Based on the above, the proposed clearing may be at variance to this Principle. To assist in managing impacts to vegetation associated with a drainage line, a watercourse management condition has been applied to the amendment permit.</p>	<p>May be at variance</p> <p><i>(as per CPS 8248/1)</i></p>	<p>No</p>
<p>Principle (g): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The proposed clearing area is mapped as occurring within the Nubev and Tiger land systems (GIS Database).</p> <p>The Nubev land system is described as gently undulating stony plains, low rises and drainage flows, supporting mulga and halophytic shrublands (Pringle et al., 1994). This land system is moderately susceptible to soil erosion, if stony mantles are disturbed or vegetation cover is removed (Pringle et al., 1994).</p>	<p>Not likely to be at variance</p> <p><i>(as per CPS 8248/1)</i></p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The Tiger land system consists of hardpan plains and sandy banks, supporting mulga shrublands and grasses (Pringle et al., 1994). This land system is generally not susceptible to soil erosion (Pringle et al., 1994).</p> <p>Some minor erosion may occur as a result of the vegetation clearing, however the proposed clearing is unlikely to result in appreciable land degradation.</p>		
<p>Principle (i): <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.”</i></p> <p>Assessment:</p> <p>Given no water courses, wetlands or Public Drinking Water Sources Areas are recorded within or within close proximity to the application area (GIS Database), the proposed clearing is unlikely to impact surface or ground water quality.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 8248/1)</p>	No
<p>Principle (j): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p>Assessment:</p> <p>Given no permanent water courses or wetlands are recorded within or within close proximity to the application area, the climate of the region is semi-arid, and the proposed avoidance and minimisation measures outlined by the proponent (Section 3.1), the proposed clearing is unlikely to contribute to waterlogging or increase the incidence or intensity of flooding.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 8248/1)</p>	No

Appendix C. 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 Trudgen, M.E. (1991) *Vegetation condition scale in National Trust (WA) 1993 Urban Bushland Policy*. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition (Trudgen, 1991)

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 D. Vegetation types within the amendment boundary & the survey area (Stantec, 2022)



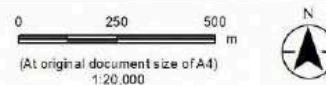
Vegetation type	Photograph (Stantec, 2022)
<p>EffEm <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. margarethae</i> open low shrubland</p>	
<p>AsppEsppSeEpAc?Ta <i>Acacia quadrimarginea</i>, <i>A. caesaneura</i> and <i>A. tetragonophylla</i> tall open shrubland over <i>Eremophila fraseri</i> subsp. <i>fraseri</i> open shrubland over <i>E. serrulata</i> and <i>Sida ?ectogama</i> low open shrubland over <i>Enneapogon polyphyllus</i> and <i>Aristida contorta</i> very open to open tussock grassland and <i>?Tragus australianus</i> very open grasses.</p>	

Figure 1: A map of the surveyed areas to support the APP expansion clearing permit amendment application (Stantec, 2022)



- Survey Area
- Operating Mines
- Towns
- Waterbodies
- Minor Road
- Tracks



Project Location: Stantec Australia Pty Ltd, Perth, Western Australia
Prepared by: FW on 2022-01-14, TR by DK on 2022-01-14, IR by SG on 2022-01-14
Client/Project: Gold Fields Pty Ltd, Agnew Renewable Energy Expansion Reconnaissance Flora and Basic Fauna Survey
 300003403

Title: Survey Site Location

Notes
 1. Coordinate System: GDA 1994 MGA Zone 51
 2. Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2022).
 3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix E. Sources of information

E.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)
- Clearing Regulations – Schedule One Areas (DWER-057)

- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- 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	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)

DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
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	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	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.

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.