



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6939/1  
Permit type: Purpose

### 1.2. Proponent details

Proponent's name: Minjar Gold Pty Ltd

### 1.3. Property details

Property: Mining Lease M59/420  
Mining Lease M59/497  
Local Government Area: Shire of Yalgoo  
Colloquial name: Sprite Deposit Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
52.43		Mechanical Removal	Mineral Production

### 1.5. Decision on application

Decision on Permit Application: Granted  
Decision Date: 31 March 2016

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** The application area has been mapped as the following two Beard vegetation associations:

- 202: Shrublands; mulga and *Acacia quadrimarginea* scrub.
- 420: Shrublands; bowgada and jam scrub.

A Level 1 and 2 Flora and Vegetation Survey of the application area was undertaken by Terratree (2013) during the period 3 – 13 and 19 - 27 September 2013. The vegetation survey identified the following three vegetation community types within the application area:

1. *Acacia ramulosa*, *A. tetragonophylla* and *Acacia* sp. narrow phyllode (B.R. Maslin 7831) tall shrubland over *Eremophila* spp. and mixed low shrubland.
2. *Acacia incurvaneura* low woodland over *Aluta aspera* subsp. *hesperia* shrubland.
3. *Baeckea* sp. Wanarra (M.E. Trudgen MET 5376), *Calycopeplus paucifolius* and *Acacia affinis* subsp. *affinis* tall shrubland over *Aluta aspera* subsp. *hesperia* low sparse shrubland.

**Clearing Description** Sprite Deposit Project.  
Minjar Gold Pty Ltd proposes to clear 52.43 hectares within a boundary of 127.24 hectares for the purposes of mining and related activities. The project is located approximately 70 kilometres south of Yalgoo within the Shire of Yalgoo.

**Vegetation Condition** Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).  
to  
Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

**Comment** The application area has been previously subjected to historical drilling and exploration activities. A total of 6.83 hectares of the application area has been disturbed or the area is otherwise described as uninterpretable (APM, 2016a).

## 3. Assessment of application against clearing principles

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
The application area is located within the Tallering sub-region of the Yalgoo Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Yalgoo bioregion is characterised by low woodlands to open woodlands of *Eucalyptus*, *Acacia* and *Callitris* on red sandy plains of the Western Yilgarn Craton and southern Carnarvon Basin. Mulga, *Callitris*, *Eucalyptus salubris*, and Bowgada open woodlands and scrubs occur on earth to sandy-earth plains in the western Yilgarn Craton (CALM, 2002). The vegetation of the

Yalgoo bioregion is well represented in Western Australia and is considered to be of least concern with regards to conservation status (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2014).

The flora and vegetation survey undertaken by Terratree (2013) identified no Threatened Ecological Communities (TEC's) occurring within the application area. However, one Priority Ecological Community (PEC) was identified within a 10 kilometre search area of the application area. The 'Minjar and Chulaar Hills Vegetation complex, Banded Ironstone formation (BIF)' PEC is located within the application area. However, APM (2016a) report that the vegetation located in the application area and mapped by Matiske (2009) and Terratree (2013) does not comprise BIF associated vegetation assemblages (APM, 2016a). In addition, the Minjar and Chulaar Hills PEC extends in a north-south direction over a large area (2,914.47 hectares). The application area is located in the southern portion of the PEC boundary (GIS Database). It is unlikely that the clearing of 52.43 hectares of native vegetation would impact the PEC in this area. The Department of Parks and Wildlife (DPaW) provided comments on the proposal and DPaW recommend that unless unavoidable, disturbance should remain outside the PEC boundary. DPaW also recommend that where clearing within the PEC boundary is unavoidable then clearing should be minimised to that which is absolutely necessary (DPaW, 2016).

The flora and vegetation survey completed by Terratree (2013) identified three vegetation community types within the application area. Based on a review of a number of databases, survey reports and published literature by Terratree (2013) a number of conservation significant flora species have the potential to occur in the application area. No species of Threatened flora were recorded during the flora survey. However, three Priority flora species were recorded during the survey. These include: *Drummondita fulva* (Priority 3), *Micromyrtus trudgenii* (Priority 3) and *Persoonia pentasticha* (Priority 3) occurring in the application area (APM, 2016a). A previous record of the Priority flora species, *Polianthion collinum* (Priority 3) was recorded in the north-east portion of the application area (GIS Database).

APM (2016b) report 854 individuals of *D. fulva* (with 896 individuals remaining from a population size of 1,750 within the application area) could be impacted by the proposal. APM (2016b) also reported 10 individuals of *M. trudgenii* (with 173 individuals remaining from a population size of 183 within the application area) could be impacted by the proposal. No individuals of *P. pentasticha* are located in the disturbance footprint and six individuals of this species will remain within the application area (APM, 2016b). *P. collinum* individuals are also recorded outside the disturbance area and the species will not be impacted by the proposal (GIS Database).

Advice from DPaW (2016) identified the clearing of Priority flora species and cumulative clearing may cause impacts to these species in the Mid-west region. While DPaW acknowledge that populations of all Priority flora species occur beyond the disturbance footprint, DPaW recommended that where possible, the proponent avoid and minimise the clearing of *M. trudgenii* individuals occurring on the western boundary of the proposed disturbance footprint, near the existing haul road (DPaW, 2016). Potential impacts to Priority flora species may be avoided by the implementation of a flora management condition, restricting the number of Priority flora cleared.

A desktop survey of fauna species potentially occurring in the broader region which included all Minjar Gold tenements was undertaken prior to the fauna survey (APM, 2016a). The broad desktop survey identified 252 vertebrate fauna species potentially occurring within the region. However, the fauna survey of the Sprite deposit undertaken in September 2013 by Bamford Consulting Ecologists (Bamford) identified a small number of fauna species and two introduced fauna species (APM, 2016a; Bamford, 2014). No Threatened fauna were recorded during the fauna survey.

Suitable habitat was identified in the application area for Malleefowl (*Leipoa ocellata* – Vulnerable). Bamford (2014) identified that foothills and lower to upper slopes with acacia shrubland over gravelly-loam soils are important habitat for Malleefowl species. It is unlikely that the vegetation of the application area is significant for Malleefowl species as no mounds, tracks, diggings or individuals were recorded during the fauna survey (Bamford, 2014). Bamford (2014) also reported that vegetation of the application area may not be suitable for breeding by Malleefowl individuals due to grazing impacts from feral herbivores that compete with adult and juvenile Malleefowl. It is unlikely that clearing required as part of the proposal would impact Malleefowl species as large areas of suitable breeding and foraging habitat for the species exist in the surrounding area (APM, 2016a). Some areas within the application area have been subjected to historical drilling and exploration activities (APM, 2016a).

The biological surveys confirm the application area does not contain a high level of biological diversity. The proposed clearing is relatively small and the vegetation to be cleared is well represented in the surrounding area. For these reasons it is unlikely to the proposal will result in the clearing of native vegetation that has higher biodiversity values than surrounding, undisturbed vegetation.

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

**Methodology** APM (2016a)  
APM (2016b)  
CALM (2002)  
Department of Natural Resources and Environment (2002)  
DPaW (2016)

Government of Western Australia (2014)  
Terratree (2013)

GIS Database:

- Threatened Fauna
- Threatened and Priority Flora
- TEC/PEC – Buffer
- TEC/PEC – Boundaries

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

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

A Level 1 fauna survey was conducted over the application area. Based on the results of this survey, the habitat type identified in the application area was described as foothills and slopes (lower to upper) supporting Acacia shrubland (occasionally dense and tall) on gravelly-loam soils (Bamford, 2014). Some parts of the fauna survey area had been disturbed by previous exploration activities and access tracks. Adverse effects from goat grazing were apparent in the vegetation throughout most of the survey area. No Threatened fauna were recorded in the application area as part of the fauna survey (Bamford, 2014). No short range endemic (SRE) species were recorded at the Sprite deposit during the fauna survey (APM, 2016a; Bamford, 2014).

A search of available biological databases was undertaken and no Threatened fauna have been recorded in the application area (GIS Database). A desktop survey of fauna species potentially occurring in the region (all Minjar Gold tenements) was undertaken prior to the fauna survey (APM, 2016a). The broader desktop survey identified 252 vertebrate fauna species potentially occurring within the region. The fauna survey of the Sprite deposit undertaken in September 2013 by Bamford identified three reptiles, eleven birds, one mammal species and two introduced fauna species (APM, 2016a; Bamford, 2014). Two species of conservation significance and one SRE had the potential to occur in the area.

Western Spiny-tailed Skink (*Egernia stokesii* subsp. *badia* – Vulnerable) could potentially occur in the application area. However, no individuals of the species were recorded during the fauna survey. Bamford (2014) reported limited suitable habitat was located in the application area and it is unlikely that the species would occur in the application area (Bamford, 2014). Western Spiny-tailed Skinks are restricted to the northern Wheatbelt region of Western Australia from Mullewa south to Kellerberrin and inhabit timber and rock crevices. No suitable rocky outcrops were present within the application area. However, small stands of Eucalyptus trees have the potential to provide some habitat as fallen hollow logs (APM, 2016a). The small amount of available habitat in the application area is not likely to sustain the species (APM, 2016a). Therefore, it is unlikely that the habitat is significant for the species.

Malleefowl (*Leipoa ocellata* – Vulnerable) could potentially occur as suitable habitat for the species is present in the application area. Malleefowl occupy semi-arid to arid shrublands and low woodlands dominated by mallee. Malleefowl also favour vegetation that has not been burnt and is un-grazed (APM, 2016a). The habitat in the application area is described as medium, dense Acacia shrubland on yellow-brown clayey-loam with scattered gravel and pisolite (Bamford, 2014). In the north, soils are sandy with small, scattered Mallee over mixed low shrubland (Bamford, 2014). Bamford (2014) reported one Malleefowl feather but no individuals, mounds or fauna tracks were present in the application area (APM, 2016a; Bamford, 2014). Bamford (2014) reported a lack of recent Malleefowl breeding at a number of Minjar Gold tenements, including the Sprite Deposit area which may be due to grazing impacts from feral herbivores that compete with adult and juvenile Malleefowl. It is unlikely that clearing required as part of the proposal would impact Malleefowl species as large areas of suitable habitat for the species exist in the surrounding area (APM, 2016a). It is also unlikely that the species would depend on this area, given the large areas of suitable fauna habitat located nearby and in surrounding areas. Given the relatively small clearing footprint of the application area in the context of the greater region, it is unlikely that clearing activities would impact conservation significant species.

The Shield-backed Trapdoor Spider (*Idiosoma nigrum*), a SRE species recorded in the vicinity of the application area was also surveyed by Bamford (2014). In the Minjar tenement area, the Shield-backed Trapdoor Spider was recorded at a variety of locations and usually occurred on the upper to lower slopes of ranges (APM, 2016a). No fauna burrows or individuals were recorded in the application area during the fauna survey. Bamford (2014) also reported that limited suitable habitat occurred in the application area and the species was unlikely to be present.

The area proposed to be cleared does not contain significant habitat for fauna species indigenous to Western Australia.

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

**Methodology** APM (2016a)  
Bamford (2014)

GIS Database:  
- Threatened Fauna

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

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

A search of available databases was undertaken and no Threatened flora have been recorded in the application area (GIS Database). Terratree (2013) report no species of Threatened flora were recorded in the application area. The native vegetation proposed to be cleared is not likely to contain or is not necessary for the continued existence of rare flora.

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

**Methodology Terratree (2013)**

GIS Database:  
- Threatened and Priority Flora

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

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

According to available databases, there are no Threatened Ecological Communities (TEC's) located in the application area (GIS Database). APM (2016a) reported no vegetation communities considered to be a TEC within or near the application area as a result of the flora survey (APM, 2016a).

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

**Methodology APM (2016a)**

GIS Database:  
- TEC/PEC - Buffers  
- TEC/PEC - Boundaries

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

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

The application area falls within the Yalgoo Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 97.36% of the pre-European extent of vegetation remains in Western Australia (refer table below) (Government of Western Australia, 2014; GIS Database). As large areas of the pre-European extent of native vegetation remain within the Yalgoo IBRA region, the vegetation is considered to be of least concern with regards to conservation status (Department of Natural Resources and Environment, 2002).

The native vegetation located in the application area has been mapped as Beard vegetation associations 202: Shrublands; mulga and *Acacia quadrimarginea* scrub and 420: Shrublands; bowgada and jam scrub (GIS Database). These vegetation associations have not been extensively cleared as over 96% of the vegetation associations remain at the State and bioregional levels (refer table below) (Government of Western Australia, 2014).

The clearing of vegetation as part of the proposal is not part of a significant ecological linkage. The area proposed to be cleared is also not considered to be significant as a remnant in an area that has been extensively cleared (APM 2016a; GIS Database). The vegetation of the application area is considered to be good to excellent in condition and for these reasons the clearing of native vegetation is not at variance to this Principle (Terratree, 2013).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in All DPaW Managed Land
IBRA Bioregion – Yalgoo	5,057,325.85	4,923,840.46	97.36	Least Concern	31.77
IBRA Subregion -Tallering	3,498,943.53	3,387,092.96	92.84	Least Concern	10.29
Local Government -Yalgoo	2,794,946.37	2,733,268.13	97.79	Least Concern	22.51
Beard veg assoc. – State					
202	448,529.32	448,343.81	99.96	Least Concern	21.97
420	859,632.11	830,216.19	96.58	Least Concern	14.17
Beard veg assoc.					

– Bioregion					
202	45,096.14	45,011.91	99.81	Least Concern	40.08
420	621,396.05	620,265.57	99.82	Least Concern	16.47
Beard veg assoc. – Subregion					
202	45,096.14	45,011.91	99.81	Least Concern	40.08
420	615,816.17	614,685.69	99.82	Least Concern	16.61

\* Government of Western Australia (2014).

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

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

**Methodology** APM (2016a)  
Department of Natural Resources and Environment (2002)  
Government of Western Australia (2014)  
Terratree (2013)

GIS Database:  
- IBRA WA (Regions - Sub Regions)  
- Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments** **Proposal is not likely to be at variance to this Principle**  
There are no permanent watercourses or water bodies mapped within the application area (GIS Database). One minor, ephemeral watercourse is located in the western portion of the application area (GIS Database). APM (2016a) report that watercourses in the area are scarce and surface water flow from heavy rainfall occurs as sheet flow (APM, 2016a). The vegetation communities within the application area were not identified as growing in association with a watercourse. Therefore, the proposed clearing is not at variance to this Principle.

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

**Methodology** APM (2016a)  
  
GIS Database:  
- Hydrography, linear

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
Northcote et al (1960-68) describes soils in the application area as metasediments, with a scattered ironstone gravel pavement. The majority of soils are shallow earthy loams underlain by a red-brown hardpan at less than 12 inches in depth (Northcote et al., 1960-68). APM (2016a) describes soils of the application area as medium sandy soils. Topsoil is classified as non-dispersive with minimal sand grains of silica or gypsum and the majority of soils contain a medium to high gravel content (APM, 2016a). These soils provide a greater level of stability and minimise erosion potential (APM, 2016a).

The area under application falls within a low rainfall area (260 millimetres mean annual rainfall) and the risk of flooding is low (BoM, 2016). There is the potential for short-term and localised flood events and waterlogging during heavy rainfall periods. However, this is not expected to cause appreciable land degradation within the application area. Bund walls will be used to manage and inhibit surface water flows moving in and out of cleared areas, should this occur (APM, 2016a). Due to the arid climate and low rainfall it is also unlikely that clearing activities will cause on-site or off-site impacts with regards to salinity, nutrient export or soil acidification (GIS Database).

APM (2016a) confirm that the raised blade method will be used to undertake clearing activities and clearing will occur progressively. The cleared vegetation will be stockpiled and used in rehabilitation activities further minimising the potential for land degradation (APM, 2016a). The proposed clearing of 52.43 hectares within a boundary of 127.24 hectares is not likely to cause land degradation or reduce the land capability of the application area.

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

**Methodology** APM (2016a)  
BoM (2016)

Northcote et al. (1960-68)

GIS Database:

- Groundwater Sallinity, Statewide
- Hydrography, linear

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

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

The southern portion of the application area occurs on the former Warriedar pastoral station, which is proposed for conservation and now managed by DPaW (GIS Database). The former Warriedar Pastoral Station consists of a large area of land approximately 23,064 hectares in size located directly south and east of the application area. The former Warriedar Pastoral Station contains Threatened and Priority flora species. A number of PEC's also occur over the former Warriedar Pastoral Station including; 'Minjar and Chulaar Hills', 'Minjar 'Mount Karara/Mungada Ridge/Blue Hills' and 'Warriedar/Pinyalling/Walagnumming Hills' vegetation complexes, (BIF's). Additionally, large areas of land now managed by DPaW for the purpose of conservation are located near the application area, including the former Lochada Pastoral Station located to the east.

A small portion of the clearing footprint is located in the northern part of the former Warriedar Pastoral Station. APM (2016a) report that the vegetation in the application area and mapped by Matiske (2009) and Terratree (2013) does not comprise BIF associated vegetation complexes. No Threatened or Priority flora will be cleared in the former Warriedar Pastoral Station as part of the proposal (APM, 2016a).

Given the large area of the former Warriedar Pastoral Station proposed for conservation (23,064 hectares), the small disturbance footprint (approximately 23.8 hectares of the application area is located in DPaW managed land and a smaller portion of this is to be cleared as part of the proposal) and large areas of representative vegetation in the surrounding area, it is unlikely that this proposal will have an impact on any conservation areas.

Based on the above, the proposed clearing is no likely to be at variance to this Principle.

**Methodology** APM (2016a)  
Terratree (2013)

GIS Database:  
- DPaW Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

No Public Drinking Water Source Areas (PDWSA's) are located within or in the vicinity of the application area (GIS Database). There are no permanent watercourses or wetlands located within the application area (APM, 2016a; GIS Database). Therefore, the clearing of native vegetation required for the proposal will not cause deterioration in the quality of surface water, including sedimentation, erosion, turbidity or eutrophication of water bodies on-site or off-site.

Groundwater salinity within the application area is between 500 – 1000 milligrams per litre of Total Dissolved Solids (TDS) and is considered to be brackish (GIS Database). It is not expected that the proposed clearing of 52.43 hectares within a permit boundary of 127.24 hectares would adversely alter salinity levels within the application or surrounding area. Additionally, the low mean annual rainfall (260 millimetres) and relatively small amount of clearing required within a large application area is unlikely to cause changes to groundwater (BoM, 2016). The proposed clearing is not likely to have an impact on the quality of groundwater either on-site or off-site of the application area.

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

**Methodology** APM (2016a)  
BoM (2016)

GIS Database:  
- Groundwater Salinity, Statewide  
- Hydrography, linear  
- Public Drinking Water Source Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

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

Annual mean rainfall for the nearest weather station located at Yalgoo recorded 260 millimetres and total average annual evaporation for the area is approximately 2,400 millimetres (BoM, 2016). Surface water flow in the catchment is ephemeral and there is likely to be little surface water flow during normal seasonal rains (APM, 2016a). In the event of heavy rainfall, there is the potential for short-term and localised flooding. However, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of large-scale, regional flooding. APM (2016a) reported bund walls will be used to manage and inhibit surface water flows moving in and out of cleared areas, should this occur (APM, 2016a).

APM (2016a) describes soils of the application area as medium sandy soils which contain a medium to high gravel content (APM, 2016a). These soils provide a greater level of stability and are unlikely to cause or exacerbate large-scale flooding (APM, 2016a).

The relatively small amount of native vegetation clearing (52.43 hectares) within a large application area (127.24 hectares) is unlikely to adversely impact the application area. In addition, the low impact method of raised blade clearing will be used for the proposal (APM, 2016a). This method minimises impacts to the existing vegetation and promotes rapid regrowth. As this method of clearing does not expose large areas of soil and retains the roots of vegetation, it is highly unlikely that the clearing associated with the proposal will cause, or exacerbate the incidence or intensity of flooding. The surrounding area is also well vegetated further reducing the likelihood of or intensity of flooding (GIS Database).

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

**Methodology** APM (2016a)  
BoM (2016)

GIS Database:  
- Hydrography, linear

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

**Comments** There is one native title claim (WC1997/072) over the application area (DAA, 2016). This claim has been registered with the National Native Title Tribunal on behalf of the claimant groups (DAA, 2016). However, the 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 (DAA, 2016). 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 Environment Regulation, Department of Parks and Wildlife and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 22 February 2016 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

**Methodology** DAA (2016)

**4. References**

- APM (2016a) Additional Information Received in Relation to Clearing Permit Application CPS 6939/1 for the Minjar Gold Sprite Deposit, Animal Plant Mineral Pty Ltd, Perth, Western Australia.
- APM (2016b) Clearing Permit (Purpose Permit) Application Supporting Information, Application for a Native Vegetation Clearing Permit (Purpose Permit) for the Minjar Gold Sprite Deposit, South Murchison Region, Western Australia, February 2016, Animal Plant Mineral Pty Ltd, Perth, Western Australia.
- Bamford (2014) Bamford Consulting Ecologists. Minjar Gold Project, Fauna Assessment. Report prepared for Minjar Gold Pty Ltd by Bamford Consulting Ecologists, Perth, Western Australia, 8 August 2014.
- BoM (2016) Bureau of Meteorology Website - Climate Data Online, Yalgoo. Bureau of Meteorology. [http://www.bom.gov.au/climate/averages/tables/cw\\_007091.shtml](http://www.bom.gov.au/climate/averages/tables/cw_007091.shtml) (Accessed 22 February 2016).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Yalgoo (Tallering subregion) Department of Conservation and Land Management, Perth, Western Australia.
- DAA (2016) Aboriginal Heritage Inquiry System. Department of Aboriginal Affairs. <http://maps.dia.wa.gov.au/AHIS2> (Accessed 17 February 2016).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DPaW (2016) Advice received in relation to Clearing Permit Application CPS 6939/1. Mid-West Region, Department of Parks and Wildlife, Western Australia, March 2016.

- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Western Australian Department of Parks and Wildlife, Perth, Western Australia.
- Keighery B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of Western Australia (Inc.). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G. G., Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Terratree (2013) Spring 2013 Flora and Vegetation Survey, Level 1 and 2 Flora and Vegetation Survey and Mapping Potential Habitat for the Threatened (Declared Rare) species *Stylidium scintillans*, Prepared for Minjar Gold, Perth, Western Australia, September 2013.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

<b>T</b>	<p><b>Threatened species:</b> Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).</p> <p><b>Threatened fauna</b> is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.</p> <p><b>Threatened flora</b> is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.</p> <p>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.</p>
<b>CR</b>	<p><b>Critically endangered species</b> Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.</p>
<b>EN</b>	<p><b>Endangered species</b> Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i>, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.</p>
<b>VU</b>	<p><b>Vulnerable species</b> Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially</p>



Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

- EX Presumed extinct species**  
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.
- IA Migratory birds protected under an international agreement**  
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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- CD Conservation dependent fauna**  
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- OS Other specially protected fauna**  
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P Priority species**  
Species which are poorly known; or  
Species that are adequately known, are rare but not threatened, and 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.