



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8765/1
Permit Holder:	Mr Dennis Lohse
Duration of Permit:	21 April 2020 to 21 April 2025

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of mineral exploration.

2. Land on which clearing is to be done

Lot 11 on Plan 48932, Feysville
Lot 12 on Plan 48932, Feysville

3. Area of Clearing

The Permit Holder must not clear more than 5 hectares of native vegetation within the area cross-hatched yellow on attached Plan 8765/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

6. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III – RECORD KEEPING AND REPORTING

7. Record keeping

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date(s) that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 5 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6 of this Permit.

8. Reporting

The Permit Holder must produce the records required under condition 7 of this Permit when required by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*;
or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

30 March 2020



1. Application details

1.1. Permit application details

Permit application No.: 8765/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Mr Dennis Lohse
Application received date: 17 December 2019

1.3. Property details

Property: Lot 11 on Plan 48932, Feysville
Lot 12 on Plan 48932, Feysville
Local Government Authority: City of Kalgoorlie Boulder
Localities: Feysville

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
5		Mechanical	Mineral exploration

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 30 March 2020
Reasons for Decision: The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is not likely to be at variance with any of the clearing principles.

During the assessment it was identified that the proposed clearing may facilitate the spread of weeds into adjacent vegetation. A weed management condition has been applied to minimise the risk of spreading weeds.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The application is for the proposed clearing of a maximum of 5 hectares of native vegetation within a 9.66 hectare area on Lots 11 and 12 on Deposited Plan 48932, Feysville, for the purpose of exploration for gold.

Vegetation Description The vegetation within the application area is mapped within the Beard vegetation association 9, described as medium woodland; coral gum (*Eucalyptus torquata*) & Goldfields blackbutt (*Eucalyptus lesouefii*) (Shepherd *et al.*, 2001).

Photographs supplied by the applicant indicate that the vegetation within the application area consists predominantly of sparse *Eucalyptus salmonophloia* (salmon gum) over low chenopod shrubland, including an understorey of *Maireana* spp. and *Scaevola spinescens* (Lohse, 2019).

Vegetation Condition The vegetation within the application area is considered to range from Very Good to Degraded (Keighery, 1994) condition, defined as:

- Very Good: vegetation structure altered, obvious signs of disturbance (Keighery, 1994); and
- Degraded: basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

The central 0.3 hectare portion of the application area, where significant disturbance has occurred from previous exploration, and the north-eastern portion where disturbance has occurred from vehicle access tracks, are considered to be in Degraded (Keighery, 1994) condition. In these areas, some re-growth of chenopod shrubs has occurred following disturbance, however the area remains sparsely vegetated with native species and is largely reduce to exposed sand.

The remainder of the application area is considered to be in Very Good (Keighery, 1994) condition, where there are obvious signs of disturbance from previous exploration activity and vehicle access, but the vegetation structure remains largely intact and has not been subject to significant weed invasion.

The vegetation condition of the application area was determined through aerial imagery and photographs supplied by the applicant (Lohse, 2019).

Soil Type

The soil type within the application area is mapped within the Gumland system (256Gm), described as extensive pedeplains supporting eucalyptus woodlands with halophytic and non-halophytic shrub understoreys (DPIRD, 2017).

Local Area

The local area referred to in the assessment of this application is defined as a 20 kilometre (km) radius measured from the perimeter of the application area.

Comments

The applicant has advised that the clearing of native vegetation will be minimised to that necessary for the exploration of gold only, starting from the highly disturbed site of previous exploration (Lohse, 2020). As the specific site of exploration cannot be outlined until digging has commenced, the applicant has committed to clearing a maximum of 5 hectares within the 9.66 hectare footprint (Figure 1; Lohse, 2020).

The applicant has also advised that the entrance of machinery into and out of the proposed clearing area will be restricted to existing access tracks of 5 metre width, to avoid unnecessary clearing of native vegetation (Lohse, 2019).



Figure 1. Application footprint (9.66 hectares, outlined in blue), within which a maximum of 5 hectares is proposed to be cleared.



Figure 2. Photographs of the application area (Lohse, 2019).

3. Assessment of application against clearing principles and planning instruments and other matters

A review of available databases determined that a total of 15 priority flora have been recorded within the local area, comprising five Priority 1 (P1) flora, two Priority 2 (P2) flora, seven Priority 3 (P3) flora, and two Priority 4 (P4) flora (Western Australian Herbarium, 1998-). None of these records occur within the application area. Based on the habitat preferences of the above species, including soil type and vegetation association, the application area may contain suitable habitat for five priority flora species. However, given number of records of the above priority species and the distribution of these species, the proposed clearing is not likely to have an impact on the conservation status of any of these species should they be present. No threatened flora have been recorded within the application area or the greater local area. Noting the above and given that the application area consists of sparse, disturbed salmon gum and chenopod shrubland that is well-represented within the local area, the application area is not considered likely to comprise significant habitat for any threatened or priority flora species and is not likely to comprise a high level of floristic diversity.

A total of three threatened or priority fauna species have been recorded within the local area, including two threatened fauna and one fauna species protected under international agreement (DBCA, 2007-). None of these records occur within the application area. Based on the existing records, habitat preferences and habitat requirements of the above species, the application area may contain suitable habitat for one of the above threatened fauna species; *Leipoa ocellata* (malleefowl).

The malleefowl is associated with low rainfall, semi-arid to arid zone shrublands and woodlands dominated by mallee eucalypts, which provide suitable soil conditions and leaf litter abundance for the construction of nest mounds for breeding (Benshemesh, 2007). Critical habitat for the malleefowl in Western Australia typically includes large remnants of vegetation with a large amount of leaf litter, abundant cover of tall shrubs, and light, gravelly soil texture for nest mound construction (Parsons, 2008). In general, woodlands are thought to provide poor habitat for the species (Parsons, 2008). Given the application area comprises sparse, disturbed salmon gum and low chenopod shrubland over sandy clay soils, the application area is not likely to provide sufficient soil texture, leaf litter or shrub cover to provide significant breeding habitat for malleefowl. Malleefowl are also known to be generalist feeders, where it is likely a diversity of food shrubs, rather than an abundance of any particular shrub species, is more critical foraging habitat (Benshemesh, 2007). Although the application may provide some foraging habitat for the malleefowl, the vegetation within the application area is not likely to comprise a high level of floristic diversity and is well-represented within the local area. Therefore, the application area is not likely to comprise significant foraging habitat for the malleefowl. Noting the above, the extent of the proposed clearing, that a subset of vegetation within the application footprint will be retained, and that larger remnants of suitable habitat are abundant in the local area, the proposed clearing is not likely to result in the loss of significant habitat for the malleefowl or any other threatened fauna species.

The application area does not intersect with any mapped ecological linkage. Noting that the application area occurs within a highly vegetated local area (Table 1) and is situated within a large area of remnant vegetation, the application area is not likely to be significant in providing ecological linkage for fauna moving through the landscape. Given the above, the extent or the proposed clearing, and that a subset of vegetation within the application footprint will be retained, the proposed clearing is not likely to impact vegetation connectivity within the local area or to adjacent bushland.

According to available databases, there are no state-listed threatened ecological communities (TECs) or priority ecological communities (PECs) mapped within the local area. The closest state-listed TEC, Plant assemblages of the Parker Range System, is mapped 183.3 kilometres south-west of the application area. The closest PEC, Mount Belches *Acacia quadrimarginea/Ptilotus obovatus* (banded ironstone formation), occurs 51.6 kilometres east of the application area. Given the distance and separation from the closest TECs and PECs, the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of any state-listed TEC or PEC.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The application area is located within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains approximately 97.5 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The mapped Beard vegetation complex, 9, retains approximately 97.8 per cent of its pre-European extent and 97.8 per cent within the Coolgardie IBRA Bioregion (Table 1). The local area retains approximately 77 per cent of vegetation cover. Noting that the current vegetation extent for the IBRA Bioregion, mapped Beard vegetation complex and local area all sit above the 30 per cent threshold, the application area is not considered to be a remnant of native vegetation in an area that has been extensively cleared.

Table 1: Vegetation representation statistics (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Coolgardie	12,912,204.35	12,648,491.39	97.46	2,114,349.37	16.39
Beard vegetation association					
9	240,509.33	235,161.94	97.78	18,984.28	7.97
Beard vegetation association in IBRA bioregion					
9 (Coolgardie)	240,441.99	235,100.97	97.78	18,984.28	7.97
Local Area					
20 kilometre radius	128,104.77	98,595.58	76.96	-	-

A review of available databases determined that the application area is not mapped within any known wetlands and does not intersect any natural sources of permanent or non-perennial surface water. The closest watercourse, a non-perennial tributary of Newton Creek, occurs approximately one kilometre south-west of the application area. The application area is not noted to contain any characteristic riparian vegetation (Lohse, 2019). Rainfall within the application area is estimated at a maximum of 300 millimetres per annum, spread throughout the year with each month receiving between 13 and 29 millimetres (BoM, 2020). Noting the low rainfall within the application area, the permeable sandy clay soil, and the purpose of the proposed clearing being mineral exploration, the proposed clearing is not likely to facilitate inundation, surface-water run-off or impact any nearby sources of surface water. The application area lies within the Goldfields Groundwater Area, a proclaimed groundwater area under the Rights in Water and Irrigation Act 1914 (the RIWI Act). Groundwater salinity within the application area is hypersaline, mapped as 14,000 to 35,000 milligrams per litre total dissolved solids. Noting that the application area occurs within a highly vegetated local area (Table 1), the extent of the proposed clearing, that a subset of vegetation within the application footprint will be retained, and the hypersaline nature of groundwater in the area, the proposed clearing is not likely to impact groundwater quality. Given the above, the distance from the nearest source of surface water, the low rainfall within the application area, the extent of the proposed clearing, and that a subset of vegetation within the application footprint will be retained, the proposed clearing is not considered likely to be growing in, or in association with, an environment associated with a watercourse or wetland, cause deterioration in the quality of surface or underground water, or to cause, or exacerbate, the incidence or intensity of flooding.

The application area is mapped within the Gumland system (256Gm), described as extensive pedepains supporting *Eucalyptus* woodlands with halophytic and non-halophytic shrub understoreys (DPIRD, 2017). Land degradation risk has not been mapped over the application area, however the Gumland system is considered to be susceptible to wind and water erosion if vegetative cover is removed (Pringle *et al.*, 1994). Given the extent of the proposed clearing, that the application area occurs within a highly vegetated local area (Table 1), that the application area is situated within a large area of remnant vegetation, and that a subset of vegetation within the application footprint will be retained, vegetation cover is not likely to be significantly reduced and is likely to provide a buffer against land degradation resulting from wind and water erosion, salinity, subsurface acidification and phosphorus export. As noted above, the application area also does not intersect any natural source of surface water and occurs within an area of low rainfall in hypersaline soils. Therefore, the application area is not likely to be susceptible to land degradation resulting from water erosion, flooding, waterlogging or salinity. Given the above, and noting that the purpose of the proposed clearing for mineral exploration is not likely to leave large areas of exposed soils, the proposed clearing is not likely to cause appreciable land degradation.

It is noted that the proposed clearing may facilitate the spread of weeds to adjacent vegetation and other remnant vegetation in the local area. A weed management condition has been placed on the permit and is considered to minimise this risk.

According to available databases, the closest conservation area, Kambalda Nature Reserve, is located approximately 2.7 kilometres west of the application area. As discussed above, the application area occurs within a highly vegetated local area (Table 1), is situated within a large area of remnant vegetation and is not likely to provide a significant ecological linkage within the local area or to adjacent bushland, including Kambalda Nature Reserve. Noting the above and the distance from the closest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Given the above, the proposed clearing is not likely to be at variance with any of the clearing principles.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 11 February 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application.

There are no Aboriginal Sites of Significance mapped within the application area. One Aboriginal Site of Significance, Kambalda Stone Arrangement, occurs approximately 100 metres north of the application footprint. Given the separation between the application area and the Aboriginal Site of Significance and that it is unlikely the proposed clearing will extend to the borders of the application footprint, it is not anticipated that the proposed clearing will result in any impacts to the Site. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

4. References

- Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.
- Bureau of Meteorology (BoM) (2020) Climate statistics for Australian locations, Coolgardie. Bureau of Meteorology. Canberra. Available from: http://www.bom.gov.au/climate/averages/tables/cw_012018.shtml (accessed March 2020).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCAs) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. Available from: <http://naturemap.dpaw.wa.gov.au/> (accessed March 2020).
- Department of Primary Industries and Regional Development (DPIRD) (2017). NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Available from: <https://maps.agric.wa.gov.au/nrm-info/> (accessed March 2020).
- Government of Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Lohse, D. (2019) Clearing permit application CPS 8765/1 and supporting information. DWER Ref: A1851831.
- Lohse, D. (2020) Correspondence regarding mitigation measures for clearing of native vegetation. DWER Ref: A1856163.
- Parsons, B. (2008) Malleefowl in the fragmented Western Australian wheatbelt: spatial and temporal analysis of a threatened species. PhD Thesis. School of Animal Biology. University of Western Australia, Perth.

Pringle, H.J.R., Van Vreeswyk, A.M.E., and Gilligan, S.A. (1994) An inventory and condition survey of rangelands in the northeastern Goldfields, Western Australia. Department of Agriculture, South Perth.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available from: <http://florabase.dpaw.wa.gov.au/> (accessed March 2020).

GIS Databases:

- Aboriginal Sites of Significance
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands
- Hydrography, hierarchy
- Hydrography, linear
- Land Degradation datasets
- NatureMap
- Perth Groundwater Mapping (DWER)
- Remnant Vegetation
- SAC Bio Datasets
- Soils, Statewide
- TPFL Data
- Beard Vegetation Complexes
- WA Herbarium Data
- WA TEC/PEC Boundaries and Buffers