



1. Application details

1.1. Permit application details

Permit application No.: 1981/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Giralia Resources NL

1.3. Property details

Property: E69/1897
Local Government Area: Shire Of Wiluna
Colloquial name: Earraheedy Project

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia, and are a useful tool to examine the vegetation extent in a regional context. Three Beard vegetation associations are located within the area proposed to be cleared (GIS Database, Shepherd <i>et al.</i>, 2001), and include:</p> <p>18: Low woodland; mulga (<i>Acacia aneura</i>);</p> <p>29: Sparse low woodland; mulga, discontinuous in scattered groups; and</p> <p>95: Hummock grasslands, shrub steppe, acacia and grevillea over <i>Triodia basedowii</i>.</p>	<p>Giralia Resources NL (from this point on referred to as Giralia) is seeking permission to clear up to 2.4 hectares of native vegetation for the purpose of repairing an existing track (which is visible on aerial photography (Google Earth, 2007)), for mineral exploration. The applicant proposes to use a grader with the blade up where possible, and when blade down method is used, any vegetation will be pushed off the side of the track (Giralia, 2007). The area will then be ripped and rehabilitated within six months, as per the tenement conditions.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994)</p> <p>To</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994)</p>	<p>No recent biological surveys have been completed in the area.</p>

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 clearing permit area is located on the border of the Gascoyne and Little Sandy Desert Interim Biogeographic Regionalisation of Australia (IBRA) Bioregions (GIS Database). The proposed clearing is also located on the border of Trainor and Carnegie IBRA subregions (GIS Database). There is a recognised knowledge gap when it comes to biodiversity information for these bioregions and subregions (Cowan, 2001; Cowan and Kendrick, 2001). There is little data on habitat requirements of invertebrate species, ephemeral plants, small mammals and uncommon vertebrate and plant species for these areas (Cowan, 2001; Cowan and Kendrick, 2001). There is also no data to provide a regional context on life history (including population-trend) of any species (Cowan, 2001; Cowan and Kendrick, 2001).

The Beard vegetation associations within the proposed clearing area cover a large area, and are not localised around the proposed clearing area (GIS Database). It is unlikely that the biodiversity of the proposed clearing area will differ greatly from the surrounding, less disturbed areas.

The vegetation types and any potential fauna habitats within the areas proposed to be cleared are represented elsewhere external to the proposed clearing area.

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

- Methodology** Cowan (2001)
Cowan and Kendrick (2001)
GIS Database
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
- Pre-European Vegetation - DA 01/01

(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**
The vegetation associations located within the areas proposed to be cleared are widespread in the surrounding areas (GIS Database). The proposed small area of clearing (2.4 hectares), and the purpose of the clearing (re-grading of a previously disturbed track), are unlikely to lead to clearing of any significant habitats for fauna indigenous to Western Australia.

A search of available databases reveals no threatened fauna species within a 50 kilometre radius of the application area (GIS Database).

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

- Methodology** GIS Database
- Pre-European Vegetation - DA 01/01
- Threatened Fauna - CALM 30/9/05

(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 the available database reveals no threatened flora species within a 10 kilometre radius of the proposed clearing permit (GIS Database). The nearest recorded Declared Rare Flora (DRF) (*Thryptomene wittweri*) is located approximately 17 kilometres north of the proposed clearing area (GIS Database). The habitat of that species is recorded as being stony soils, creek beds and breakaways (WA Herbarium, 2007), none of which are located within the proposed clearing areas.

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

- Methodology** WA Herbarium (2007)
GIS Database
- Declared Rare and Priority Flora List - CALM 01/07/05

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

- Comments** **Proposal is not likely to be at variance to this Principle**
There are no known Threatened Ecological Communities (TECs) in the vicinity of the proposed clearing area (GIS Database).

The nearest recorded TEC is the Ethel Gorge aquifer stygobiont community, located approximately 210 kilometres north of the clearing permit application area (GIS Database). The proposed clearing will not impact this community.

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

- Methodology** GIS Database
- Threatened Ecological Communities - CALM
- Threatened Plant Communities - DEP 06/95

(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

Approximately 100% of the Pre-European vegetation remains in the Gascoyne and Little Sandy Desert IBRA bioregions, and the Carnegie and Trainor IBRA subregions, within which this proposal is located (see table below) (GIS Database, Shepherd *et al.*, 2001). Available aerial photography (Google Earth, 2007) and information from the Landscape Expedition Report No.42 (Kenneally *et al.*, 2001) indicate that the areas surrounding this clearing permit application have not been cleared extensively.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Gascoyne	18,075,253	18,075,253	100	Least concern	10.3
IBRA Bioregion – Little Sandy Desert	11,089,900	11,089,900	100	Least concern	4.6
IBRA Subregion – Carnegie	4,718,656	4,718,656	100	Least concern	9.9
IBRA Subregion – Trainor	10,098,623	10,098,623	100	Least concern	1.4
Beard veg assoc. – State					
18	19,890,795	19,890,029	100	Least concern	5.7
29	7,904,064	7,904,064	100	Least concern	5.2
95	1,223,119	1,223,037	100	Least concern	3.6
Beard veg assoc. – Bioregion					
18	234,593	234,593	100	Least concern	0.0
29	3,802,497	3,802,497	100	Least concern	7.8
95	442,545	442,545	100	Least concern	5.8

* Shepherd *et al.* (2001)

** Department of Natural Resources and Environment (2002)

Therefore, the proposed clearing area cannot be considered a remnant of native vegetation within an extensively cleared area.

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

Methodology Department of Natural Resources and Environment
 Google Earth (2007)
 Kenneally *et al.* (2007)
 Shepherd *et al.* (2001)
 GIS Database
 - Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00
 - Pre-European Vegetation - DA 01/01

(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 bodies of standing surface water or wetlands within the proposed clearing application area (GIS Database). The surrounding landscape is scattered with minor ephemeral drainage lines, however, none transverse the proposed clearing area (GIS Database). The nearest watercourse is a non-perennial watercourse, approximately 180 metres west of the proposed clearing area (GIS Database). It is unlikely that the proposed clearing will have significant impacts on this watercourse.

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

Methodology GIS Database
 - Geodata, Lakes - GA 28/06/02
 - Hydrography, Lakes (course scale, 1M GA)
 - Hydrography, linear (medium scale, 250k GA)
 - Hydrography, linear - DOE 1/2/04
 - Rivers, DoW

(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

The available databases identify the underlying soils of the area as sedimentary rocks, mainly eolian sand, shale, quartz and rock fragments in loam (GIS Database). As the area within the clearing envelope is predominantly flat (GIS Database), the potential for erosion is minimal.

The proposed clearing area has already been impacted by off road 4WD traffic, previous pastoral leases and the Canning Stock Route (Giralia, 2007).

The groundwater of the area under application is fresh to brackish, at between 1,000-3,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). Given the small size of the proposed clearing, land salinisation is unlikely.

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

Methodology Giralia (2007)
GIS Database
- Geology, 250K - DOIR 21/12/01
- Geology, Statewide - DMPPR 01/12/99
- Groundwater Salinity, Statewide - DOW
- Topographic Contours, Statewide - DOLA 12/09/02

(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 proposed clearing is located within the Carnarvon Range Proposed Reserve, registered on the Register of the National Estate (GIS Database). As the road is already impacted by tourist 4WD traffic, it is unlikely that the proposed clearing will significantly degrade the environmental values of the Carnarvon Range Proposed Reserve.

The nearest Environmental Protection Authority (EPA) Red Book Area is the Carnarvon Range (System 12.09), located approximately 3.9 kilometres east of the proposed clearing area (GIS Database). Based on the distance between the proposed clearing permit area and the Red Book Area, adverse impacts on the environmental values of that area are unlikely.

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

Methodology GIS Database
- Register of National Estate - EA 28/01/03
- System 1 to 5 and 7 to 12 Areas - DEP 06/95

(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

The proposed clearing is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

Groundwater within the area under application is fresh to brackish, at between 1,000 - 3,000 milligrams per litre of TDS (GIS Database). Given the small size of the clearing area, the quality of the groundwater is not likely to be impacted by the proposed clearing activity.

The proposed clearing envelope is relatively flat (GIS Database), and is not traversed by any ephemeral drainage lines (GIS Database). The small area of clearing is not likely to lead to erosion, therefore onsite and offsite impacts on surface water quality are unlikely.

The limited amount of clearing proposed (2.4 hectares) in comparison with the extent of the Lake Carnegie catchment area (which is approximately 6,867,525 hectares) (GIS Database), is unlikely to result in deterioration in the quality of groundwater.

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

Methodology GIS Database
- Groundwater Salinity, Statewide - DOW
- Hydrographic Catchments - Catchments - DOW
- Hydrography, linear (medium scale, 250k GA)
- Hydrography, linear - DOE 1/2/04

- Public Drinking Water Source Areas (PDWSAs) - DOW
- Topographic Contours, Statewide - DOLA 12/09/02

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

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

The limited amount of clearing proposed (2.4 hectares) in comparison with the extent of the Lake Carnegie catchment (GIS Database) is unlikely to result in incremental increase in peak flood height or flood peak duration.

The mean annual rainfall for the area is 250 millimetres while the evaporation of the area is at around 300 millimetres per year (GIS Database). Therefore, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

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

- Methodology** GIS Database
- Evaporation Isopleths - BOM 09/98
 - Hydrographic Catchments - Catchments - DOW
 - Rainfall, Mean Annual - BOM 30/09/01

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

Comments

There is one native title claim (WC06_002) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal. However, the exploration tenement 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*.

No Aboriginal Sites of Significance are known to occur within the application area (GIS Database). A public submission was received, which indicated that the applicant has commissioned a heritage survey of the area, and that any issues arising from the survey can be dealt under the *Aboriginal Heritage Act 1972*, rather than the clearing process. 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.

No relevant Environmental Impact Assessments have been conducted surrounding the proposed clearing area.

- Methodology** GIS Database:
- Aboriginal Sites of Significance - DIA
 - Environmental Impact Assessments
 - Native Title Claims - DLI

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Mineral Exploration	Mechanical Removal	2.4	<p>The proposal has been assessed against the Clearing Principles and the proposal has been found not at variance to Principle e, and not likely to be at variance to Principles a, b, c, d, f, g, h, i and j.</p> <p>It is recommended that the following conditions are imposed on the permit:</p> <ol style="list-style-type: none"> The Permit Holder shall record the following for each instance of clearing: <ol style="list-style-type: none"> the location where the clearing occurred, expressed as grid coordinates using the Geocentric Datum of Australia 1994 coordinate system; the size of the area cleared in hectares; the method of clearing; the purpose of clearing; the area rehabilitated in hectares; the dates on which the area was cleared. The Permit Holder shall provide a report to the Director, Environment Division, Department of Industry and Resources by 31 December each year, setting out the records required under condition 1 of this permit in relation to clearing carried out between 1 November and 31 October of the previous year. This report can be included as part of the Annual Environmental Report submitted to DoIR.

5. References

- Cowan, M. (2001) *Gascoyne 2 (GAS2 - Carnegie subregion)*, in *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*, Western Australia
- Cowan, M. and Kendrick, P. (2001) *Little Sandy Desert (LSD2 - Trainor subregion)*, in *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002*, Western Australia
- 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.
- Giralia (2007) *Additional information provided in support of the clearing permit application*, Giralia Resources Ltd, 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.
- Kenneally, K., Edinger, D., Coate, K., How, R. and Cowan, M. (2001) *Landscape of the heart - a journey to the Carnarvon Range*, Landscape Expeditions Report No.42, Department of Conservation and Land Management, Western Australia
- 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.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X Declared Rare Flora - Presumed Extinct taxa: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1 Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2 Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3 Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4 Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1 Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2 Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3 Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4 Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5 Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)

- EX Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W) Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.