



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6571/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Western Areas Limited

1.3. Property details

Property: Mineral Lease 77/582
Mineral Lease 77/911
Local Government Area: Shire of Kondinin
Colloquial name: Flying Fox Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 11 June 2015

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. Three Beard vegetation association is located within the application area (GIS Database):

Beard vegetation association 511: Medium woodland; salmon gum & morel:

Beard vegetation association 519: Shrublands; mallee scrub, Eucalyptus eremophila; and

Beard vegetation association 2048: Shrublands, scrub-heath in the Mallee region

Botanica Consulting (2006) conducted a flora and vegetation survey over the application area and identified the following vegetation types:

Eucalyptus Mallee Woodland: upper-storey comprised of *Eucalyptus eremophila* ssp. *eremophila*, *E. calycogona*, *E. celastroides* ssp. *celastroides* with mid-storey species comprised of *Allocasuarina acutivalvis*, *A. decussata*, *Melaleuca acuminata*, *M. adnata*, *M. pauperiflora* ssp. *pauperiflora*, *M. hamata*, *Grevillea eriostachya*, *G. pterosperma*, *Exocarpos aphyllus* and *Santalum acuminatum* over an under-storey comprised of *Wilsonia humilis*, *Cooperookia strophiolata*, *Westringia rigida*, *Acacia deficiens*, *A. erinacea*, *A. intricate* and *A. sphacelata* ssp. *sphacelata*;

Eucalyptus salmonophloia Woodland: dominated by *Eucalyptus salmonophloia* with mid-storey species comprised of *Melaleuca adnata*, *M. pauperiflora* ssp. *pauperiflora*, *M. pentagona* and *Santalum acuminatum* over an under-storey comprised of *Olearia muelleri*, *Wilsonia humilis*, *Goodenia viscid*, *Westringia cephalantha*, *Acacia sphacelata* ssp. *sphacelata*, *A. deficiens* and *A. poliochroa*;

Sandplain Heath: dominated by *Melaleuca hamata* and *Allocasuarina decussata* with mid-storey species comprised of *Leptosperma erubescens* and *Melaleuca hamata* over an under-storey comprised of *Astroloma serratifolium*, *Westringia cephalantha*, *Darwinia inconspicua*, *Microcybe albiflora*, *Tetratheca efoliata* and *Philotheca rhomboidea*; and

Kwongan Vegetation: upper-storey comprised of *Allocasuarina decussata*, *A. acutivalvis*, *Grevillea cagiana* with mid-storey species comprised of *Melaleuca hamata*, *Banksia elderiana*, *Dryandra cirsioides*, *D. erythrocephala*, *Grevillea acuaria*, *G. shuttleworthiana* ssp. *obovata*, *Hakea subsulcata* and *H. corymbosa* over an under-storey comprised of *Lepidosperma brunonianum*, *Lysinema ciliatum*, *Baecke crispiflora*, *Balaustion pulcherrimum*, *Darminia inconspicua*, *Petrophile divaricata* and *Daviesia elongata* ssp. *Implexa*.

A review of further surveys conducted over the application area identified four broad dominate vegetation types within the application area (Western Areas, 2015; Botanica Consulting, 2013):

- 1) *Eucalyptus salmonophloia* over mixed low scrub of *Melaleuca*;

2) Open shrub mallee of *E. eremophila* / *E. calycogona* / *E. celastroides* over low heath of mixed Melaleuca;

3) Heath of mixed Acacia/Allocasuarina/Melaleuca; and

Low scrub of mixed Allocasuarina over mixed dwarf scrub

Clearing Description	Flying Fox Project. Western Areas Limited proposes to clear up to 9.3 hectares of native vegetation within a total boundary of approximately 388.23 hectares, for the purpose of mineral exploration. The project is located approximately 75 kilometres north of Lake King in the Shire of Kondinin.
Vegetation Condition	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994). To Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
Comment	Vegetation condition was derived from a flora and vegetation assessment conducted by Botanica Consulting (2006;2013) and a habitat inspection survey conducted by Keith Lindbeck and Associates (2010)..

3. Assessment of application against clearing principles

Comments

The application area is situated on the boarder of two bioregions. The majority of the application area within falls within the Southern Cross (COO2) subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and parts (<15%) lie within the Western Mallee (MAL2) subregion of the Mallee IBRA bioregion (GIS Database).

The Southern Cross subregion is characterised by subdued relief, comprised of gently undulating uplands dissected by broad valleys with bands of low greenstone hills (CALM, 2002a). The drainage of the Southern Cross subregion is occluded (CALM, 2002a). While the Western Mallee subregion is characterised by clays and silts underlain by Kankar, exposed granite, sandplains and laterite pavements. Salt lake systems occur on a granite basement, with occluded drainage systems (CALM, 2002b). Mallee communities can be found on a variety of surfaces while *Eucalyptus* woodlands occur mainly on fine-textured soils, with scrub heath on sands and laterite (CALM, 2002b).

The application area occurs within an Environmentally Sensitive Area (Register of National Estate), which is the Lake Cronin Area (GIS Database). The Lake Cronin Area is listed on the Register of National Estate for its high level of flora and fauna diversity and endemism. According to the Australian Heritage Database (2015), 16 fauna species that are endemic to either the south-west region or to Western Australia occur within the Lake Cronin area. The Lake Cronin area is also described as being an important refuge for rare species due to widespread clearing in the wheatbelt to the west. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

According to available records and a fauna inventory of the area, the following species have been recorded within the application area or vicinity and are either listed as threatened species under the *Environment Protection and Biodiversity Conservation Act* (EPBC) 1999, protected under Western Australian legislation (*Wildlife Conservation Act 1950* (WC) or recognised by the Department of Parks and Wildlife (DPaW) as being of conservation significance (Western Areas, 2014; DPaW, 2014):

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris* – EPBC Act and WC Act Endangered);
- Chuditch (*Dasyurus geoffroyi* - EPBC Act and WC Act Vulnerable);
- Malleefowl (*Leipoa ocellata* – EPBC Act and WC Act Vulnerable);
- Rainbow Bee-eater (*Merops ornatus* – EPBC Act Marine; Migratory);
- Sharp-tailed Sandpiper (EPBC Act Marine; Migratory);
- Lake Cronin Snake (*Paroplocephalus atriceps* – P3);
- Crested Bellbird (*Oreoica gutturalis gutturalis* – P4);
- Rufous Fieldwren (*Calamanthus campestris montanellus* – P4);
- Western Rosella (*Platycercus icterotis xanthogenys* - P4);
- Western Brush Wallaby (*Macropus irma* - P4);
- Carpet Python (*Morelia spilota imbricata* – Schedule 4);and
- Peregrine Falcon (*Falco peregrinus* – Schedule 4)

Fauna species that are either wide ranging, migratory or species that forage or hunt over vast areas such as the Rainbow Bee-eater, Sharp-tailed Sandpiper Crested Bellbird, Rufous Fieldwren, Western Rosella, Western Brush Wallaby, Carpet Python and Peregrine Falcon are unlikely to be significantly impacted by the proposed clearing. The proponent has developed and will implement internal management procedures that will reduce potential impacts to these species (Western Areas, 2015).

Little is known about the Lake Cronin Snake, although it has been collected from melaleuca thicket and Salmon gum (*Eucalyptus salmonophloia*) open woodlands close to ephemeral freshwater lakes (CALM, 2002). Given that suitable habitat for this species is prevalent in areas to the east of the application area and protected areas exist in the form of the Lake Cronin Nature Reserve (situated approx. 2.2 Kilometres north east), significant

impacts to this species are unlikely. The proponent has developed and will implement internal management procedures that will reduce any potential impacts to this species (Western Areas, 2015).

The remaining three species; Carnaby's, Chuditch and Malleefowl are of concern. A previous clearing permit was granted over the current application area (exactly the same clearing envelope), which has now expired. Under the expired permit, ten hectares was approved to be cleared, however only 0.69 hectares of native vegetation was cleared. Prior to areas being disturbed an inspection was undertaken by Keith Lindbeck and Associates (2010). The inspection targeted habitat and habitat trees suitable for the Carnaby's Black Cockatoo as well as potential habitat for the Chuditch. While the area inspected did not contain suitably sized hollows for Carnaby's breeding, or observe any evidence to suggest that Chuditch utilise the area, the inspection did not survey the entire clearing envelope and only encompassed the western third. As there is a Salmon gum woodland located within the eastern half of the application area and nearby foraging habitat (in the form of Kwongan Vegetation), there may be suitable breeding trees for Carnaby's (Keith Lindbeck and Associates, 2010). The Chuditch may occur within unsurveyed parts of the application area, however given their large home range and vast amounts of vegetation remaining in the local area and region (Keith Lindbeck and Associates, 2010), impacts will likely be negligible. The proponent has developed and will implement internal management procedures that will reduce any potential impacts to this species (Western Areas, 2015). Potential impacts to Carnaby's as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

Eucalyptus Mallee woodland is also known from the eastern portion of the application area. This vegetation is prospective habitat for Malleefowl and an inactive mound has been recorded within the local area (Western Areas, 2014; Keith Lindbeck and Associates, 2010). Therefore Malleefowl may be present within the application area. Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

According to available databases, there are no Threatened Flora species within the application area (GIS Database; DPaW 2014). A vegetation survey of the application area and surrounding vegetation identified 132 flora species belonging to 54 genera from 26 families (Botanica Consulting, 2006). No Threatened flora were recorded during the survey, however two species of Priority Flora were identified within the application area; *Baekkea* sp. North Ironcap (P2) and *Microcorys* sp. Forrestania (P4). Given the relatively small size of the proposed clearing and the extensive amount of remaining habitat in the local area, the proposal is not expected to have a significant impact on these species or habitat that is critical to their continued existence.

No threatened ecological communities are known within the application area; however the north west corner of the application is within the boundary of a Priority 3, Priority Ecological Community (PEC) "Ironcap Hills vegetation complexes." Approximately 13.7 hectares of the application area (< 5%) intersects this boundary. Given that the PEC has known extent of 25,184.377 hectares (GIS Database), the proposed clearing of 9.3 hectares is unlikely to result in any significant impacts to this community.

There are no major or minor watercourses mapped as occurring within the application area (GIS Database) and given the relatively small scale of the proposed clearing, land degradation issues are unlikely to arise as a result.

There are three Beard vegetation associations mapped over the area under application; Beard vegetation associations 511, 519 and 2048. All are well represented and retain more than the recommended 30% threshold of pre-European levels of vegetation within the state and bioregion (EPA, 2006; Commonwealth of Australia, 2001; Government of Western Australia, 2013).

The application to clear 9.3 hectares of native vegetation for the purpose of a mineral exploration is unlikely to have any significant environmental impacts.

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is not likely to be at variance to Principles (a), (c), (d), (f), (g), (h), (i), and (j), may be at variance to Principle (b) and is not at variance to Principle (e).

Methodology Botanica Consulting (2006)
Botanica Consulting (2013)
CALM (2002)
Commonwealth of Australia (2001)
DPaW (2014)
EPA (2006)
Government of Western Australia (2013)
Keighery (1994)
Keith Lindbeck and Associates (2010)
Western Areas (2014)
Western Areas (2015)
GIS Database:
- DEC Tenure
- Imagery
- Groundwater Salinity

- Hydrographic Catchments – Catchments
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- RIWI Act, Groundwater Areas
- Soils, statewide
- Threatened and Priority Flora List
- Threatened Ecological Sites Buffered
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Ecological Communities Boundaries

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

Comments

There are two Native Title Claims (WC2003/006 and WC2000/007) over the area under application (GIS Database). These claims have been filed at the Federal Court of Australia and registered with the National Native Title Tribunal on behalf of the claimant group respectively. 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 Sites of Aboriginal Significance located in the area applied to clear (GIS Database; DAA, 2014). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process. It is recommended that the proponent liaise with the South West Aboriginal Land & Sea Council.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the 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 18 May 2015 by the Department of Mines and Petroleum (DMP) inviting submissions from the public. A submission was received in relation to this application regarding aboriginal heritage issues. A written response was provided on the matters raised.

Methodology DAA (2015)
GIS Database:
- Aboriginal Sites of Significance

4. References

- Australian Heritage Database (2015) Register of National Estate: Lake Cronin Area, Forrestania, Southern Cross Rd, Hyden, WA, Australia, viewed 29 May 2015 <<http://www.environment.gov.au>>.
- Botanica Consulting (2006) Flora and Vegetation Survey of the Flying Fox North East Exploration Area (M77/582 and M77/911). Unpublished report prepared for Western Areas NL, November 2006
- Botanica Consulting (2013) Flora and Vegetation Survey of the Greater Flying Fox Area (M77/852, M77/911 & M77/545). Unpublished report prepared for Western Areas Ltd.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management
- Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra
- DAA (2014) Aboriginal Heritage Inquiry System, Government of Western Australia, Department of Aboriginal Affairs, Perth, viewed 4 March 2015 <<http://maps.dia.wa.gov.au/AHIS2/>>.
- DPaW (2014) NatureMap Department of Parks and Wildlife, viewed 02 June 2015 <<http://naturemap.dec.wa.gov.au>>
- EPA (2006) Guidance for the Assessment of Environmental Factors – level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No. 10, Western Australia.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Keith Lindbeck and Associates (2010) Fauna inspection report for CPS 3566/1, Keith Lindbeck and Associates, Environmental Management Consultants, Winthrop, Western Australia.
- Western Areas (2014) Supporting Document for Clearing Permit Application CPS 6196/1 - Mining Tenements M77/99, M77/582, M77/911. Unpublished Report Prepared by Western Areas NL.
- Western Areas (2015) Supporting Document for Clearing Permit Application CPS 6571/1 - Mining Tenements M77/582, M77/911. Unpublished Report Prepared by Western Areas Limited.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , 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
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

- T** **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.

Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X** **Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA** **Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S** **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1** **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2** **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.

- P3 Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities 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 localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- 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 do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
 - (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5 Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

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 indigenous to Western Australia.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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 clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.