



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1532/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hannans Reward Ltd and Cullen Resources Ltd

1.3. Property details

Property: Mining Lease 77/544
Local Government Area: Shire Of Kondinin
Colloquial name: North Ironcap Prospect

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 May 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation within the application area has been mapped as Beard Vegetation Association 511 (Medium woodland; Salmon gum and Morrel).

The application area was surveyed by Armstrong (2006a) who identified the following vegetation associations:

1. Woodland Dominated Associations: Divided into *Eucalyptus longicornis* low woodland and *Eucalyptus salmonophloia* woodland.
2. Low Woodlands: Divided into *Eucalyptus pileata* low forest and *Eucalyptus uma* low woodland.
3. Mallee dominated Associations: Divided into *Eucalyptus cylindrocarpa* Tree Mallee, *Eucalyptus calycogona* Tree Mallee, *Eucalyptus eremophila* Tree Mallee and *Eucalyptus olivina* Tree Mallee.
4. Heath Dominated Associations: Divided into *Allocasuarina campestris* heath, *Allocasuarina corniculata* heath and *Lepidosperma* heath.

Clearing Description

The applicant has applied to clear six hectares within an application area of 433 hectares for the purpose of mineral exploration. Most of the proposed clearing will occur on pre-established gridlines subject to regrowth. Some clearing of previously uncleared vegetation will be necessary where these old tracks do not provide access and for drill pads and sumps. The applicant has advised drill pads and sumps will be positioned on access tracks where possible.

Vegetation Condition

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

No vegetation condition was provided by Armstrong (2006a). However, photographs of the area supplied by the applicant suggest that the vegetation's structure is intact, with disturbance limited to previously cleared gridlines which have experienced regrowth. The assessing officer therefore considers the vegetation condition overall to be very good.

Clearing permit CPS 1532/1 was granted by the Department of Mines and Petroleum on 17 May 2007 and was valid from 16 June 2007 to 16 June 2012. An application to amend the permit was received by the Department of Mines and Petroleum on 5 April 2012. The application requested an extension to the duration of the permit to 16 June 2017. The amount of native vegetation authorised to clear and the clearing permit boundary that was approved to clear under CPS 1532/1 will remain unchanged.

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 may be at variance to this Principle**

The area under application occurs within the Lake Cronin Red Book area which is listed on the Register for National Estate for its high level of flora and fauna diversity and endemism. According to the National Heritage Estate database (DEH, 2006), 16 fauna species that are endemic either to 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. Rare species include fauna such as Malleefowl (*Leipoa ocellata*), Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) and Chuditch (*Dasyurus geoffroyi*) and flora such as *Eucalyptus steedmanii*. The Lake Cronin area also represents the northern most limit of several fauna species distribution.

The area has been mapped as Beard Vegetation Association 511 (Salmon Gum and Morrel medium woodland) which remains at 71.3% of its pre-European extent. The area to be cleared lies within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database) which remains 98.4% uncleared (Shepherd, 2009). Threats to biodiversity as listed within the Coolgardie IBRA bioregion (CALM, 2002) include fragmentation, altered fire regimes, weeds, grazing, feral predators, mining and changed hydrology.

The North Ironcap locale is part of a range of banded ironstone formations (BIFs) that stretch from Mt Holland in the North to Hatters Hill in the south. The Ironcap Hills complexes (Mt Holland, Mid, North and South Ironcap Hills and Hatters Hill) are listed in 'A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002' (CALM, 2002) as being an 'ecosystem at risk'. The Ironcap Hills complexes are given a status of 'Vulnerable' and threatening processes are listed as mining, changed fire regimes, feral animals (rabbits) and weeds. NVIS vegetation subgroups within the complexes are listed as 'Mallee Eucalyptus low open woodlands' and 'Mixed species arid Acacia woodlands and shrublands'. The Ironcap Hills complexes are said to be in fair condition but in decline. Some vegetation types described by Armstrong (2006a) may meet these descriptions. Armstrong also described some vegetation associations as occurring on or adjacent to BIFs and lateritic outcrops. BIFs are known to be biodiversity hotspots due to their isolation from one another, allowing for greater speciation and endemism over time. Gibson (2004) noted that the Ironcap Hills were centres of endemism and restricted vegetation assemblages and that the vegetation and flora of these ironstones differ widely from the nearest other BIFs. Gibson (2004) found that nine of the ten local endemic species were restricted to the banded ironstone and laterite outcrops of the range.

A vegetation and flora survey was conducted in July 2006 along exploration gridlines proposed by Hannans Reward Ltd (Armstrong, 2006a). This involved traversing the proposed gridlines on foot in a corridor five metres either side of the gridlines. In vegetation types suspected of hosting Declared Rare Flora (DRF) or Priority Flora species, this corridor was extended from between ten to 100 metres. The survey and subsequent report meets the requirements of *Guidance Statement 51 - Guidance for the Assessment of Environmental Factors - terrestrial flora and vegetation surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004).

The vegetation to be cleared was described by Armstrong (2006a) as consisting of Eucalypt woodlands, mallee woodlands and heaths. Armstrong (2006a; 2006b) reported two species of introduced weeds.

A search of available GIS databases did not identify any DRF or Priority Flora species within the application area. The survey did not identify any DRF species as gazetted under the *Wildlife Conservation (Rare Flora) Notice 2006* (Armstrong, 2006a). The survey identified the following Priority Flora species as listed by the Department of Environment and Conservation (DEC):

- * *Calamphoreus inflatus* (Priority 4);
- * *Eremophila biserrata* (Priority 4);
- * *Eucalyptus histophylla* (Priority 3);
- * *Microcorys* sp. Forresteria (V English 2004) (Priority 4); and
- * *Styliidium sejunctum* (Priority 2) (Armstrong, 2006a).

Calamphoreus inflatus (Priority 4) is a medium shrub growing to 1.2 metres tall, flowering in November and December. A single population was identified growing on and between two gridlines. The population is estimated to be approximately 1,000 plants. Previous populations have been recorded east of Hyden. Clearing activities may remove up to 10% of this population. *C. inflatus* is a disturbance opportunist and the population size is likely to increase post clearing (Armstrong, 2006a).

Eremophila biserrata (Priority 4) is a prostrate spreading shrub growing two centimetres tall. A population of between 30 and 50 plants was identified along a main access track that will be used to access the proposed gridlines. The species had previously been recorded from several locations between Hyden and Lake Cronin. It is estimated that five of these plants will be removed during the proposed clearing. *E. biserrata* is a disturbance opportunist and the population size is likely to increase post clearing (Armstrong, 2006a).

Eucalyptus histophylla (Priority 3) is a mallee growing to five metres tall, flowering from April to June. A population of approximately 100 plants was identified along one gridline. The species had previously been

recorded from Newman Rock, Balladonia and west of Lake Johnson. No *E. histophylla* plants are expected to be removed as a result of clearing activities (Armstrong, 2006a).

Microcorys sp. Forrestania (V English 2004) (Priority 4) is a low shrub growing 20 centimetres tall, flowering November to January. The species appears to thrive after disturbance and was found widely over the area surveyed, mainly over existing gridlines. Well over 1,000 plants were estimated to occur within the area subject to the proposed exploration (Armstrong, 2006a). It is estimated that up to 18% of the known population would be removed as a result of clearing activities. However, Armstrong (2006a) suggests that there are likely to be many more populations within the area not subject to this survey. The species has previously been recorded from Mt Holland and Forrestania. As *Microcorys* sp. Forrestania is a disturbance opportunist, the population size is likely to increase post clearing (Armstrong, 2006a).

Stylidium sejunctum (Priority 2) is a small herb growing 30 centimetres tall, flowering September and October. It grows in close association with rocky outcrops of ironstone. Two populations were identified during the survey, one population in the northern portion of the proposed exploration, the other in the southern portion of the proposed exploration. The northern population is estimated to be approximately 1,000 plants. No plants within the northern population will be removed during the proposed clearing. The southern population is estimated at approximately 65 plants. It is estimated that approximately half of this population will be removed as a result of clearing activities (Armstrong, 2006a). Armstrong (2006a) suggests that many more plants would be found on outcrops and ridges in the immediate area not subject to this survey.

Armstrong (2006a) identified the need to do a further survey in spring 2006 to locate ephemeral species that may not have been identified during the July 2006 survey. This survey was conducted in mid-October 2006 (Armstrong (2006b).

As a result of this survey no ephemeral species of conservation significance were identified within the application area. However, the known distribution of *Calamphoreus inflatus*, *Microcorys* sp. Forrestania and *Stylidium sejunctum* increased as a result of the survey. An additional 2,000 *C. inflatus* plants, 1,165 *M. sp* Forrestania plants and 65 *S. sejunctum* plants were located during the spring flora survey (Armstrong 2006b).

Locations of these new populations provided by Armstrong (2006b) would suggest that some of these populations will be impacted by the proposed clearing. Armstrong does not give an indication as to what percentage of the new populations that may be impacted by the proposed clearing.

The Biodiversity Coordination Section of the DEC has stated that the proposed clearing may be at variance to this Principle (DEC, 2007).

Based on the above, the application area is considered to be important from a biodiversity point of view as the area may have a higher ecosystem diversity than the surrounding vegetation and is a centre of endemism in the bioregion. However, it is noted that the majority of clearing required is the re-establishment of existing gridlines that have experienced varying degrees of regrowth.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Armstrong (2006a)
Armstrong (2006b)
CALM (2002)
DEC (2007)
DEH (2006)
EPA (2004)
Gibson (2004)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions – Sub Regions)
- Threatened and Priority Flora

(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 may be at variance to this Principle

The applicant has supplied a notice of intent (NOI) for the Forrestania South Project prepared in 1996 by Jackson et al, which provides information regarding fauna surveys conducted in 1994 by Ecologia Environmental Consultants over the current application area and surrounds.

The NOI lists the following species of conservation significance as having been observed within the application area and surrounds: Western Rosella (*Platycercus icterotis xanthogenys*), Crested Bellbird (*Oreoica gutturalis gutturalis*) and White-browed Babbler (*Pomatostomus superciliosus ashbyi*).

A search by the assessing officer of the Western Australian Museum database (WAM, 2006) revealed the following conservation significant species has occurred within a 50 kilometres radius of the application area:

Malleefowl (*Leipoa ocellata*).

The Australian National Heritage Database (2006) lists the following species as being known to occur within the Lake Cronin Red Book Area: Carnaby's White Tailed Black Cockatoo (*Calyptorhynchus latirostris*) and Chuditch (*Dasyurus geoffroii*).

The wheatbelt species of Western Rosella is described as utilising woodland habitat. Threats include clearing for agriculture affecting availability of food and nesting hollows (Garnett et al, 2000). The species has vast amounts of suitable habitat in the bioregion and the assessing officer considers that the species conservation will not be impacted by the proposed clearing.

The Crested Bellbird is described as utilising the shrub-layer of eucalypt woodland, mallee, acacia shrubland, spinifex grassland, saltbush and heath habitats (Garnett et al, 2000). There is a vast amount of suitable habitat in the bioregion available for this species and the assessing officer considers that the species conservation will not be impacted by the proposed clearing.

The White-browed Babbler is described as utilising eucalypt forests and woodlands (Garnett et al, 2000). Threats include clearing for agriculture, where the species shows an aversion for induced edges of vegetation. However, the species persists in the continuous habitat present in the uncleared vegetation surrounding the wheatbelt and the species has a vast amount of habitat that it can utilise within the bioregion. The assessing officer therefore considers that the species conservation will not be impacted by the proposed clearing.

The Malleefowl is described as utilising arid and semi-arid woodland that is dominated by mallee eucalypts on sandy soils, with less than 430 millimetres of rainfall annually. They may also be found in Mulga (*Acacia aneura*), and other sclerophyllous associations. In Western Australia, Malleefowl may also be found in coastal heath where shrubs produce sufficient leaf litter for use in nest mounds (DEC, 2006). Some of the vegetation associations described by Armstrong (2006a) may support Malleefowl populations. Potential impacts to Malleefowl mounds as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

The Chuditch is described as occupying a wide range of habitats from woodlands, dry sclerophyll (leafy) forests, riparian vegetation, beaches and deserts. They have home ranges of up to 15 square kilometres. The species may occur within the application area based on the vegetation types described by Armstrong (2006a) however, the linear nature of the proposed clearing is not likely to significantly impact the conservation of this species as they have vast amounts of vegetation that they can potentially utilise.

According to Garnett et al (2000), Carnaby's White Tailed Black Cockatoo forages in woodland and Kwongan heath that is dominated by proteaceous species. Its main foods are seeds of Hakeas, Grevilleas, Banksias and Eucalypts. They nest in hollows in large Eucalypts, primarily Salmon Gum (*Eucalyptus salmonophloia*) and Wandoo (*E. wandoo*). Carnaby's Cockatoo is not known to use the area to breed and is likely to feed in the area when food species are available. The proposed clearing is not likely to have a significant impact on the conservation of the species due to the small amount of vegetation to be cleared (six hectares) and the linear nature of the clearing.

The NOI (1996) also presents findings by Ecologia Environmental Consultants that the landform/vegetation associations within the project area are widely represented in the region and thus are unlikely to support habitat specific fauna.

The Biodiversity Coordination Section of the DEC has stated that the proposed clearing may be at variance to this Principle (DEC, 2007).

Based on the above, the proposed clearing may be at variance to this Principle due to the possible presence of Malleefowl.

Methodology Armstrong (2006a)
DEC (2006)
DEC (2007)
Garnett et al (2000)
Jackson et al (1996)
WAM (2006)
Water Corporation (2006)
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 GIS databases did not identify any DRF or Priority Flora species within the application area. There are several records of DRF or Priority Flora species occurring within a ten kilometre radius of the

application area, including *Eucalyptus steedmanii* (Rare), *Banksia sphaerocarpa* var. *dolichostyla* (Rare) and *Stylidium sejunctum* (Priority 2).

The survey did not identify any DRF species as gazetted under the *Wildlife Conservation (Rare Flora) Notice 2006* (Armstrong, 2006a).

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

Methodology Armstrong (2006a)
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**
A search of available databases reveals that there are no Threatened Ecological Communities (TECs) within the application area. The nearest TEC is located approximately 40 kilometres to the north (Parker Range System).

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

Methodology GIS Database:
- Threatened Ecological Sites Buffered

(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 Coolgardie Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 98.4% of the pre-European vegetation remains (see table) (GIS Database; Shepherd, 2009).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

511: Medium woodland; salmon gum and morrel.

According to Shepherd (2009), approximately 71.3% and 93.8% of this Beard vegetation association remains at both a state and bioregional level, respectively. Therefore the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Coolgardie	12,912,204	12,707,873	~98.4	Least Concern	~10.9
Beard vegetation associations - State					
511	700,409	499,600	~71.3	Least Concern	~14.1
Beard vegetation associations - Coolgardie Bioregion					
511	464,424	435,794	~93.8	Least Concern	~17.5

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
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 at variance to this Principle

According to known GIS datasets, a drainage line defined as 'minor - non perennial' cuts through the application area in an east-west direction. The application area experiences a rainfall of approximately 344 millimetres/year according to the nearest recording station at Hyden (BOM, 2006). The application area also experiences a pan evaporation rate of 2,400 millimetres/year (Luke et al, 1987). Therefore, it is not likely that the drainage line would carry water under normal rainfall events.

There is no information as to whether the vegetation within and immediately surrounding this drainage line is riparian in nature. However, given that the drainage line is not likely to experience flows during normal rainfall events, it is considered not likely that the drainage line would have vegetation that is riparian in nature.

While a minor non perennial drainage line cuts through the application area, the dispersed and low impact nature of the mineral exploration activities which are proposed will not have a significant impact on the vegetation of this drainage line.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology BOM (2006)
Luke et al (1987)
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

According to available GIS databases, there are two soil types within the application area:

1. '(i) on depositional slopes, sandy yellow earths containing some ironstone gravels, and yellow earthy sands often with ironstone gravels at depths below 6-7ft; and (ii) on erosional ridges and slopes, ironstone gravels together all underlain by hardened mottled-zone material by depths of 12-24 in' and
2. 'sandy neutral and alkaline yellow mottled soils'.

Sandy yellow earths are prone to wind erosion, whilst ironstone gravels have low wind erodability (Shoknecht, 2002).

The soil types described by Armstrong (2006a) in the flora report were red sandy loams with ironstone gravel, red clayey loams with ironstone gravel, brown sandy loams with calcrete gravel, lateritic gravel and red loamy sands. All of these soil types are expected to have low wind erodability and moderate to moderately low permeability (Shoknecht, 2002).

Rainfall in the area is low (344 millimetres/year - BOM, 2006). It should be noted that the area is described as gently undulating (Armstrong, 2006a), and run-off will be low due to a high pan evaporation rate (2,000 – 2,200 millimetres/year - Luke et al, 1987) and moderate permeability of soil types present. Therefore, the effect of water erosion is likely to be minimal.

Water table depths are reported at 36 metres or lower (deRosario, 1996). The removal of six hectares of vegetation will not lead to a rise in water table levels and associated salinisation.

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

Methodology Armstrong (2006a)
BOM (2006)
deRosario (1996)
Luke et al (1987)
Shoknecht (2002)
GIS Database:
- Soils, Statewide

(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 may be at variance to this Principle

The application area occurs within an Environmentally Sensitive Area (ESA) (Red Book area) which is a buffer zone surrounding Lake Cronin. At its closest point, the clearing is 6.6 kilometres from Lake Cronin and 3.6 kilometres from the Lake Cronin Nature Reserve boundary (GIS database).

A significant proportion of the proposed clearing will be done on pre-existing exploration tracks and gridlines that have experienced regrowth. The remainder will be for the installation of drill pads, sumps and access tracks in previously uncleared vegetation (Hannans Reward Ltd, 2006).

According to the Australian Heritage Database (2006), the Lake Cronin Nature Reserve is dominated by mallee and woodland associations. These broad vegetation types were described in greater detail by Armstrong (2006a) as occurring within the proposed clearing area. The habitat to be cleared is well represented within conservation estate.

Lake Cronin Nature Reserve is surrounded by extensive vegetation and the dispersed clearing of up to six hectares of vegetation at a distance of 3.6 kilometres from the reserve will not effect ecological linkage to the reserve.

Therefore despite the area being on the Register of National Estate for natural values it is considered that the clearing which will take place is of a small scale and there will be no significant impact to the Lake Cronin Reserve or the Red Book area surrounds.

The Biodiversity Coordination Section of the DEC has stated that the proposed clearing may be at variance to this Principle (DEC, 2007).

Based on the above, the proposed clearing may be at variance to this Principle (occurring within a buffer for conservation estate).

Methodology Armstrong (2006a)
Australian Heritage Database (2006)
Hannans Reward Ltd (2006)
GIS database:
- DEC Tenure
- Geodata, Lakes

(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

With an average rainfall of approximately 344 millimetres/year (BOM, 2006) and an annual pan evaporation rate of 2,000 – 2,200 millimetres/year (Luke et al, 1987), there is little surface flow during normal seasonal rains. The proposed clearing is not likely to cause the quality of surface water to deteriorate.

With high evaporation rates and low annual rainfall, there is little recharge to groundwater which has a total dissolved solids concentration ranging between 5,000 - 110,000 parts per million at North Ironcap (deRosario, 1996). Groundwater has been measured at depths of 36 metres or greater. The proposed clearing is not likely to cause the quality of groundwater to deteriorate.

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

Methodology BOM (2006)
deRosario (1996)
Luke et al (1987)

(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

Due to the narrow linear nature of the proposed clearing, the proposed clearing is not likely to cause flooding within the application area. The application area receives low rainfall (344 millimetres/year - BOM, 2006) and the topography is gently undulating (GIS database), suggesting that the area is not likely to be subject to flooding.

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

Methodology BOM (2006)
GIS Database:
- Topographic Contours, Statewide

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

Comments

There is one native title claim over the area under application: WC00/7 (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the

proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases, there are no registered Aboriginal Sites of Significance within the application area (GIS Database). 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 and Conservation 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 application was referred to the Environmental Protection Authority (EPA) by the assessing officer on 25 September 2006. The EPA set a level of assessment as 'not assessed - managed under Part V'. This level of assessment was appealed. The appeals convenor dismissed the appeal and the Minister for Environment signed off on the decision on 1 March 2007. This was communicated to the Native Vegetation Branch on 13 March 2007.

Clearing permit CPS 1532/1 was granted by the Department of Mines and Petroleum on 17 May 2007 and was valid from 16 June 2007 to 16 June 2012. An application to amend the permit was received by the Department of Mines and Petroleum on 5 April 2012. The application requested an extension to the duration of the permit to 16 June 2017. The amount of native vegetation authorised to clear and the clearing permit boundary that was approved to clear under CPS 1532/1 will remain unchanged.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT

4. References

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5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (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
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

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.