Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2351/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: BHP Billiton Nickel West Pty Ltd

1.3. Property details

Property: LOT 48 ON PLAN 226304 (FEYSVILLE 6431)
LOT 48 ON PLAN 226304 (FEYSVILLE 6431)
LOT 48 ON PLAN 226304 (FEYSVILLE 6431)
LOT 48 ON PLAN 226304 (FEYSVILLE 6431)

Local Government Area: City Of Kalgoorlie-Boulder & Shire Of Coolgardie

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
300		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
Beard Vegetation Associations: - 9: Medium woodland; coral gum (Eucalyptus torquata) & goldfields blackbutt (E. le soufii); - 221: Succulent steppe; saltbush; and - 468: Medium woodland; salmon gum & goldfields blackbutt (Shepherd 2006).	The proposal is to clear 300ha of native vegetation within a 2,452ha area over a period of 5 years for exploration and drilling within the Selcast tenement, located ~10km north of Kambalda. The clearing is required for ~100 exploration drilling pads and seismic survey access tracks, with a total line clearing of 550 (line) kilometres. Survey lines will be spaced ~120m apart (BHP Billiton 2008). Ten vegetation associations have been identified within the Selcast Project Area (Western Botanical 2007). These are described as: - Woodlands of Eucalyptus torquate, E.lesouefii with sclerophyll shrubs on subcropping mafic basalt, dolerite, gabbro and felsic porphyry; - Sclerophyll shrublands and woodlands on ferricrete, sedimentary or kaolinitic remnants and saprolitic ultramafics often expressed as low breakaways; - Rocky Acacia-Mallee shrublands on sands over gabbro, granite or schist;	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation clearing description is based on information provided in the application for a clearing permit (BHP Billiton 2008), the Flora and Vegetation Survey (Western Botanical 2007) and aerial orthomosaics. The vegetation appears to range in condition from excellent (~90%) to degraded in areas of localised disturbance, therefore an overall condition rating of excllent has been assigned.

- Mixed Eucalypt woodlands with Atriplex nummularia shrub understorey on shallow alkaline loams with calcrete nodules;

- Eucalypt woodlands with Sclerophyll understorey on deep alluvial clays and loams;

- Eucalypt woodlands with Maireana sediflora (Pearl Bluebush);

- Jam thickets (Acacia sp. Narrow Phyllode (BR Maslin 7831)) in clay depressions;

- Internally drained Claypans and Crabholes;

- Broad drainage Tract with Eucalyptus salmonophloia, E.salubris woodlands with Eremophila ionantha shrubland; and

- Chenopod Shrublands, Atriplex bunburyana and/or A.vesicaria (Western Botanical 2007). Overall the region is broadly characterised by eucalypt woodlands with either chenopod or sclerophyll understorey (Western Botanical 2007).

Evidence of past disturbance is visible throughout the Selcast Project Area, including old drill pads and tracks (Western Botanical 2007). The vegetation under application also includes some rehabilitation areas from previous mining activities. These rehabilitation areas are less than 10 yrs old although have progressed well (Western Botanical (2007).

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 at variance to this Principle

Ten vegetation communities have been mapped within the area under application (Western Botanical 2007). Aerial mapping and photographs of the vegetation indicate that the vegetation under application is predominantly in an excellent condition, with degraded areas restricted to existing tracks and localised disturbance areas (Western Botanical 2008).

A flora and vegetation survey of the Selcast Project Area identified three Priority Flora species within the Project Area (Western Botanical 2007), including:
- One large and four small sub-populations of Astartea sp. Red Hill (Priority 1) totalling ~2,100 plants;
- Two populations of Melaleuca coccinea (Priority 3) totalling ~690 plants; and
- One large population of Allocasuarina eriochlayms subsp. grossa (Priority 3) totalling ~1,050 plants (Western Botanical 2007).

Astartea sp. Red Hill has a restricted distribution with the only known occurrences within the Kambalda area. Nine other populations of Melaleuca coccinea are known to occur between Kalgoorlie and Newman, whilst Allocasuarina eriochlayms subsp. grossa is known from six populations between Kalgoorlie, Coolgardie and Norseman (Western Botanical 2007).

In addition two species of taxonomic significance were recorded within the Selcast Project Area, being Daviesia sp. and Lepidosperma sp. (Western Botanical 2007). These species have an affinity with Daviesia pachyloma

and Lepidosperma diurnum respectively, however are considered likely to be new species/taxon given their morphological differences (Western Botanical 2007). Daviesia sp. affin. pachyloma was recorded in very small scattered populations within the Project Area, whilst Lepidosperma sp. affin diurnum was recorded with one population of ~50 plants.

Given the diversity of vegetation communities and habitat, and presence of Priority Flora and potentially new species/taxon, the vegetation under application is considered to comprise a high level of biological diversity.

A permit condition to avoid disturbing conservation significant flora species during the construction of exploration pads and survey tracks is recommended.

Methodology

References:
- Western Botanical (2007)
- Western Botanical (2008)

GIS Databases:
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- Western Australia ETM 25m 543 - AGO 2004

(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

Ten vegetation communities have been mapped within the area under application (Western Botanical 2007). The vegetation under application is predominantly in an excellent condition, with degraded areas restricted to existing tracks and localised disturbance areas (Western Botanical 2008).

Eight species of conservation significant fauna have been recorded within the local area (50km radius), being:
- Crested Bellbird (southern) (Oreoica guttaralis guttaralis) (Priority 4);
- Chuditch (Dasyurus geoffroii) (Vulnerable);
- Hooded Plover (Charadrius rubicollis) (Priority 4);
- Butterfly (Jalmenus aridus) (Priority 1);
- Malleefowl (Leipoa ocellata) (Vulnerable);
- Butterfly (Ogyris subterrestris petrina) (Priority 1); and
- Peregrine Falcon (Falco peregrinus) (Other Specially Protected Fauna).

Of the above species the Crested Bellbird, Chuditch, Malleefowl and Peregrine Falcon are considered likely to inhabit and utilise the area of vegetation under application due to the presence of suitable habitat (CALM 2005, DEC 2007 and Garnett et al. 2000).

Mapped vegetation communities are highly represented in the region with 99.7%-100% pre-European extent remaining (Shepherd 2006). However, whilst the proposal is to clear 300ha over 5 years, and aerial orthomosaics show extensive regional vegetation cover, the vegetation under application may provide habitat to local indigenous fauna including species of conservation significance.

Furthermore, the local area is subject to growing pressure from mining activity with clearing permits totalling approximately 564ha previously being granted in close proximity to the area under application (~5km radius).

Given the potential impacts of cumulative clearing, large area proposed to be cleared (300ha) and habitat values of the vegetation for local fauna including species of conservation significance, the proposed clearing may be at variance to this Principle.

Methodology

References:
- CALM (2005)
- DEC (2007)
- Garnett et al. (2000)
- Shepherd (2006)
- Western Botanical (2007)
- Western Botanical (2008)

GIS Databases:
- Clearing Instruments
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- SAC Bio Datasets, Accessed 21/04/2008
- Western Australia ETM 25m 543 - AGO 2004

(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

One Declared Rare Flora species, Gastrolobium graniticum, is known to occur within the local area (50km

radius), with the closest known record being ~46kms from the vegetation under application. Gastrolobium graniticum is known to occur within the same vegetation complex and mapped soil complex as the vegetation under application. This species flowers from August to September and is known to occur along margins of rock outcrops, along drainage lines (Western Australian Herbarium 1998-).

A flora and vegetation survey undertaken in 2007 within the area under application did not locate any Declared Rare Flora species (Western Botanical 2007). Furthermore, the geology of the area under application does not comprise rock outcrops suitable to provide habitat for Gastrolobium graniticum. Therefore, the vegetation under application is not considered likely to comprise rare flora.

Methodology

References:
- Western Australian Herbarium (1998-)
- Western Botanical (2007)

GIS Databases:
- Pre-European_Vegetation
- SAC Bio Datasets, Accessed 14/04/2008
- Soils, Statewide

(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 occurrences of Threatened Ecological Communities (TEC) within the local area (50km radius), with the nearest known occurrence being 570km south west of the vegetation under application. Furthermore, none of the vegetation communities recorded within the area under application are considered to fit the criteria of a TEC (Western Botanical 2007). Therefore the vegetation under application is not considered to comprise the whole or a part of, or be necessary for the maintenance of a Threatened Ecological Community.

Methodology

Reference:
- Western Botanical (2007)

GIS Database:
- SAC Bio Datasets, Accessed 18/04/2008

(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 likely to be at variance to this Principle

The vegetation under application is mapped within Beard Vegetation associations 9 (2,243ha), 221 (62.7ha) and 468 (205ha) which have 99.7%, 99.9% and 100% pre-European vegetation extent remaining respectively (Hopkins et al. 2001, Shepherd 2006).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents a clearance of ecological communities with an extent below 30% of that present pre-European settlement (Commonwealth of Australia 2001).

All three vegetation communities mapped within the area under application are above the State Governments 30% biodiversity target. Given the high representation of the vegetation communities associated with the applied area, the vegetation under application is not considered to be significant as a remnant in an extensively cleared area.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves/ CALM managed land
IBRA Bioregion:				
- Coolgardie*	12,912,208	12,707,623	98.4	
Beard Vegetation Associations*:				
- 9	240,509	239,898	99.7	7.8
- 221	63,721	63,626	99.9	17.0
- 468	592,023	592,023	100.0	5.1

* (Shepherd 2006)

Methodology

References:
- Commonwealth of Australia (2001)
- Hopkins et al. (2001)
- Shepherd (2006)

GIS Databases:
- Interim Biogeographic Regionalisation of Australia
- Local Government Authorities

- 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 may be at variance to this Principle

There are mapped minor non-perennial watercourses within the area of vegetation under application, with the nearest mapped lake being 2.6km to the east. A low lying drainage area east of the applied area, which extends into the applied area in the north eastern corner, appears to provide regional drainage in a south easterly direction into Lake Lefroy ~2.9km to the south-east.

A flora and vegetation survey within the area under application identified trends in vegetation communities and species associations across the applied area in relation to geology and other environmental factors such as the degree of waterlogging (Western Botanical 2007). The flora and vegetation survey identified ten vegetation communities, nested into four land types, being;
- Low hills;
- Non-saline Plains and Low Gentle Rises;
- Drainage Foci; and
- Saline Plains, Low Rises and associated Drainage Tracts (Western Botanical 2007).

The north eastern extent of the applied area is associated with the Saline Plains, Low Rises and associated Drainage Tracts. Vegetation communities mapped within this area include Chenopod shrublands with Atriplex bunburyana and/or Atriplex vesicaria, with species composition influenced by soil texture, degree of waterlogging and pH (Western Botanical 2007). In particular, areas of clay soils in lake beds subject to waterlogging and inundation for short to moderate periods support Halosarcia, Sclerostegia low shrublands (Western Botanical 2007). Vegetation within internally draining Drainage Foci land types and subject to waterlogging are characterised by thickets of Jam tree (Acacia sp. Narrow Phyllode).

In comparison, vegetation within the Low Hills and Non-saline Plains and Low Gentle Rises tend to support a predominantly sclerophyllous shrub understorey with an overstorey of Eucalyptus spp.. Eucalyptus salmonophloia woodlands occur on the margins of broad drainage lines (Western Botanical 2007).

Whilst the area under application supports minor non-perennial watercourses, most likely acting as temporary drainage channels during high rainfall events to nearby Lake Lefroy, given that the area of vegetation under application comprises a variety of vegetation communities associated with the level of waterlogging and position in the landscape in respect to drainage channels, parts of the vegetation under application are considered to be growing in, or in association with a watercourse.

Methodology

Reference:
- Western Botanical (2007)

GIS Databases:
- Geodata, Lakes
- Hydrography, Lakes (medium scale, 250k GA)
- Hydrography, linear
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- Topographic Contours, Statewide

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

Comments

Proposal may be at variance to this Principle

The area under application is located within the Kalgoorlie soil-landscape province (Tille 2006). The majority of the applied area is associated with rocky ranges and hills of greenstones-basic igneous rocks with chief soils of shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths and below which weathered rock occurs at shallow depths (Northcote et al. 1960-68). A small portion of the applied area in the north-eastern corner is associated with gently undulating valley plains and pediments; some outcrop of basic rock and chief soils of alkaline red earths with limestone or limestone nodules at shallow depth (< 24 in.)(Northcote et al. 1960-68). Further, a small area on the western extent of the applied area is associated with gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps, some granitic bosses, and tors; and irregularly traversed by narrow shallow valleys and flats with chief soils of yellow earthy sands and sandy yellow earths on depositional sites, and ironstone gravels (Northcote et al. 1960-68).

A flora and vegetation survey within the area under application identified four land types within the Selcast Project Area, being;

- Low hills;
- Non-saline Plains and Low Gentle Rises;
- Drainage Foci; and

- Saline Plains, Low Rises and associated Drainage Tracts (Western Botanical 2007).

A variety of soil-landscapes are associated with these land types, ranging from areas of subcropping mafic basalt, dolerite, gabbro and felsic porphyry to sands over gabbro, granite or schist, shallow alkaline soils and deep alluvial clays and loams (Western Botanical 2007). The area under application is also associated with the Gundockerta land system (DAFWA 2007).

DAFWA (2007) advise that areas associated with the Gundockerta stony plains and land associated with valley floors and drainage lines are prone to water erosion. Furthermore, the vegetation under application is predominantly in an excellent condition with areas of dense vegetation cover (Western Botanical 2007, Western Botanical 2008).

Whilst the proposal is to clear for exploration drilling totalling 300ha over a 5 year period, and the clearing is considered to have localised impacts (Western Botanical 2007), given the geology of the applied area and associated risks of water erosion from the clearing of 300ha of native vegetation, particularly in drainage lines and stony plains, the proposed clearing may cause appreciable land degradation.

Methodology

References:
- DAFWA (2007)
- Northcote et al. (1960-68)
- Tille (2006)
- Western Botanical (2007)
- Western Botanical (2008)

GIS Databases:
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- 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 is not likely to be at variance to this Principle

There are approximately eleven DEC managed reserves within the local area, the closest being the Kambalda Nature Reserve (~3546ha) located adjacent to and south-west of, the area under application.

The proposal is to clear for exploration drilling, totaling 300ha of native vegetation over 5 years within an area of 2,452ha for seismic survey access tracks and exploration drill pads (BHP Billiton 2008). Given the nature of the proposed clearing, relatively small area proposed to be cleared considering the size of the nature reserve and extensive surrounding vegetation cover (98.4% vegetation remaining for the Bioregion) , the proposed clearing is not considered likely to impact on the environmental values of the adjacent Kambalda Nature Reserve.

Methodology

References:
- BHP Billiton (2008)
- Shepherd (2006)

GIS Databases:
- CALM Managed Lands and Waters
- Interim Biogeographic Regionalisation of Australia
- Lake Lefroy 1.4m Orthomosaic - DLI 02

(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 may be at variance to this Principle

The majority of the applied area is associated with rocky ranges and hills of greenstones-basic igneous rocks with chief soils of shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths and below which weathered rock occurs at shallow depths (Northcote et al. 1960-68).

A variety of soil-landscapes within four land types were also identified during a flora and vegetation survey (Western Botanical 2007). These landscapes range from areas of subcropping mafic basalt, dolerite, gabbro and felsic porphyry to sands over gabbro, granite or schist, shallow alkaline soils and deep alluvial clays and loams (Western Botanical 2007). The area under application is also associated with the Gundockerta land system (DAFWA 2007).

DAFWA (2007) advised that areas associated with the Gundockerta stony plains and land associated with valley floors and drainage lines are prone to water erosion.

There are mapped minor non-perennial watercourses within the area of vegetation under application, with the nearest mapped lake being 2.6km to the east. A low lying drainage area east of the applied area, which extends into the applied area in the north eastern corner, provides regional drainage in a south easterly direction into Lake Lefroy ~2.9km to the south-east.

Whilst the proposal is to clear for exploration drilling totaling 300ha over 5 years within a 2,452ha area, the proposed clearing may result in water erosion particularly in drainage tracts and areas of Gundockerta stony plains. Water erosion of these soils and drainage into nearby surface water bodies may result in the deterioration of water quality. Furthermore, the proposed clearing of 300ha in an area subject to growing mining activity is likely to contribute to the long term cumulative effects of clearing in the local area, including increased surface water runoff and erosion causing a deterioration of water quality in surface water hydrological features. Therefore the proposed clearing may be at variance to this Principle.

Methodology

References:
- DAFWA (2007)
- Northcote et al. (1960-68)
- Western Botanical (2007)

GIS Databases:
- Geodata, Lakes
- Hydrography, Lakes (medium scale, 250k GA)
- Hydrography, linear
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- Soils, Statewide

(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 majority of the applied area is associated with rocky ranges and hills of greenstones-basic igneous rocks with chief soils of shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths and below which weathered rock occurs at shallow depths (Northcote et al. 1960-68).

A variety of soil-landscapes within four land types were also identified during a flora and vegetation survey (Western Botanical 2007). These landscapes range from areas of subcropping mafic basalt, dolerite, gabbro and felsic porphyry to sands over gabbro, granite or schist, shallow alkaline soils and deep alluvial clays and loams (Western Botanical 2007).

A low lying drainage area east of the applied area, which extends into the applied area in the north eastern corner, provides regional drainage in a south easterly direction into Lake Lefroy ~2.9km to the south-east.

Given the high position of the area under application within the landscape, geology of the site and regional drainage into Lake Lefroy, the proposed clearing is not considered likely to cause, or exacerbate, the incidence or intensity of flooding.

Methodology

References:
- Northcote et al. (1960-68)
- Western Botanical (2007)

GIS Databases:
- Geodata, Lakes
- Hydrography, Lakes (medium scale, 250k GA)
- Hydrography, linear
- Lake Lefroy 1.4m Orthomosaic - DLI 02
- Soils, Statewide
- Topographic Contours, Statewide

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

Comments

Three Priority Flora species are known to occur within the Selcast Project Area (Western Botanical 2008). A report on the findings of the flora and vegetation survey undertaken in 2007 recommended that impacts to Astartea sp. Red Hill (Priority 1) be avoided, and that 'prior to any ground disturbance, a suitably qualified botanist who has experience in the region, should walk the proposed drill lines to ensure the impacts to the Priority 3 taxa Melaleuca coccinea and Allocasuarina eriochlayms subsp. grossa are avoided in the first instance or otherwise mitigated and minimised' (Western Botanical 2007).

In addition two species of taxonomic significance were recorded within the Selcast Project Area, being Daviesia sp. and Lepidsperma sp. (Western Botanical 2007). These species have an affinity with Daviesia pachyloma and Lepidosperma diurnum respectively, however are considered likely to be new species/taxon given their morphological differences (Western Botanical 2007). Daviesia sp. affin. pachyloma was recorded in very small scattered populations within the Project Area, whilst Lepidosperma sp. affin diurnum was recorded with one population of ~50 plants. A report on the findings of the flora and vegetation survey undertaken in 2007 recommended that further taxonomic investigation be undertaken, and that any impacts of these species be 'avoided until they have been identified or described or their conservation status has been adequately addressed' (Western Botanical 2007).

The applicant has legal access to the land subject to this clearing application for the purposes specified.

The area under application is located within the Goldfields Proclaimed Groundwater Area, therefore any abstraction of groundwater would require a licence.

It is the proponent's responsibility to determine whether any Works Approval, or any other licences or approvals are required for future proposed works.

There is one Aboriginal Site of Significance (Site ID 3151) within the application area. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process. In implementing this permit please liaise with the Department of Indigenous Affairs regarding your obligations under the Aboriginal Heritage Act 1972.

The area under application is subject to two Native Title Claims (WC98/027 and WC099/029). As the mining lease is on freehold land, the proposed clearing is not considered likely to be impacted by the Native Title Act 1993 process.

Methodology

References:
- DEC (2007a)
- Western Botanical (2007)

GIS Databases:
- Aboriginal Sites of Significance
- Clearing Instruments
- Native Title Claims
- RIWI Act, Groundwater Areas

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principle (a), and may be at variance to Principles (b), (f), (g) and (i).

5. References

BHP Billiton (2008) Letter and supporting information for clearing permit application. Dated 18 January 2008 (TRIM Ref. DOC45389).

CALM (2005) Advice provided in relation to clearing permit application CPS 935/1. Received 11/11/2005. Department of Conservation and Land Management (CALM), Western Australia (TRIM Ref. HD26053).

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DAFWA (2007) Advice provided to the Department of Environment and Conservation (DEC) in relation to clearing permit application CPS 1155/1. Dated 13/03/2007. Department of Agriculture and Food, Western Australia. (TRIM Ref. ED1658).

DEC (2007) Fauna Habitat Notes.xls. Department of Environment and Conservation, Western Australia.

DEC (2007a) Correspondence to South Kal Mines Pty Ltd in relation for clearing permit application CPS 1774/1, CPS 1776/1 and CPS 1923/1. Dated 23 August 2007. Department of Environment and Conservation (DEC), Western Australia (TRIM Ref. DOC32363).

Garnett S.T and Crowley G.M. (2000) The Action Plan for Australian Birds 2000. Environment Australia, Canberra. ISBN 0 642 546835.

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.calm.wa.gov.au/ (Accessed 14/04/2008).

Western Botanical (2007) Flora and Vegetation Assessment. Selcast Project Area. December 2007. Prepared for BHP Billiton Nickel West. Prepared by Western Botanical, Bassendean, Western Australia (TRIM Ref. DOC45389).

Western Botanical (2008) Correspondence from Western Botanical to the Assessing Officer with additional information in relation to clearing permit application CPS 2135/1. Received 15/04/2008. (TRIM Ref. DOC50776).

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)