

# **Clearing Permit Decision Report**

# 1. Application details

1.1. Permit application d	etails	
Permit application No.:	5926/5	
Permit type:	Purpose Permit	
1.2. Proponent details		
Proponent's name:	BHP Billiton Iron Ore Pty Ltd	
1.3. Property details		
Property:		nent Act 1964, Mineral Lease 244SA (AML 70/244) greement Authorisation Act 1972, Mining Lease 266SA (AM
Local Government Area:	Shire of East Pilbara	
Colloquial name:	Western Ridge Exploration Projec	t
1.4. Application		
Clearing Area (ha) No. 375	Trees Method of Clearing Mechanical Removal	For the purpose of: Mineral Exploration, Hydrogeological Investigations, Creek Diversion, Geotechnical Investigations and Associated Works

## 1.5. Decision on application

Decision on Permit Application:GrantDecision Date:24 October 2019

### 2. Site Information

## 2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

**Vegetation Description** The following two Beard vegetation associations have been broadly mapped within the application area:

Low woodland; mulga (*Acacia aneura*); and
 Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database).

A large-scale flora and vegetation survey was conducted over the original permit boundary (CPS 5926/1) and its surrounds in May and August 2010. During June 2014, a Level 2 flora and vegetation survey was conducted, covering the additional areas that were added to the permit under amendments CPS 5926/2 and 5926/3. A total of 28 vegetation associations from 12 broad floristic formations have been mapped within the current permit area (BHP Billiton Iron Ore, 2016).

#### Acacia Low Open Forest

1a: Low Open Forest (to Low Open Woodland) of *Acacia aptaneura, Acacia pruinocarpa, Acacia ayersiana* and *Acacia catenulata* subsp. *occidentalis* over Shrubland of *Eremophila forrestii* subsp. *forrestii* and *Senna artemisioides* subsp. *oligophylla* and Open Hummock Grassland of *Triodia pungens* forming groves on hardpan plains;

1b: Low Open Forest (to Low Woodland) of Acacia aptaneura, Acacia pruinocarpa and Eucalyptus xerothermica over Shrubland of Eremophila forrestii subsp. forrestii, Sida ectogama and Eremophila latrobei subsp. latrobei over Open Tussock Grassland of Themeda triandra, Aristida inaequiglumis and \*Cenchrus ciliaris on stony floodplains and unincised drainage zones;

1c: HS AcaAaAprSaEllAbTbrTw: Low Open Forest of Acacia catenulata subsp. occidentalis, Acacia aptaneura and Acacia pruinocarpa over Open Shrubland of Scaevola acacioides, Eremophila latrobei subsp. latrobei and Acacia bivenosa over Open Hummock Grassland of Triodia brizoides and Triodia wiseana on red brown clay loam on breakaways and steep hill slopes;

#### **Corymbia Low Woodland**

2: Low Woodland of *Corymbia hamersleyana*, *Eucalyptus xerothermica* and *Acacia aptaneura* over High Open Shrubland of *Petalostylis labicheoides*, *Acacia pyrifolia* subsp. *pyrifolia* and *Acacia maitlandii* over Open Tussock Grassland of *Eriachne tenuiculmis*, *Themeda triandra* and \**Cenchrus ciliaris* along medium drainage lines;

#### Acacia Low Open Woodland

3: Low Open Woodland of Acacia aptaneura over High Open Shrubland of Acacia tetragonophylla and Acacia synchronicia over Very Open Tussock Grassland of \*Cenchrus ciliaris, Aristida latifolia and Eriachne mucronata

#### on quartz plains;

#### Acacia Open Scrub

4: Open Scrub of Acacia bivenosa over Hummock Grassland of Triodia angusta with Low Open Woodland of Eucalyptus leucophloia subsp. leucophloia on undulating ironstone and chert hills;

#### Acacia High Open Shrubland

5: High Open Shrubland of Acacia aptaneura, Acacia synchronicia and Acacia tetragonophylla over Low Open Shrubland of Eremophila cuneifolia, Solanum lasiophyllum and Maireana georgei over Very Open Bunch Grassland of Aristida contorta on stony chert ironstone plains and rises;

#### **Triodia Closed Hummock Grassland**

6: Closed Hummock Grassland of *Triodia brizoides* and *Triodia wiseana* with Shrubland of *Eremophila fraseri* and High Open Shrubland of *Acacia bivenosa* and *Acacia kempeana* on high dolerite hills;

#### **Triodia Hummock Grassland**

7a: Hummock Grassland of *Triodia wiseana* ± *Triodia brizoides* with Open Shrubland of *Acacia bivenosa* and *Acacia inaequilatera* and Low Open Shrubland of *Senna artemisioides* subsp. *oligophylla* on dolerite footslopes and undulating low hills;

7b: Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and/or *Triodia brizoides* with Open Shrubland of *Acacia bivenosa*, *Acacia tenuissima* and *Senna glutinosa* subsp. *glutinosa* and Low Open Shrubland of *Eremophila canaliculata*, *Ptilotus obovatus* and *Acacia spondylophylla* on hill crests, steep scree slopes and banded iron formation (BIF) ridges;

7c: Hummock Grassland of *Triodia angusta* and *Triodia wiseana* with High Shrubland of *Acacia bivenosa*, *Acacia kempeana* and *Acacia sibirica* and Low Open Mallee of *Eucalyptus socialis* subsp. *eucentrica* or *Eucalyptus gamophylla* on calcrete, quartz and dolerite low hills, stony rises and stony plains;

7d: Hummock Grassland of *Triodia wiseana* and *Triodia angusta* with High Shrubland of *Acacia bivenosa*, *Acacia kempeana* and *Acacia sibirica* on quartz / dolerite mixed plains;

7e: Hummock Grassland of *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica* and *Acacia aptaneura* and High Open Shrubland of *Acacia aptaneura*, *Acacia sibirica* and *Acacia kempeana* on stony floodplains;

7f: Hummock Grassland of *Triodia pungens* with High Open Shrubland of *Acacia kempeana, Acacia sibirica* and *Acacia bivenosa* and Scattered Trees of *Corymbia hamersleyana* on dolerite derived sandy plains in broad valleys;

7g: Hummock Grassland of *Triodia pungens* with Open Scrub of *Acacia bivenosa* and *Acacia tenuissima* on minor drainage lines;

7h: HC TsTpEkEg: Hummock Grassland of *Triodia* sp. Shovelanna Hill and *Trioidia pungens* with Very Open Mallee of *Eucalyptus kingsmillii* subsp. *kingsmillii* and *Eucalyptus gamophylla* on red sandy loam on hill slopes and hill crests;

7i: HS TwEIChHcAanAbAa: Hummock Grassland of *Triodia wiseana* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana* and *Hakea chordophylla* and Open Shrubland of *Acacia ancistrocarpa*, *Acacia bivenosa* and *Acacia aptaneura* on red sandy loam on hill slopes;

7j: SP TsAi: Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with High Open Shrubland of *Acacia inaequilatera* on red brown loamy sand on hill slopes and stony plains;

7k: HS TsTpAaAprAciAaEllSgl: Hummock Grassland of *Triodia* sp. Shovelanna Hill and *Triodia pungens* with High Open Shrubland of *Acacia aptaneura*, *Acacia pruinocarpa* and *Acacia citrinoviridis* and Open Shrubland of *Acacia aptaneura*, *Eremophila latrobei* subsp. *latrobei*, *Senna glutinosa* subsp. x *luerssenii* on red loamy sand on upper hill slopes;

7I: ME TpTTIExAciChPIApyGr: Hummock Grassland of *Triodia pungens* and *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica, Acacia citrinoviridis* and *Corymbia hamersleyana* over High Shrubland of *Petalostylis labicheoides, Acacia pyrifolia* var. *pyrifolia* and *Gossypium robinsonii* on red brown clay loam on medium drainage lines and surrounding floodplains;

7m: SP TpTbEgPIAbAan: Hummock Grassland of *Triodia pungens* and *Triodia basedowii* with Open Mallee of *Eucalyptus gamophylla* and Shrubland of *Petalostylis labicheoides*, *Acacia bivenosa* and *Acacia ancistrocarpa* on red brown loamy sand on stony plains and footslopes;

#### **Triodia Open Hummock Grassland**

8a: Open Hummock Grassland of *Triodia brizoides* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and Open Shrubland of *Dodonaea pachyneura*, *Eremophila latrobei* subsp. *latrobei* and *Acacia bivenosa* on cliff faces;

8b: GG TpCfeFbAcaDpaAh: Open Hummock Grassland of *Triodia pungens* with Low Open Woodland of *Corymbia ferriticola, Ficus brachypoda* and *Acacia catenulata* subsp. *occidentalis* over High Open Shrubland of *Dodonea pachyneura* and *Acacia hamersleyensis* on red sandy clay loam in gullies and on breakaways;

with Scattered Low Trees of Corympia hamerskyana and Eucalyptus leucophicia subsp. leucophicia s		and <i>Triodia basedowii</i> with Low Open Woodland of <i>Acacia aptaneura</i> , <i>Acacia pruinocarpa</i> and <i>Acacia wanyu</i> and Open Shrubland of <i>Acacia tetragonophylla</i> , <i>Eremophila exilifolia</i> and <i>Eremophila latrobei</i> subsp. <i>latrobei</i> on red sandy loam on hill slopes;
High Open Shrubland Of Acacia aptaneura, Acacia tetragonophylia and Acacia synchronicia and Low Öpen       Shrubland Of Sid Abulfera, Sena artemisioides subsp. ocidentylia and Sena hamersleyensis on gilgal         drainage flats and minor drainage lines;       Acacia Low Woodland         11: FP AcaAaExEfTFp: Low Woodland of Acacia catenuleta subsp. occidentalis, Acacia aptaneura and Eucelyptus serothermica over Open Shrubland of Eremophila forrestil subsp. forrestil over Open Hummock Grassland of Thoda purgens on red sandy laam on floodplains;         Acacia Shrubland       12: MA moAanPIChEITTAin: Shrubland of Acacia ancistrocarpa and Petalostylis labicheoides with Scattered Low Trees of Corymbia hamersleyana and Eucalyptus leucopholia subsp. leucopholia subs		Aristida Tussock Grassland
11: FP AcaAaExEITP: Low Woolland of Acacia catenulate subsp. occidentalis, Acacia aptaneura and Eucalyptus serothermica over Open Shrubland of Eremophila forrestii subsp. forrestii over Open Hummock Grassland of Triodia pungens on red sandy loam on floodplains;         Acacia Shrubland       12: MI AmoAanPIChEITVin: Shrubland of Acacia montoola, Acacia ancistrocarpa and Petalostylis labicheoides with Scattered Low Trees of Corymbia hamersieyana and Eucalyptus leucophiola subsp. leucophiola cver Open Tussock Grassland of Themded triandra and Aristida inaequilatera on red loamy sand on minor drainage lines;         Eucalyptus Woodland       13: MA EcEVAciApyMgCcEaT: Woodland of Eucalyptus camaldulensis subsp. refugens and Eucalyptus victrix over High Open Shrubland of Caccia citrinoviridis, Acacia pyrifolia var. pyrifolia and Melaleuca glomerata over Tussock Grassland of "Cenchrus cilaris, Eulaila aurea and Themeda triandra on brown clay loam on banks of major drainage lines.         "Indicates introduced species       "Indicates introduced species         Clearing Description       Western Ridge Exploration Project.         BYP Billion Iron Ore Pty Luft (BHP Billion Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4 432 hectares, for the purpose of mineral exploration, hydrogeological immediately south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and autorised the clearing of 220 hectares of native vegetation within a boundary of		High Open Shrubland of Acacia aptaneura, Acacia tetragonophylla and Acacia synchronicia and Low Open Shrubland of <i>Sida fibulifera, Senna artemisioides</i> subsp. <i>oligophylla</i> and <i>Senna hamersleyensis</i> on gilgai
Excelyptus xerothermica over Open Shrubland of Eremophile forestii subsp. forrestii over Open Hummock         Grassland of Triodie pungens on red sandy loam on floodplains;         Acacia Shrubland         12: MI AmoAanPIChEITVAin; Shrubland of Acacia monttoola, Acacia ancistrocarpa and Petalostylis labicheoides with Scattered Low Trees of Corymbia hamersleyana and Eucalyptus leucophioia subsp. leucophioia over Open Tussock Grassland of Themda triandra and Aristida inaequilatera on red loamy sand on minor drainage lines;         Eucalyptus Woodland         13: MA EcEV-ckipyMgCcEaT: Woodland of Eucalyptus camalculensis subsp. refulgens and Eucalyptus victrix over High Open Shrubland of 'Acacia citrinoviridis, Acacia pyrifolia var, pyrifolia and Melaleuca giomerata over Tussock Grassland of 'Cenchrus cillaris, Eulalia aurea and Themeda triandra on brown clay loam on banks of major drainage lines.         "indicates introduced species         Clearing Description       Western Ridge Exploration Project.         BHP Billion Iron Ore Pty Lul (BHP Billion Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4.432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, gentechnical investigations and associated works. The project is located immediately south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).		Acacia Low Woodland
12: MI AmoAanPIChEITIAIn: Shrubland of Acacia monticola, Acacia ancistrocarpa and Petalostylis labicheoides with Scattered Low Trees of Corymbia hamersleyana and Eucalyptus leucaphioia subsp. leucophioia over Open Tussock Grassland of Themeda triandra and Aristida inaequilatera on red loamy sand on minor drainage lines;         Eucalyptus Woodland       13: MA EcEVAciApyMgCcEaT: Woodland of Eucalyptus camaldulensis subsp. refulgens and Eucalyptus victrix over High Open Shrubland of Acacia citrinoviridis, Acacia pyrifolia var. pyrifolia and Melaleuca glomerata over Tussock Grassland of Cenchrus ciliaris, Eulalia aurea and Themeda triandra on brown ciay loam on banks of major drainage lines.         "indicates introduced species       "indicates introduced species         Clearing Description       Western Ridge Exploration Project.         BHP Billiton from Ore Pty Ltd (BHP Billiton from Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations and esociated works. The project is located immediately south-west of BHP Billiton from Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to approximately 4,329 hectares, and extending the permit du		Eucalyptus xerothermica over Open Shrubland of Eremophila forrestii subsp. forrestii over Open Hummock
with Scattered Low Trees of Corymbia hamersleyana and Eucalyptus leucophiola subsp. leucophiola over Open Tussock Grassland of Themeda triandra and Aristida inaequilatera on red loamy sand on minor drainage lines;         Eucalyptus Woodland       13: MA Ec5-kokiApyMgCcEaTt Woodland of Eucalyptus camaldulensis subsp. refulgens and Eucalyptus victrix over High Open Shrubland of Acacia citrinoviridis, Acacia pyrifolia var. pyrifolia and Melaleuca giomerata over Tussock Grassland of "Cenchrus cillaris, Eulalia aurea and Themeda triandra on brown clay loam on banks of major drainage lines.         "indicates introduced species       "indicates introduced species         Clearing Description       Western Ridge Exploration Project.         BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotochnical investigations and associated works. The project is located immediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was		Acacia Shrubland
<ul> <li>13: MA ECEVAciApyMgCcEaT: Woodland of <i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i> and <i>Eucalyptus victrix</i> over High Open Shrubland of <i>Acacia citrinoviridis, Acacia pyrifolia</i> var. <i>pyrifolia</i> and <i>Melaleuca glomerata</i> over Tussock Grassland of *Cenchrus cillaris, <i>Eulalia aurea</i> and <i>Themeda triandra</i> on brown clay loam on banks of major drainage lines.</li> <li>*indicates introduced species</li> <li>Clearing Description</li> <li>Western Ridge Exploration Project.</li> <li>BHP Billiton iron Ore Pty Ltd (BHP Billiton iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4.432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located immediately south-west of BHP Billiton iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.</li> <li>Vegetation Condition</li> <li>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</li> <li>To:</li> <li>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</li> <li>Comment</li> <li>Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares. Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 30 November 2024.</li> <li>Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, there was no chang</li></ul>		12: MI AmoAanPIChEITtAin: Shrubland of Acacia monticola, Acacia ancistrocarpa and Petalostylis labicheoides with Scattered Low Trees of Corymbia hamersleyana and Eucalyptus leucophloia subsp. leucophloia over Open Tussock Grassland of Themeda triandra and Aristida inaequilatera on red loamy sand on minor drainage lines;
over High Open Sihubiand of Acacia citrinoviridis, Ácacia pyrifolia var. pyrifolia and Melaleuca glomérata over         Tussock Grassland of *Cenchrus ciliaris, Eulalia aurea and Themeda triandra on brown clay loam on banks of         major drainage lines.         *indicates introduced species         Clearing Description         Western Ridge Exploration Project.         BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4.432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located inmediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares.         Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duratio to 30 November 2024.         Amended permit CPS 5926/3 was granted o		Eucalyptus Woodland
Clearing Description       Western Ridge Exploration Project. BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located immediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.         Vegetation Condition       Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).         To:       Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares. Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duratio to 30 November 2024.         Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised to 308 hectares, within the same permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i> , and extend the		over High Open Shrubland of <i>Acacia citrinoviridis, Acacia pyrifolia</i> var. <i>pyrifolia</i> and <i>Melaleuca glomerata</i> over Tussock Grassland of * <i>Cenchrus ciliaris, Eulalia aurea</i> and <i>Themeda triandra</i> on brown clay loam on banks of
<ul> <li>BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located immediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west of Newman, in the Shire of East Pilbara.</li> <li>Vegetation Condition</li> <li>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</li> <li>To:</li> <li>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</li> <li>Comment</li> <li>Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares. Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.</li> <li>Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised to 300 hectares, there was no change to the amount of Clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 300 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes. On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 300 hectares, intertares, remove exclusion zones around populations of <i>Calotis laluscula</i>, and extend the</li></ul>		*indicates introduced species
1994).       To:         Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares.         Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.         Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.         Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.         On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of Calotis latiuscula, and extend the	Clearing Description	BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 375 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located immediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately
Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).         Comment       Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares. Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.         Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.         Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.         On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i> , and extend the	Vegetation Condition	
<ul> <li>(Keighery, 1994).</li> <li>Comment</li> <li>Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares.</li> <li>Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.</li> <li>Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.</li> <li>On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i>, and extend the</li> </ul>		To:
<ul> <li>authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares.</li> <li>Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.</li> <li>Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 300 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.</li> <li>On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i>, and extend the</li> </ul>		
<ul> <li>300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.</li> <li>Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximatel 4,432 hectares, there was no change to the amount of clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.</li> <li>On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i>, and extend the</li> </ul>	Comment	
<ul> <li>4,432 hectares, there was no change to the amount of clearing authorised.</li> <li>Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.</li> <li>On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i>, and extend the</li> </ul>		Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.
hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes. On 7 August 2019, the Permit Holder applied to amend CPS 5926/4 to increase the amount of clearing authorised to 375 hectares, remove exclusion zones around populations of <i>Calotis latiuscula</i> , and extend the		Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximately 4,432 hectares, there was no change to the amount of clearing authorised.
authorised to 375 hectares, remove exclusion zones around populations of Calotis latiuscula, and extend the		Amended permit CPS 5926/4 was granted on 16 June 2016, increasing the amount of clearing authorised to 308 hectares, within the same permit boundary, and including "creek diversion" in the authorised clearing purposes.
		authorised to 375 hectares, remove exclusion zones around populations of Calotis latiuscula, and extend the
3. Assessment of application against Clearing Principles	3 Assessment of	application against Clearing Principles

BHP Billiton Iron Ore has applied to amend the permit to increase the area of clearing from 308 hectares to 375 hectares; and to remove five exclusion zones from within the permit boundary; and to extend the period in which clearing is authorised and the permit duration by five years.

The five exclusion zones which are to be removed, were small circular areas, each approximately 20 metres in diameter around populations of *Calotis latiuscula*. This species was previously listed as a Priority flora, and therefore the clearing of this species was previously avoided. However, *Calotis latiuscula* has subsequently been removed from the Priority flora list and is now recorded as "Not Threatened" (Western Australian

Herbarium, 1998-2019). The removal of the exclusion zones means that clearing of this species may occur.

The additional 67 hectares of clearing will allow further exploration drilling activities to be conducted (BHP Billiton Iron Ore, 2019). The additional clearing within the existing permit boundary is unlikely to result in any significant additional environmental impacts.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.510 of the *Environmental Protection Act 1986*. Environmental information has been reviewed, and the assessment of the proposed clearing against the clearing principles remains consistent with the assessment contained in previous versions of the decision report.

Methodology BHP Billiton Iron Ore (2019) Western Australian Herbarium (1998-2019)

GIS Database:

- DPaW Tenure
- Hydrography, Lakes
- Hydrography, Linear
- IBRA Australia
- Imagery
- Landsystem Rangelands
- Pre-European Vegetation
- Public Drinking Water Source Areas
- Soils, Statewide
- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffers
- Threatened and Priority Flora
- Threatened Fauna

## Planning Instrument, Native Title, previous EPA decision or other matter.

#### Comments

There is one Native Title Claim (WC2005/06) over the area under application (DPLH, 2019). This claim has been determined by the Federal Court on behalf of the claimant group. However, the 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 two registered Aboriginal Sites of Significance within the application area (DPLH, 2019). 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 Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, 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 amendment application was advertised on 2 September 2019 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

Methodology DPLH (2019)

## 4. References

 BHP Billiton Iron Ore (2016) Application to Amend CPS 5926/3: Western Ridge Exploration. Native Vegetation Clearing Permit Amendment Application Supporting Document. BHP Billiton Iron Ore Pty Ltd, Western Australia, April 2016.
 BHP Billiton Iron Ore (2019) Application to Amend NCVP CPS 5926/4: Western Ridge. Native Vegetation Clearing Permit Application Supporting Document. BHP Billiton Iron Ore Pty Ltd, Western Australia, August 2019.
 DPLH (2019) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <u>http://maps.daa.wa.gov.au/AHIS/</u> (Accessed 11 October 2019).
 Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Western Australian Herbarium (1998-2019) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <u>https://florabase.dpaw.wa.gov.au/</u> (Accessed 10 October 2019).

## 5. Glossary

## Acronyms:

BoM DAA DAFWA	Bureau of Meteorology, Australian Government Department of Aboriginal Affairs, Western Australia (now DPLH) Department of Agriculture and Food, Western Australia (now DPIRD)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DoEE	Department of the Environment and Energy, Australian Government
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DoEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DoEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
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
PEC	Priority Ecological Community, Western Australia
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
TEC	Threatened Ecological Community

## **Definitions:**

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

## T <u>Threatened species:</u>

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

*Threatened fauna* is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

*Threatened flora* is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

## CR Critically endangered species

Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

## EN Endangered species

Threatened species considered to be "facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation* (Specially Protected Fauna) Notice 2018 for endangered fauna or the *Wildlife Conservation* (Rare Flora) Notice 2018 for endangered flora.

## Vulnerable species

Threatened species considered to be "facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation* (Specially Protected Fauna) Notice 2018 for vulnerable fauna or the *Wildlife Conservation* (Rare Flora) Notice 2018 for vulnerable flora.

#### **Extinct Species:**

VU

## EX Extinct species

Species where "there is no reasonable doubt that the last member of the species has died", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

#### EW Extinct in the wild species

Species that "is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

#### **Specially protected species:**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

#### MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018.* 

#### CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation* (Specially Protected Fauna) Notice 2018.

## OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation* (Specially Protected Fauna) Notice 2018.

#### Priority species:

Ρ

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

#### P1 Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

#### P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

## P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations 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 locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

## 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 are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

# 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.