Department of Energy, Mines, Industry Regulation and Safety

GOVERNMENT OF WESTERN AUSTRALIA

# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

| | |
|---|---|
| **Permit number:** | 10469/2 |
| **Permit type:** | Purpose Permit |
| **Applicant name:** | BHP Nickel West Pty Ltd |
| **Application received:** | 24/07/2024 |
| **Application area:** | 14 Hectares |
| **Purpose of clearing:** | Maintenance and replacement of underground water pipeline |
| **Method of clearing:** | Mechanical Removal |
| **Tenure:** | Miscellaneous Licences 26/288, 26/299 and 26/300 |
| **Location (LGA area/s):** | City of Kalgoorlie-Boulder |
| **Colloquial name:** | Binduli Water Pipeline |

### 1.2. Description of clearing activities

BHP Nickel West Pty Ltd proposes to clear up to 14 hectares of native vegetation within a boundary of approximately 48.4 hectares, for the purpose of Maintenance and replacement of an underground water pipeline. The project is located approximately 15 kilometres south of City of Kalgoorlie-Boulder, within the City of Kalgoorlie-Boulder.

Clearing permit CPS 10469/1, was granted by the Department of Energy, Mines and Petroleum (now the Department of Energy, Mines, Industry Regulation and Safety) on 26 March 2024 and was valid from 18 April 2024 to 17 April 2034. The permit authorised the clearing of up to 13 hectares of native vegetation within a boundary of approximately 47.4 hectares, for the purpose of the maintenance and replacement of an underground water pipeline.

The current amendment application is to increase the amount of clearing authorised by one hectare from 13 hectares to 14 hectares and increase the permit boundary to 48.4 hectares. The increase in area will also intersect additional tenure, including Miscellaneous Licences 26/299 and 26/300.

### 1.3. Decision on application and key considerations

| | |
|---|---|
| **Decision:** | Grant |
| **Decision date:** | 25 February 2025 |
| **Decision area:** | 14 hectares of native vegetation |

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advertised the application for a public comment for a period of 7 days, and no submissions were received.

The environmental values of the application area have not changed since the assessment for CPS 10469/1. In making this decision, the Delegated Officer determined that the proposed amendment to increase the clearing by one hectare is not likely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant the amended clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

## 1.5. Site map

A site map of the proposed clearing is provided in Figure 1 below.

(a)

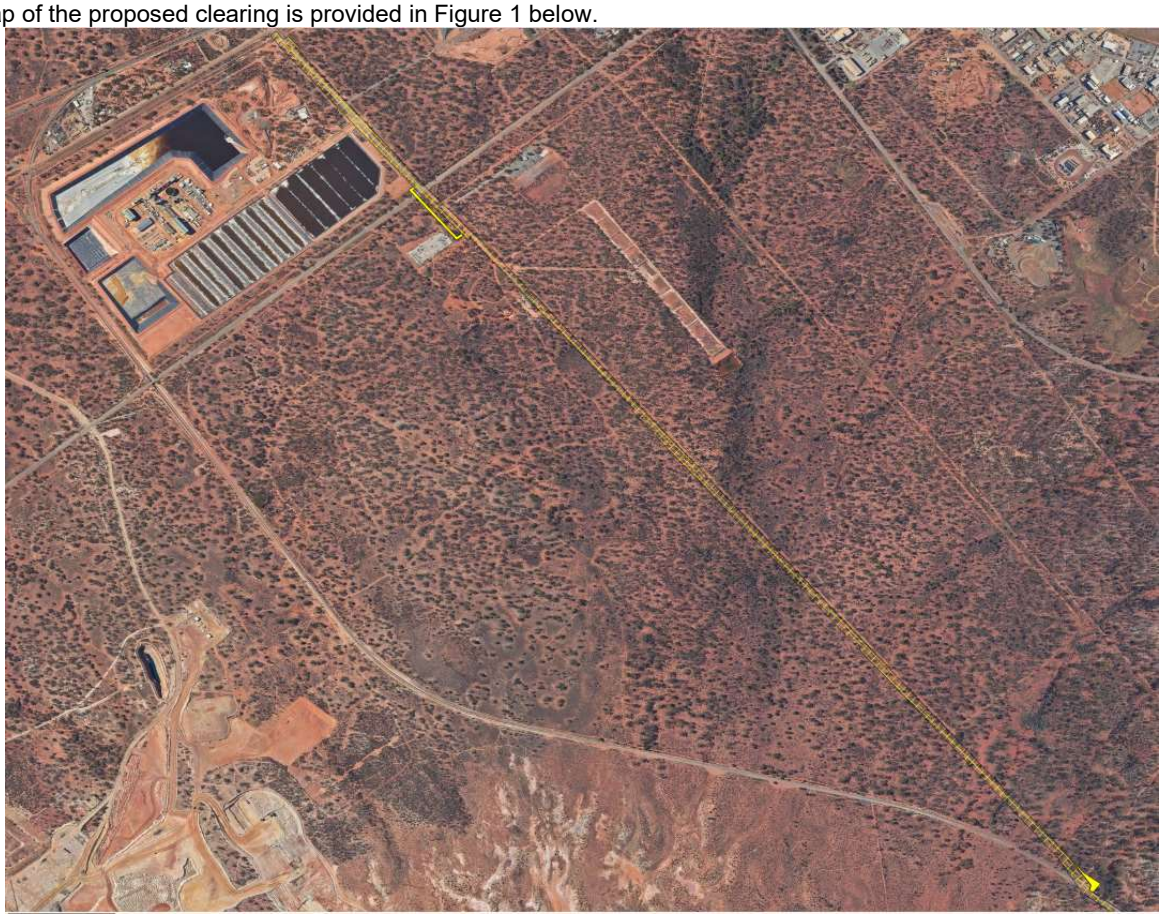


**Figure 1. Map of the application area ((a) northern section (b) southern section). Yellow shaded areas indicate the additional clearing areas applied for, under the current amendment. The yellow cross-hatched area indicates clearing boundary authorised under CPS 10469/1.**

## 2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values. Control measures were submitted by the applicant supporting the application for 10469/1 (BHP 2024b) and have been affirmed for purposes of the new amendment (BHP, 2025):

- previous cleared and disturbed areas will be prioritised to minimise clearance of native vegetation, where possible;
- clearing activities will be undertaken in a slow, progressive manner in a single direction towards adjacent native vegetation to allow fauna to move into adjacent native vegetation ahead of clearing;
- maintain the natural surface water flow of minor ephemeral watercourses;
- separate weed contaminated soil prior to stripping and stockpile and weed management through internal management process;
- topsoil will be stockpiled and reused for landscaping and rehabilitation, in accordance with BHP NiW Topsoil Stripping and Handling Procedure; and
- removal and disposal of asbestos will be undertaken by a licensed asbestos removalist, in accordance with BHP NiW Asbestos Containing Material Procedure.

### 3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix C) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 10469/1.

During the assessment of this application, desktop data was reviewed from the previous assessment report (CPS 10469/1). The review confirmed that the environmental values of the amendment area are well understood and supported by biological studies undertaken by Biologic (2021) and Botanica (2023). As the current proposed amendment is limited to an increase in clearing of one hectare, conditions currently imposed on clearing permit CPS 10469/1 are considered adequate to manage the impacts of the proposed clearing.

### 3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 25 October 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

City of Kalgoorlie-Boulder Planning Officer raised concerns with the replacement of asbestos-containing water pipe in relation to Health (Asbestos) Regulations 1992 (Submission, 2024). The applicant has demonstrated awareness of asbestos-related requirements (BHP, 2024; 2025).

There is one native title claim over the area under application (DPLH, 2025). This claim has been determined by the Federal Court on behalf of the claimant Marlinyu Ghoorlie (WC2017/007). However, the mining tenure has been granted in accordance with the future act regime of the Native Title Act 1993 and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2025). 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.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the Mining Act 1978.

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.

**End**

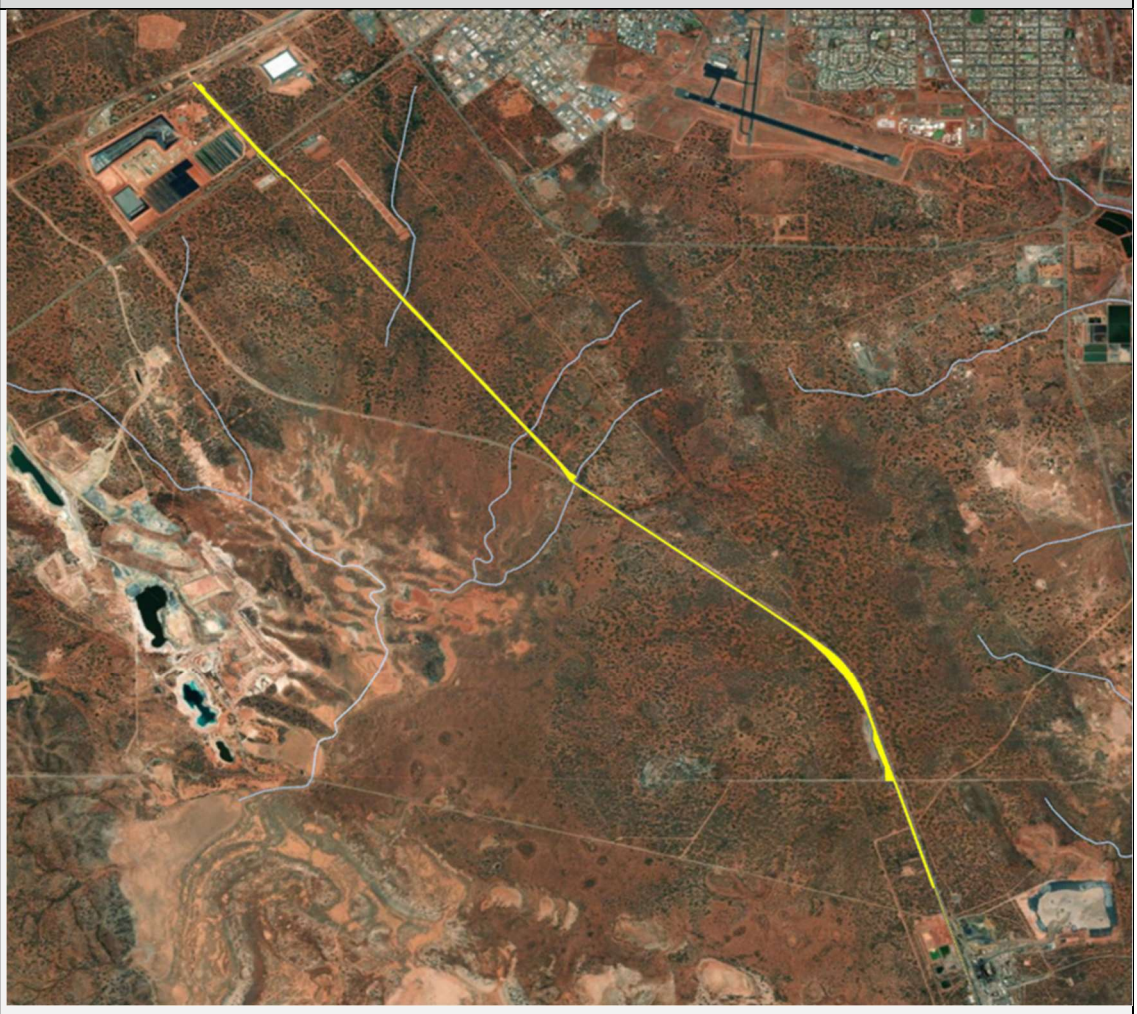
## Appendix A. Details of public submissions

| Summary of comments | Consideration of comment |
|---|---|
| City of Kalgoorlie-Boulder Planning Officer raised concerns with the replacement of asbestos-containing water pipe. | Considered in Relevant planning instruments and other matters (3.3). |

## Appendix B. Site characteristics

### B.1. Site characteristics

| Characteristics | Details |
|---|---|
| Local context | The project area is located approximately 15 kilometres south of Kalgoorlie-Boulder (GIS Database). The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). The predominant land use in the region is pastureland, conservation, and mining activities. |
| Ecological linkage | According to available databases, the application does not contain any known or mapped ecological linkages (GIS Database). |
| Conservation areas | There are three conservation areas within 10 kilometres of the application area (GIS Database):<br>• Kurrawang Nature Reserve, approximately 4.8 kilometres southwest,<br>• Kalgoorlie Arboretum, approximately 6 kilometres northeast, and<br>• Lakeside Timber Reserve, approximately 8.7 kilometres east. |
| Vegetation description | The vegetation of the application area is broadly mapped as the following Beard vegetation associations (GIS Database).<br>• Coolgardie 9: Medium woodland; coral gum (*Eucalyptus torquata*) and goldfields blackbutt (*Eucalyptus lesouefii*).<br>• Coolgardie 123: Succulent steppe with open low woodland; sheoak over saltbush and<br>• Bluebush.<br>• Coolgardie 1294: Medium woodland; coral gum (*Eucalyptus torquata*).<br>A flora and vegetation survey was conducted over the application area by Biologic (2021) and Botanica (2023) during September 2021 and October 2022, respectively. The following vegetation associations were recorded within the application area (Botanica, 2023):<br>• **Eucalyptus Mid Woodland:** Low open to mid woodland of *Eucalyptus salubris* and *Eucalyptus salmonophloia* over mid open shrubland of *Senna artemisioides* subsp. *filifolia* and *Eremophila scoparia* and low open mixed shrubland on clay-loam plains and lower slopes.<br>• **Eucalyptus Low Open Mallee Woodland:** Low open woodland of *Eucalyptus lesouefii* and other Eucalyptus species over mid sparse shrubland of *Melaleuca sheathiana* and low mixed shrubland over occasional patches of *Triodia* hummock grasses on clay-loam plains and flats. |
| Vegetation condition | Aerial imagery indicates a large portion of the vegetation within the application area has been previously cleared by the creation of service roads and rail infrastructure. The remaining vegetation within the survey carried out by Botanica (2023) indicate, vegetation within the application area is in Good (Trudgen, 1991) condition described as:<br>• More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.<br>The full Trudgen (1991) condition rating scale is provided in Appendix D. |
| Climate and landform | The climate of the Coolgardie bioregion is characterised as arid to semi-arid, (CALM, 2002), with rain fall and temperatures falling within the following ranges, recorded at Kalgoorlie-Boulder Airport (BoM, 2025):<br>• Mean annual rainfall: 308 millimetres<br>• Temperature: mean annual minimum: 25.6 Degrees centigrade<br>• Temperature: mean annual maximum:26.6 Degrees centigrade<br>Landform: Gently undulating valley plains and sediments; some outcrop of basic rock (GIS Database). |
| Soil description | The soil is mapped as the following soil types (DPIRD, 2025):<br>• Mx43 atlas system: described as gently undulating valley plains and pediments; some outcrop of basic rock.<br>• BB5 atlas system: described as rocky ranges and hills of greenstones-basic igneous rocks. |
| Land degradation risk | Soils mapped within the application area have a high to extreme risk for wind and water erosion, and moderate to high waterlogging and inundation risk (GIS Database). |
| Waterbodies | Aerial imagery indicated that three minor ephemeral drainage lines transect the application area (GIS Database), see Figure 3. |

| Characteristics | Details |
|---|---|
| |  <br>**Figure 3. Drainage lines (blue) transecting the application area (yellow).** |
| Hydrogeography | The application area occurs within the Goldfields Groundwater Area Management Plan under the *Rights in Water and Irrigation Act 1914*. The mapped groundwater salinity is between 14,000 to more than 35,000 milligrams per litre total dissolved solids which is categorised as hypersaline (GIS Database). There are no Public Drinking Water Source Areas within or adjacent to the application area (30 kilometres) (GIS Database). |
| Flora | There are 24 conservation significant species recorded in the local area, this includes one Threatened flora species and 23 priority flora.<br><br>Three introduced flora species have been recorded within the application area*, Cenchrus ciliaris*, *Echium plantagineum* and *Eragrostis curvula* (Biologic, 2021).<br><br>Refer to the Flora Analysis table section Appendix B.3 for further flora analysis of all conservation significant flora are recorded within the local area. |
| Ecological communities | There are no Threatened or Priority Ecological Communities mapped within or application area or the local area (GIS Database). The nearest Priority Ecological Community is Emu Land System (P3) located approximately 40 kilometres northeast from the application area (GIS Database). |
| Fauna | There are no records of Threatened or Priority fauna within the application area (Biologic, 2021; Botanica, 2023; GIS Database). According to GIS Databases, there are 12 records of conservation significant fauna within the local area (GIS Database).<br><br>Refer to the Fauna Analysis table section Appendix B4 for further fauna analysis of all conservation significant fauna are recorded within the local area. According to available databases the local area also includes six migratory bird species, shore birds including Common greenshank (*Tringa nebularia)*, Common Sandpiper (*Actitis hypoleucos*), Glossy ibis (*Plegadis falcinellus*), Sanderling *(Calidris alba*), Sharp-tailed sandpiper (*Calidris acuminata*), Grey-tailed tattler (*Tringa brevipes*) and Wood sandpiper (*Tringa glareola*). The above species will not be included in the analysis as there are no wetland mapped with the application area. |

## B.2. Vegetation extent

| | Pre-European area (ha) | Current extent (ha) | Extent Remaining % | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA Managed Lands |
|---|---|---|---|---|---|
| IBRA Bioregion: Coolgardie | 12,912,204 | 12,648,491 | 97.96 | 2,114,349 | 16.39 |
| Beard vegetation associations - State | | | | | |
| Coolgardie 9 | 240,509.33 | 235,161.94 | 97.78 | 18,984.28 | 7.97 |
| Coolgardie 123 | 9,090.22 | 80,902.02 | 97.93 | 0 | 0 |
| Coolgardie 1294 | 6,295.55 | 6,047.4 | 69.06 | 114.97 | 1.83 |
| Beard vegetation associations - Bioregion | | | | | |
| Coolgardie 9 | 240,441.99 | 235,100.97 | 97.78 | 7.97 | 8.07 |
| Coolgardie 123 | 9,090.22 | 80,902.02 | 97.93 | 0 | 0 |
| Coolgardie 1294 | 6,295.55 | 6,047.4 | 69.06 | 1.83 | 1.83 |
| Total Remnant Vegetation | | | | | |
| 30 KM Radius | 356,381 | 345,150 | 96.84 | - | - |

Government of Western Australia (2019)

## B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and biological survey information impacts to the following conservation significant flora required further consideration.

| **Species name** | **Conservation status** | **Suitable habitat features ? [Y/N]** | **Suitable vegetation type? [Y/N]** | **Suitable soil type? [Y/N]** | **Distance of closest record to application area (km)** | **Number of known records (total)** | **Are surveys adequate to identify? [Y, N, N/]** |
|---|---|---|---|---|---|---|---|
| *Eremophila praecox* | P2 | N | N | Y | 1.2 | 55 | Y |
| *Alyxia tetanifolia* | P3 | N | N | N | 1.8 | 4 | Y |
| *Goodenia salina* | P2 | N | N | N | 2.6 | 1 | Y |
| *Isolepis australiensis* | P3 | N | N | N | 2.6 | 1 | Y |
| *Xanthoparmelia dayiana* | P3 | N | N | N | 3.9 | 2 | Y |
| *Eucalyptus x brachyphylla* | P4 | N | N | N | 5.8 | 1 | Y |
| *Frankenia glomerata* | P4 | N | N | N | 8.2 | 2 | Y |
| *Cyathostemon verrucosus* | P3 | Y | Y | Y | 10.2 | 1 | Y |
| *Notisia intonsa* | P3 | N | N | N | 11 | 2 | Y |
| *Eucalyptus jutsonii subsp. jutsonii* | P4 | Y | Y | Y | 11.1 | 1 | Y |
| *Austrostipa turbinata* | P3 | Y | Y | Y | 13.44 | 2 | Y |
| *Calandrinia lefroyensis* | P1 | N | N | N | 20 | 3 | Y |
| *Eremophila caerulea subsp. merrallii* | P4 | N | N | N | 20.2 | 1 | Y |
| *Allocasuarina eriochlamys subsp. grossa* | P3 | N | N | N | 21.9 | 1 | Y |
| *Eremophila xantholaemus* | P1 | Y | Y | Y | 23.5 | 3 | Y |
| *Rhodanthe uniflora* | P1 | Y | Y | Y | 25.8 | 1 | Y |
| *Angianthus prostratus* | P3 | Y | Y | Y | 25.8 | 1 | Y |

| Species name | Conservation status | Suitable habitat features ? [Y/N] | Suitable vegetation type? [Y/N] | Suitable soil type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/] |
|---|---|---|---|---|---|---|---|
| *Thryptomene planiflora* | P1 | N | Y | Y | 26.3 | 2 | Y |
| *Gastrolobium graniticum* | T | N | N | N | 29.8 | 1 | Y |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

### B.4. Fauna analysis table

| Species name | Conservation status | Suitable habitat features ? [Y/N] | Suitable vegetation type? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Are surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|
| Inland hairstreak, desert blue butterfly (*Jalmenus aridus*) | CR | N | N | 5 | 5 | NA |
| Arid bronze azure butterfly (*Ogyris subterrestris petrina)* | CR | N | N | 17 | 5 | NA |
| Carnaby's black cockatoo (*Zanda latirostris*) | EN | N | N | 4 | 5.1 | Y |
| Bilby, dalgyte, ninu (*Macrotis lagotis*) | VU | N | N | 3 | 7 | Y |
| Numbat, walpurti | VU | N | N | 1 | 7 | Y |
| Malleefowl (*Leipoa ocellata*) | VU | N | N | 16 | 7 | Y |

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

## Appendix C. Assessment against the clearing principles

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| **Environmental value: biological values** | | |
| Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."*<br><br>Assessment:<br><br>A review of desktop data from the previous decision report, did not determine any change in biodiversity values resulting from changes in biological records or conservation status.<br><br>Of the species recorded in the local area, *Elachanthus pusillus* (Priority 2) *Lepidium fasciculatum* (Priority 3), *Melaleuca coccinea* (Priorit 3) and *Ptilotus procumbens* (priority 1) are represented by a single record at sites within the City of Kalgoorlie-Boulder, which have since been historically cleared and may be extinct in the local area.<br><br>*Lepidium merrallii* (priority 2) and *Thryptomene* sp. Coolgardie (Priority 1) are also represented by a single record within the township of Coolgardie, within sites that have also been historically cleared and therefore, may be locally extinct.<br><br>The additional areas proposed to be cleared do not contain locally or regionally significant flora, fauna, habitats, assemblages of plants. | Not likely to be at variance<br><br>*(As per CPS 10469/1)* | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (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."*<br>Assessment:<br>The additional areas proposed to be cleared are not likely to contain critical habitat for conservation significant fauna. Habitat types recorded in the local area a common regional. One malleefowl (*Leipoa ocellata*) mound was recorded during field survey (Biologic 2021), approximately 7 kilometres south-southeast of the nearest area of additional clearing. Inland hairstreak (*Jalmenus aridus*) and arid bronze azure butterfly (*Ogyris subterrestris* petrina) both occur within 5 kilometres of the application area (GIS Database). Given the vegetation of the application area is fragmented by previous clearing and subjected to disturbance from existing roads and infrastructure, it is unlikely the proposed clearing, contains suitable foraging or breeding habitat for the above fauna. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."*<br>Assessment:<br>A review of desktop data from previous decision report, did not determine any changes in the conservation status of the flora assessed under previous decision reports. The area proposed to be cleared, is unlikely to contain habitat for flora species listed under the BC Act. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (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."*<br>Assessment:<br>The application area including the additional areas proposed to be cleared under the current amendment, does contain species that can indicate a threatened ecological community. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No<br>. |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (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."*<br>Assessment:<br>The extent of the mapped vegetation native vegetation in the local area has not changed (refer to Appendix B.2) since the assessment for CPS 10469/1 and remains consistent with the national objectives and targets for biodiversity conservation in Australia (DWER, 2025). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (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."*<br>Assessment:<br>Given the distance to the nearest conservation area (4.8 kilometres), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| **Environmental value: land and water resources** | | |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br>Assessment:<br>Given no major water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality (GIS Database). | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br>Assessment:<br>The mapped soils are categorized as highly susceptible to wind and water erosion. Noting the extent of the application area and the condition of the vegetation, the addition of one hectare of proposed clearing is not likely to have an appreciable impact on land degradation. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (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."*<br>Assessment:<br>Given no permanent water courses, wetlands, or Public Drinking Water Source Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |
| Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."*<br>Assessment:<br>Given no permanent water courses are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging. | Not likely to be at variance<br>*(As per CPS 10469/1)* | No |

## Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

**Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)**

| Condition | Description |
|---|---|
| Excellent | Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement. |
| Very good | Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks. |
| Good | More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds. |
| Poor | Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds. |
| Very poor | Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species. |

| Condition | Description |
|---|---|
| Completely degraded | Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs. |

# Appendix E. Sources of information

## E.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Black Cockatoo WTBC Breeding
- Black Cockatoo FRTBC Breeding
- Black Cockatoo BC Roosts
- Black Cockatoo BC Feeding SCP
- Black Cockatoo Feeding JF
- Black Cockatoo Feeing Areas Buffered
- Black Cockatoo Baudins Distribution
- Black Cockatoo Forest Red Tail Distribution
- Black Cockatoo Carnabys Distribution
- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

## E.2. References

BHP (2025) BHP Nickel West Pty Ltd, confirmation of control measures for 10469/2 amendment application, Email, OneDMS folder A87984509.

BHP Nickel West Pty Ltd (BHP) (2024) Native Vegetation Clearing Permit Application, supporting information. NKS Binduli Water Pipeline.

Biologic (2021) Kalgoorlie Nickel Smelter, Reconnaissance Flora and Vegetation Survey and Basic Terrestrial Fauna Survey. Prepared for BHP Nickel West December, 2021.
Botanica Consulting (Botanica) (2023) Kalgoorlie Nickel Smelter – Reconnaissance Flora/Vegetation and Basic Fauna Assessment, prepared for BHP Nickel West Pty Ltd, April 2023.
BoM (2025) Bureau of Meteorology Website – Climate Data Online, Kalgoorlie-Boulder Airport. Bureau of Meteorology. https://reg.bom.gov.au/climate/data/ (Accessed 11 February 2025).
CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
Department of Planning, Lands and Heritage (DPLH) (2025) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 11 February 2025).
DPIRD (2025) Department of Primary Industries and Regional Development NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (Accessed 24 January 2025).
DWER (2025) Department of Water and Environmental Regulation Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
Environmental Protection Authority (EPA) (2016) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf
Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics
Submission (2024) Public submission in relation to clearing permit application CPS 10469/1, received 5 February 2024.
Trudgen, M.E. (1991) Vegetation condition scale in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

## 4. Glossary

### Acronyms:

| | |
|---|---|
| **BC Act** | *Biodiversity Conservation Act 2016,* Western Australia |
| **BoM** | Bureau of Meteorology, Australian Government |
| **DAA** | Department of Aboriginal Affairs, Western Australia (now DPLH) |
| **DAFWA** | Department of Agriculture and Food, Western Australia (now DPIRD) |
| **DAWE** | Department of Agriculture, Water and the Environment, Australian Government |
| **DBCA** | Department of Biodiversity, Conservation and Attractions, Western Australia |
| **DER** | Department of Environment Regulation, Western Australia (now DWER) |
| **DEMIRS** | Department of Energy, Mines, Industry Regulation and Safety, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia (now DEMIRS) |
| **DoEE** | Department of the Environment and Energy (now DAWE) |
| **DoW** | Department of Water, Western Australia (now DWER) |
| **DPaW** | Department of Parks and Wildlife, Western Australia (now DBCA) |
| **DPIRD** | Department of Primary Industries and Regional Development, Western Australia |
| **DPLH** | Department of Planning, Lands and Heritage, Western Australia |
| **DRF** | Declared Rare Flora (now known as Threatened Flora) |
| **DWER** | Department of Water and Environmental Regulation, Western Australia |
| **EP Act** | *Environmental Protection Act 1986*, Western Australia |
| **EPA** | Environmental Protection Authority, 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** **Threatened species:**

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.

**VU** **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:**

**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*.

**P** **Priority species:**

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.

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