



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

<b>Permit number:</b>	6225/3
<b>Permit type:</b>	Purpose Permit
<b>Applicant name:</b>	Nifty Copper Pty Ltd
<b>Application received:</b>	15 November 2021
<b>Application area:</b>	180 hectares
<b>Purpose of clearing:</b>	Mineral Production and Associated Activities
<b>Method of clearing:</b>	Mechanical Removal
<b>Tenure:</b>	<i>Western Mining Corporation Limited (Throssell Range) Agreement Act 1985</i> , Mining Lease 271SA (AM 70/271)
<b>Location (LGA area/s):</b>	Shire of East Pilbara
<b>Colloquial name:</b>	Nifty Copper Operations

### 1.2. Description of clearing activities

Nifty Copper Pty Ltd proposes to clear up to 180 hectares of native vegetation within a boundary of approximately 309.5 hectares, for the purpose of mineral production and associated activities. The project is located approximately 150 kilometres northeast of Nullagine, in the Shire of East Pilbara.

The amendment application was applied for to expand the existing operations at the Nifty mine site (Preston, 2021). The amendment will allow for the expansion of the current waste rock dump (Preston, 2021). The amendment area will still partially be used for mine water discharge, with the majority of the area consisting of a waste rock dump (Preston, 2021). The purpose of clearing will be changed from 'mine water discharge' to 'mineral production and associated activities'.

Clearing permit CPS 6225/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Industry Regulation and Safety) on 6 November 2014 and was valid from 29 November 2014 to 31 October 2024. The permit authorised the clearing of up to 180 hectares of native vegetation within a boundary of approximately 350 hectares, for the purpose of mine water discharge.

CPS 6225/2 was granted on 19 September 2019, amending the permit to extend the permit duration to 31 October 2029. The area of clearing authorised and the permit boundaries remained unchanged.

On 15 November 2021, the Permit Holder applied to amend CPS 6225/2 to change the purpose of clearing, decrease the permit boundary, and update the permit holder name. The permit boundary was amended (reduced) as to not overlap with CPS 9493/1.

### 1.3. Decision on application and key considerations

<b>Decision:</b>	Grant
<b>Decision date:</b>	6 September 2022
<b>Decision area:</b>	180 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 30 November 2021. DMIRS advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix D), supporting information provided by the applicant, including the results of a flora and vegetation survey, the clearing principles set out in Schedule 5 of the EP Act (Appendix B), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- potential land degradation.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a 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;
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion; and
- retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within the permit boundary within 12 months of clearing to ensure vegetation is not permanently lost.

The assessment has not changed since the assessment for CPS 6225/2, except in the case of principles (i) and (j) which has changed from 'may be at variance' to 'not likely to be at variance'. The Delegated Officer determined that the proposed change to the purpose of clearing is not likely to lead to an unacceptable risk to environmental values.

## 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Western Mining Corporation Limited (Throssell Range) Agreement Act 1985*

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)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 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. Avoidance and mitigation measures include the following (Preston, 2021).

- Clearing will be managed under a ground disturbance procedure;
- Clearing will be marked out and identified using GPS coordinates, with mapped boundaries provided to the clearing operator;
- Cleared areas will progressively be rehabilitated if not required during operations; and
- All vehicles, equipment and personnel will be inspected and cleaned as required to prevent the incidental spread of weeds.

### 3.2. Assessment of impacts on environmental values

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, and revegetation and rehabilitation management conditions.

A review of current environmental information reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 6225/2, with the exception of Principles (i) and (j). These Principles have changed from 'may be at variance' to 'not likely to be at variance'.

### 3.3. Relevant planning instruments and other matters

There is one native title claim (WC1996/078) over the area under application (DPLH, 2022). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2022). 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 that may be required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*.
- A Mining Proposal / Mine Closure Plan 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. Site characteristics**

**A.1. Site characteristics**

Characteristic	Details
Local context	The project is located approximately 150 kilometres east of Nullagine, within the Shire of East Pilbara in the extensive land use zone. The amendment area is surrounded by vast tracks of uncleared land. The predominant land use in the region is unallocated crown land, conservation reserves and Aboriginal land, with the main industries being tourism, mining and mineral exploration.
Conservation areas and ecological linkage	The amendment area is not located within any conservation areas. Karlamilyi National Park is located approximately 75.5 kilometres south of the application area. The proposed clearing area is not representative of an ecological linkage.
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association:            134: Mosaic: Hummock grasslands, open low tree steppe; desert bloodwood and feathertop spinifex on sandhills / Hummock grasslands, shrub steppe; mixed shrubs over spinifex between sandhills (GIS Database).</p> <p>Botanic Gardens and Parks Authority (BGPA) undertook a targeted survey of the original amendment area in July 2014 and identified two broad vegetation types (BGPA, 2014):</p> <p><b>Sand Plains:</b> <i>Triodia basedowii</i> hummock grasslands with scattered shrubs grading to shrublands of <i>Acacia</i> species, most commonly <i>Acacia stellaticeps</i>; and</p> <p><b>Sand Dunes:</b> Vegetation gradient from the lower slope to the crest with <i>Triodia schinzii</i> on the crest, grading to <i>Triodia basedowii</i> on the lower slopes, with a variety of shrubs, herbs and grasses. Common species found include <i>Corymbia chippendalei</i>, <i>Acacia dictyophleba</i>, <i>Dicrastylis doranii</i>, <i>Aluta maisonneuvei</i> and <i>Grevillea stenobotrya</i>.</p> <p>No recent flora and vegetation surveys have been conducted over the amendment area. A flora and vegetation survey was conducted over the area south of the existing mine infrastructure by Western Botanical during two trips between 31 May and 3 June 2021, and 21 June and 1 July 2021. The following vegetation types were recorded within the survey area (Western Botanical, 2021):</p> <p><u>Sand dune</u></p> <p><b>Cc-SLT:</b> <i>Corymbia chippendalei</i> Scattered Low Trees</p> <p><b>Am-LS:</b> <i>Aluta maisonneuvei</i> subsp. <i>maisonneuvei</i> Low Shrubland</p> <p><u>Sandplain swale</u></p> <p><b>Aa-SL:</b> <i>Acacia ancistrocarpa</i> Shrubland</p> <p><b>As-LS:</b> <i>Acacia stellaticeps</i> Low Shrubland</p> <p><b>Gs-S:</b> <i>Grevillea stenobotrya</i> Shrubland</p> <p><b>Mg-S:</b> <i>Melaleuca glomerata</i> Shrubland</p> <p><b>MI-OS:</b> <i>Melaleuca lasiandra</i> Open Shrubland</p> <p><b>Tb-HG:</b> <i>Triodia basedowii</i> Hummock Grassland</p> <p><b>TI-HG:</b> <i>Triodia</i> aff. <i>lanigera</i> Hummock Grassland</p> <p><u>Stoney plain &amp; low hill</u></p> <p><b>Ah-LS:</b> <i>Acacia hilliana</i> Low Shrubland</p> <p><u>Clay pan playa</u></p> <p><b>Ef-G:</b> <i>Eragrostis falcata</i> Grassland</p>

Characteristic	Details
	<b>Ta-LS:</b> <i>Tecticornia auriculata</i> Low Shrubland
Vegetation condition	<p>Aerial imagery indicates the vegetation within the proposed clearing area is in good (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li><b>Good:</b> Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.</li> </ul> <p>The amendment area has been impacted from mine water discharge with sedimentation present.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>
Climate and landform	The application area is mapped within elevations of 30-40 metres AHD (GIS Database). The climate of the region is Mediterranean, with an average rainfall of approximately 399.2 millimetres per year (BoM, 2022; CALM, 2002).
Soil description and land degradation risk	The application area is located within the Little Sandy land system (GIS Database), which is described as sandplains with linear and reticulate dunes supporting shrubby hard and soft spinifex grasslands.
Waterbodies	The desktop assessment and aerial imagery indicated that no ephemeral or permanent watercourses intersect the area proposed to be cleared.
Hydrogeography	The application area is not within any legislated surface water area. The application area is located within the Canning-Kimberley Ground Water Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> . The mapped groundwater salinity is 1000-3000 milligrams per litre which is described as brackish water quality (GIS Database).
Flora	A desktop assessment identified 25 conservation significant flora species occurring within a 110 kilometre radius of the application area. Of these 26 species, only one was considered likely to occur, and nine were considered possible occurring within the area south of the amendment area.
Ecological communities	There are no known Threatened or Priority Ecological Communities that occur within the application area. The nearest PEC record is the Mosquito Land System (P3), located approximately 89 kilometres west of application area.
Fauna	A desktop assessment of the area south of the amendment area returned a total of 29 conservation significant fauna species. Eight were considered likely to occur, ten were classified as may occur, ten species were considered unlikely to occur, and one species would not occur.

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><b>Principle (a):</b> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><b>Assessment:</b> A flora survey conducted in 2014 identified <i>Goodenia hartiana</i> (P2) near the amendment area (BGPA, 2014). No new flora and vegetation surveys have been conducted over the area since 2014. A flora survey of other areas around the Nifty mine site identified four Priority flora species: <i>Goodenia hartiana</i> (P2), <i>Thysanotus</i> sp. Desert East of Newman (P2), <i>Corynotheca asperata</i> (P3), and <i>Indigofera ammobia</i> (P3) (Western Botanical, 2021). It is possible that the above species could have previously been present within the amendment area based on similar landforms and habitat, prior to impacts from mine water discharging over the area (Preston, 2021; Western Botanical, 2021; GIS Database). The amendment area has been impacted from sedimentation of salts and water discharge has likely compacted the soils</p>	<p>Not likely to be at variance</p> <p>as per CPS 6225/2</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
present within the amendment area (BGPA, 2014; GIS Database). The proposed amendment is unlikely impact potentially occurring Priority flora.		
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u> Based on fauna surveys in the surrounding area, there is a potential for suitable habitat for conservation significant fauna species to be present within the amendment area based on common landforms (Biota, 2021). Species that may have utilised the area for potential habitat based on fauna surveys conducted at the Nifty mine site include: greater bilby (<i>Macrotis lagotis</i>, VU), marsupial mole (<i>Notoryctes caurinus</i>, P4), and brush-tailed mulgara (<i>Dasyercus blythi</i>, P4) (Biota, 2021). However, sedimentation from mine water discharge has occurred throughout the amendment area (Preston, 2021; GIS Database). This sedimentation and water discharge has likely compacted the soils of the amendment area, limiting available fauna habitat for the above species. It is unlikely that the proposed amendment will impact available fauna habitat, given the current condition and available fauna habitat in the surrounds (Biota, 2021; Preston, 2021; GIS Database).</p>	Not likely to be at variance as per CPS 6225/2	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area and surrounds did not record any species of Threatened flora (BGPA, 2014; Western Botanical, 2021). None of the vegetation types recorded within the application area are known habitat for any species of Threatened flora, and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora (BGPA, 2014; Western Botanical, 2021).</p>	Not likely to be at variance as per CPS 6225/2	No
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u> There are no known Threatened Ecological Communities (TECs) located within the application area or the Mackay subregion (GIS Database). A flora and vegetation survey of the amendment area and surrounds did not identify any vegetation representative of a TEC (BGPA, 2014; Western Botanical, 2021; GIS Database). The nearest known TEC is located approximately 200 kilometres north of the application area (GIS Database).</p>	Not likely to be at variance as per CPS 6225/2	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The application area falls within the Great Sandy Desert Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Great Sandy Desert Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 134: Mosaic: Hummock grasslands, open low tree steppe; desert bloodwood and feathertop spinifex on sandhills / Hummock grasslands, shrub steppe; mixed shrubs over spinifex between sandhills (GIS Database). Approximately 99% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). The vegetation proposed to clear is not a remnant in an area that has been extensively cleared.</p>	Not at variance as per CPS 6225/2	No
<p><u>Principle (h):</u> <i>“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></p> <p><u>Assessment:</u> The application area is not located within any conservation areas. Karlamilyi National Park is located approximately 75.5 kilometres south of the application area (GIS Database). The proposed clearing is unlikely have an impact on the environmental values of any conservation areas.</p>	Not likely to be at variance as per CPS 6225/2	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u> Given no permanent or ephemeral water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on vegetation growing in association with a watercourse or wetland (GIS Database).</p>	<p>Not at variance</p> <p>as per CPS 6225/2</p>	<p>No</p>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> The application area is located within the Little Sandy land system (GIS Database). The Little Sandy land system is described as Sandplains with linear and reticulate dunes supporting shrubby hard and soft spinifex grasslands (Van Vreeswyk et al., 2004). Dunes, sandplains and swales show some susceptibility to wind erosion immediately after fires but rapid stabilisation occurs after rain (Van Vreeswyk et al., 2004). Dune flanks and crests are moderately to highly susceptible to erosion after any disturbance which removes vegetation (Van Vreeswyk et al., 2004).</p> <p>Potential erosion may be adequately minimised through a staged clearing condition that will require the permit holder to enact the purpose for which the clearing is authorised within three months of clearing.</p> <p>Additionally, a revegetation and rehabilitation condition may help to further minimise erosion potential by requiring the permit holder to stockpile topsoil to respread in cleared areas no longer required within 12 months.</p>	<p>May be at variance</p> <p>as per CPS 6225/2</p>	<p>No</p>
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u> There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database).</p> <p>Previous versions of this amendment was for the purpose of mine water discharge with the flooding as the method of clearing. As the purpose for this amendment application has changed from previous versions, the amendment area will no longer be utilised for mine water discharge. The new method of clearing and activities is unlikely to increase groundwater salinity.</p> <p>The proposed clearing is unlikely to result in significant changes to surface water flows or to cause deterioration in the quality of underground water.</p>	<p>Not likely to be at variance</p> <p>changed from CPS 6225/2</p>	<p>No</p>
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> The climate of the region is arid tropical with summer rainfall, with an average rainfall of approximately 364.2 millimetres per year (BoM, 2022; CALM, 2002). Occasional significant rainfall events occur, often associated with cyclones (Preston, 2021). Given no watercourses are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p> <p>Previous versions of this amendment was for the purpose of mine water discharge with the flooding as the method of clearing. As the purpose for this amendment application has changed from previous versions, the amendment area will no longer be utilised for mine water discharge. The new method of clearing and activities is unlikely to result in standing water with the potential for flooding.</p>	<p>Not likely to be at variance</p> <p>changed from CPS 6225/2</p>	<p>No</p>

### Appendix C. 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.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

## Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

## Appendix D. Sources of information

### D.1. GIS databases

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

- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

### D.2. References

BGPA (2014) Botanic Gardens and Parks Authority, Targeted Rare Flora Survey – Nifty Copper Operations, Western Australia. Prepared by Botanic Gardens and Parks Authority, for Birla Nifty Pty Ltd, July 2014.

Biota (2021) Nifty Copper Mine Targeted Fauna Assessment. Prepared by Biota Environmental Services, for Cyprium Metals Ltd, November 2021.

BoM (2022) Bureau of Meteorology Website – Climate Data Online, Telfer Aero. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 7 July 2022).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

Department of Environment Regulation (DER) (2013) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf)

Department of Planning, Lands and Heritage (DPLH) (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 7 July 2022).

Department of Primary Industries and Regional Development (DPIRD) (2022) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (Accessed 7 July 2022).



Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.pdf](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](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) (2020) Technical Guidance – Terrestrial Fauna Surveys. Available from: [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.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>

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

Preston (2021) Nifty Copper Operation. Native Vegetation Clearing Permit Application Supporting Information. Prepared by Preston Consulting Pty Ltd, for Cyprium Metals Limited, November 2021.

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin No. 92. Department of Agriculture, South Perth, Western Australia.

Western Botanical (2021) Detailed Flora and Vegetation Assessment of the Nifty Copper Mine. Prepared by Western Botanical, for Cyprium Metals Ltd, June 2021.

## 4. Glossary

### Acronyms:

<b>BC Act</b>	<i>Biodiversity Conservation Act 2016</i> , Western Australia
<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia (now DPLH)
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia (now DPIRD)
<b>DAWE</b>	Department of Agriculture, Water and the Environment, Australian Government
<b>DBCA</b>	Department of Biodiversity, Conservation and Attractions, Western Australia
<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DoEE</b>	Department of the Environment and Energy (now DAWE)
<b>DoW</b>	Department of Water, Western Australia (now DWER)
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia (now DBCA)
<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia
<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora (now known as Threatened Flora)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	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.