Government of Western Australia
Department of Mines, Industry Regulation and Safety

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	8550/3
Permit type:	Area Permit
Applicant name:	Edna May Operations Pty Ltd
Application received:	7 November 2022
Application area:	16.6 ha
Purpose of clearing:	Mineral Production and Associated Activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 77/88
	Mining Lease 77/124
Location (LGA area/s):	Shire of Westonia
Colloquial name:	Greenfinch Project

1.2. Description of clearing activities

Edna May Operations Pty Ltd proposes to clear up to 16.6 hectares of native vegetation within a boundary of approximately 16.6 hectares, for the purpose of mineral production and associated activities. The project is located approximately one kilometre north-northwest of Westonia, within the Shire of Westonia.

Edna May Operations Pty Ltd have reported clearing a total of 14.274 hectares of native vegetation (Ramelius, 2022). The remaining clearing is to allow for the construction and extension of the Corsini Stormwater bund which is a requirement for mine closure and will be a permanent disturbance feature. The amendment application is to allow additional time for the remaining clearing to be undertaken, as the period in which clearing is authorised has lapsed.

Clearing permit CPS 8550/1 was granted by the Department of Mines, Industry Regulation and Safety on 3 October 2019 and was valid from 26 October 2019 to 25 October 2034. The permit authorised the clearing of up to 16.6 hectares of native vegetation within a boundary of approximately 16.6 hectares, for the purpose of mineral production and associated activities.

CPS 8550/2 was granted on 18 November 2021, amending the permit to extend the period in which clearing is authorised (Condition 1). The amount of clearing authorised and the permit boundary remained unchanged.

On 7 November 2022, the Permit Holder applied to amend CPS 8550/2 to extend the period in which clearing is authorised to 25 October 2025. The permit duration will also be extended by three years to 25 October 2038, this will allow for offset rehabilitation activities to be undertaken.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	12 January 2023
Decision area:	16.6 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 7 November 2022. 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;
- the loss of native vegetation that is considered part of a Threatened Ecological Community;

- habitat and landscape fragmentation, reducing ecological linkage within a significant remnant of native vegetation; and
- loss of available habitat for a conservation significant flora species.

After consideration of the available information, the Delegated Officer determined the proposed clearing will result in a significant residual impact on environmental values.

The conditions currently imposed on clearing permit CPS 8550/2 are considered adequate to manage the impacts of clearing:
- 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
- rehabilitation offset which is currently in progress.

The assessment has not changed since the assessment for CPS 8550/2, however there is a change to principle (d). Previously impacts to federally listed Threatened Ecological Communities were considered and assessed under principle (a), however these impacts are now considered under principle (d). The variance level has now changed from 'not likely to be at variance' to 'at variance' for principle (d).

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
- the polluter pays principle

Other legislation of relevance for this assessment include:
- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

Relevant policies considered during the assessment include:
- *Environmental Offsets Policy* (2011)

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)
- Environmental Offsets Guidelines (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

CPS 8550/1 originally replaced previous clearing permit application CPS 8069/1, which was refused by DMIRS on 1 November 2018 due to the significant environmental impacts of the proposed clearing. CPS 8069/1 proposed to clear up to 62.3 hectares of native vegetation, while CPS 8550/1 was for 16.6 hectares. The reduction in clearing substantially reduced the environmental impacts of the Greenfinch Project.

The footprint of CPS 8550/1 was designed to avoid known locations of threatened flora species *Eremophila resinosa*, in addition reducing the impact to the 'Eucalypt woodlands of the Western Australian Wheatbelt' Threatened Ecological Community. The reduction in clearing allowed for greater connectivity within the Westonia Town Common than the initial proposed clearing.

An offset proposal was developed by the proponent to mitigate the significant impacts of the clearing. The offset activities are currently ongoing.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix A and Appendix B) reveals that the assessment against the clearing principles has not changed significantly from the previous Clearing Permit Decision Reports. There are no proposed changes to the existing permit that alters potential environmental impacts. The general impacts to the remaining vegetation to be cleared under this permit will be discussed in more detail (Section 3.2.1).

While there are no changes to the environmental impacts of the clearing under this amendment, there is a change to principle (d). Previously impacts to federally listed Threatened Ecological Communities were considered and assessed under principle (a), however these impacts are now considered under principle (d). The variance level has now changed from 'not likely to be at variance' to 'at variance' for principle (d).

3.2.1. Biological values, significant remnant vegetation, conservation areas - Clearing Principles (a, c, d, e, h)

Assessment

The permit holder has reported that a total of 14.274 hectares of native vegetation has been cleared under this permit (Ramelius, 2022). The remaining 2.326 hectares of clearing will be utilised to construct and extend the Corsini Stormwater bund which is a requirement for mine closure and will be a permanent disturbance feature.

The application area falls within the Westonia Town Common, which forms part of a larger remnant which is recognised as a significant remnant of native vegetation in a region that has been extensively cleared (WWF-Australia, 2007; GIS Database). The vegetation of the Westonia Town Common is characterised by gimlet, red morel and salmon gum woodlands, and incudes one of the largest 'reserved' red morrel (*Eucalyptus longicornis*) woodlands within the Intensive Land Use Zone (WWF-Australia, 2007; GIS Database). A survey of the Westonia Town Common conducted in 2007 recorded a total of 105 native fauna taxa, including 5 mammals, 5 reptiles and amphibians, 51 birds, and 44 invertebrates; a total of 203 native flora taxa; and 18 fungi and lichens (WWF-Australia, 2007). Four introduced mammal species and 22 weed species were also recorded during the survey. Although suffering disturbance over many years, including vehicle tracks, rubbish dumping and historical mining, the vegetation of the Westonia Town Common is generally in good condition and contains a high level of native flora and fauna diversity in comparison to the surrounding largely cleared landscape of the Wheatbelt (WWF-Australia, 2007).

A flora and vegetation survey was conducted over the original Greenfinch Project area by Botanica Consulting in April 2018. The flora survey covered an area of approximately 62.6 hectares, and recorded a total of 72 native flora taxa, from 34 genera and 21 families (Botanica, 2018). One conservation significant flora taxa (*Eremophila resinosa*) was recorded during the survey (Botanica, 2018).

The threatened flora species *Eremophila resinosa* is known to occur within and surrounding the Edna May mine site (Botanica, 2019; DBCA, 2019b; GIS Database). The application area has been designed to avoid all known plants of *Eremophila resinosa*, however, some *Eremophila resinosa* plants occur within close proximity to the application area (Botanica, 2019; DBCA, 2019b). The application area is considered to represent significant habitat for the species and is likely to contain a viable soil seedbank (DBCA, 2019b). No priority flora species have been recorded within or in close proximity to the application area (Botanica, 2019; GIS Database).

The application area has been mapped as part of the 'Eucalypt woodlands of the Western Australian Wheatbelt' Threatened Ecological Community (TEC) listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and by the DBCA as a Priority 3 Priority Ecological Community (PEC) and 'Red Morrel Woodland of the Wheatbelt' listed as a Priority 1 Ecological Community (Botanica, 2018; DBCA, 2019a; GIS Database). Vegetation mapping conducted by Botanica (2019) determined that 9.3 hectares of vegetation within the proposed clearing area is representative of the TEC.

Conclusion

Based on the above assessment, the proposed clearing will result in a significant environmental impact. To mitigate the environmental impacts of the clearing, an Offset Proposal was developed by the proponent. This proposal was approved by DMIRS prior to the commencement of any clearing under previous versions of this permit and offset activities have commenced. The offset will be maintained on the permit as these requirements are still being undertaken.

Conditions

To address the above impacts, the offset condition will be maintained on the amended clearing permit.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 29 November 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC2017/007) over the area under application (DPLH, 2022). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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 required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

The original Green Finch project proposal was referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986* (the EP Act). On 24 April 2018 the EPA made a decision not to assess the proposal, allowing the proposal to be dealt with under Part V (Clearing) of the EP Act.

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 area proposed to be cleared is part of the Westonia Town Common, which is an isolated, larger area of remnant native vegetation (> 2,000 ha) in the intensive land use zone of Western Australia (GIS Database). It is surrounded by extensive areas of agricultural land (GIS Database). The proposed clearing area contributes to an important linkage in a highly cleared landscape.
Ecological linkage	The application area is part of a large area of remnant vegetation and is considered a significant ecological linkage.
Conservation areas	The nearest conservation area is the Sandford Rocks Nature Reserve, located approximately six kilometres northeast of the application area (GIS Database). The application area falls within the Westonia Town Common (Crown Reserve 14983) (GIS Database), which is managed by the Shire of Westonia for purposes including conservation.
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation association: 536: Medium woodland; morrell & rough fruited mallee (*Eucalyptus corrugate*) (GIS Database). A reconnaissance flora and vegetation survey was conducted over the application area by Botanica Consulting (Botanica) on 11 April 2018. The following vegetation types were recorded within the application area (Botanica, 2018; 2019): **CLP-MWS1:** Tall mallee woodland of *Eucalyptus corrugata* over sparse shrubland of *Senna artemisioides* and low forbland of *Sclerolaena diacantha* on clay-loam plain; **CLP-EW1:** Mid woodland of *Eucalyptus longicornis* over isolated tall *Melaleuca pauperiflora* subsp. *fastigiata* shrubs and low open chenopod shrubland of *Atriplex* spp. and open low forbland of *Sclerolaena diacantha* on clay-loam plain; **CLP-EW2:** Mid woodland of *Eucalyptus salubris* over open mid shrubland of *Santalum acuminatum* and open low shrubland of *Acacia hemiteles* / *Grevillea acuaria* on clay-loam plain; and **CLP-RMNV1:** Revegetated areas - Mid woodland / mallee woodland of mixed Eucalypts over open chenopod shrubland of *Atriplex* spp. / *Maireana* spp. on clay-loam plain.
Vegetation condition	The vegetation survey (Botanica, 2018; 2019) indicate the vegetation within the proposed clearing area is in very good, good, degraded, and completely degraded (Keighery, 1994) condition, described as: - **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. The full Keighery (1994) condition rating scale is provided in Appendix C.
Climate and landform	The application area is mapped within elevations of 340-350 metres AHD (GIS Database). The annual average rainfall (Merredin) is 325.5 millimetres (BoM, 2022).

Characteristic	Details
Soil description	The soil is mapped broadly as Soil Type Oc33, which is described as undulating plains with some low gilgais; chief soils seem to be hard alkaline red soils in intimate and complex association with calcareous earths (Northcote et al., 1960-68; GIS Database).
Land degradation risk	Soil Type Oc33 is said to be slowly permeable and have low wind erodability (Schoknecht, 2002).
Waterbodies	The desktop assessment and aerial imagery indicated that one minor, non-perennial watercourse intersects the area proposed to be cleared (GIS Database).
Hydrogeography	The application area is located within the Westonia Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (GIS Database). The mapped groundwater salinity is 14,000-35,000 milligrams per litre which is described as fresh to saline water quality (GIS Database).
Flora	A desktop assessment identified five conservation significant flora species that have the potential to occur within the local area (Botanica, 2018). One threatened flora species is known to occur within the area and recorded during a field assessment: *Eremophila resinosa* (Botanica, 2018).
Ecological communities	The application area intersects the Eucalypt woodlands of the Western Australian Wheatbelt (GIS Database). This community is listed as a Threatened Ecological Community (Critically Endangered) under the EPBC Act and a Priority Ecological Community (P3) at a state level (GIS Database).
Fauna	A desktop assessment identified 12 conservation significant fauna species that were considered, possible, likely, or very likely to occur within the application area and surrounds (MWH, 2014). Six were considered possible, four likely, and two very likely (MWH, 2014). A fauna survey of the application area and surrounds did not record any conservation significant fauna (MWH, 2014).

A.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 - Avon Wheatbelt	9,517,109	1,761,187	18.51	174,980	2.42
IBRA Subregion - Merredin	6,524,180	1,367,565	20.96	126,804	2.54
Local Government - Westonia	331,938	130,983	39.46	24,568	8.10
Beard vegetation association - State					
536	13,177	5,432	41.23	1,277	9.82
Beard vegetation association - Avon Wheatbelt Bioregion					
536	11,170	3,970	35.54	1,277	11.58
Beard vegetation association - Merredin subregion					
536	11,170	3,970	35.54	1,277	11.58

Government of Western Australia (2019)

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared contains locally and regionally significant flora habitat and assemblages of plants. A portion of the application area is mapped as the 'Eucalypt woodlands of the Western Australian Wheatbelt' (Priority 3) priority ecological community and the 'Red Morrel Woodland of the Wheatbelt' (Priority 1) priority ecological community (Botanica, 2018; DBCA, 2019a; GIS Database).	At variance *as per CPS 8550/2*	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The area proposed to be cleared may contain suitable habitat for a number of conservation significant fauna, however these fauna species are unlikely to be dependent on the habitats present. The fauna habitats present extend beyond the application area and into the surrounding remnant vegetation. The proposed clearing will partially disrupt the fauna habitat linkage within Westonia Town Common.	May be at variance *as per CPS 8550/2*	No
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: Threatened flora species *Eremophila resinosa* is known to occur within and surrounding the Edna May mine site (Botanica, 2019). The area proposed to be cleared contains suitable habitat for this species (Botanica, 2019; DBCA, 2019b).	At variance *as per CPS 8550/2*	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The application area has been mapped as part of the 'Eucalypt woodlands of the Western Australian Wheatbelt' Threatened Ecological Community (TEC) listed as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act).	At variance *changed from CPS 8550/2*	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The permit area is broadly mapped as Beard vegetation association 536: Medium woodland; morrell and rough fruited mallee (*Eucalyptus corrugata*) (GIS Database), which retains approximately 41 percent and 35 percent of the pre-European extent at the state and bioregional level respectively (Government of Western Australia, 2019). This is consistent with the national objectives and targets for biodiversity conservation in Australia, however the application area is representative of a significant ecological linkage in the local area (Commonwealth of Australia, 2001; GIS Database).	May be at variance *as per CPS 8550/2*	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The application area is not located within any conservation areas (GIS Database). Sandford Rocks Nature Reserve is located approximately six kilometres northeast of the application area (GIS Database). The application area falls within the Westonia Town Common (Crown Reserve 14983) (GIS Database), which is managed by the Shire of Westonia for purposes including conservation. The Westonia Town Common consists of several Crown Reserves covering a total area of approximately 2,000 hectares, and forms part of a larger remnant which is recognised as a significant remnant of native vegetation in a region that has been extensively cleared, predominantly for agricultural purposes (Botanica, 2019; WWF-Australia, 2007; GIS Database). The majority of the proposed clearing has been undertaken, with small areas of vegetation remaining under this permit to be cleared. The remaining clearing is unlikely to significantly reduce the ecological linkages between sections of remanned vegetation that surround the mine site and form part of the Westonia Town Common than the fragmentation that has occurred to date.	May be at variance *as per CPS 8550/2*	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: land and water resources		
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."* Assessment: There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). One minor seasonal drainage line passes through the separate linear section of the application area which is located on the eastern side of the existing mine site. Clearing in this area is for the purpose of a drainage bund and is a requirement for the safe operations of the mine site. The flora and vegetation survey of the application area did not identify any vegetation growing in association with watercourses (Botanica, 2019).	Not likely to be at variance *as per CPS 8550/2*	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The application area is broadly mapped as Soil Type Oc33, which is described as undulating plains with some low gilgais; chief soils seem to be hard alkaline red soils in intimate and complex association with calcareous earths (Northcote et al., 1960-68; GIS Database). These soil types are said to be slowly permeable and have low wind erodability (Schoknecht, 2002). The likelihood of erosion occurring during normal rainfall events is low.	Not likely to be at variance *as per CPS 8550/2*	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."* Assessment: Given no permanent watercourses or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality (GIS Database).	Not likely to be at variance *as per CPS 8550/2*	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."* Assessment: There is one ephemeral drainage line passing through the eastern portion of the application area (GIS Database). The mapped topographic contours in the surrounding area do not indicate the proposed clearing is likely to increased incidence or intensity of flooding (GIS Database). There may be temporary localised flooding following significant rainfall events, however the proposed clearing is unlikely to contribute to waterlogging.	Not likely to be at variance *as per CPS 8550/2*	No

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.

Condition	Description
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):

- 10 Metre Contours (DPIRD-073)
- Bush Forever (Regional Scheme) (DPLH-022)
- 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)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Offsets Register – Offsets (DWER-078)
- 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)
- 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 Feeding 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)
- Western Ringtail Possum Habitat Suitability (DBCA-049)

D.2. References

Botanica (2018) Reconnaissance Flora and Vegetation Survey Greenfinch Project. Report prepared for Ramelius Resources Limited, by Botanica Consulting, April 2018.

Botanica (2019) Environmental Assessment Greenfinch Project Clearing Permit Application M77/88 and M77/124. Report prepared for Ramelius Resources Limited, by Botanica Consulting, June 2019.

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DBCA (2019b) Advice received in relation to Clearing Permit Application CPS 8550/1 (Flora advice). Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, August 2019.

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Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
MWH (2014) Edna May and Greenfinch Projects Level 1 Fauna Assessment. Report prepared for Evolution Mining Limited, by Outback Ecology, MWH Australia Pty Ltd, July 2014.
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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)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
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.