



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 9297/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Image Resources NL

### 1.3. Property details

Property: Exploration Licence 70/2844  
Exploration Licence 70/3298  
Local Government Area: Shire of Gingin  
Colloquial name: Bidaminna Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.59		Driving an off-road vehicle or equipment over vegetation, and raised blade clearing	Mineral exploration and environmental investigations

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 18 February 2022

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** The vegetation of the application area is broadly mapped as the following Beard vegetation association: 949: Low woodland; banksia (GIS Database).

A flora and vegetation survey was conducted over the majority of the application area by TerraTree on 29 October and 2 November 2018. The following vegetation associations were recorded within the application area (TerraTree, 2019):

Vegetation Type 1: Open woodland of *Banksia attenuata*, *B. menziesii* and *Eucalyptus todtiana* over shrubland of *Verticordia nitens*, *Adenanthos cygnorum* and *Stirlingia latifolia*;

Vegetation Type 2: Open woodland of *Eucalyptus todtiana*, *Banksia menziesii* and *B. attenuata* over closed shrubland of *Allocasuarina humilis*, *Eremaea pauciflora* var. *pauciflora* and *Melaleuca clavifolia*; and

Vegetation Type 3: Open shrubland of *Adenanthos cygnorum*, *Pericalymma ellipticum* var. *ellipticum* and *Xanthorrhoea preissii* over closed low shrubland of *Patersonia occidentalis*, *Dasyogon bromeliifolius* and *Alexgeorgea nitens*.

**Clearing Description** Bidaminna Project. Image Resources NL proposes to clear up to 1.59 hectares of native vegetation within a boundary of approximately 11.66 hectares, for the purpose of mineral exploration and environmental investigations. The project is located approximately 39 kilometres north-west of Gingin, within the Shire of Gingin.

**Vegetation Condition** Pristine: No obvious signs of disturbance (Keighery, 1994);

To:

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

**Comment** The vegetation condition was derived from a vegetation survey conducted by TerraTree (2019).

The proposed exploration activities will be low-impact exploration, shallow-drilling for mineral sands. The proposed drilling programme will be undertaken using a small four-wheel drive or truck-mounted drill rig. The drill rigs will traverse the drill lines by rolling over the shrubland vegetation communities, avoiding large trees and large shrubs. All exploration related activities will be managed in accordance with a Conservation Management Plan (TerraTree, 2020).

### 3. Assessment of application against Clearing Principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

##### Comments

##### Proposal is at variance to this Principle

TerraTree (2019) identified three vegetation types within the application areas, with Vegetation Community 2 occupying the majority of the application area. The vegetation condition within the application area ranged from degraded to pristine (Keighery, 1994). Disturbance within the application area is limited to tracks and firebreaks (TerraTree, 2019).

A targeted flora and vegetation survey was undertaken over the majority of the application area which recorded 49 species from 18 families and 38 genera (TerraTree, 2019). No Threatened flora species were recorded within the application area (TerraTree, 2019; GIS Database). There was one Priority flora species recorded within the application area; *Banksia dallanneyi* subsp. *?pollosta* (Priority 3) (TerraTree, 2019). The collected specimens of *Banksia dallanneyi* subsp. *?pollosta* could not be definitively identified, however TerraTree took a precautionary approach to consider the specimen as the conservation significant species, as opposed to *Banksia dallanneyi* sp. *dallanneyi*, which is a common species (TerraTree, 2019). There is potential for some specimens to be *Banksia dallanneyi* subsp. *dallanneyi* (TerraTree, 2019). The applicant has advised that ten individuals of *Banksia dallanneyi* subsp. *?pollosta* were recorded within the application area (Image Resources, 2021). Mapping of *Banksia dallanneyi* subsp. *?pollosta* in the broader area of the relevant Image Resources NL tenements has identified 1,378 individuals, including the ten individuals included in the application area (TerraTree, 2019). The proposed clearing of ten individuals of *Banksia dallanneyi* subsp. *?pollosta* is not likely to impact the conservation status of this species.

The overstorey of Vegetation Community Types 1 and 2 are consistent with the State listed *Banksia attenuata* woodland over species rich dense shrublands (SCP20a) (Endangered) Threatened Ecological Community under the *Biodiversity Conservation Act 2016*, and the Federally listed *Banksia* Woodlands of the Swan Coastal Plain Ecological Community (Endangered) under the *Environment Protection and Biodiversity Conservation Act 1999* (GIS Database).

There are no known Priority Ecological Communities (PEC) within the application area (GIS Database). There are several mapped PEC's in the vicinity of the application area: FCT22 (*Banksia ilicifolia* woodlands, southern Swan Coastal Plain ('floristic community type 22'), FCT23b (Swan Coastal Plain *Banksia attenuata* - *Banksia menziesii* woodlands ('floristic community type 23b'), and FTC23c (Low lying *Banksia attenuata* woodlands or shrublands ('floristic community type 21c'). The survey by TerraTree (2019) is inadequate to determine the likelihood of these PECs or others that may occur in the proposal area (DBCA, 2021).

There were no weed species identified within the application area (TerraTree, 2019). The application and surrounding area was mapped as 'uninfested' for Dieback (*Phytophthora cinnamomi*) (TerraTree, 2019). TerraTree (2019) advise that four samples were taken for diagnosis of potential symptoms of dieback, two of which returned negative results and one returned a positive result for another *Phytophthora* species. This *Phytophthora* species was having a minor impact on the surrounding environment and was not causing any major ecological changes in the local area. One sample returned a positive result for *Aplosporella*, a pathogenic fungi species (TerraTree, 2019). This species was having a minor impact on the surrounding environment. Dieback is a major threat to plant biodiversity in the south west of Western Australia because the plant pathogen *P. cinnamomi* kills susceptible plants by attacking their root systems. Dieback has the potential to reduce the understorey species in the area which can lead to an increase of weed species. It is important to limit the spread of dieback and this can be achieved through strict hygiene measures.

Based on a fauna survey by Spectrum Ecology and the available databases, the vegetation within the application area has the potential to comprise high faunal diversity, including the Carnaby's Cockatoo (*Calyptorhynchus latirostris*), and potential habitat for the western swamp tortoise (*Pseudemydura uibrina*) (Critically Endangered – BC Act and EPBC Act) (DBCA, 2021; Image Resources, 2021; GIS Database).

Potential impacts to biodiversity values may be minimised by the implementation of a weed and dieback management condition, and an authorised activity condition requiring the proponent to only use a raised blade method of clearing, or driving an off-road vehicle or equipment over vegetation, and a clearing not authorised condition where no clearing of trees with a diameter of 10 centimetres or greater can occur.

Based on the above, the proposed clearing is at variance to this Principle.

##### Methodology

DBCA (2021)  
Image Resources (2021)  
Keighery (1994)  
TerraTree (2019)

GIS Database:

- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

- Threatened and Priority Flora
- Threatened Fauna

**(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.**

**Comments Proposal may be at variance to this Principle**

A phase 1 detailed fauna survey has been undertaken over the application area by Spectrum Ecology from 11 to 22 October 2021 (Image Resources, 2021). Spectrum Ecology recorded foraging activity for the Carnaby's cockatoo (*Calyptorhynchus latirostris*) (Endangered - BC Act and EPBC Act) within the application area, and two flocks of the cockatoos were sighted nearby the application area (Image Resources, 2021). TerraTree (2019) recorded several foraging species for Carnaby's cockatoos including *Banksia attenuata*, *B. menziesii* and *Eucalyptus todtiana*. Carnaby's cockatoo forages on the seeds, nuts and flowers of variety of plants, including Proteaceous species (banksia, hakea and grevillea), allocasuarinas, eucalyptus species, marri and a range of introduced species (Valentine and Stock, 2008). Food resources within the range of breeding sites and roost sites are important to sustain Carnaby's cockatoo populations. Carnaby's cockatoos generally forage within six kilometres (and up to 12 kilometres) of its nesting or night roost site (Commonwealth of Australia, 2012). The closest breeding area is approximately 8 kilometres from the application area (GIS Database).

The Carnaby's Cockatoo Recovery Plan states that there are multiple reasons for the decline of Carnaby's cockatoos, however the decline to date has primarily been through the extensive clearing of nesting and feeding habitat (DPaW, 2013). Ongoing counts of Carnaby's cockatoo numbers on the Perth-Peel Coastal Plain estimate that there has been a 35 per cent reduction in their population from 2010-2019 (Peck, Barrett and Williams, 2019). The long-term survival of Carnaby's cockatoos depends on the availability of suitable breeding habitat and hollows, as well as foraging habitat capable of providing enough food to sustain the population (DPaW, 2013; DBCA, 2021).

The extent of nearby suitable foraging habitat for Carnaby's cockatoos within conservation estate including Moore River National Park to the east and the Gngangara-More River to the west of application area is acknowledged (GIS Database). The vegetation within the application area is not likely to represent a significant proportion of foraging habitat for Carnaby's cockatoos. However, noting that the application area provides good quality foraging habitat on the Swan Coastal Plain, and evidence of foraging was identified within the application area, it is considered to provide significant foraging habitat for Carnaby's cockatoo. Potential impacts to black cockatoo foraging habitat may be minimised by the implementation of a clearing not authorised condition, which does not allow the clearing of any standing trees that have a diameter of 10 centimetres or greater. Impacts may also be minimised by the implementation of an authorised activity condition, which requires clearing to be undertaken by either driving an off-road vehicle or equipment over vegetation, or raised blade clearing.

DBCA (2021) advise that records of the native bee (*Hylaeus globuliferus*) (Priority 3) and the short tongue bee (*Leoproctus contrarius*) (Priority 3) have been recorded within the local area. Similar vegetation occurs at the proposed site and is likely to be suitable habitat for both species (DBCA, 2021). Impacts to suitable habitat for these species may be minimised by the implementation of the authorised activity condition.

A key western swamp tortoise (*Pseudemydura uibrina*) (Critically Endangered – BC Act and EPBC Act) release site is located in the local area (DBCA, 2021). A series of dampland and sumpland geomorphic wetlands occur between the release site and the application area. During winter and spring, the tortoises live in the water, whereas in the drier, hotter months they shelter under leaf litter and in holes and aestivate, not re-emerging until the winter. The western swamp tortoise can move several kilometres, even over cleared farmland and over fences (DBCA, 2021). Due to the absence of a targeted wetland survey, it is unknown if the application area contains suitable habitat for the western swamp tortoise. Potential impacts to the western swamp tortoise may be minimised by the implementation of a fauna management condition, which requires a pre-clearance survey for the tortoise, and to engage with DBCA if an individual is found.

The Carter's freshwater mussel (*Westralunio carteri*) (Vulnerable – BC Act and EPBC Act) have been recorded within 5 kilometres of the application area (DBCA, 2021). This species often occurs in greatest abundance in slow flowing freshwater where sediments are stable and soft, however it also occupies lentic systems including large water supply dams and farm dams. Given that no clearing will occur during wet conditions, this species is not likely to be impacted by the proposed clearing.

Based on the above, the proposed clearing is at variance to this Principle.

**Methodology** Commonwealth of Western Australia (2012)  
 DBCA (2021)  
 DPaW (2013)  
 Image Resources (2021)  
 Peck, Barrett and Williams (2019)  
 TerraTree (2019)  
 Valentine and Stock (2008)

GIS Database:

- Carnabys Cockatoo Breeding Areas Confirmed
- DPaW Tenure
- Imagery
- Pre-European Vegetation
- Threatened Fauna

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no known records of Threatened flora within the application area (GIS Database). Available databases indicate that suitable habitat for *Paracaleana dixonii* is potentially within the application area (GIS Database). A flora and vegetation survey undertaken by TerraTree (2019) did not record any species of Threatened flora within the application area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology TerraTree (2019)**

GIS Database:

- Pre-European Vegetation
- Threatened and Priority 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.**

**Comments Proposal is at variance to this Principle**

The application area is located within the mapped locations of the Federally listed Threatened Ecological Community (TEC) 'Banksia woodlands of the Swan Coastal Plain' (GIS Database). The Approved Conservation Advice for this TEC states "Ground-truthing (e.g. an on-ground survey) is required to verify if a particular site meets the required key diagnostic characteristics and minimum condition thresholds to be the described ecological community" (Threatened Species Scientific Committee, 2016).

The Approved Conservation Advice for the TEC states that to be considered representative of the TEC a remnant in the Swan Coastal Plain bioregion must include at least one of four Banksia species being candlestick banksia, firewood banksia, holly-leaved banksia and/or *Banksia prionotes* (acorn banksia); must include an emergent tree layer often including marri, jarrah, or tuart, and other medium trees including WA Christmas tree, *Eucalyptus tottiana* (blackbutt, pricklybark), *Allocasuarina fraseriana* (western sheoak), *Callitris arenaria* (sandplain cypress), *Callitris pyramidalis* (swamp cypress) or *Xylomelum occidentale* (woody pear); and must include an often highly species-rich understorey (Threatened Species Scientific Committee, 2016).

Condition thresholds provide guidance on when a patch of an ecological community retains sufficient conservation values to be considered a 'Matter of National Environmental Significance', as defined under the EPBC Act, and to be considered as part of the TEC minimum patch sizes by condition (Keighery, 1994) are 'pristine' – no minimum patch size applies; 'excellent' – 0.5 hectares; 'very good' – 1 hectare; 'good' – 2 hectares (Threatened Species Scientific Committee, 2016).

TerraTree (2019) advise that the overstorey of community Types 1 and 2 are consistent with that of the TEC. However, the TerraTree (2019) flora and vegetation survey did not include a detailed assessment of the vegetation. No quadrats were established and Floristic community types (FCTs) were not determined through statistical analyses of releve data, and detailed species lists from each releve was not provided. This method is inconsistent with the recommendations for determining FCT's on the southern Swan Coastal Plain (DBCA, 2021). The data provided is inadequate to determine the likelihood of this TEC that may occur in the proposal area.

The proposed clearing of native vegetation is quite limited in extent, however, it is located in the core of an extensive occurrence of Banksia woodlands of the Swan Coastal Plain TEC in an excellent to pristine condition (Keighery, 1994). There is potential for impacts to the patch through disease and weed introductions and spread. Potential impacts to the TEC as a result of the proposed clearing may be minimised by the implementation of a weed and dieback condition, an authorised activity condition, and a clearing not authorised (tree diameter) condition. Rehabilitation of the application area will be undertaken in accordance with the proponent's Conservation Management Plan (TerraTree, 2017).

Based on the above, the proposed clearing is at variance to this Principle.

**Methodology DBCA (2021)  
Keighery (1994)  
TerraTree (2017)**

TerraTree (2019)  
Threatened Species Scientific Committee (2016)

GIS Database:

- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments**

**Proposal is not likely to be at variance to this Principle**

The application area falls within the Swan Coastal Plain Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 38% of the pre-European vegetation still exists in the IBRA Swan Coastal Plain Bioregion (Government of Western Australia, 2019).

The application area is broadly mapped as Beard vegetation association 949: Low woodland; banksia (GIS Database). Approximately 56% and 57% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA Managed Lands (and post clearing %)
IBRA Bioregion - Swan Coastal Plain	1,51,222	579,813	~38.62	Depleted	17.98 (38.45)
IBRA Subregion - Perth	1,117,757	466,143	~41.70	Depleted	20.51 (39.29)
Local Government – Shire of Gingin	319,676	176,727	~55.28	Least concern	28.16 (47.10)
<b>Beard vegetation associations - State</b>					
949	218,194	123,104	~56.42	Least concern	42.07
<b>Beard vegetation associations - Swan Coastal Plain</b>					
949	209,983	120,288	~57.28	Least concern	43.26 (56.40)
<b>Beard vegetation associations - Perth</b>					
949	184,476	104,129	~56.45	Least concern	45.62 (58.99)

\* Government of Western Australia (2019)

\*\* Department of Natural Resources and Environment (2002)

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The remaining extents of native vegetation within the local government authority the IBRA bioregion and the mapped vegetation association are above the minimum 30 per cent representation threshold.

The application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Commonwealth of Australia (2001)  
Department of Natural Resources and Environment (2002)  
Government of Western Australia (2019)

GIS Database:

- IBRA Australia
- Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is at variance to this Principle**

The application area includes approximately two hectares of mapped damplands; 0.106 hectares within the unnamed Swan Coastal Plain (SCP) wetland, and 1.903 hectares within the 'Nine Mile Swamp Road' wetland (GIS Database). The unnamed SCP wetland comprises of approximately 2.55 hectares in total, while the Nine Mile Swamp Road wetland is approximately 229.6 hectares in total (GIS Database).

Image Resources (2021) advises that the mapped wetlands proposed for line clearing have at no stage shown any standing water and there has been limited evidence of waterlogging, and that the vegetation within these areas is also not representative of typical wetland or dampland vegetation. The wetland mapping over this area was confirmed in 2020 by desktop evaluation and an initial view of aerial imagery indicates that there is high potential for wetland (DBCA, 2021). DBCA (2021) advised that a dampland does not normally have standing water, but is characterised by being a basin which becomes waterlogged during wet periods.

Any further clearing in addition to this clearing permit within the area will require a flora and vegetation survey over the mapped wetlands to confirm whether the species present are likely to represent vegetation species and community types that are adapted to wetlands.

Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition, as well as an authorised activity condition requiring the proponent to only use a raised blade method of clearing, or driving an off-road vehicle or equipment over vegetation.

**Methodology** DBCA (2021)  
Image Resources (2021)

GIS Database:  
- Hydrography, Lakes  
- Hydrography, linear

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

**Comments Proposal is not likely to be at variance to this Principle**

A site inspection of the application area was undertaken by DPIRD (2021) which identified the application area to be dominated by bleached sands and lower slopes and flat areas. Grey sand to light grey sand over dark iron-organic pan over pale sand also occurred within the application area. Greyed clayey layers may be present at depth (DPIRD, 2021).

DPIRD (2021) advised that the application area may be susceptible to land degradation from waterlogging, eutrophication and wind erosion if the area was cleared and the soils exposed. However, given that the potential clearing is away from areas likely to become waterlogged and provided that the 'blade up' method of clearing is utilised, sufficient ground cover is likely to persist to prevent soil loss (DPIRD, 2021).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** DPIRD (2021)

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no conservation areas in the immediate vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the Moore River National Park which is located approximately 1.5 kilometres east of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:  
- DPaW Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Comments Proposal may be at variance to this Principle**

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database).

The application area intersects the buffer of two highly significant damplands whose potential habitat values were assessed as some of the most significant on the Swan Coastal Plain, due to intact native vegetation, and connectivity to surrounding intact native vegetation and other wetlands (DBCA, 2021). The proposed clearing of native vegetation has the potential to impact on the hydrological function and fauna values of these wetlands. It is recommended that a wetland and fauna survey are undertaken to confirm the values of these two wetlands prior to future projects being undertaken in this area.

Advice from DPIRD (2021) suggests that the map units present within the application area have an extreme risk of eutrophication and a high risk of waterlogging. These risks are unlikely to increase from the proposed clearing due to the 'blade up' method of clearing proposed by the proponent. Potential impacts to surface or underground water as a result of the proposed clearing may be minimised by the implementation of an authorised activity condition. This requires the proponent to only use a raised blade method of clearing, or driving an off-road vehicle or equipment over vegetation.

Based on the above, the proposed clearing may at variance to this Principle.

**Methodology** DBCA (2021)  
DPIRD (2021)

GIS Database:  
- EPP, Wetlands  
- Hydrography, Linear  
- Public Drinking Water Source Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area intersects two damplands (seasonally waterlogged basins) (GIS Database). However, a site inspection by DPIRD (2021) advised that the proposed clearing of native vegetation is not expected to contribute to flooding on the proposed areas to clear because of the size of the proposed clearing, position in the landscape and the soil types present.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** DPIRD (2021)

GIS Database:  
- EPP, Wetlands  
- Hydrographic Catchments - Catchments  
- Hydrography, linear

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

### Comments

The clearing permit application was advertised on 7 June 2021 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

It is noted that the permit covers habitat for Banksia Woodlands of the Swan Coastal Plain ecological community, Carnaby's Cockatoo (*Calyptorhynchus latirostris*), and Western Swamp Tortoise (*Pseudemydura umbrina*) which are a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of Agriculture, Water and the Environment for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Agriculture, Water and the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

There are no native title claims over the area under application (DPLH, 2022). 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 is one registered Aboriginal Site 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.

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.

**Methodology** DPLH (2022)

## 4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species. Department of Sustainability, Environment, Water, Populations and Communities, Canberra.
- DBCA (2021) Advice received in relation to Clearing Permit Application CPS 9297/1. Species and Communities Branch, Department of Biodiversity, Conservation and Attractions, Western Australia, November 2020.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DPaW (2013) Carnaby's Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Department of Parks and Wildlife, October 2013.
- DPIRD (2021) Advice received in relation to Clearing Permit Application CPS 9297/1. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, July 2020.
- DPLH (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage.  
<https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 17 February 2022).
- 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, Perth.  
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Image Resources (2021) Additional information received in relation to Clearing Permit Application CPS 9297/1. Image Resources NL, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Peck, A., Barrett, G. and Williams, M. (2019) The 2019 Great Cocky Count: a community-based survey for Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*) and Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*). BirdLife Australia, Floreat, Western Australia.
- TerraTree (2017) Bidaminna Project: Strategic Conservation Management Plan. Prepared for Image Resources NL, by TerraTree, 2017.
- TerraTree (2019) Targeted Flora, Vegetation and Phytophthora Dieback Survey of Proposed Drill Lines at Bidaminna Survey Area. Prepared for Image Resources NL, by TerraTree Pty Ltd, 2019.
- TerraTree (2020) Exploration Environmental Management Plan for Bidaminna for Tenement E70/4794, E70/2844, E70/3298 and E70/4919. Prepared for Image Resources NL, by TerraTree Pty Ltd, 2020.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gngangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.

## 5. 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.