



Ransberg Pty Ltd
Byford Whitby Quarry, portion of Mining Lease
M70/1240
Preliminary Documentation (EPBC 2021/9045)
Offset Strategy (Rev 4)

2 April 2024

JBS&G Australia Pty Ltd

Table of Contents

1.	Introduction	3
1.1	Background	3
1.2	Purpose and scope of this document	4
1.3	Policies, plans and guidelines	4
2.	Proposed offset strategy	7
2.1	Acquisition	8
2.2	Artificial nesting hollows	10
2.3	Other compensatory measures	11
2.3.1	Conservation management funding	11
2.3.2	Murdoch University Marri Planting Research Project.	11
3.	Consistency with Commonwealth Offset Principles.....	13
4.	Conclusion	15
5.	References	16
6.	Limitations	17

List of Tables

Table 1.1:	MNES with the potential to be impacted by the proposed action	3
Table 1.2:	Revised list of MNES with the potential to be impacted by the proposed action ..	4
Table 2.1:	Offset calculator values for proposed offset site	9
Table 2.2:	Offset calculator values for the installation of artificial hollows	11
Table 3.1:	Consideration of the Commonwealth offsets principles against relevant MNES ..	13

List of Figures

Figure 1-1:	Site Boundary and Regional Location	6
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1. Introduction

1.1 Background

Ransberg Pty Ltd (WA Bluemetal) are proposing to undertake clearing associated with the Byford (Whitby) Quarry operations. The proposed works will necessitate the clearing of 13.2 ha of vegetation within a boundary of the same size. The clearing will take place within Mining Tenement M70/1240 Karrakup (the site) for storage purposes (Figure 1-1). The site is located within the Serpentine-Jarrahdale approximately 40 km southeast of Perth.

The proposed clearing will facilitate construction of the following elements:

- Storage and laydown areas;
- Access tracks/roads; and
- Associated quarry infrastructure.

A Clearing Permit (purpose permit) has been granted over the entirety of the proposal area (8038/1) which is valid from 5th December 2020 to 4th December 2025.

Impacts are considered to be associated with the clearing of 13.2 ha of vegetation across Mining Tenement 70/1240 including habitat for Black Cockatoo species and Chuditch, which are Matters of National Environmental Significance (MNES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The site is predominantly dominated by Jarrah-Marri Forest with an area of Marri-Wandoo woodlands on clayey soils in the east. The vegetation ranges in condition from ‘Completely Degraded’ to ‘Excellent’ (Mattiske 2005; 2017).

The proposed action was referred to the Department of Agriculture, Water and the Environment (DAWE) on 5 October 2021, as a result of the anticipated impacts on Matters of National Environmental Significance protected under the EPBC Act. On 4 November 2021 a delegate of the Minister for the Environment determined that the proposed action is a controlled action and will be assessed by preliminary documentation, on the basis of the potential impacts to Matters of National Environmental Significance, namely those matters listed in Table 1.1.

Table 1.1: MNES with the potential to be impacted by the proposed action

MNES	Impact
Fauna species	Clearing of 13.2 ha of high-quality foraging habitat which may support potential roosting and breeding habitat for Carnaby's Black Cockatoo, Baudin's Black Cockatoo and the Forest Red-tailed Black Cockatoo.
Carnaby's Black Cockatoo (<i>Zanda latirostris</i> formerly <i>Calyptorhynchus latirostris</i>) – Endangered	
Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>) – Vulnerable	
Baudin's Black Cockatoo (<i>Calyptorhynchus baudinii</i>) - Endangered	
Malleefowl (<i>Leipoa ocellata</i>) - Vulnerable	
Woylie (<i>Bettongia penicillata ogilbyi</i>) – Endangered	Clearing of 13.2 ha of potential habitat for the above species.
Chuditch, Western Quoll (<i>Dasyurus geoffroii</i>) – Vulnerable	
Quokka (<i>Setonix brachyurus</i>) – Vulnerable	
Flora species	
Dwarf Bee-orchid (<i>Diuris micrantha</i>) – Vulnerable	Clearing of 13.2 ha of native vegetation that may include plant specimens or habitat.
Purdie's Donkey-orchid (<i>Diuris purdiei</i>) – Endangered	
Glossy-leafed Hammer Orchid (<i>Drakaea elastica</i>) – Endangered	
Selena's Synaphea (<i>Synaphea</i> sp. Fairbridge Farm (D. Papenfus 696)) – Critically Endangered	
<i>Synaphea</i> sp. Pinjarra Plain (A.S. George 17182) – Endangered	
Southern Tetraria (<i>Tetraria australiensis</i>) – Vulnerable	

Subsequent expert advice provided by Mattiske (2021) ascertained that all flora species identified as MNES are extremely unlikely to occur in the project area due to the absence of suitable habitat. In addition, Malleefowl, Woylie and Quokka were not recorded in the project area, with the site containing unsuitable habitat for each species (Bamford, 2022). This offset strategy is therefore prepared and designed for the species listed in Table 1.2 only.

Table 1.2: Revised list of MNES with the potential to be impacted by the proposed action

MNES	Impact
Carnaby's Black Cockatoo (<i>Zanda latirostris</i> formerly <i>Calyptorhynchus latirostris</i>) – Endangered	Clearing of 13.2 ha of high-quality foraging habitat which may support potential roosting and breeding habitat for Carnaby's Black Cockatoo, Baudin's Black Cockatoo and the Forest Red-tailed Black Cockatoo.
Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>) – Vulnerable	
Baudin's Black Cockatoo (<i>Calyptorhynchus baudinii</i>) – Endangered	
Chuditch, Western Quoll (<i>Dasyurus geoffroii</i>) – Vulnerable	Clearing of 13.2 ha of potential habitat for the above species.

The proposed action is located within the known distribution of the Chuditch, which is listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as Vulnerable and was recorded in a recent survey conducted by Bamford (2022).

The proposed action is also within the known distribution of all three EPBC Act-listed species of Black Cockatoo from the south-west of Western Australia, being Carnaby's Black Cockatoo (Endangered), Baudin's Black Cockatoo (Endangered) and Forest Red-tailed Black Cockatoo (Vulnerable), with a survey conducted by Bamford (2022) confirming the potential nesting and roosting habitat, as well as suitable foraging habitat in the project area.

1.2 Purpose and scope of this document

This offset strategy has been prepared to address item 4 of the DAWEs additional information request, dated 13 December 2021. Specifically, this offset strategy details the proposed offset outcomes that will be implemented to compensate for significant residual impacts to MNES resulting from the proposed action (listed in Table 1.2). Based on the outcomes of the environmental impact assessment undertaken as part of the Preliminary Documentation process, subject to consultation with the DCCEEW, significant residual impacts to MNES are anticipated to be limited to:

- The clearing of 13.2 ha of suitable foraging habitat and potential roosting and breeding habitat for the Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) (Endangered), Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) (Endangered), and the Forest Red-Tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable) (Black Cockatoos)
- The clearing of 13.2 ha of potentially suitable habitat for the Chuditch (*Dasyurus geoffroii*) (Vulnerable) (habitat suitability is assessed in the "2/02/2024 Habitat Scoring System for Chuditch" available in the *Offset Site Management Plan* (JBS&G, 2024).

1.3 Policies, plans and guidelines

The Commonwealth offset requirements have been determined using the following policies, plans and guidelines.

- Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (DSEWPaC 2012)
- Offset Assessments Guide (DSEWPaC 2012)
- Offset Calculator Guidelines (DSEWPaC 2012a)
- Guidance for delivering 'risk of loss' estimates when evaluating biodiversity offset proposals under the EPBC Act (DoEE 2017).

- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan (DPaW 2013)
- Forest Black Cockatoo (*Calyptorhynchus banksii naso*) Recovery Plan (DEC 2008)
- EPBC Act referral guidelines for three threatened black cockatoo species (DSEWPaC 2012d).
- Chuditch (*Dasyurus geoffroi*) National Recovery Plan (DEC 2012a).



Figure 1-1: Site Boundary and Regional Location

2. Proposed offset strategy

Despite the proposed action impacting 13.2 ha of habitat for each relevant MNES, Carnaby's Black Cockatoo and Baudin's Black Cockatoo are the MNES with the greatest conservation significance (Endangered), and as such the quantum of offset required for these species is greater than that required for the Chuditch and Forest Red-tailed Black Cockatoo. Therefore, any acquisition component of the offset strategy will need to be of sufficient size and quality to offset impacts to Carnaby's Cockatoo and Baudin's Cockatoo, whilst also providing habitat for Chuditch and Forest Red-tailed Black Cockatoo.

The proposed strategy to offset significant residual impacts resulting from the proposed action includes the following measures:

1. Direct acquisition of 119 ha at an appropriate offset site for the purpose of conservation either via transfer of funding to the State Government (i.e. Department of Biodiversity, Conservation and Attractions [DBCA]) or via Proponent acquisition. (Section 2.1)
2. Installation of 35 artificial nesting hollows in the proponent's adjacent land holding (Section 2.2)
3. Provision of funding to the State Government (i.e., DBCA) for the management and maintenance of the direct acquisition site (Section 2.3).
4. Ongoing support of Murdoch University *Corymbia calophylla* (Marri) Planting Project (Section 2.3).
5. Implement a feral animal control program (specifically focussing on foxes and cats) to improve the viability of breeding populations of chuditch on-site.

The anticipated offset requirements have been determined using the DoEE (2012) Offset Assessment Guide and associated offset calculator. Where relevant, these have been provided as Appendices to this report.

It is noted that all of the significant residual impacts to Carnaby's Black Cockatoo and Baudin's Black Cockatoo are anticipated to be directly offset via measure one above.

With regard to the anticipated significant residual impacts to Chuditch, it is anticipated that all of these impacts will be directly offset.

In terms of the removal of 31 potential breeding trees, i.e., those with hollows suitable for use by Black Cockatoos, the provision of 35 artificial hollows within the offset site and/or Proposed Action Area is anticipated to account for all of this impact. Suitable hollows contained in the direct land acquisition as per measure one will also contribute to offsetting this impact.

Additional compensatory measures will be provided as a contribution of funding to the DBCA for management and maintenance of the direct acquisition offset site, and ongoing support of Murdoch University's Marri Planting Project.

Given that the proposal is still being assessed under the EPBC Act, a specific acquisition site has not yet been purchased. Initial discussions with the DBCA have identified a number of properties suitable for offset to determine an appropriate acquisition site via measure one above.

Environmental offsets have been applied where the residual impacts of the proposed action are considered to be significant following application of the mitigation hierarchy of risk management (avoid, reduce, minimise and rehabilitate). The area of the proposed action has been refined to exclude as many significant features relating to Black cockatoo habitat as practical. The proposed action requires 100% of the refined area to be cleared, therefore offsetting will account for 100% of mitigation measures for the proposed action.

2.1 Acquisition

As the main component of this offset strategy, WA Blue Metal propose to identify a privately owned site containing habitat for each relevant MNES, for acquisition and transfer to the DBCA for inclusion into the State conservation estate. In conjunction with the acquisition of this offset site, WA Blue Metal propose to develop and implement an Offset Management Plan (OMP) which will improve the quality of habitat available within the offset site, as well as prevent or reduce ongoing degrading processes.

In order to meet the minimum 90% threshold for direct offsets as required by Section 4.2.1 of the Environmental Offsets Policy, the acquisition component of this offset strategy will need to account for the minimum of 90% of significant residual impacts resulting from the proposed action.

In order to be considered suitable as an offset, the proposed site will need to meet the following criteria, in consultation with DBCA:

- Located within the “likely to occur” distribution of Forest Red-tailed Black Cockatoo;
- Located within the “breeding range” of Carnaby’s Black Cockatoo;
- Located within the known distribution of Baudin’s Black Cockatoo;
- Located within the known distribution of Chuditch; and
- Not currently owned or managed by the DBCA.

In order to quantify the availability of land meeting the above requirements, and by extension to assess the likelihood of successful implementation of this component of the offset, a desktop assessment was undertaken using publicly available Black Cockatoo distribution mapping (DSEWPaC 2016), and native vegetation extent mapping (DPIRD 2021). This data was then cross-referenced with DBCA owned or managed lands and Freehold lands within the applicable Black Cockatoo, and Chuditch distribution area.

In total, approximately 612,253 ha of native vegetation is potentially available in the southwest of Western Australia, which meets the criteria for a suitable offset as outlined above. While this assessment did not consider additional factors which may limit the availability of suitable offset sites, such as habitat quality, presence of a conservation covenant, or land tenure, this figure highlights the large area of land available for this component of the offset strategy.

Following the identification of a suitable acquisition offset, site-specific environmental data will be obtained to confirm the values present, and the potential threatening processes. Based on this data, an Offset Management Plan will be prepared for Commonwealth approval, which will guide the management of the site for a period of two years. The OMP will be developed in accordance with the DCCEEWs Environmental Management Plan Guidelines (2014), and will contain (at minimum):

- A risk assessment of potential environmental impacts to the site
- Environmental management measures
- An environmental monitoring regimen for the life of the OMPs implementation
- Corrective actions and associated trigger thresholds
- Reporting requirements

An offset calculation has been prepared for an acquisition offset using the Offset Assessment Guide, which demonstrates that direct offsets provide all of the overall offset.

With regard to the offset value for Chuditch and Forest Red-tailed Black Cockatoo, the above calculation for direct offset through acquisition was repeated for these MNES (listed as Vulnerable), which demonstrates that this component of the strategy provides all of the overall offset. As such, no indirect offsets are proposed to particularly account for residual impacts to Chuditch or Forest Red-Tailed Black Cockatoo.

A summary of the offset calculator inputs has been provided in Table 2.1.

Table 2.1: Offset calculator (values removed) for proposed offset site

Criteria	Value	Validation
Impact site		
Area		This figure has been calculated based on the outcomes of the environmental impact assessment undertaken as part of the Preliminary Documentation process, and following consultation with the DCCEEW
Quality		The value of X has been applied to the calculator to reflect the condition assessment provided by JBSG (2021) and Kirkby (2017).
Total quantum of impact		Adjusted based on assessment of quality.
Offset site		
Time over which loss is averted		A value of XX years has been nominated, as this is the timeframe associated with a conservation covenant. An Offset Management Plan (OMP) will be developed for the Offset site
Start area		Based on all other values entered into the offset calculator, a total area of XXX ha will be required to offset all of the significant residual impacts from the proposed action to Carnaby's and Baudin's Black Cockatoos, and all for Chuditch and all Forest Red-tailed Black Cockatoo.
Risk of loss without offset		Up to 5ha per year can be cleared if in accordance with Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Existing agricultural uses of the site can be maintained and un-managed access provides a vector for weed and disease spread within the offset area.
Risk of loss with offset		A value of X has been nominated as the offset site is to be secured via placement into the DBCA's conservation estate.
Confidence in result (top row)		A value of X has been nominated based on the following: <ul style="list-style-type: none"> The conservation mechanism (i.e., transference to the DBCA for inclusion into the conservation estate) A minimum of 123 ha will be provided as an offset.
Time until ecological benefit		A value of X year has been nominated as benefit commences on protection of the site.
Start quality		A value of X has been nominated, as the offset site will, at a minimum, contain habitat of the same quality as the impact site (or alternatively greater quality). It is noted that quality values will be refined in future offset calculations once a specific offset site has been selected.

Criteria	Value	Validation
Future quality without offset		<p>A value of X has been nominated for the future quality without the offset. This has been determined based on the likelihood of various degrading processes continuing as a result of the sites agricultural setting and private ownership, which may include (but may not be limited to):</p> <ul style="list-style-type: none"> • Subdivision or occupation for rural and rural lifestyle purposes, including use of the site for stock grazing • Use for extractive industries • Access by livestock entering the site from the surrounding land, • Unauthorised public access • Dieback spread • Weed incursion • Bushfire
Future quality with offset		<p>A value of X has been nominated for the future quality with the offset, based on the following:</p> <ul style="list-style-type: none"> • An Offset Management Plan will be developed following identification of the specific site, which will contain management actions specifically developed for the site's particular context. The OMP will be developed in accordance with the DCCEEWs Environmental Management Plan Guidelines (2014), and will contain (at minimum): <ul style="list-style-type: none"> ◦ A risk assessment of potential environmental impacts to the site ◦ Environmental management measures ◦ An environmental monitoring regimen for the life of the OMPs implementation ◦ Corrective actions and associated trigger thresholds ◦ Reporting requirements • Following implementation of the OMP, the offset site will be transferred to the DBCA for inclusion within the conservation estate. Doing so will result in broadscale conservation management actions being implemented across the offset site.
Confidence in result (bottom row)		<p>A value of X has been nominated based on:</p> <ul style="list-style-type: none"> • Confidence that a conservation mechanism will be in place within 2 years based on DBCA support • Site specific, scientific survey will be undertaken to confirm habitat quality matched calculator inputs (to be refined once a specific offset site has been selected) • Confidence that management of the offset site will prevent habitat degradation and encourage regeneration.

2.2 Artificial nesting hollows

Black Cockatoos are known to breed in large hollow-eared trees, generally within woodlands and forests. It is generally accepted that the size of the tree (measured as the diameter at breast height [DBH]) can be a useful indication of the hollow-bearing potential of the tree, in which the Black Cockatoo is known to nest (Australian Government 2008).

A breeding tree is a tree of species known to support Black Cockatoo breeding within the range of the species which have either a suitable nest hollow OR are of a suitable DBH to develop a nest hollow.

For most tree species, suitable DBH is 500 mm. For salmon gum and wandoo, suitable DBH is 300 mm (Chapman 2008, DPaW 2013).

An environmental offset will be provided to counterbalance the clearing of 31 suitable hollows. In addition to the suitable hollows contained in the direct land acquisition that is secured, 35 artificial hollows will be provided as an offset in the proponent’s adjacent landholding to maintain the number of breeding hollows available in the immediate vicinity of the project area. Artificial hollows have been used extensively in the improvement of retained habitat for Black Cockatoos. The 2018 Black Cockatoo breeding survey report conducted by Birdlife Australia reported a 25% use rate of artificial hollows compared to a 20% use rate of natural hollows; an increase of 5%, which indicates that artificial hollows are an effective way to boost breeding success (Birdlife Australia 2018).

An offset calculation has been prepared for the installation of artificial hollows using the Offset Assessment Guide, which demonstrates that this component of the strategy provides 100.41% of the overall offset. The installation of artificial hollows provides a plausible, local conservation outcome, in a highly constrained area.

A summary of the offset calculator inputs relating to suitable breeding hollows has been removed from Table 2.2.

Table 2.2: Offset calculator values (removed) for the installation of artificial hollows.

Criteria	Value	Validation
Impact site		
Quantum of impact	35 suitable breeding hollows for Black Cockatoos	This figure has been calculated based on the outcomes of the environmental impact assessment undertaken as part of the Preliminary Documentation process
Offset site		
Time horizon		Artificial hollows can be installed prior to or coincide with commencement of the action
Start value		The are no artificial hollows currently within the site
Future value without offset		No artificial hollows will be installed without action.
Future value with offset		Installation of X artificial hollows throughout the proponent’s adjacent landholding is considered sufficient to achieve X of the impact being offset.
Confidence in result		A value of X has been chosen based on research by Birdlife (2018) regarding hollow success comparisons between natural and artificial constructions.

2.3 Other compensatory measures

Through the implementation of the offset measures presented in Sections 2.2, all of significant residual impacts will be directly offset, meeting the minimum 90% threshold as required by Section 4.2.1 of the Environmental Offsets Policy.

2.3.1 Conservation management funding

While management of the proposed offset sites is proposed to be undertaken by the proponent in the short term (through an OMP), responsibility for management is ultimately proposed to be transferred to the DBCA.

To facilitate the longer-term management of the offset sites, a lump sum payment will be provided to the proposed land manager. The total contributions will be determined following close consultation with DBCA and will be largely dependent on the extent of management required for acquisition site.

Further detail on the level of funding to be provided to the DBCA will be known once the acquisition site has been determined, and its geographical context is known.

2.3.2 Murdoch University Marri Planting Research Project.

As part of an ongoing program with Murdoch University (2017-2025), WA Blue Metal assists in the study of *Corymbia calophylla* (Marri) survivability through the provision of fee-free land use that will

see up to 5,000 Marri individuals planted. This program aims to progress understanding and methodologies in improving success rates of Marri plantings, both for rehabilitation and plantation purposes.

WA Bluemetal agreed to provide licence of approximately 4 ha of land to Murdoch for the purposes of planting approximately 5,000 marri trees. WA Bluemetal's obligations with regards to this agreement include:

- Prepare the Site for the planting of the Trees, including:
 - o Forming and shaping the clay stockpile; and
 - o Rip ground at a maximum depth of 500m with a Dozer on location at the time.
- If necessary, when the onsite dust suppressant water truck is available, occasional watering of trees during the first summer period from planting.

Implementation of the offset strategy in conjunction with the ongoing program with Murdoch University will ensure that the health, diversity and productivity of the environment is maintained or enhanced for future generations.

3. Consistency with Commonwealth Offset Principles

The strategy for compensating significant residual impacts to MNES resulting from the proposed action is consistent with the ten offset principles as outlined in the Commonwealth Environmental Offsets Policy (Australian Government 2012).

Table 3.1 summarises how the ten principles were considered in the development of this offset strategy for Carnaby's, Baudin's, and Red-tailed Black Cockatoos, as well as Chuditch.

Table 3.1: Consideration of the Commonwealth offsets principles against relevant MNES

Principle	Relevant MNES
Suitable offsets must deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action	The acquisition of a site that contain existing Black Cockatoo and Chuditch habitat and potential Black Cockatoo breeding trees, the provision of funding to the DBCA for on-ground management and feral animal control, and research funding will deliver an overall conservation outcome that maintains the viability of MNES being protected at a local and regional level.
Suitable offsets must be built around direct offsets but may include other compensatory measures	The conservation, improvement, and acquisition of land containing Black Cockatoo habitat and potential breeding trees, and habitat for Chuditch, is a direct offset. The proposed area of habitat to be acquired and improved will meet all of the offset requirement for Chuditch, and all of the offset requirement for Black Cockatoo, as calculated using the Commonwealth Offsets Calculator. Other compensatory measures, namely the provision of funding to the DBCA for the long-term management of the proposed offset sites and the ongoing support of the Murdoch University Marri Planting Project will also be provided. The provision of artificial breeding hollows will offset of the loss of 31 suitable breeding hollows. WA Bluemetal will ensure that all significant residual impacts will be offset to meet 100% of the offset.
Suitable offsets must be in proportion to the level of statutory protection that applies to the protected matter	Total offset requirement was calculated using the Commonwealth Offsets Calculator. This Calculator factors the level of statutory protection into the determination of the area required and nature of offset. As such, the offset is expected to be suitable and in proportion to the level of statutory protection applied to Carnaby's, Baudin's and Forest Red-tailed Black Cockatoo, and Chuditch habitat. Direct offsets have been provided for all MNES, with over 100% of the direct offset requirement being met.
Suitable offsets must be of a size and scale proportionate to the residual impacts on the protected matter	WA Bluemetal proposed direct offsets to counterbalance impacts to Black Cockatoo habitat and potential breeding trees. The direct offset will protect the same type of Carnaby's, Baudin's and Forest Red-tailed Black Cockatoo, and Chuditch habitat being impacted by and within the vicinity of the proposed action area. The area and condition of Black Cockatoo habitat and potential breeding trees located within the offset site is proportionate to that being impacted by the proposed action, as calculated using the Commonwealth Offsets Calculator. The direct offset will comprise all of the requirement. The provision of artificial breeding hollows will offset all of the loss of 31 suitable breeding hollows.
Suitable offsets must effectively account for and manage the risks of the offset not succeeding	The acquisition site, once identified, will be acquired by the State. The risk of the offset option not succeeding is expected to be very low with a X confidence in the result applied within the Commonwealth Offsets Calculator (Appendix A). Following acquisition, it is reasonable to expect that the acquisition and on-ground management of the site will reduce the risk of loss and prevent degradation of habitat over the long term.
Suitable offsets must be additional to what is already required, determined by law or planning	State acquisition of privately-owned land and provision of funding for active on-ground management by the DBCA presents a

Principle	Relevant MNES
<p>regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action)</p>	<p>conservation outcome beyond what would occur without implementation of this Offsets Strategy. State Government acquisition of privately-owned sites for conservation is initiated by their proposed use as offset sites. Further, conservation and on-ground management of the acquisition site and CA is not required or planned under any other planning or approval process and is entirely instigated as a result of this Offsets Strategy. Management of acquired land will be over and above that which is already experienced onsite.</p>
<p>Suitable offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable</p>	<p>The proposed acquisition sites will contain multiple environmental values that require offsetting due to the impact from the proposed action. Land acquisition provides an efficient offset option as there is minimal time-lag in achieving benefits following site purchase. Proposed offsets are effective in meeting and in some cases exceeding the significant residual impacts. Further, land acquisition and management is an effective offset proposal.</p> <p>The Offset Management Plan which will be developed for the proposed acquisition site upon granting of conditional approval will be prepared in accordance with the DCCEEWs Environmental Management Plan Guidelines (2014). The management actions contained therein will be designed according to the SMART principle, in that they are specific, measurable, attainable, relevant, and time-bound.</p> <p>This offset strategy will be advertised for public consultation as part of the commonwealth environmental assessment process.</p>

4. Conclusion

Based on the outcomes of the environmental impact assessment undertaken as part of the Preliminary Documentation process, and following consultation with the DCCEEW, significant residual impacts to MNES are anticipated to be limited to:

- The clearing of 13.2 ha of suitable foraging habitat and potential roosting and breeding habitat for the Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) (Endangered), Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) (Endangered), and the Forest Red-Tailed Black Cockatoo (*Calyptorhynchus banksii naso*) (Vulnerable) (Black Cockatoos)
- The removal of 31 potential breeding trees with hollows suitable for use by Black Cockatoos
- The clearing of 13.2 ha of potentially suitable habitat for the Chuditch (*Dasyurus geoffroii*) (Vulnerable).

The proposed strategy to offset these residual impacts has been refined to three measures, which include:

1. Transfer of funding to the State Government (i.e. DBCA) for direct acquisition of 119ha of an appropriate offset site for the purpose of conservation (Section 2.1) – accounts for all of residual impacts
2. Installation of 35 artificial nesting hollows in the area adjacent to the impact site for all of residual impacts
3. Provision of funding to the State Government for the management and maintenance of the acquisition site (Section 2.3).

Through the implementation of the offset strategy as outlined above, all significant residual impacts to MNES resulting from the proposed action are anticipated to be adequately offset and directly contribute to the ongoing viability of the protected matters impacted by the proposed action, and delivers an overall conservation outcome that improves the viability of the protected matters.

5. References

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6. Limitations

Scope of services

This report ("the report") has been prepared by JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

Reliance on data

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