

APPENDIX J

Fauna Management Plan

Fauna Management Plan

Lot 5 Wellesley Road

(CPS 8561/1)

Wellesley

On behalf of:

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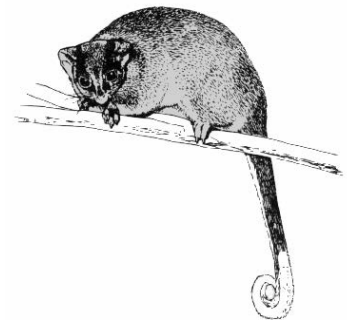


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1. INTRODUCTION

This Fauna Management Plan (FMP) has been prepared for Lot 5 Wellesley Road, Wellesley (the subject site). The subject site contains about 2.33ha of remnant vegetation that is required to be removed to allow for an existing sand extraction operation to continue (Figure 1).

This FMP has been prepared at the request of the proponent to ensure the protection and management of the sites environmental assets (i.e. fauna and fauna habitat) prior to and during site works.

A previously completed fauna assessment (Harewood 2018) identified the possible presence of western ringtail possums and areas of black cockatoo habitat within the remnant vegetation. These species are the focus of the FMP which will aim to minimise direct and indirect impacts on individuals and/or their habitat which may occur during proposed clearing works.

This FMP should be read in conjunction with the previously prepared fauna assessment report (Harewood 2018).

2. POTENTIAL FAUNA INVENTORY

A list of expected fauna species likely to occur in the subject site was compiled as part of the fauna assessment carried out in 2018 (Harewood 2018) and is presented in Appendix A. Definitions of the various conservation codes used in this FMP are held in Appendix B.

The list of potential fauna takes into consideration that firstly the species in question is not known to be locally extinct and secondly that suitable habitat for each species, as identified during the habitat assessment, is present within the subject site. The list provided is very likely an over estimation of the fauna species utilising the site (either on a regular or infrequent basis) as a result of the precautionary approach adopted for the assessment.

Table 1 summarises the number of potential fauna species in addition to those actually recorded during a series of site surveys undertaken as part of the fauna assessment undertaken in April 2018.



Table 1: Summary of Potential Fauna Species (as listed in Appendix A)

Group	Total number of <u>Potential</u> species	Potential number of <u>Specially Protected</u> species	Potential number of <u>Migratory</u> species	Potential number of <u>Priority</u> species	Number of species <u>Observed:</u> Field Survey 2018
Amphibians	2	0	0	0	0
Reptiles	20	0	0	0	0
Birds	74 ¹	4	0	0	10
Non-Volant Mammals	11 ⁶	2	0	1	4 ²
Volant Mammals (Bats)	9	0	0	1	0
Total	116⁷	6	0	2	14²

¹Superscript = number of introduced species included in total.

A literature review carried out as part of the overall fauna assessment identified a number of specially protected, priority or migratory fauna species as potentially occurring in the general vicinity of the subject site. Most species have however been excluded from the expected list (Appendix A) principally due to lack of suitable habitat or known local extinction. A more detailed assessment of significant species that potentially utilise the study area is provided at the fauna assessment report (Harewood 2018).

No vertebrate fauna species of conservation significance were positively identified as utilising the subject site during the site reconnaissance survey, however based on the habitats present and current documented distributions it is considered possible that eight vertebrate species may use the subject site for some purpose at times, though, as no evidence of any was found at the time of the field survey, the status of some in the area remains uncertain.

These species are:

- Peregrine Falcon *Falco peregrinus* – S7 (BC Act)
This species potentially utilises some sections of the subject site as part of a much larger home range. No evidence of nesting seen and the probability of this species breeding within the study site can be considered to be very low. Listed as a potential species based on available information.



- Carnaby's Cockatoo *Zanda latirostris* – Endangered (BC/EPBC Act)
Not observed during the survey period but known to frequent the general area. Small areas of remnant vegetation within the subject site represent foraging habitat (i.e. areas containing banksia, marri and/or jarrah). Larger trees (>50cm DBH) can be considered potential breeding habitat. No roosting sites identified. Listed as a potential species based on available information.
- Baudin's Cockatoo *Zanda baudinii* – Endangered (BC/EPBC Act)
Not observed during the survey period but known to frequent the general area. Small areas of remnant vegetation within the subject site represent foraging habitat (i.e. areas containing banksia and marri). Larger trees (>50cm DBH) can be considered potential breeding habitat. No roosting sites identified. Listed as a potential species based on available information.
- Forest Red-tailed Black-Cockatoo *Calyptorhynchus banksii naso* –Vulnerable (BC/EPBC Act)
Not observed during the survey period but known to frequent the general area. Small areas of remnant vegetation within the subject site represent foraging habitat (i.e. areas containing marri and/or jarrah). Larger trees (>50cm DBH) can be considered potential breeding habitat. No roosting sites identified. Listed as a potential species based on available information.
- South-western Brush-tailed Phascogale *Phascogale tapoatafa wambenger* – S6 (BC Act)
Status of this species within the subject site is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.
- Western Ringtail Possum *Pseudocheirus occidentalis* – Critically Endangered (BC/EPBC Act)
Not recorded during the survey period despite targeted day and night surveys. Known to occur in the general area though it appears to be more commonly encounter west of Forrest Highway. Listed as a potential species based on available information.
- Western Brush Wallaby *Notomacropus irma* – P4 (DBC/EPBC Act)
Known to occur in the Kemerton area and given the presence of suitable habitat it must be assumed to be present, though probably only occasionally and in low numbers. Listed as a potential species based on available information.



- Western False Pipistrelle *Falsistrellus mackenziei* – P4 (DBCA Priority Species)

The status of this species onsite is uncertain however given the present of hollow trees (potential daytime refuge sites) and some recent records from along the Brunswick River and at Kemerton its presence cannot be totally discounted. Listed as a potential species based on available information.

Note: Habitat for some of these species on-site, while considered possibly suitable, may be marginal in extent/quality and species listed may only visit the area for short periods, or as rare/uncommon vagrants/transients.

A number of other species of conservation significance, while possibly present in the wider area (e.g. Leschenault Estuary, Kemerton Buffer Zone, Darling Range), are not listed as potential species due to known localised extinction (and no subsequent recruitment from adjoining areas), lack of suitable habitat and/or the presence of feral predators.

3. FAUNA MANAGEMENT OPTIONS

Apart from the protection of areas of fauna habitat to be retained during clearing operation the primary focus of the FMP will be to relocate fauna from the works footprint prior to or while clearing is taking place.

However, not all of the fauna species identified as potentially utilising the site (Appendix A) are, under normal circumstances, targeted for relocation. The reasons for this vary but generally priorities for relocation are species where a real conservation benefit has the potential to be realised (e.g. establishment new populations or bolstering of existing populations). This is particularly relevant for species of conservation significance (i.e. those listed as threatened, migratory or as DBCA priority species).

Larger animals (e.g. common brushtail possums) are also relocated in the majority of circumstances for ethical reasons even though no overall conservation benefit is likely. Relocating smaller fauna species (e.g. small skinks) is time consuming and unlikely, in almost all cases, to result in any positive conservation outcomes. This is primarily because most are common and widespread and suitable relocation sites, by definition, are very likely to already contain existing stable populations of the same species.

Adding individuals from elsewhere has the potential, in theory, to upset any existing population dynamics at play and could even have a detrimental impact on population numbers (though impacts are unlikely to have a significant long term impact).



Nonetheless some proponents choose to undertake the relocation of any fauna species encountered if only for ethical/public relations reasons. The table below identifies priorities for relocation based on species group.

Table 2: Fauna species - relocation priorities at the subject site.

Species Group	Species of conservation significance present	Other Species considered suitable for relocation	Comments
Fish	No	None	No habitat suitable for fish is present within the subject site.
Frogs	No	None	Frogs will not be specifically targeted for relocation however individuals encountered opportunistically prior to or during clearing operations will be relocated to retained habitat nearby.
Reptiles	No	Larger reptile species such as the bobtail or snakes.	Individuals encountered opportunistically prior to or during clearing operations will be relocated to retained habitat nearby.
Birds	Yes – However birds are not typically relocated (as they can fly off) except if nestlings encountered. It is however considered unlikely that any of the potential significant species breed onsite.	Yes – various species - nestlings only	Any nestlings encountered will be rescued and taken to a predetermined wildlife carer. Clearing of trees with nesting birds should be delayed if possible. Tree hollows will be examine for occupancy immediately prior to clearing operations.
Mammals	Yes – No conservation significant species confirmed as being present but several species (including western ringtail possums and south-western brush-tailed phascogales) may occur.	Yes – the Common Brushtail Possum	Arboreal mammal species will be specifically targeted prior to and during clearing. A trapping program targeting mammals will be undertaken prior to clearing commencing. Bats found in tree hollows will be encouraged to naturally disperse. Any mammals captured will be relocated to retained habitat nearby.



4. FAUNA MANAGEMENT PLAN

The principal aims of the management plan outlined here is to ensure that fauna in general are not injured or killed during site development and to reduce the potential for impact on fauna habitat that is to be retained. The primary focus will be conservation significant species including but not limited to western ringtail possums, southwestern brush-tailed phascogales. The most likely species to be encountered are common brushtail possums.

The Proponent via a delegated Project Manager in charge of this stage of the development must liaise with the local DBCA prior to commencement and post clearing. At this stage the exact details on when, how and who will undertake the clearing is not known. This information will be provided to the DBCA when details become available.

It should also be noted that the person undertaking the pre-clearing trapping and those carrying out “fauna spotting” duties will require a Regulation 28 licence and a section 40 ministerial authorisation to take or disturb threatened fauna under the *Biodiversity Conservation Act 2016* which should be obtained prior to clearing occurring. A certified and / or registered fauna handler will be required to be present during the removal of vegetation. The handler is to provide a post clearing report to DBCA swlanduseplanning@dbca.wa.gov.au that includes the numbers of adult or juvenile WRP (or any other fauna species) observed, taken or disturbed, any injuries or fatalities, and the location of the fauna after clearing has occurred..

The management plan is comprised of the following components

- i) Pre-clearing Fauna Trapping and Relocation;
- ii) Pre-clearing Tree Hollow and Drey Assessment;
- iii) Clearing Contractor Induction;
- iv) Vegetation Retention;
- v) Site Clearing; and
- vi) Post Clearing Reports.



4.1 PRE-CLEARING FAUNA TRAPPING

Management Strategies/Commitments

MS1 A fauna trapping program aimed at relocating any fauna species present will be carried out with a focus on conservation significant species (e.g. WRPs and phascogales) in addition to more common species such as the brushtail possums.

Trapping will take place over a period of two or three nights and will preferably commence in the week prior to clearing commencing. Trapping will utilise a combination of cage and Elliott traps. Traps will be checked within three hours of sunrise every morning.

Active searching of the site will also be carried out concurrent with the trapping program and will involve racking leaf litter, turning logs etc. while searching for fauna.

Capture animals will be relocated into the adjoining vegetation (subject to approval for DBCA), at a distance to minimise the chances of recolonisation.

4.2 PRE-CLEARING TREE HOLLOW AND DREY ASSESSMENT

Management Strategies/Commitments

MS2 Within a week prior to clearing commencing the trees previously identified during the fauna assessment (Harewood 2018) as containing hollows of some size will be re-inspected for evidence of occupancy with particular emphasis on breeding black cockatoos.

Trees suspected of being occupied by fauna of any type will be marked and an appropriate course of action implemented prior to or during clearing to minimise the risk of harm to the animals in question. Trees containing hollows confirmed as being in use by fauna may need to be left in place for a period of time in some circumstances.

All areas of vegetation will also be inspected for WRP dreys. Dreys will be removed if possible prior to clearing commencing. If found to be occupied an attempt to capture and relocate the WRP/WRPs present will be made. The location of dreys that cannot be removed will be recorded and the location marked for reference during clearing operations.



4.3 CLEARING CONTRACTOR INDUCTION

Management Strategies/Commitments

MS3 Prior to clearing, contractors will be provided with information to ensure compliance with all relevant sections of this management plan. This will include but will not be limited to details on individual trees or areas of vegetation that are to be retained/cleared and the likely presence and importance of fauna species such as the western ringtail possums within the site. All construction staff should be made aware that native fauna is protected. Personnel working on the project should not be allowed to bring firearms, other weapons or pets onsite.

Contractors will be instructed to contact the delegated “fauna spotter” if fauna of any type is encountered during clearing works so that it can be relocated if possible.

4.4 VEGETATION RETENTION

Management Strategies/Commitments

MS4 Where possible remnant vegetation on site that does not require clearing, including single, dead or isolated trees retained and protected. During site works areas requiring clearing should be clearly marked and access to other areas restricted to prevent accidental clearing of vegetation to be retained.

MS5 Additional project infrastructure, including access routes, vehicle and plant storage and turn around areas etc. will be designed so that previously disturbed areas are used where possible.

MS6 If reasonable and practical Contractors will be directed to:

- a) Avoid impacts on tree roots – if feasible a ~3 m buffer around retained trees within which no soil disturbance can occur should be enforced;
- b) Avoid branch pruning on trees that are to be retained (especially where canopy connection could be affected);
- c) Avoid filling of more than a metre over pre-construction soil height around the base of trees.



4.5 SITE CLEARING

Management Strategies/Commitments

- MS7 IMPORTANT: The Project Manager should contact the DBCA Regional Wildlife Officer on 9725 4300 prior to any clearing commencing.** Contact with the DBCA should be made as soon as the date of commencement of site works is known so as to ensure the appropriate DBCA personnel are notified i.e. Regional Wildlife Officer.
- MS8** A suitable experienced “fauna spotter” (e.g. zoologist or fauna carer/rehabilitator) will be present on site at all times when clearing is being undertaken to supervise any animal handling and the capture of injured fauna if required.
- MS9** All areas will be inspected by the fauna spotter for the presence of fauna immediately prior to clearing. This will involve active searching and include the raking of leaf litter, turning logs and other debris while searching for fauna. Animals encountered will be captured and relocated.

The following clearing protocols relate to the removal of trees and are based on DBCA recommended procedures for WRPs (see Appendix C). These will be employed when and if considered relevant to the clearing task at hand. The management procedures mainly refer to WRPs but are applicable to other arboreal fauna species (e.g. common brushtail possums) as well.

- MS10** All trees to be cleared will be inspected by the fauna spotter prior to the commencement of clearing so that appropriate methods can be employed on trees containing or most likely to contain WRPs.
- MS11** Where possible clearing should be undertaken in a systematic manner that minimises disruption to WRPs. If there is suitable habitat adjoining the development site, a clearing pattern that encourages the movement of WRPs to this retained habitat should be adopted. Clearing from the west in a eastwards direction is recommended.
- MS12** Whether or not a WRP is seen in a tree that is about to be cleared, all trees will be bumped or shaken firstly. Following this the operator and the fauna spotter will wait and observe the tree for a short time. If no WRP appears to be present then the tree will be removed, though at all times those present will remain alert to the fact that the possibility of undetected WRPs still being present remains and appropriate actions will need to be employed to ensure they are not injured. Trees that are identified as containing WRPs may need to be left for a subsequent day to allow for natural dispersal.



- MS13** In the event that a WRP is observed in a tree that is about to be cleared and there is a tree marked for retention near the tree which is to be cleared then the tree will be gently lowered to the ground to enable the animal opportunity to safely evacuate. The animal/s will then be encouraged to move towards and occupy the tree that is to be retained.
- MS14** If there are no trees to be retained within proximity of a tree that has a western ringtail possum and it needs to be cleared, then the fauna spotter will attempt to catch the animal prior to the tree being pushed down. Captured, uninjured animals should be relocated to the nearest area of suitable habitat to be retained.
- MS15** Dreys will be inspected prior to clearing and removed if possible. Dreys observed in felled trees will be checked as soon as possible as baby WRPs may remain in the drey. Hollows within felled trees will also be inspected prior to clearing if possible or after felling if inaccessible.
- MS16** Stockpile practices. Cleared vegetation will not be stockpiled on site if possible. If due to logistical issues stockpiling is required, contractors involved in the removal of stockpiled material should be made aware that displaced western ringtail possums may shelter within piles of vegetation and/or building material.
- Stockpile material should be removed in a manner that reduces the chance of injury to WRPs. If western ringtail possums are found to be present in stockpiles the fauna spotter on site should attempt to catch the animal so it can be relocated nearby. Dreys found should be removed from any trees that are to be stockpiled. If stockpiles are removed in the absence of the fauna spotter and a WRP is encountered then the DBCA should be notified by those involved.
- MS17** If practical, any chipping of cleared vegetation will be undertaken as far away from areas known to be utilised by WRPs as possible to minimise noise impacts. Where chipping will be undertaken over a number of days, it is preferred that the chipper remains in one position and vegetation is brought to the chipper as opposed to the chipper moving through the site. This is to consolidate the noise impacts in one area of the development site.
- MS18** If contractors encounter injured WRP during clearing operations, then the fauna spotter will be notified immediately so that arrangements can be made for the welfare of the injured animal. The attending fauna spotter will:
- have appropriate equipment to administer immediate emergency care to any injured/displaced WRP's (e.g. heat pack, box/cage, blankets).



- have made prior arrangement with a carer who could care for/rehabilitate any injured animals in Bunbury/Busselton.
- notify DBCA's Regional Wildlife Officer (Bunbury 9725 4300) of WRPs going into care.

4.6 POST CLEARING REPORTS

Management Strategies/Commitments

MS19 The proponent will provide the DBCA (Bunbury) with a report (see Appendix D) on the impact on fauna during the habitat removal process within 28 days of completion of each stage of clearing. This report is to detail the impact on fauna that occurred during clearing including:

- Date and times clearing was undertaken.
- Name of clearing contractor.
- Name of the suitably experienced “fauna spotter”.
- Number of fauna species Observed/Relocated.
- Location where removed fauna were relocated.
- Number of fauna injured/killed.
- Name of rehabilitator/veterinarian surgery who holds the injured fauna.
- Comment on whether the management/mitigation plan objectives met?

MS20 A report is also required under the Regulation 28 licence and section 40 ministerial authorisation issued by DBCA. This report will be submitted to the Wildlife Licencing Branch of DBCA within one month of the expiration of the licence and contain a list of all the fauna handled, the localities involved and a copy of any interpretive data prepared.



5. IMPLEMENTATION AND RESPONSIBILITIES

Table 1 summarises the management strategies and commitments from Section 4 that make up the FMP. The Proponent (the owners of the land) will be responsible for the initial implementation of the management plan.

Responsibilities for the implementation of the various sections of the Management Plan will be delegated to appointed sub-contractors at various stages, for example the Project Manager of each stage of the proposed subdivision will need to ensure clearing is carried out in accordance with the plan. Some sections will be the responsibility of the appointed zoologist/fauna spotter. Despite this delegation of duties the Proponent still remains ultimately responsible and liable for non-conformance at any stage.

Table 1: Summary of Management Commitments and Responsibilities

Component	Management Strategies/Commitment	Responsibility	Timing	Advice
Pre-clearing Fauna Trapping	<p>MS1 A fauna trapping program aimed at relocating any fauna species present will be carried out with a focus on conservation significant species (e.g. WRP's and phascogales) in addition to more common species such as the brushtail possums.</p> <p>Trapping will take place over a period of two or three nights and will preferably commence in the week prior to clearing commencing. Trapping will utilise a combination of cage and Elliott traps. Traps will be checked within three hours of sunrise every morning.</p> <p>Active searching of the site will also be carried out concurrent with the trapping program and will involve racking leaf litter, turning logs etc. while searching for fauna.</p> <p>Capture animals will be relocated into the adjoining retained habitat (subject to approval for DBCA), at a distance to minimise the chances of recolonisation</p>	Proponent/Project Stage Manager/Zoologist.	One week prior to commencement of clearing operations.	DBCA



Component	Management Strategies/Commitment	Responsibility	Timing	Advice
<p>Pre-clearing Tree Hollow and Drey Assessment</p>	<p>MS2 Within a week prior to clearing commencing the trees previously identified during the fauna assessment (Harewood 2016) as containing hollows of some size will be re-inspected for evidence of occupancy with particular emphasis on breeding black cockatoos.</p> <p>Trees suspected of being occupied by fauna of any type will be marked and an appropriate course of action implemented prior to or during clearing to minimise the risk of harm to the animals in question. Trees containing hollows confirmed as being in use by fauna may need to be left in place for a period of time in some circumstances.</p> <p>All areas of vegetation will be reinspected for WRP dreys. Dreys will be removed if possible prior to clearing commencing. If found to be occupied an attempt to capture and relocate the WRP/WRPs present will be made. The location of dreys that cannot be removed will be recorded and the location marked for reference during clearing operations.</p>	<p>Proponent/Project Stage Manager/ Zoologist.</p>	<p>One week prior to commencement of clearing operations.</p>	<p>DBCA</p>
<p>Contractor Induction</p>	<p>MS3 Prior to clearing, contractors will be provided with information to ensure compliance with all relevant sections of this management plan. This will include but will not be limited to details on individual trees or areas of vegetation that are to be retained/cleared and the likely presence and importance of fauna species such as the western ringtail possums within the site. All construction staff should be made aware that native fauna is protected. Personnel working on the project should not be allowed to bring firearms, other weapons or pets onsite.</p> <p>Contractors will be instructed to contact the delegated “fauna spotter” if fauna of any type is encountered during clearing works so that it can be relocated if possible.</p>	<p>Proponent/Project Stage Manager/Zoologist.</p>	<p>Prior to commencement of any clearing operations.</p>	
<p>Vegetation Retention</p>	<p>MS4 Where possible remnant vegetation on site that does not require clearing, including single, dead or isolated trees retained and protected. During site works areas requiring clearing should be clearly marked and access to other areas restricted to prevent accidental clearing of vegetation to be retained.</p>	<p>Proponent/Project Stage Manager.</p>	<p>Prior to any site works involving clearing of native vegetation.</p>	
	<p>MS5 Additional project infrastructure, including access routes, vehicle and plant storage and turn around areas etc. will be designed so that previously disturbed areas are used where possible.</p>	<p>Proponent/Project Stage Manager.</p>	<p>Prior to any site works involving clearing of native vegetation.</p>	



Component	Management Strategies/Commitment	Responsibility	Timing	Advice
Vegetation Retention	<p>MS6 If reasonable and practical Contractors will be directed to:</p> <ul style="list-style-type: none"> a) Avoid impacts on tree roots – if feasible a ~3 m buffer around retained trees within which no soil disturbance can occur should be enforced; b) Avoid branch pruning on trees that are to be retained (especially where canopy connection could be affected); • Avoid filling of more than a metre over pre-construction soil height around the base of trees. 	Proponent/Project Stage Manager.	During any site works.	
Site Clearing	<p>MS7 IMPORTANT: The Project Manager should Contact the DBCA Regional Wildlife Officer on 9725 4300 prior to any clearing commencing. Contact with DBCA should be made as soon as the date of commencement of site works is known so as to ensure the appropriate DBCA personnel are notified.</p>	Proponent/Project Stage Manager.	Prior to site works involving clearing of native vegetation.	
	<p>MS8 A suitable experienced “fauna spotter” (e.g. zoologist or fauna carer/rehabilitator) will be present on site at all times when clearing is being undertaken to supervise any animal handling and the capture of injured WRPs (and other fauna) if required.</p>	Proponent/Project Stage Manager.	During site works involving clearing of native vegetation.	DBCA
	<p>MS9 All areas will be inspected by the fauna spotter for the presence of fauna immediately prior to clearing. This will involve active searching and include the raking of leaf litter, turning logs and other debris while searching for fauna. Animals encountered will be captured and relocated.</p>	Proponent/Project Stage Manager/Fauna Spotter.	Prior to and during site works involving clearing of native vegetation.	
	<p>MS10 All trees to be cleared will be inspected by the fauna spotter prior to the commencement of clearing so that appropriate methods can be employed on trees containing or most likely to contain WRPs.</p>	Proponent/Project Stage Manager/Fauna Spotter.	Prior to and during site works involving clearing of native vegetation.	
	<p>MS11 Where possible clearing should be undertaken in a systematic manner that minimises disruption to WRPs. If there is suitable habitat adjoining the development site, a clearing pattern that encourages the movement of WRPs to this retained habitat should be adopted. In the case of Lot 561 clearing from the east in a westwards direction is recommended.</p>	Proponent/Project Stage Manager/Fauna Spotter.	During site works involving clearing of native vegetation.	



Component	Management Strategies/Commitment	Responsibility	Timing	Advice
Site Clearing	MS12 Whether or not a WRP is seen in a tree that is about to be cleared, all trees will be bumped or shaken firstly. Following this the operator and the fauna spotter will wait and observe the tree for a short time. If no WRP appears to be present then the tree will be removed, though at all times those present will remain alert to the fact that the possibility of undetected WRPs still being present remains and appropriate actions will need to be employed to ensure they are not injured. Trees that are identified as containing WRPs may need to be left for a subsequent day to allow for natural dispersal.	Proponent/Project Stage Manager/Fauna Spotter.	During site works involving clearing of native vegetation.	
	MS13 In the event that a WRP is observed in a tree that is about to be cleared and there is a tree marked for retention near the tree which is to be cleared then the tree will be gently lowered to the ground to enable the animal opportunity to safely evacuate. The animal/s will then be encouraged to move towards and occupy the tree that is to be retained.	Proponent/Project Stage Manager/Fauna Spotter.	During site works involving clearing of native vegetation.	
	MS14 If there are no trees to be retained within proximity of a tree that has a Western Ringtail Possum and it needs be cleared, then the fauna spotter will attempt to catch the animal prior to the tree being pushed down. Captured, uninjured animals should be relocated to the nearest area of suitable habitat to be retained.	Proponent/Project Stage Manager/Fauna Spotter.	During site works involving clearing of native vegetation.	
	MS15 Dreys will be inspected prior to clearing and removed if possible. Dreys observed in felled trees will be checked as soon as possible as baby WRPs may remain in the drey. Hollows within felled trees will also be inspected prior to clearing if possible or after felling if inaccessible.	Proponent/Project Stage Manager/Fauna Spotter.	Prior to and during site works involving clearing of native vegetation.	
	MS16 Stockpile practices. Cleared vegetation will not be stockpiled on site if possible. If due to logistical issues stockpiling is required, contractors involved in the removal of stockpiled material should be made aware that displaced WRPs may shelter within piles of vegetation and/or building material. Stockpile material should be removed in a manner that reduces the chance of injury to WRPs. If WRPs are found to be present in stockpiles the fauna spotter on site should attempt to catch the animal and relocated it nearby. Dreys found should be removed from any trees that are to be stockpiled. If stockpiles are removed in the absence of the fauna spotter and a WRP is encountered then the DBCA should be notified by those involved.	Proponent/Project Stage Manager/Fauna Spotter.	During site works.	



Component	Management Strategies/Commitment	Responsibility	Timing	Advice
Site Clearing	<p>MS17 If practical, any chipping of cleared vegetation will be undertaken as far away from areas known to be utilised by WRPs as possible to minimise noise impacts. Where chipping will be undertaken over a number of days, it is preferred that the chipper remains in one position and vegetation is brought to the chipper as opposed to the chipper moving through the site. This is to consolidate the noise impacts in one area of the development site.</p>	Proponent/Project Stage Manager/Fauna Spotter.	During site works.	
	<p>MS18 If contractors encounter injured WRP during clearing operations, then the fauna spotter will be notified immediately so that arrangements can be made for the welfare of the injured animal. The attending fauna spotter will:</p> <ul style="list-style-type: none"> a) have appropriate equipment to administer immediate emergency care to any injured/displaced WRPs (e.g. heat pack, box/cage, blankets). b) have made prior arrangement with a carer who could care for/rehabilitate any injured animals in Bunbury/Busselton. c) notify DBCA's Regional Wildlife Officer (Bunbury 9725 4300) of WRPs going into care. 	Proponent/Project Stage Manager/Fauna Spotter.	During site works.	DBCA
Post Clearing Reports	<p>MS19 The proponent will provide the DBCA (Bunbury) with a report (see appendix D) on the impact on WRP during the habitat removal process within 28 days of completion of each stage of clearing.</p>	Proponent/Project Stage Manager/Fauna Spotter.	Within 28 days of completion of each stage of clearing	
Post Clearing Reports	<p>MS20 A report is also required under the Regulation 28 Licence issued by DBCA. This report will be submitted to the Wildlife Licencing Branch of DBCA within one month of the expiration of the licence and contain a list of all the fauna handled, the localities involved and a copy of any interpretive data prepared.</p>	Proponent/Project Stage Manager/Fauna Spotter/Zoologist.	Within one month of licence expiry.	



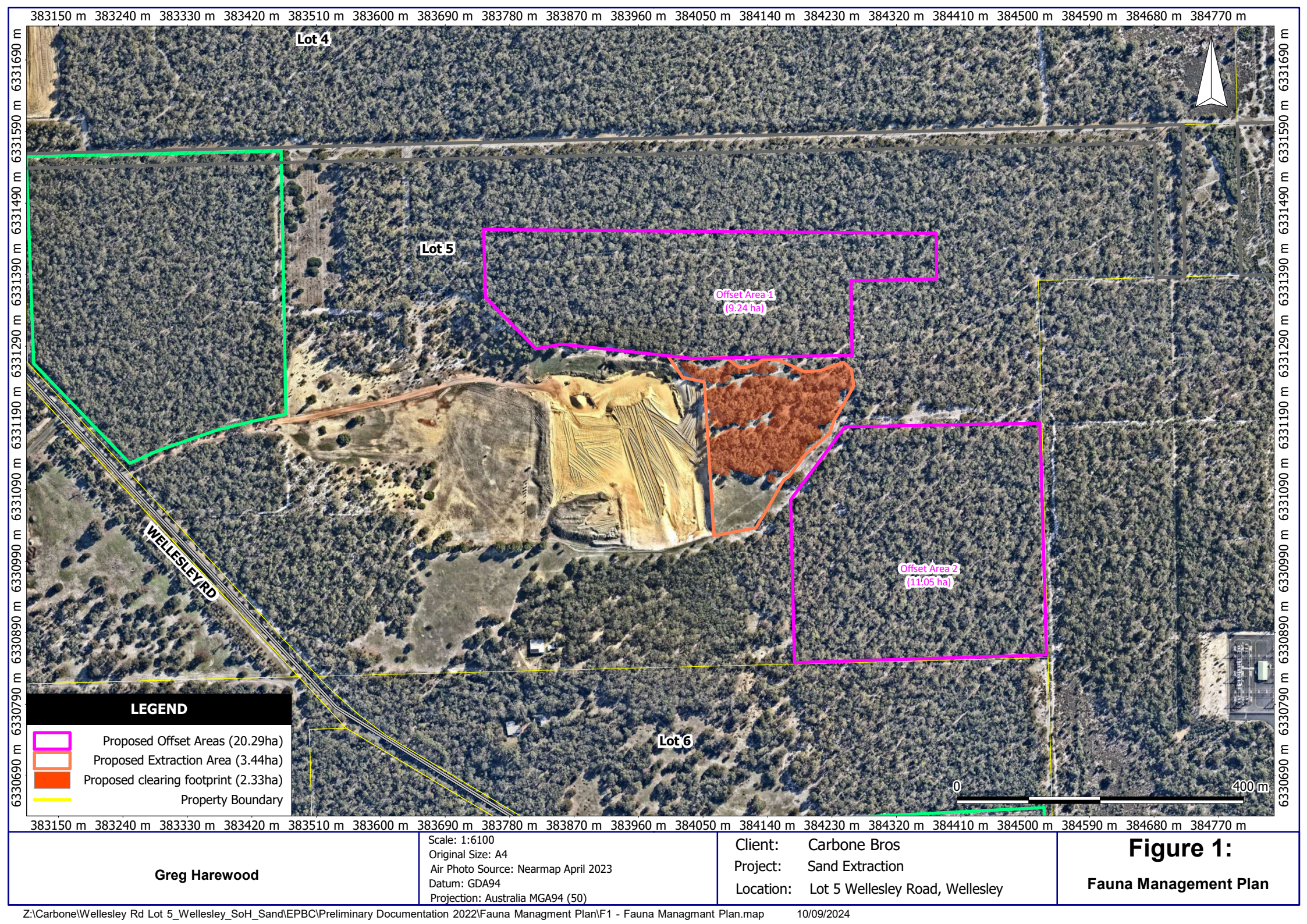
6. REFERENCES

Harewood, G. (2018). Fauna Assessment, Lot 5 Wellesley Road (CPS 8007/1) Wellesley. Unpublished report for Carboine Bros. Pty Ltd.



FIGURES





Lot 4

Lot 5

Lot 6

Offset Area 1
(9.24 ha)

Offset Area 2
(11.05 ha)

WELLESLEY RD

LEGEND

- Proposed Offset Areas (20.29ha)
- Proposed Extraction Area (3.44ha)
- Proposed clearing footprint (2.33ha)
- Property Boundary

0 400 m

Greg Harewood

Scale: 1:6100
 Original Size: A4
 Air Photo Source: Nearmap April 2023
 Datum: GDA94
 Projection: Australia MGA94 (50)

Client: Carbone Bros
 Project: Sand Extraction
 Location: Lot 5 Wellesley Road, Wellesley

Figure 1:
Fauna Management Plan

APPENDIX A

FAUNA OBSERVED OR POTENTIALLY IN SUBJECT SITE

Observed and Potential Fauna Listing

Compiled by Greg Harewood - April 2018

Lot 5 (part) Wellesley Road, Wellesley

Recorded (Captured/Recorded/Sighted/Heard/Signs) = X

Approximate centroid = 33.15085° and 115.75704°

A = Harewood, G. (2018). Fauna Assessment Lot 5 Wellesley Road (CPS 8007/1) Wellesley. Unpublished report for Carbone Bros. Pty Ltd.

B = GHD (2017). Biological Assessment - Additional Area Assessment - Kemerton Strategic Industrial Area. Unpublished letter report for Albemarle Lithium Pty Ltd

C = Harewood, G. (2015). Fauna Survey (Level 2) Dampier to Bunbury Natural Gas Pipeline Corridor. Bristol Road to Clifton Road. Unpublished report for Aurora Environmental.

D = GHD (2015). Waterloo Urban and Industrial Expansion. Flora and Fauna Survey. Unpublished report for Shire of Dardanup.

E = Harewood, G. (2010). Kemerton Industrial Core - Fauna Survey. Unpublished report for Landcorp.

F = 360 Environmental Pty Ltd (2008). Southern Seawater Desalination Project 2007, Terrestrial Flora and Fauna Survey Report. Unpublished report for the Water Corporation.

G = Bamford Consulting Ecologists (2008). Fauna Assessment of the Proposes South Binningup Development. Unpublished report for RPS Consulting/Mirvac.

H = Western Wildlife (2009). Lot 76 Binningup Rd, Binningup: Fauna Survey 2008. Unpublished report for Niche Consulting.

I = ATA Environmental (2005). Lot 1001 Mardo Avenue, Australind, Environmental Assessment. Unpublished report for Marist Brothers.

J = DBCA (2018). NatureMap Database search. "By Circle" Centre - 115° 45' 25" E, 33° 09' 03" S; Accessed 10/04/2018.

Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
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Amphibia

Myobatrachidae

Ground or Burrowing Frogs

<i>Heleioporus eyrei</i>	Moaning Frog	LC			X	X	X	X	X	X	X	X
<i>Limnodynastes dorsalis</i>	Western Banjo Frog	LC			X	X	X	X	X	X	X	X

Reptilia

Gekkonidae

Geckoes

<i>Christinus marmoratus</i>	Marbled Gecko	LC			X		X	X	X	X	X	X
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BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region. IUCN Red List Category Definitions LC = Least Concern - see Appendix A and <https://www.iucnredlist.org/resources/categories-and-criteria> for others.

Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Pygopodidae												
Legless Lizards												
<i>Aprasia repens</i>	Sandplain Worm Lizard	LC										
<i>Lialis burtonis</i>	Burton's Legless Lizard	LC			X		X	X	X	X		X
Agamidae												
Dragon Lizards												
<i>Pogona minor</i>	Western Bearded Dragon	LC			X		X	X	X	X		X
Varanidae												
Monitor's or Goanna's												
<i>Varanus gouldii</i>	Sand Monitor	LC			X		X	X				X
<i>Varanus rosenbergi</i>	Heath Monitor	LC			X		X					X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Scincidae												
Skinks												
<i>Acritoscincus trilineatum</i>	Southwestern Cool Skink	LC			X		X			X		
<i>Cryptoblepharus buchananii</i>	Buchanan's Snake-eyed Skink	LC		X	X		X			X	X	X
<i>Ctenotus fallens</i>	West Coast Ctenotus	LC						X				X
<i>Egernia kingii</i>	King's Skink	LC				X		X				X
<i>Egernia napoleonis</i>	Salmon-bellied Skink	LC			X	X	X					X
<i>Hemiergis quadrilineata</i>	Two-toed Mulch Skink	LC		X	X		X	X	X	X	X	X
<i>Lerista elegans</i>	West Coast Four-toed Lerista	LC			X		X	X	X	X	X	X
<i>Menetia greyii</i>	Dwarf Skink	LC		X	X	X	X	X	X	X		X
<i>Morethia lineocellata</i>	West Coast Pale-flecked Morethia	LC			X	X	X	X	X	X	X	X
<i>Tiliqua rugosa</i>	Bobtail	LC		X	X		X	X	X	X	X	X
Typhlopidae												
Blind Snakes												
<i>Anilius australis</i>	Southern Blind Snake	LC					X	X		X	X	
Elapidae												
Elapid Snakes												
<i>Notechis scutatus</i>	Tiger Snake	LC			X		X	X				X
<i>Pseudonaja affinis</i>	Dugite	LC			X	X	X	X				X
<i>Simoselaps bertholdi</i>	Jan's Banded Snake	LC			X			X		X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Aves												
Casuariidae Emus, Cassowaries												
<i>Dromaius novaehollandiae</i>	Emu	Bp LC			X		X					X
Phasianidae Quails, Pheasants												
<i>Coturnix pectoralis</i>	Stubble Quail	LC										X
Accipitridae Kites, Goshawks, Eagles, Harriers												
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	Bp LC									X	X
<i>Accipiter fasciatus</i>	Brown Goshawk	Bp LC				X	X	X				X
<i>Aquila audax</i>	Wedge-tailed Eagle	Bp LC			X		X	X				X
<i>Aquila morphnoides</i>	Little Eagle	Bp LC							X	X		
<i>Elanus caeruleus</i>	Black-shouldered Kite	LC				X	X		X			
<i>Haliastur sphenurus</i>	Whistling Kite	Bp LC			X		X					X
<i>Hamirostra isura</i>	Square-tailed Kite	Bp LC		X			X		X	X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Falconidae												
Falcons												
<i>Falco berigora</i>	Brown Falcon	Bp LC				X			X			X
<i>Falco cenchroides</i>	Australian Kestrel	LC			X	X	X	X	X		X	X
<i>Falco longipennis</i>	Australian Hobby	LC										X
<i>Falco peregrinus</i>	Peregrine Falcon	S7 Bp LC				X		X				X
Turnicidae												
Button-quails												
<i>Turnix varia</i>	Painted Button-quail	Bp LC			X			X		X		
Columbidae												
Pigeons, Doves												
<i>Ocyphaps lophotes</i>	Crested Pigeon	LC		X	X	X	X		X	X		X
<i>Phaps chalcoptera</i>	Common Bronzewing	Bh LC		X	X	X	X	X	X	X	X	X

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Psittacidae												
Parrots												
<i>Cacatua roseicapilla</i>	Galah	LC		X	X	X	X	X	X	X	X	X
<i>Cacatua sanguinea</i>	Little Corella	LC				X	X			X		X
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	VU Be		X	X	X	X			X		X
<i>Neophema elegans</i>	Elegant Parrot	LC			X	X	X	X				X
<i>Platycercus icterotis icterotis</i>	Western Rosella (western ssp)	Bp LC										X
<i>Platycercus spurius</i>	Red-capped Parrot	LC		X	X	X	X		X	X	X	X
<i>Platycercus zonarius</i>	Australian Ringneck	LC	X	X	X	X	X	X	X	X	X	X
<i>Polytelis anthopeplus</i>	Regent Parrot	LC			X	X	X		X		X	X
<i>Zanda baudinii</i>	Baudin's Black-Cockatoo	EN Bp					X					X
<i>Zanda latirostris</i>	Carnaby's Black-Cockatoo	EN Bp EN			X		X	X	X			X
Cuculidae												
Parasitic Cuckoos												
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	LC								X		X
<i>Chrysococcyx basalis</i>	Horsfield's Bronze Cuckoo	LC		X								
<i>Chrysococcyx lucidus</i>	Shining Bronze Cuckoo	LC			X		X	X		X		X
<i>Cuculus pallidus</i>	Pallid Cuckoo	LC				X						

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Strigidae Hawk Owls												
<i>Ninox novaeseelandiae</i>	Boobook Owl	LC			X	X	X	X	X	X	X	
Tytonidae Barn Owls												
<i>Tyto alba</i>	Barn Owl	LC										X
Podargidae Frogmouths												
<i>Podargus strigoides</i>	Tawny Frogmouth	LC					X			X		X
Aegothelidae Owlet-nightjars												
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	LC										X
Halcyonidae Tree Kingfishers												
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Introduced		X	X	X	X		X	X	X	X
<i>Todiramphus sanctus</i>	Sacred Kingfisher	LC			X	X	X			X		X
Meropidae Bee-eaters												
<i>Merops ornatus</i>	Rainbow Bee-eater	JA LC		X	X		X	X		X		X
Maluridae Fairy Wrens, GrassWrens												
<i>Malurus splendens</i>	Splendid Fairy-wren	Bh LC		X	X	X	X	X	X	X		X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Acanthizidae												
Thornbills, Geryones, Fieldwrens & Whitefaces												
<i>Acanthiza apicalis</i>	Broad-tailed Thornbill	Bh LC		X	X		X	X	X	X	X	X
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	Bh LC	X		X	X	X			X		X
<i>Acanthiza inornata</i>	Western Thornbill	Bh LC										X
<i>Gerygone fusca</i>	Western Gerygone	LC	X	X	X	X	X	X	X	X	X	X
<i>Sericornis frontalis</i>	White-browed Scrubwren	Bh LC		X	X		X	X	X	X		X
<i>Smicrornis brevirostris</i>	Weebill	Bh LC	X	X	X	X	X	X	X	X		X
Pardalotidae												
Pardalotes												
<i>Pardalotus punctatus</i>	Spotted Pardalote	LC			X	X						X
<i>Pardalotus striatus</i>	Striated Pardalote	LC		X	X	X	X	X	X	X	X	X
Meliphagidae												
Honeyeaters, Chats												
<i>Acanthorhynchus superciliosus</i>	Western Spinebill	LC		X	X	X	X				X	X
<i>Anthochaera carunculata</i>	Red Wattlebird	LC	X	X	X	X	X	X	X	X	X	X
<i>Lichenostomus virescens</i>	Singing Honeyeater	LC		X		X		X		X		
<i>Lichmera indistincta</i>	Brown Honeyeater	LC		X	X	X	X	X		X	X	X
<i>Phylidonyris nigra</i>	White-cheeked Honeyeater	Bp LC									X	
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	Bp LC		X		X	X	X	X		X	X

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Petroicidae												
Australian Robins												
<i>Eopsaltria australis</i>	Western Yellow Robin	Bh LC					X					
<i>Petroica multicolor</i>	Scarlet Robin	Bh LC		X	X		X					
Neosittidae												
Sitellas												
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Bh LC										X
Pachycephalidae												
Crested Shrike-tit, Crested Bellbird, Shrike Thrushes, Whistlers												
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	Bh LC			X	X	X	X		X		X
<i>Pachycephala pectoralis</i>	Golden Whistler	Bh LC	X	X	X		X	X	X	X		
<i>Pachycephala rufiventris</i>	Rufous Whistler	LC		X	X	X				X	X	X
Dicruridae												
Monarchs, Magpie Lark, Flycatchers, Fantails, Drongo												
<i>Grallina cyanoleuca</i>	Magpie-lark	LC			X	X	X		X	X	X	X
<i>Rhipidura fuliginosa</i>	Grey Fantail	LC	X	X	X	X	X	X	X	X	X	
<i>Rhipidura leucophrys</i>	Willie Wagtail	LC		X	X	X	X	X	X	X		X
Campephagidae												
Cuckoo-shrikes, Trillers												
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	LC		X	X	X	X	X	X	X	X	X

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Artamidae												
Woodswallows, Butcherbirds, Currawongs												
<i>Artamus cinereus</i>	Black-faced Woodswallow	Bp LC		X		X	X					X
<i>Artamus cyanopterus</i>	Dusky Woodswallow	Bp LC			X	X						X
Cracticidae												
Currawongs, Magpies & Butcherbirds												
<i>Cracticus tibicen</i>	Australian Magpie	LC	X	X	X	X	X		X	X		X
<i>Cracticus torquatus</i>	Grey Butcherbird	LC	X	X	X	X	X	X	X	X	X	X
<i>Strepera versicolor</i>	Grey Currawong	Bp LC				X	X					X
Corvidae												
Ravens, Crows												
<i>Corvus coronoides</i>	Australian Raven	LC	X	X	X	X	X	X	X	X	X	X
Motacillidae												
Old World Pipits, Wagtails												
<i>Anthus australis</i>	Australian Pipit	LC				X	X					X
Hirundinidae												
Swallows, Martins												
<i>Hirundo neoxena</i>	Welcome Swallow	LC		X	X	X	X			X	X	X
<i>Hirundo nigricans</i>	Tree Martin	LC		X	X		X		X	X	X	

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Sylviidae												
Old World Warblers												
<i>Cincloramphus cruralis</i>	Brown Songlark	LC										
<i>Cincloramphus mathewsi</i>	Rufous Songlark	LC			X	X						
Zosteropidae												
White-eyes												
<i>Zosterops lateralis</i>	Silvereye	LC		X	X	X	X	X	X	X	X	X
Mammalia												
Dasyuridae												
Carnivorous Marsupials												
<i>Phascogale tapoatafa wambenger</i>	South-western Brush-tailed Phascogale S6 NT				X		X					
Phalangeridae												
Brush-tail Possums, Cuscuses												
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	LC	X	X	X	X	X	X	X	X	X	X
Pseudocheiridae												
Ringtail Possums												
<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum	CR				X	X	X				X
Macropodidae												
Kangaroos, Wallabies												
<i>Macropus fuliginosus</i>	Western Grey Kangaroo	LC	X	X	X	X	X	X	X	X	X	X
<i>Macropus irma</i>	Western Brush Wallaby	P4 LC			X		X					X

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Molossidae												
Freetail Bats												
<i>Austronomus australis</i>	White-striped Free-tailed Bat	LC			X		X	X	X			
<i>Ozimops kitcheneri</i>	Western Free-tailed Bat	LC			X		X	X	X			
Vespertilionidae												
Ordinary Bats												
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	LC			X		X	X			X	X
<i>Chalinolobus morio</i>	Chocolate Wattled Bat	LC			X		X					
<i>Falsistrellus mackenziei</i>	Western False Pipistrelle	P4 NT			X		X					X
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	LC			X		X					X
<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat	LC			X							X
<i>Nyctophilus major major</i>	Western Long-eared Bat	LC			X		X				X	
<i>Vespadelus regulus</i>	Southern Forest Bat	LC			X		X		X		X	X
Muridae												
Rats, Mice												
<i>Mus musculus</i>	House Mouse	Introduced			X			X	X	X	X	X
<i>Rattus rattus</i>	Black Rat	Introduced			X							X
Canidae												
Dogs, Foxes												
<i>Vulpes vulpes</i>	Red Fox	Introduced	X	X	X	X	X	X	X	X	X	X

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region. IUCN Red List Category Definitions LC = Least Concern - see Appendix A and <https://www.iucnredlist.org/resources/categories-and-criteria> for others.

Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
Felidae												
Cats												
<i>Felis catus</i>	Cat	Introduced			X	X	X		X	X	X	X
Suidae												
Pigs												
<i>Sus scrofa</i>	Pig	Introduced		X	X		X					X
Leporidae												
Rabbits, Hares												
<i>Oryctolagus cuniculus</i>	Rabbit	Introduced	X	X	X	X	X	X	X	X	X	X

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region. IUCN Red List Category Definitions LC = Least Concern - see Appendix A and <https://www.iucnredlist.org/resources/categories-and-criteria> for others.

APPENDIX B

CONSERVATION CATEGORIES

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
Threatened Fauna Categories

Threatened fauna may be listed under Section 178 of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* in any one of the following categories:

Category	Code	Description
Extinct	E	There is no reasonable doubt that the last member of the species has died.
*Extinct in the wild	EW	A species (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
*Critically Endangered	CR	A species is facing an extremely high risk of extinction in the wild in the immediate future.
*Endangered	EN	A species: (a) is not critically endangered; and (b) is facing a very high risk of extinction in the wild in the near future.
*Vulnerable	VU	A species (a) is not critically endangered or endangered; and (b) is facing a high risk of extinction in the wild in the medium-term future.
Conservation Dependent	CD	A species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered
*Migratory	Mig	(a) all migratory species that are: (i) native species; and (ii) from time to time included in the appendices to the Bonn Convention; and (b) all migratory species from time to time included in annexes established under JAMBA, CAMBA and ROKAMBA; and (c) all native species from time to time identified in a list established under, or an instrument made under, an international agreement approved by the Minister.
Marine	Ma	Species in the list established under s248 of the <i>EPBC Act</i>

Note: Only species in those categories marked with an asterisk are matters of national environmental significance (NES) under the *EPBC Act*.

**Biodiversity Conservation Act 2016 (BC Act)
Specially Protected Fauna Categories**

Biodiversity Conservation (Listing of Native Species) (Fauna) Order 2022, made by the Minister under sections 13(1), 19(1) and 23(1) of the Act and regulation 174(1) of the Biodiversity Conservation Regulations 2018

Threatened Species		
Category	Code	Description
Critically Endangered species	CR	Species 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
Endangered species	EN	Species 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.
Vulnerable species	VU	Species 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.
Presumed extinct species	EX	Species where there is no reasonable doubt that the last member of the species has died.
Extinct in the wild species	EW	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 from.
Specially Protected Species		
Category	Code	Description
Migratory Species	Mig	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 <i>BC Act</i>)
Species of special conservation interest (conservation dependent)	CD	Species of special conservation need that are 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 <i>BC Act</i>).
Species otherwise in need of special protection (other specially protected).	OS	Species otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the <i>BC Act</i>).

Priority Species*		
Category	Code	Description
Priority 1 (P1) Poorly Known Species.	P1	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, for example, 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 for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.
Priority 2 (P2) Poorly Known Species.	P2	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, for example, 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 for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.
Priority 3 (P3) Poorly Known Species.	P3	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. These species need further survey.
Priority 4 (P4) Rare, Near Threatened and other species in need of monitoring.	P4	(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.

*Priority is not a listing category under the BC Act.

All fauna and flora are protected in WA following the provisions in Part 10 of the *BC Act*. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land). Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey 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 prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened. Species that are adequately known, meet criteria for near threatened, or are rare but not threatened, or that have been recently removed from the threatened species list or conservation dependent or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of priority status 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.

IUCN Red List Threatened Species Categories

The *IUCN Red List of Threatened Species*[™] is a checklist of taxa that have undergone an extinction risk assessment using the *IUCN Red List Categories and Criteria*.

Categories are summarized below.

Category	Code	Description
Extinct	EX	Taxa for which there is no reasonable doubt that the last individual has died.
Extinct in the Wild	EW	Taxa which is known only to survive in cultivation, in captivity or and as a naturalised population well outside its past range and it has not been recorded in known or expected habitat despite exhaustive survey over a time frame appropriate to its life cycle and form.
Critically Endangered	CR	Taxa facing an extremely high risk of extinction in the wild.
Endangered	EN	Taxa facing a very high risk of extinction in the wild.
Vulnerable	VU	Taxa facing a high risk of extinction in the wild.
Near Threatened	NT	Taxa which has been evaluated but does not qualify for CR, EN or VU now but is close to qualifying or likely to qualify in the near future.
Least Concern	LC	Taxa which has been evaluated but does not qualify for CR, EN, VU, or NT but is likely to qualify for NT in the near future.
Data Deficient	DD	Taxa for which there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status.
Not Evaluated	NE	Taxa which has not been evaluated.

A full list of categories and their meanings are available at:

<https://www.iucnredlist.org/resources/categories-and-criteria>

APPENDIX C

DBCA WRP CLEARING PROTOCOLS



PROCEDURES TO MINIMISE THE RISK TO WESTERN RINGTAIL POSSUMS DURING VEGETATION CLEARING AND BUILDING DEMOLITION

IMPORTANT: Contact Dept. of Parks and Wildlife Busselton on 9752 5555 prior to clearing commencing.

These procedures are generally for development activities that occur on smaller lots (<2ha). The clearing of vegetation on larger lots should be discussed with Parks and Wildlife.

Identify trees to be retained

Clearing of native vegetation within the proposed development site should avoid any unnecessary clearing of trees. Trees retained within the development site, proposed Public Open Space and within road verges provide valuable habitat for WRP. Trees to be retained should be marked so that they are clearly recognised by clearing contractors.

Suitable expertise on-site

A suitably experienced zoologist or WRP rehabilitator ('possum spotter') should be onsite when clearing is being undertaken, that is, during the entire duration of the clearing. The 'possum spotter' is to provide advice and direction to contractors undertaking the clearing in relation to WRP matters. The contract manager or supervisor is the person responsible for all work undertaken and the safety of all personnel on site at all times.

It is suggested that the 'possum spotter' attend the site the day before clearing commences to be familiar with the location of any WRP and dreys. A person who is required to handle WRP during a clearing event that is part of development proposal should hold a Regulation 17 (scientific) licence.

Advice to clearing contractors

Prior to clearing, clearing contractors should be properly inducted by the 'possum spotter' about the identification and protection of trees to be retained, trees to be cleared and about the likely presence of WRP among trees and other vegetation that will be cleared. No dogs should be taken on the site.

Tree removal

The 'possum spotter' with the clearing supervisor is to inspect all trees to be removed and agree on a process and timetable for clearing. Trees that have WRP currently in them may need to be left for a subsequent day when the tree may be vacant. Where possible clearing should be undertaken in a systematic manner that minimises disruption to WRP. If there is suitable habitat adjoining the development site, a clearing pattern that encourages the movement of WRP to this habitat should be adopted.

In moderate or high-density sites, if a machine operator sees a WRP in a tree that is about to be cleared, trees should be bumped or shaken firstly. Following this the machine operator should wait and observe the tree for a short time. If present, the shaking of the tree may cause any WRP and other fauna to move and, hopefully, opportunity to safely evacuate. It would also increase the chance that the machine operator will see the animal/s prior to pushing down the tree.

In the event that a WRP is observed in a tree that is about to be cleared and there is a tree marked for retention near the tree which is to be cleared, then the tree should be gently lowered to the ground to give the animal opportunity to safely evacuate. The animal/s then need to be encouraged to move towards and occupy the trees to be retained.

If there are no trees to be retained within proximity of a tree that has a WRP and needs to be cleared, then the WRP can be removed by the 'possum spotter' using an elevated platform or by lowering the tree to the ground. The WRP is to be relocated to the nearest suitable habitat.



Dreys should be inspected prior to clearing and possibly removed. Dreys that remain in the tree during clearing have to be checked as soon as possible as baby WRP may remain in the drey.

Clearing should be undertaken on a face so as to drive WRP towards suitable habitat.

Services

The proponent will need to identify where underground services are to be installed and to ensure any detrimental impact from these services is minimised.

Understorey vegetation

There will always be a possibility that WRP, Southern Brown Bandicoots, etc, will be found in under and midstorey vegetation. Care needs to be taken when clearing this vegetation with a check to be undertaken by foot prior to machines entering the areas and clearing this vegetation.

Injured WRP

If contractors encounter injured WRP during clearing operations, then the 'possum spotter' needs to be notified immediately so that arrangements can be made for the welfare of the injured animal.

Stockpile practices

Contractors need to be made aware that displaced WRP may shelter within stockpiled vegetation. Therefore, to minimise any accidental injury or death of WRP, personnel involved in the removal or disposal of stockpiles need to be made aware of and be prepared for the potential presence of WRP. If WRP are encountered then Parks and Wildlife needs to be immediately notified. Any dreys in fallen trees are to be removed prior to stockpiling as WRP have been known to return to their dreys/trees.

The preference is that vegetation is not stockpiled but removed on the same day clearing occurs. If vegetation is to be stockpiled on-site, then it is preferable to place it in cleared areas as far as possible from retained remnant vegetation. Chipping of removed debris is to be undertaken away from retained habitat to minimise the noise impacts on WRP.

In large clearing events where chipping will be undertaken over a number of days, it is preferred that the chipper remains in one position and vegetation is brought to the chipper as opposed to the chipper moving through the site. This is to consolidate the noise impacts in one area of the development site.

Buildings

Site workers are to be advised about the potential presence of WRP in derelict buildings and to stage works to minimise potential injuries to WRP during demolition works. Prior to clearing works commencing, the roof and ceilings on derelict buildings should be removed prior to demolition to allow for dispersal of WRP. Parks and Wildlife should be immediately notified of any WRP that may be inadvertently injured during demolition works.

There is a risk to WRP if rat or mouse baiting is undertaken prior to demolition. Appropriate methods of baiting need to be engaged if rats or mice are to be controlled prior to demolition. One method is to place the poison out of WRP reach, inside poly pipe secured to a beam in the roof space. The pipe should be about 1m long and no greater than 50mm in diameter. Another method is to place a plastic ice-cream container upside down over rate poison with small arches cut into the side of the container. The arches should be a maximum height and width of about 50mm and the container secured to a rafter.

Post Clearing Reporting

The proponent is to provide **Parks and Wildlife** with a report on the impact on WRP during the habitat removal process within 28 days of completion of vegetation clearing or building demolition works.

APPENDIX D

DBCA POST CLEARING REPORT FORM

POST CLEARING REPORT

Site Location:

Name of Owner/Developer:

Contact No.:

Name of Zoologist/WRP carer:

Contact No.:

Regulation 28 Licence:

Section 40 Ministerial Authorization:

Date and times clearing was undertaken:

Name of clearing contractor:

Contact No.:

Number of WRP observed/relocated:

Location where WRP were relocated:

Number of WRP dreys observed/removed:

Number of WRP injured/killed:

Number of other fauna observed/relocated:

Location where other fauna were relocated:

Name of rehabilitator/Vet who holds injured fauna:

Contact No.:

Were the management/mitigation plan objectives met?: YES / NO

If NO, what was the reason(s):

Other comments:

Name of person completing this form:

Contact No.:

Signature: _____ Date:



DISCLAIMER

This report (“the report”) has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Greg Harewood (“the Author”). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. In accordance with the scope of services, the Author has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

The conclusions are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of preparing the report. Also it should be recognised that site conditions, can change with time.

Within the limitations imposed by the scope of services, the field assessment and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

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