2020 MT HOLLAND CHUDITCH MONITORING

Covalent Lithium

ecoscape

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ACKNOWLEDGEMENTS

Ecoscape would like to acknowledge the assistance and support we received from both the Covalent head office staff and the staff on-site who made us welcome and provided logistical support where needed. We look forward to returning for the next years monitoring.

SUMMARY

Ecoscape was engaged to provide the following services for the project:

- undertake and complete Chuditch monitoring, specifically:
  - establish and monitor three control sites more than five kilometres outside of the development envelope
  - establish and monitor three impact sites within the development envelope
- record all Chuditch captures in a monitoring database including morphometrics; location of capture; health status and breeding status (e.g. number of pouch young; lactation etc.)
- undertake monitoring within the Chuditch breeding season (May to July).

The results of the 2020 Mt Holland Chuditch monitoring has provided data that can be used to compare future monitoring results for the Covalent Lithium Mt Holland Project site

One female Chuditch was recorded during the 2020 survey at control site 58. Mitchell's Hopping-mouse (*Notomys mitchelli*) was also recorded from both the control and impact sites.

The 2020 Chuditch monitoring was the second annual monitoring survey undertaken during the Chuditch breeding season.

Ongoing monitoring of the Chuditch population within and outside of the development envelope should consider the following actions:

- continue monitoring in June 2021
- consider increasing trap nights from four nights to six nights.

1 INTRODUCTION

1.1 PROJECT PURPOSE

Covalent Lithium is developing the Mt Holland Lithium Project which will include the construction and operation of a fully integrated mine, concentrator, and refinery in Western Australia. The Mount Holland Lithium Project (the project) is an integrated project consisting of a mine, concentrator, and refinery to produce battery quality lithium hydroxide (LiOH) for the international market. The project is centred on the Earl Grey hard-rock lithium deposit 105 km south of Southern Cross in Western Australia and approximately 500 km east of Perth (Figure 1). It is owned by a 50-50 joint venture (JV) between subsidiaries of Wesfarmers Pty Ltd (WES:ASX) and Sociedad Química y Minera de Chile S.A. (SQM: NYSE). Covalent is the manager for the JV and is responsible for the development and operation of the project.

The survey area intersects with habitat of two conservation significant fauna species, the Malleefowl *(Leipoa ocellata*) and the Chuditch (*Dasyurus geoffroii*). Both species are listed as vulnerable (VU) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Western Australian *Biodiversity Conservation Act 2016* and are considered as Matters of National Environmental Significance (MNES).

The purpose of the project is to continue Chuditch monitoring prior to, during, and post construction of the mine and associated infrastructure, to determine Chuditch population density or abundance and determine their distribution in the local region.

1.1.1 PROJECT SCOPE

The project scope was to undertake a monitoring program for the Chuditch using a before-after control-impact (BACI) design adapted to Chuditch ecology through consultation with the Department of Biodiversity Conservation and Attractions (DBCA).

Ecoscape was engaged to provide the following services for the project:

- undertake and complete Chuditch monitoring for 2020, specifically:
  - establish and monitor three control sites more than five kilometres outside of the development envelope
  - establish and monitor three impact sites within the development envelope
- record all Chuditch captures in a monitoring database including morphometrics; location of capture; health status and breeding status (e.g. number of pouch young; lactation etc.)
- undertake monitoring within the Chuditch breeding season (May to July).

1.2 SURVEY AREA

1.2.1 REGIONAL LOCATION

The survey area is located in the Shire of Yilgarn in the Goldfields region of Western Australia, about 100km south of Southern Cross. The development envelope is within the Great Western Woodlands (GWW) and is approximately 1,984 hectares in extent (Figure 1). The GWW is a 16 million hectare area extending from the wheatbelt to the edge of the deserts and is the largest intact area of Mediterranean Woodland on earth (DEC 2010). The GWW includes open eucalypt woodlands (63%), Mallee eucalypt woodlands, shrublands and grasslands (Fox *et al*. 2016). Less common habitats in the GWW include granite outcrops, banded ironstone formations, salt lakes and freshwater wetlands (Fox *et al*. 2016).

The Development envelope is in the Southern Cross Subregion of the Coolgardie Bioregion of the Interim Biogeographic Regionalism for Australia (IBRA) classification system (Department of Agriculture Water and the Environment 2020). The dominant land-uses in this bioregion are Crown Reserves and Unallocated Crown Land (66.7%), grazing on native pastures (17%), conservation (11.5%) and dryland agriculture (2.3%) (Cowan *et al*. 2001; Cowan 2001). The greenstone hills, alluvial valleys and broad plains of calcareous earths support diverse eucalypt woodlands. The uplands support Mallee woodlands and scrub-heaths on sandplains, gravelly sandplains, and lateritic breakaways. Chains of salt lakes with dwarf shrublands of samphire occur in the valleys (Cowan *et al*. 2001).

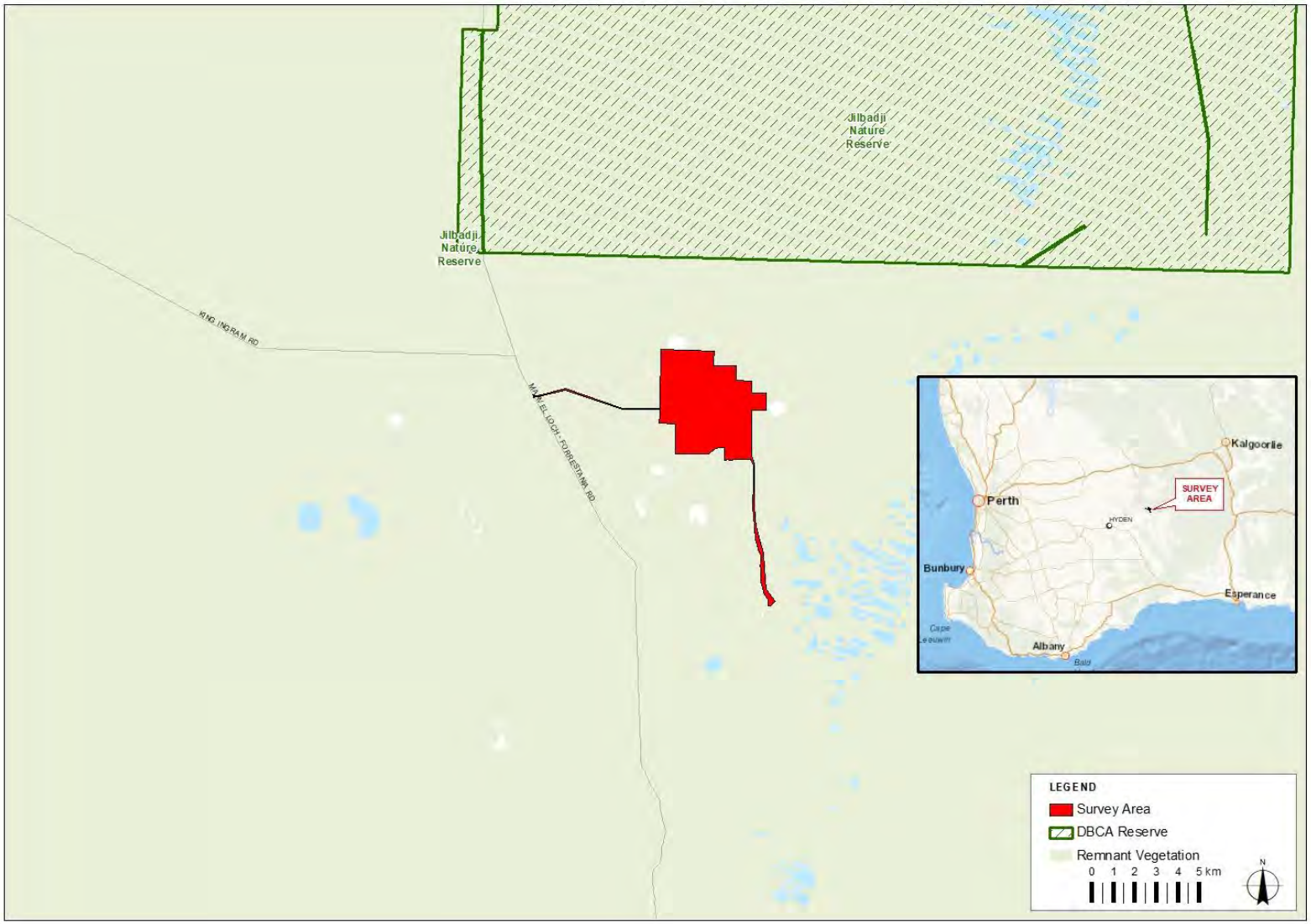


Figure 1: Project Location

1.3 STATUTORY AND TECHNICAL FRAMEWORK

The requirements of the monitoring program were as follows:

- be conducted in accordance with current statutory and technical requirements and guidance;
  - Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
  - Department of Sustainability Environment Water Population and Communities (DSEWPaC 2011) *Survey guidelines for Australia's threatened mammals*
  - Western Australian *Environmental Protection Act 1986* (EP Act)
  - Western Australian *Biodiversity Conservation Act 2016* (BC Act)
  - Environmental Protection Authority (EPA) - *Technical Guidance - Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020)
- Follow DBCA Standard Operating Procedures;
  - cage traps for live capture of terrestrial vertebrates (DBCA 2018)
  - Permanent marking of vertebrates using microchips (DEC 2009)
- be conducted by personnel complying with regulatory expectations in relation to holding the necessary DBCA Fauna License and years of experience.

1.3.1 COMMONWEALTH ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

At a Commonwealth level, threatened taxa (flora and fauna) are protected under the EPBC Act, which lists species that are considered Critically Endangered, Endangered, Vulnerable, Conservation Dependant, Extinct, or Extinct in the Wild (detailed in **Table 3** in Error! Reference source not found.).

1.3.2 WESTERN AUSTRALIAN ENVIRONMENTAL PROTECTION ACT 1986

The Western Australian EP Act was created to provide for an EPA that has the responsibility for:

- prevention, control and abatement of pollution and environmental harm
- conservation, preservation, protection, enhancement, and management of the environment
- matters incidental to or connected with the above.

The EPA is responsible for providing the guidance and policy under which environmental assessments are conducted. It conducts environmental impact assessments (based on the information included in environmental assessments and provided by the proponent), initiates measures to protect the environment and provides advice to the Minister responsible for environmental matters.

1.3.3 WESTERN AUSTRALIAN BIODIVERSITY CONSERVATION ACT 2016

The Western Australian BC Act provides for the conservation, protection and ecologically sustainable use of biodiversity and biodiversity components in Western Australia. It commenced on 1 January 2019.

Threatened species (both flora and fauna) and ecological communities that meet the categories listed within the BC Act are highly protected and require authorisation by the Minister to take or disturb. These are known as Threatened Flora, Threatened Fauna and Threatened Ecological Communities. The conservation categories of Critically Endangered, Endangered and Vulnerable have been aligned with those detailed in the EPBC Act and are detailed in **Table 4** in **Appendix One**.

Flora and fauna species may be listed as being of special conservation interest if they have a naturally low population, restricted natural range, are subject to or recovering from a significant population decline or reduction of range or are of special interest, and the Minister considers that taking may result in depletion of

the species. Migratory species and those subject to international agreements are also listed under the Act. These are known as specially protected species in the BC Act.

The most recent flora and fauna listings were published in the Government Gazette on 11 September 2018 (Government of Western Australia 2018).

1.3.4 WESTERN AUSTRALIAN PRIORITY FAUNA

Conservation significant fauna species are listed by the DBCA as Priority Fauna where populations are geographically restricted or threatened by local processes, or where there is insufficient information to formally assign them to threatened fauna categories. Whilst Priority Fauna are not specifically listed in the BC Act, these have a greater level of significance than other native species. The categories covering Priority Fauna species are outlined in **Table 4** in **Appendix One**.

2 METHOD

2.1 FIELD SURVEY

The field survey for the 2020 Chuditch monitoring program was undertaken by Ecoscape zoologists Bruce Turner and Hugh Osborn under DBCA Wildlife Licensing Fauna License No. BA27000085-3. The survey was conducted from 15 to 23 June 2020.

2.1.1 SURVEY DESIGN

The design of the survey was developed in conjunction with DBCA expert Dr Keith Morris and included the following elements:

- monitoring to have a BACI design element to enable potential impacts to be measured
- two sites to be established; control site and impact site
  - control site to be more than 5 km from development envelope boundary and close to 2017 capture sites if possible
  - impact site to be within the development envelope and outside of the infrastructure footprint
- each site is to consist of three grids or transects of 10 traps each with traps to be spaced 200 m apart within a grid
- traps to be in operation for a minimum of four nights
- trap effort for each of the control and impact sites will be 10 traps x 3 grids x 4 nights = 120 trap nights.

DBCA stipulated that bait must be suspended above the ground in an effort to reduce the build-up of ants that may cause injury to any captures. Ecoscape proposed a bait cage and wire trace technique which was endorsed by DBCA (**Image 1**).

Image 1: Bait cage inside trap

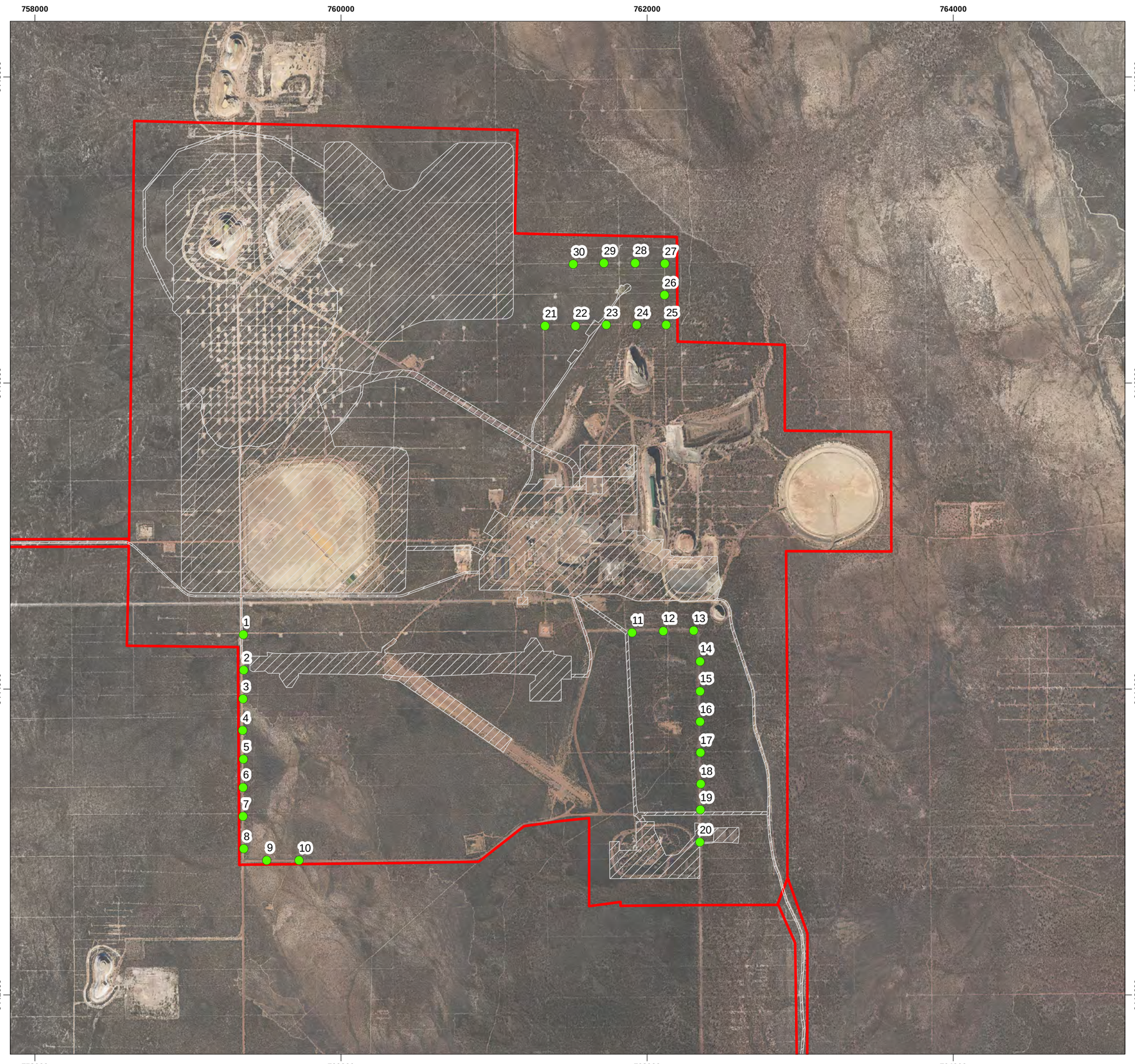
2.1.2 SITE SELECTION

The impact site was restricted to areas within the development envelope that were not planned to be cleared for the proposed mine and associated infrastructure and in areas where Chuditch were captured in 2017. Three areas were selected in 2019 by desktop investigation (**Map 1**).

The control site was also preselected by desktop investigation using the 2017 trapped Chuditch locations and placing a 5 km buffer around the development envelope. The location of the 2019 control site was relocated close to the original 2017 transect approximately five km north of the Earl Grey mine pit for this 2020 monitoring survey (**Map 2**).

2.2 DATA ANALYSIS

The intention is to analyse capture date to provide a population density estimate using a standard mark and recapture method as that performed by Rayner *et al* (2011). Data collected in the field is entered into the MARK software (White 2014) that completes an iteration process to provide an estimate of population density based on information entered by the user.



LEGEND

- 2020 Impact Trap Sites
- Proposed Disturbance Footprint
- Development Envelope

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IMPACT TRAP LOCATIONS

COVALENT FAUNA MONITORING 2020

COVALENT

DATA SOURCES:
SOURCE DATA: TRAP SITES (ECOSCAPE, 2019)
AERIAL: MOUNT HOLLAND MOSAIC (COVALENT, 2019)
BASEMAP: GEOSCIENCE AUSTRALIA
SERVICE LAYERS:

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

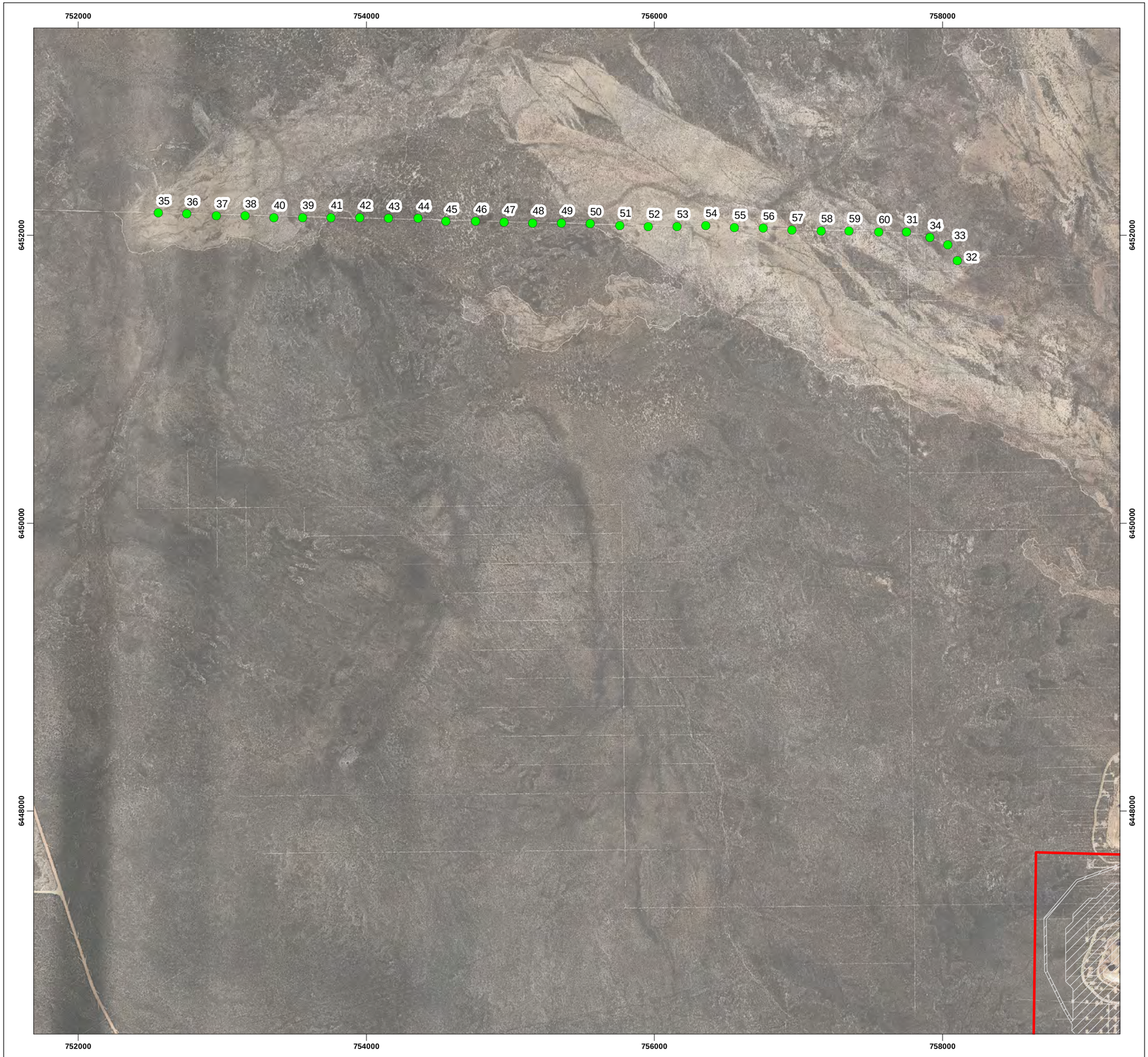
SCALE: 1:25,000 @ A3

0 0.2 0.4 0.6 0.8 1 km

PROJECT NO: 4451-19

REV	AUTHOR	APPROVED	DATE
00	BT	SB	23/07/2020

MAP 01



LEGEND

- 2020 Control Trap Sites
- Prposed Disturbance Footprint
- Development Envelope

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CONTROL TRAP LOCATIONS

COVALENT FAUNA MONITORING 2020

COVALENT

DATA SOURCES:
SOURCE DATA: TRAP SITES (ECOSCAPE, 2019)
AERIAL: MOUNT HOLLAND MOSAIC (COVALENT, 2019)
BASEMAP: GEOSCIENCE AUSTRALIA
SERVICE LAYERS:

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

N

SCALE: 1:25,888 @ A3

0 0.2 0.4 0.6 0.8 1 km

PROJECT NO: 4538-20

REV	AUTHOR	APPROVED	DATE
00	BT	SB	23/07/2020

MAP 02

3 RESULTS

3.1 MONITORING SITES

The field teams established two monitoring sites to capture and record data on the target species Chuditch (*Dasyurus geoffroii*). An impact site (**Map 1**) was established within the development envelope and a control site was established within five km to the north west of the impact site (**Map 2**).

Impact trap locations were modified slightly from the 2019 monitoring to increase the collection areas by stretching out the grids into longer lines, the trap lines remained in the general areas as for the 2019 monitoring (**Map 1**).

Monitoring sites were comprised of three lines of 10 wire cage traps totalling 30 traps spaced at 200 m at the impact site and one line of 30 traps spaced at 200 m at the Control site. Traps were set for a total of four nights giving a total of 120 trap nights/site. Traps were baited with a universal bait mix with added sardines to attract Chuditch in a suspended bait cage. Traps were checked each morning within three hours of sunrise. Trap locations are listed in **Table 5** and **Table 6** in **Appendix Two**.

Weather conditions were cold mornings and cool days with early morning fog, there was one night of rain showers. Traps were covered with hessian bags to provide shelter.

3.2 CHUDITCH CAPTURES

No captures were recorded at the impact site for the entire monitoring event.

There was one capture of a female Chuditch (**Image 2**) on 22 June at control site trap 58 (**Table 1**). No other impact or control site traps recorded Chuditch. The single capture over 120 trap nights gave a low trap success result of 0.83% (1 capture / 120 trap nights (30 traps open for four nights)). Trap success for combined impact and control sites, including all species was also low at 3.33% (8 captures / 240 trap nights).

The capture was weighed, measured, and tagged with a Passive Implant Transponder (PIT) tag (**Table 1**). The female did not have pouch young. The animal was in good condition with no recorded bite marks or parasites and did not exhibit any previous capture marks or tags. Tissue samples taken from the capture were preserved in ethanol and labelled for subsequent delivery to the DBCA DNA database team.

Table 1: Chuditch capture results

Characteristic	Result
Site ID	Control
Trap ID	58
Date	22/06/2020
Species	*Dasyurus geoffroii*
Sex	Female
PIT No.	941000022848316
Trap type	wire cage
Weight (g)	600
Pes (mm)	52.8
Head length (mm)	72.35
Reproductive status	No pouch young
Comments	good condition; no bite marks or parasites; no previous PIT tag or ear notches/tattoos

Image 2: Female Chuditch captured at Control site 58 (Map 2)

Map 2 shows the location of the capture site (58) which is at the eastern end of the trap line. Habitat at this site was Mallee woodland on plains (**Image 3**).

Image 3: Typical habitat at Control Site 58

3.2.1 OTHER SPECIES

The nontarget species list is shown in **Table 2**. The captures of Mitchell's Hopping-mouse indicate a healthy ecosystem is present. The presence of these species, which are prey for introduced predators suggests a low abundance of Fox and Feral Cat.

Table 2: Fauna species captures

Species	Common name	Site ID	Trap ID	Date
Notomys mitchellii	Mitchell's Hopping-mouse	Impact	8	21/06/2020
Drymodes brunneopygia	Southern Scrub Robin	Impact	11	20/06/2020
Drymodes brunneopygia	Southern Scrub Robin	Impact	11	21/06/2020
Notomys mitchellii	Mitchell's Hopping-mouse	Impact	20	21/06/2020
Notomys mitchellii	Mitchell's Hopping-mouse	Impact	23	19/06/2020
Cracticus torquatus	Grey Butcherbird	Impact	24	20/06/2020
Notomys mitchellii	Mitchell's Hopping-mouse	Control	35	22/06/2020

Habitat quality within the development envelope was considered to be in very good condition with the impact sites trapping grids being located across the habitat types present. Habitat quality at the control sites varied from very good to moderate, the moderate sites were regenerating from fire disturbance approximately 4-5 years previous.

3.3 DATA ANALYSIS

No analysis was able to be performed as there was only a single Chuditch capture recorded. Combined results for 2019 and 2020 are one female capture at each site over the 12 months of monitoring.

4 DISCUSSION AND RECOMMENDATIONS

4.1 CHUDITCH POPULATION

The results of the 2020 Mt Holland Chuditch monitoring has provided data that can be used to compare future monitoring results for the Covalent Lithium Mt Holland Project site. It is not possible to estimate a population abundance with only two captures in the 12 months from 2019 to 2020.

The timing of the 2020 monitoring was optimal to monitor for the breeding adult population. However, the increase in collection area by stretching the impact site grids out into longer lines did not result in an increase in captures. Increasing the number of trap nights may provide more captures and this is recommended for the 2021 monitoring.

The impact site traps did not record any captures of Chuditch. This is not consistent with the 2019 monitoring of one capture within the impact sites.

4.2 RECOMMENDATIONS ADOPTED FROM 2019 CHUDITCH MONITORING

With the conclusion of the 2019 monitoring a number of recommendations were made:

- establish a new control site closer to the development envelope that will replace the 2019 control site
- continue monitoring in June 2020
- consider increasing trap numbers to 12 per grid
- consider increasing trap nights to six
- investigate possible use of independent trail camera arrays to provide additional information on Chuditch presence and introduced predators away from established monitoring trap sites.

Two aspects were adopted for the 2020 Chuditch monitoring.

1. A new control site was established closer to the development envelope and Chuditch captures from 2017. This had the desired effect of recording a capture at the control site however only one capture was returned.
2. The spacing of the grids within the development envelope was increased to cover a wider area in an effort to increase the capture numbers.

4.3 RECOMMENDATIONS FOR 2021 MONITORING

For the 2021 monitoring to potentially increase the number of Chuditch captures the following recommendation is suggested:

- Increase the number of trap nights from four to six at each site, this will increase the number of trap nights from 120 trap nights /site to 180 trap nights/site.

Increasing the number of traps was considered to be in conflict with animal welfare concerns around clearing traps in a timely manner as per DBCA Standard Operating Procedures (DBCA 2018). The use of trail cameras was also considered although individual animals cannot be positively identified. However, trail cameras can provide evidence of presence and will be considered for deployment in 2021.

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APPENDIX ONE DEFINITIONS AND CRITERIA

Table 3: EPBC Act categories for flora and fauna

***EPBC ACT 1999* category**	**Definition**
Extinct	A native species is eligible to be included in the extinct category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
Extinct in the wild	A native species is eligible to be included in the extinct in the wild category at a particular time if, at that time: (a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) it 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 (CE)	A native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
Endangered (EN)	A native species is eligible to be included in the endangered category at a particular time if, at that time: (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Vulnerable (VU)	A native species is eligible to be included in the vulnerable category at a particular time if, at that time: (a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium term future, as determined in accordance with the prescribed criteria.
Conservation Dependent	A native species is eligible to be included in the conservation dependent category at a particular time if, at that time: (a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or (b) the following subparagraphs are satisfied: (i) the species is a species of fish; (ii) the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised; (iii) the plan of management is in force under a law of the Commonwealth or of a State or Territory; (iv) cessation of the plan of management would adversely affect the conservation status of the species.

Table 4: Conservation codes for Western Australian flora and fauna (DBCA 2019)

Conservation Codes for Western Australian Flora and Fauna	
Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such. **The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.** Categories of Threatened, Extinct and Specially Protected fauna and flora are:	
T	**Threatened species** Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act). Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna. Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora. The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.
CR	**Critically endangered species** Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as critically endangered undersection 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.
EN	**Endangered species** Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.
VU	**Vulnerable species** Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*". Listed as vulnerable undersection 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.
Extinct species Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.	
EX	**Extinct species** Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act). Published as presumed extinct under schedule 4of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.
EW	Extinct in the wild species Species that "*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25of the BC Act). Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Conservation Codes for Western Australian Flora and Fauna	
Specially protected species Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.	
MI	**Migratory species** Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15of the BC Act). Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species. Published as migratory birds protected under an international agreement under schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice 2018.
CD	**Species of special conservation interest (conservation dependent fauna)** Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14of the BC Act). Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
OS	**Other specially protected species** Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18of the BC Act). Published as other specially protected fauna under schedule 7of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
P	**Priority species** Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.
1	**Priority 1: Poorly-known species** Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
2	**Priority 2: Poorly-known species** Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

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3	**Priority 3: Poorly-known species** Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
4	**Priority 4: Rare, Near Threatened and other species in need of monitoring** (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
[1] The definition of flora includes algae, fungi and lichens. [2] Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).	

APPENDIX TWO TRAPPING SITE DETAILS

Table 5: Locations of impact trap sites

Site Type	Trap Number	Easting	Northing
Impact Sites	1	759360.363	6444352.637
	2	759363.040	6444154.600
	3	759368.392	6443951.210
	4	759363.040	6443761.202
	5	759368.392	6443552.460
	6	759368.392	6443359.776
	7	759363.040	6443151.034
	8	759368.392	6442950.321
	9	759541.005	6442885.424
	10	759741.718	6442882.748
	11	761901.391	6444368.025
	12	762104.780	6444378.729
	13	762302.817	6444381.405
	14	762345.636	6444180.692
	15	762345.636	6443985.332
	16	762345.636	6443784.618
	17	762348.312	6443583.905
	18	762350.988	6443380.516
	19	762348.312	6443209.241
	20	762554.378	6443206.565
	21	761331.366	6446371.141
	22	761532.079	6446372.479
	23	761731.454	6446376.494
	24	761930.829	6446376.494
	25	762123.514	6446376.494
	26	762114.147	6446574.530
	27	762115.485	6446776.582
	28	761920.124	6446783.272
	29	761716.735	6446780.596
	30	761516.022	6446775.244

Table 6: Locations of control trap sites

Site Type	Trap Number	Easting	Northing
Control Sites	31	757750.215	6452023.916
	32	758103.354	6451823.234
	33	758038.015	6451933.687
	34	757912.005	6451983.468
	35	752554.257	6452154.593
	36	752753.384	6452148.370
	37	752958.733	6452135.924
	38	753157.859	6452135.924
	39	753556.113	6452123.479
	40	753356.986	6452123.479
	41	753755.239	6452123.479
	42	753954.366	6452123.479
	43	754153.492	6452117.256
	44	754358.841	6452117.256
	45	754551.745	6452098.588
	46	754757.094	6452098.588
	47	754956.221	6452092.366
	48	755155.348	6452086.143
	49	755354.474	6452086.143
	50	755553.601	6452079.920
	51	755758.950	6452067.475
	52	755958.076	6452061.252
	53	756157.203	6452061.252
	54	756356.329	6452067.475
	55	756555.456	6452055.029
	56	756754.583	6452048.807
	57	756953.709	6452036.361
	58	757159.058	6452030.138
	59	757351.962	6452030.138
	60	757557.311	6452023.916