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Short-range endemic invertebrate fauna consolidation report

Eliwana Iron Ore Mine and Railway Projects

Prepared for Fortescue Metals Group Ltd

June 2018

FINAL

Short-range endemic invertebrate fauna consolidation report for the Eliwana Iron Ore Mine and Railway Projects

Prepared for Fortescue Metals Group Ltd

FINAL

Submitted to: Matt Dowling

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

Fortescue Metals Group Ltd (Fortescue) is proposing to develop the Eliwana Iron Ore Mine (Eliwana Mine) in the Pilbara region of Western Australia. The Eliwana Mine Project Area is located approximately 90 km west-northwest of Tom Price (Figure 1-1). The Eliwana Mine Project includes a 8,559 ha proposed disturbance footprint (mine footprint) within the Mine Development Envelope (MDE; Figure 1-1).

To facilitate the Eliwana Mine, Fortescue is proposing to build a 120 km railway linking the existing Solomon Iron Ore Mine with the proposed Eliwana Mine. The Eliwana Railway Project (Eliwana Rail) includes a 3,690 ha proposed disturbance footprint (rail footprint) within the Rail Development Envelope (RDE; Figure 1-1).

The eastern end of the RDE is located approximately 4 km west of the Karijini National Park boundary, which is the closest conservation reserve to the project (Figure 1-1).

The Eliwana Mine and Rail Projects were referred to the Environmental Protection Authority (EPA) on 7 July 2017. The EPA set the level of assessment for both projects at Public Environmental Review (PER). Terrestrial fauna was identified as a preliminary key environmental factor for both projects.

1.2 PURPOSE OF THIS REPORT

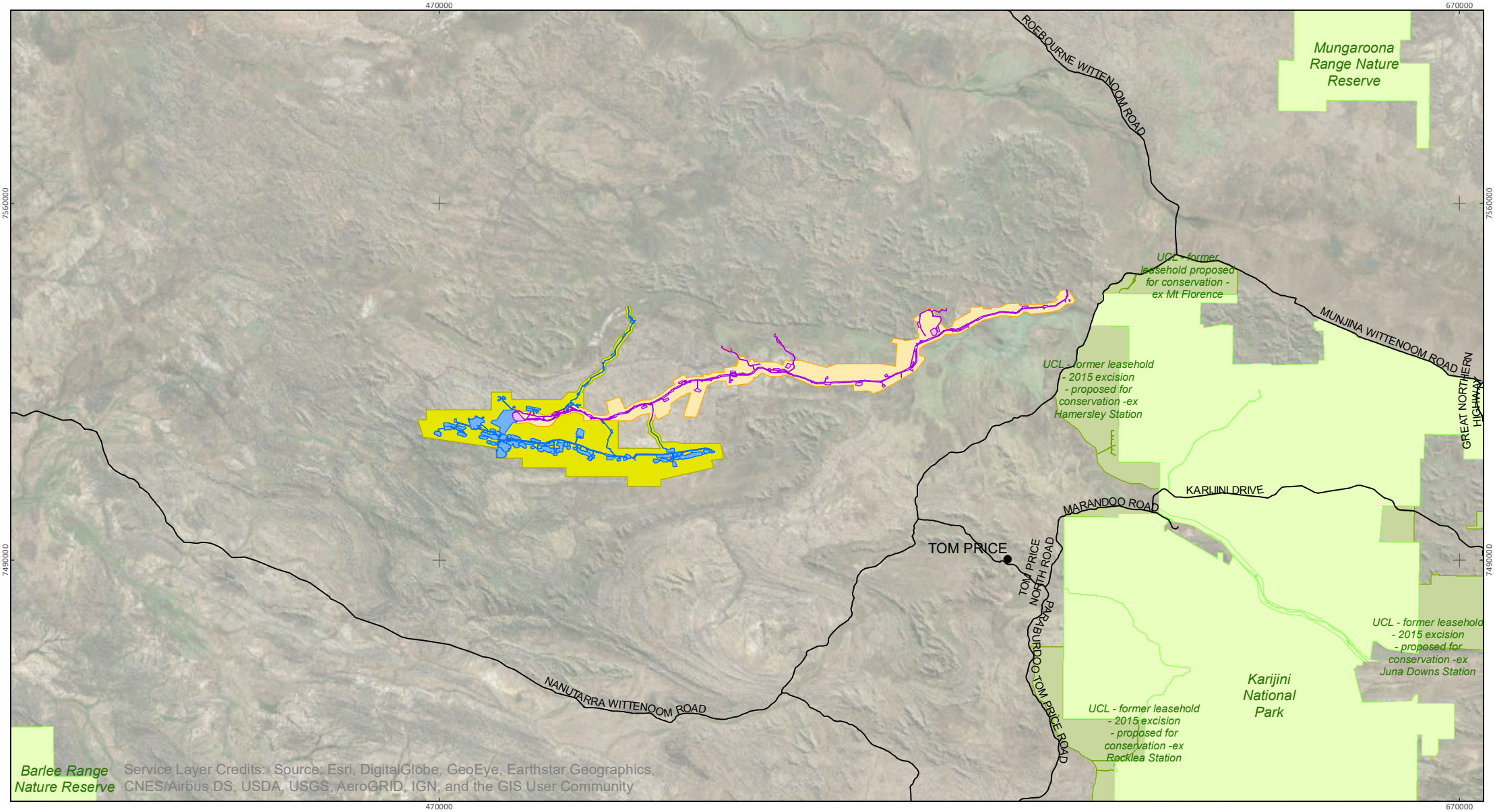
To support the environmental approvals for the Eliwana Mine and Rail Projects, Phoenix Environmental Sciences Pty Ltd (Phoenix) was commissioned to undertake a short-range endemic (SRE) invertebrate assessment of the MDE and RDE.

Several SRE invertebrate surveys have previously been undertaken within the MDE or RDE. Therefore, the aim of the SRE assessment is to consolidate and build on the existing SRE survey information for the projects.

This consolidation report documents the findings of an SRE invertebrate desktop review completed as part of the SRE invertebrate assessment. The scope of the desktop review was to collate, summarise and update findings of the SRE surveys conducted to date within the MDE and RDE.

1.3 STUDY AREA

The study area for the SRE assessment is 91,395 ha and comprises the MDE (53,367 ha) and RDE (38,028 ha) (Figure 1-1).



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Map author	KC

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- Mine Development Envelope
- Rail Development Envelope
- Mine footprint
- Rail footprint
- Conservation estate
- Proposed conservation estate
- Road

Figure 1–1

Project location and study area

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1.4 SOURCE SURVEYS

SRE invertebrate data were collated from four previous surveys that were conducted partly within the study area:

- Central Pilbara Project – Mine: Short Range Endemic Invertebrate Survey (Ecologia 2012a)
- Solomon Hub Short Range Endemic Invertebrate Fauna Assessment (Ecologia 2014)
- Short Range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish (Phoenix 2014b)
- Stingray – Short Range Endemic Invertebrate Assessment (Ecologia 2015).

The survey areas of each survey are shown in Figure 1-2. A summary of each survey is provided in section 3.

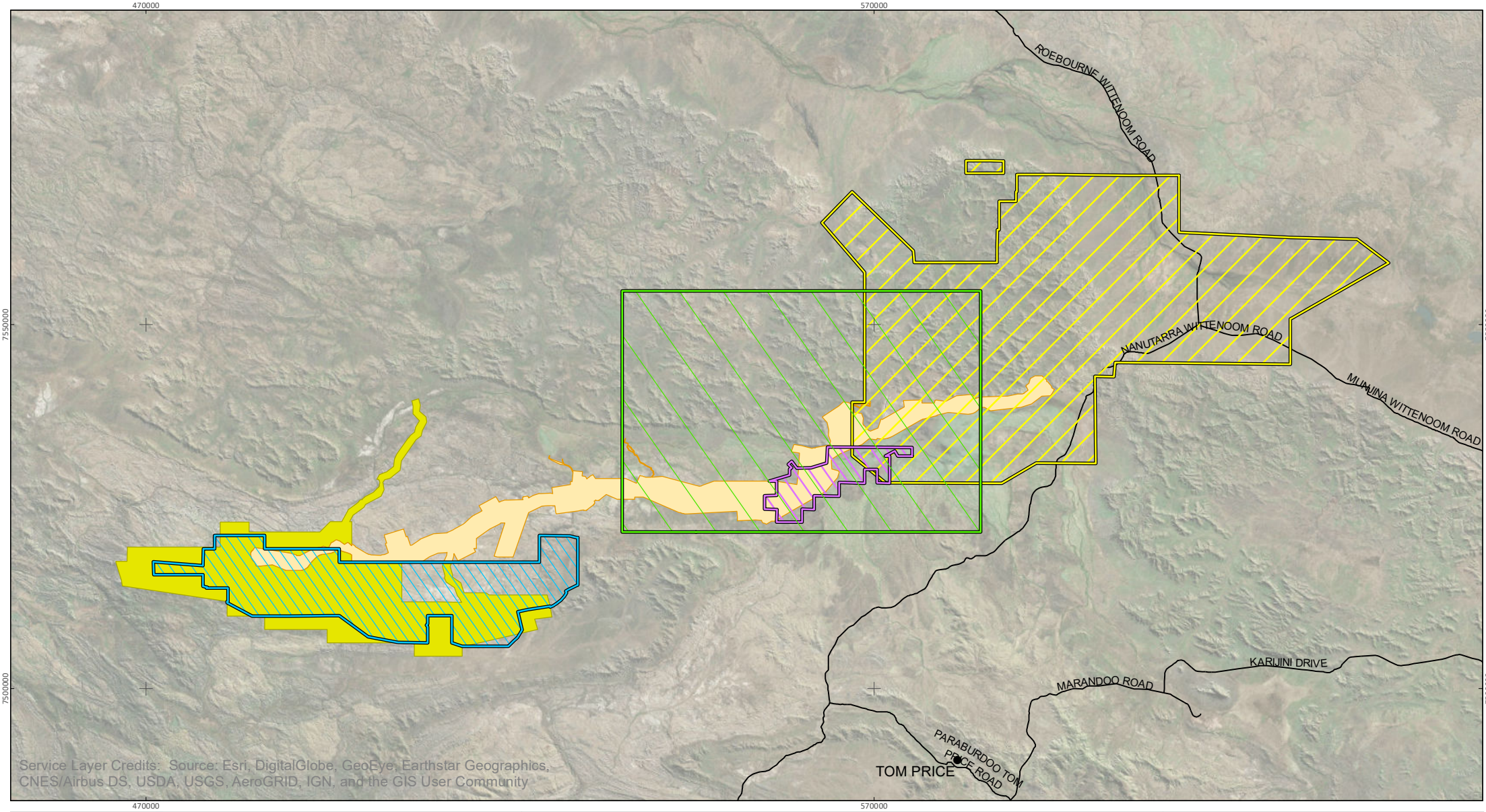
1.5 OVERVIEW OF SHORT-RANGE ENDEMIC INVERTEBRATES

Short-range endemic (SRE) fauna are defined as animals that display restricted geographic distributions, nominally less than 10,000 km^2, that may also be disjunct and highly localised (Harvey 2002; Ponder & Colgan 2002). Short-range endemism in terrestrial invertebrates is believed to have evolved through two primary processes (Harvey 2002), relictual short-range endemism – where drying climate has forced range contraction into small pockets with remaining moist conditions (e.g. south-facing rock faces or slopes of mountains or gullies) – and habitat specialist SREs that may have settled in particular isolated habitat types (e.g. rocky or granite outcrops) by means of dispersal and evolved in isolation into distinct species. However, SRE invertebrates have also been reported in more widespread habitats such as spinifex plains or woodlands and here mainly in groups with low dispersal capabilities such as mygalomorph spiders and millipedes.

Short-range endemic fauna need to be considered in environmental impact assessments (EIA) as localised, small populations of species are generally at greater risk of changes in conservation status due to environmental change than other, more widely distributed taxa (EPA 2016).

There can be uncertainty in categorising a specimen as SRE due to a number of factors including poor regional survey density, lack of taxonomic research and problems of identification, i.e. specimens that may represent SREs cannot be identified to species level based on the life stage at hand. For example, in contrast to mature males, juvenile and female millipedes, mygalomorph spiders and scorpions cannot be identified to species level. Molecular techniques such as 'barcoding' (Hebert *et al.* 2003a; Hebert *et al.* 2003b) are routinely employed to overcome taxonomic or identification problems.

Currently, there is no accepted system to determine the likelihood that a species is an SRE. The WA Museum applies a three tier-rating (confirmed, potential and not SRE) (Western Australian Museum 2013) which was employed in this assessment. Any SRE categorisation of a taxon is based on the information available at the time. As new information emerges from additional surveys, the SRE status may change and therefore the SRE status is dynamic.



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Study
- Rail Development Envelope
- Mine Development Envelope

Previous surveys
- Stingray – Short Range Endemic Invertebrate Assessment (Ecologia
- Central Pilbara Project – Mine: Short Range Endemic Invertebrate Survey (Ecologia
- Short Range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish (Phoenix
- Solomon Hub Short Range Endemic Invertebrate Fauna Assessment (Ecologia

Figure 1–2

Survey areas of previous surveys

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1.6 LEGISLATIVE AND POLICY CONTEXT

The protection of fauna in Western Australia is principally governed by three acts:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *Wildlife Conservation Act 1950* (WC Act)
- *Environmental Protection Act 1986* (EP Act).

The WA *Biodiversity Conservation Act 2016* (BC Act) will eventually replace the WC Act; however, the provisions in the BC Act pertaining to the listing of flora and fauna cannot be brought into effect until the necessary Biodiversity Conservation Regulations have been made.

1.6.1 Commonwealth

Under the EPBC Act, actions that have, or are likely to have, a significant impact on a matter of national environmental significance (NES), require approval from the Australian Government Minister for the Environment. The EPBC Act provides for the listing of Threatened native fauna as matters of NES.

Few invertebrate taxa from WA are listed as matters of NES and those that are mostly include species that have experienced significant range contractions and population declines due to habitat loss, for example the Margaret River Marron (*Cherax tenuimanus*) (Critically Endangered) and the Shield-backed Trapdoor Spider (*Idiosoma nigrum*) (Vulnerable) (DoEE 2018a).

1.6.2 State

In WA, the WC Act provides for the listing of fauna species which are under identifiable threat of extinction as specially protected (Rare or Threatened Flora and Threatened Fauna; T)[1]. Under current classifications, protected fauna are assigned to one of seven categories under the WC Act (Western Australian Government 2017) (Appendix 1).

The Department of Biodiversity Conservation and Attractions (DBCA) also maintains a non-statutory list of Priority Fauna species. Priority species are still considered to be of conservation significance – that is they may be rare or threatened – but cannot be considered for listing under the WC Act until there is adequate understanding of threat levels imposed on them. Species on the Priority Fauna list are assigned to one of five priority (P) categories based on level of knowledge/concern (refer to Appendix 1).

Few SRE invertebrate taxa are listed under the WC Act and while there are several invertebrate species on DBCA's Priority list (some of which are SRE taxa), these lists cannot be relied on as a complete guide to conservation significant invertebrate taxa within a particular location. The most up-to-date listings of invertebrates and their distribution are available through the WA Museum invertebrate databases, including the Arachnology/Myriapodology, Mollusca and Crustacea databases.

[1] This function of the WC Act will be replaced by the BC Act when the relevant BC Act regulations come into effect.

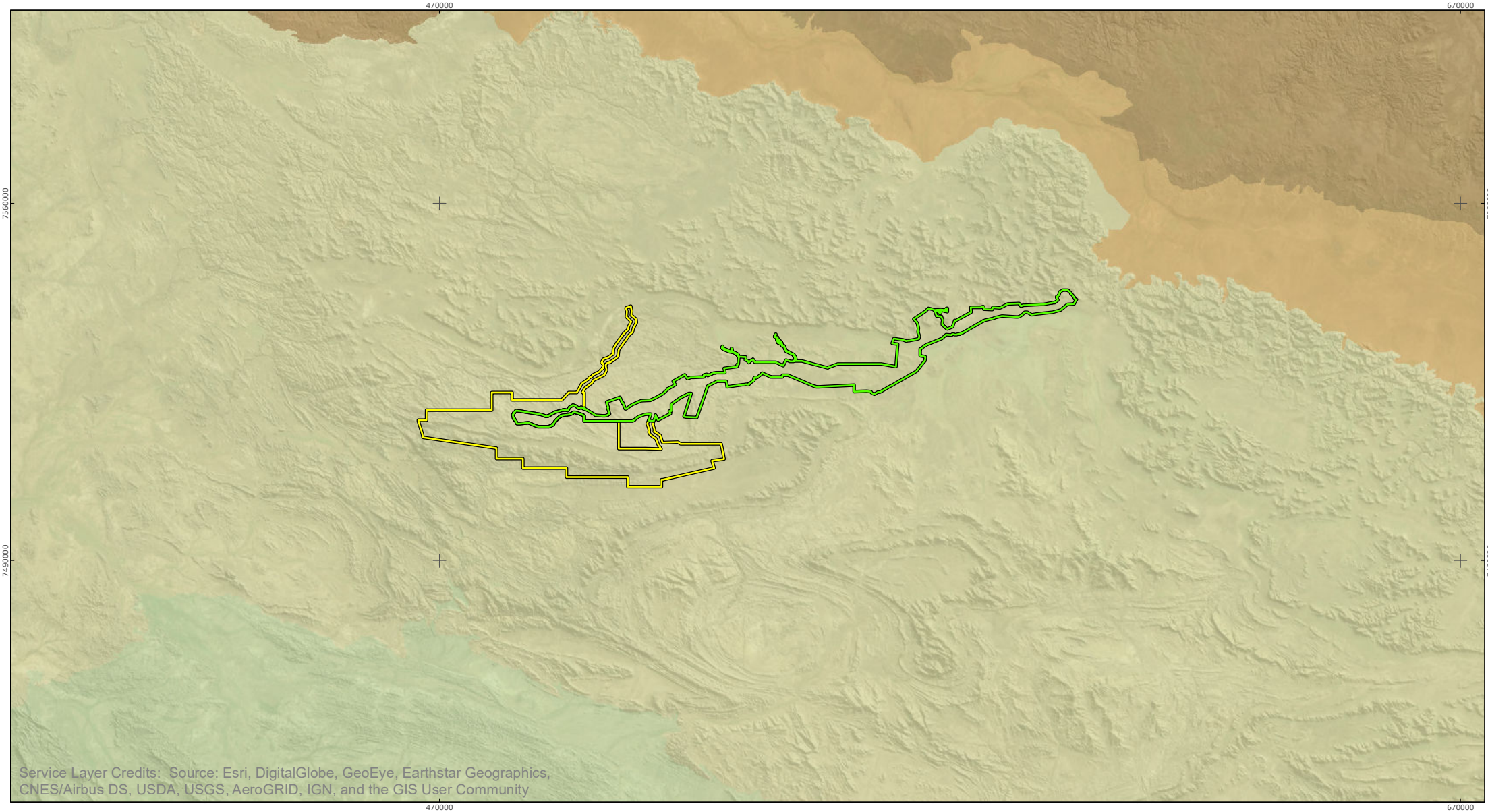
2 EXISTING ENVIRONMENT

2.1 BIOGEOGRAPHY

The study area is situated within the Pilbara bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (Thackway & Cresswell 1995). The Pilbara bioregion covers an area of approximately 179,000 km^2 and is divided into four subregions: Chichester, Fortescue, Hamersley and Roebourne. The study area falls entirely within the Hamersley subregion (PIL3) of the Pilbara bioregion (Figure 2-1).

This subregion is defined as a mountainous area of ranges and plateaux dissected by gorges, with vegetation mostly comprised of Mulga woodland over grasses on fine texture soils (valleys) and Snappy Gum and spinifex (ranges) (McKenzie *et al.* 2009). Several features are distinctive of the Hamersley subregion (Kendrick 2001):

- mountains of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale and dolerite)
- mulga low woodland over bunch grasses in the valleys and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges
- drainage to the Fortescue River (north), Ashburton River (south) or Robe River (west)
- rare features include gorges of the Hamersley range (e.g. Karijini National Park); large stands of *Livistona alfredii* palms at Palm Spring and Duck Creek; *Themeda* grasslands, Red Hill Station mulga stands
- high species and ecosystem diversity: *Acacia*, *Triodia*, *Ptilotus*, *Corymbia* and *Sida* sp. within the Hamersley Range; crustacean stygofauna within the calcrete environments.



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Map author	KC

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Rail Development Envelope
Mine Development Envelope

IBRA regions and subregions

IBRA Region: Gascoyne
Subregion: Ashburton (GAS01)

IBRA Region: Pilbara
Subregion: Chichester (PIL01)
Subregion: Fortescue (PIL02)
Subregion: Hamersley (PIL03)

Figure 2–1

Location of the study area in relation to IBRA regions and subregions

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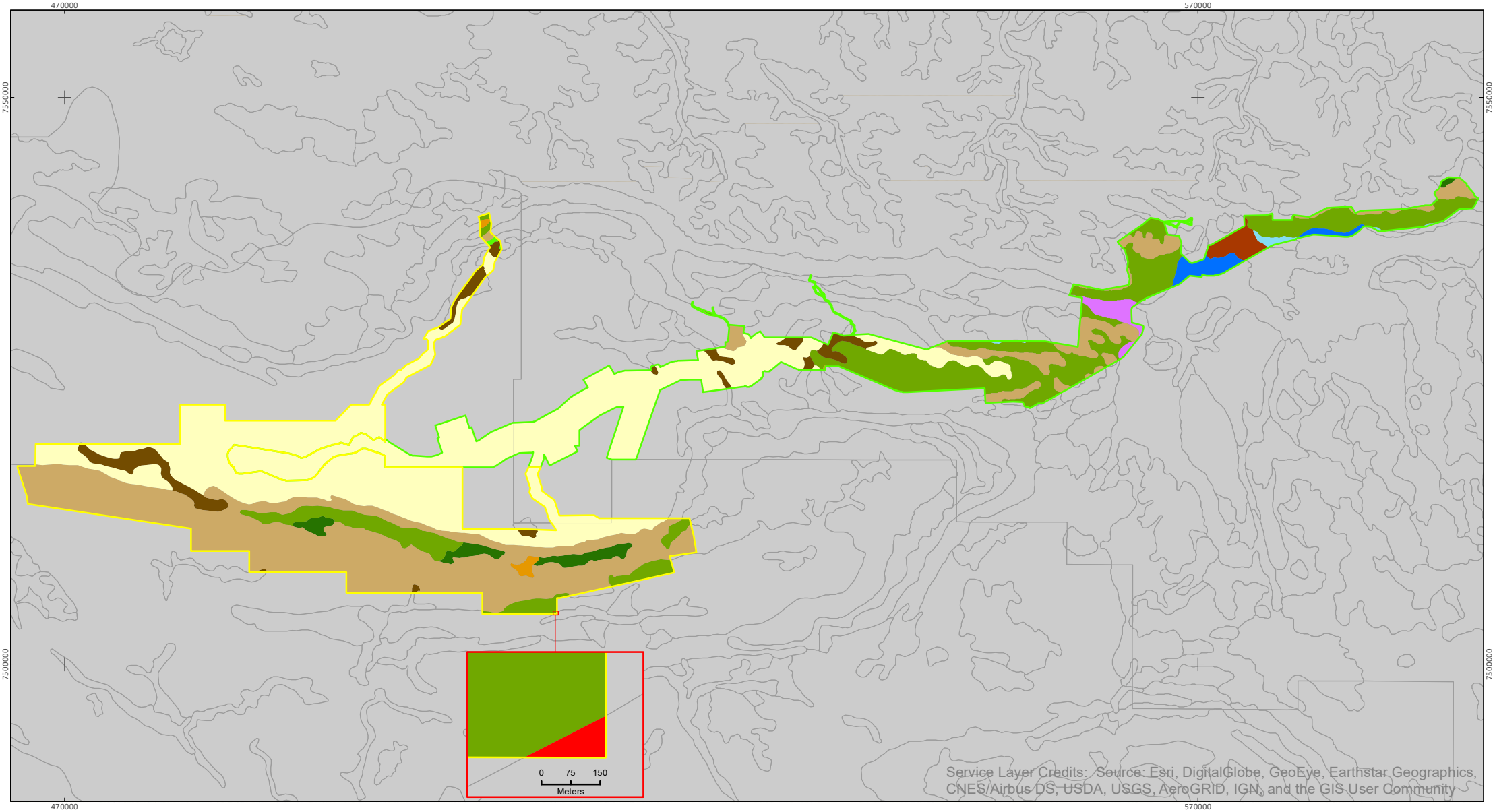
2.2 LAND SYSTEMS

The Department of Agriculture and Food Western Australia mapped the land systems of the Hamersley subregion from aerial photography providing the largest-scale interpretation of vegetation units for the study area (Payne & Leighton 2004). The study area covers 12 land systems, of which eight are present in the MDE and 10 are present in the RDE (Table 2-1; Figure 2-2).

The majority of the MDE comprises the Newman and Rocklea land systems. The RDE is predominantly comprised of the Boolgeeda and Rocklea land systems.

Table 2-1 Extent of each land system in MDE and RDE

Land system	Description	Extent in MDE (ha)	Extent in RDE (ha)
Boolgeeda System	Stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands or mulga shrublands.	4,109.1	12,850.4
Brockman System	Gilgai alluvial plains with cracking clay soils supporting tussock grasslands and low woodlands.		1,126.5
Calcrete System	Low calcrete platforms and plains supporting shrubby hard spinifex grasslands.		945.0
Hooley System	Alluvial clay plains supporting a mosaic of snakewood shrublands and tussock grasslands.		843.7
Jurrawarrina System	Hardpan plains and alluvial tracts supporting mulga shrublands with tussock and spinifex grasses.		268.8
McKay System	Hills, ridges, plateaux remnants and breakaways of meta sedimentary and sedimentary rocks supporting hard spinifex grasslands with acacias and occasional eucalypts.	50.0	
Newman System	Rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands.	23,935.6	4,548.3
Platform System	Dissected slopes and raised plains supporting shrubby hard spinifex grasslands.	1,577.4	73.2
River System	Narrow, seasonally active flood plains and major river channels supporting moderately close, tall shrublands or woodlands of acacias and fringing communities of eucalypts sometimes with tussock grasses or spinifex.	1.1	
Robe System	Low plateaux, mesas and buttes of limonite supporting soft spinifex and occasionally hard spinifex grasslands.	2,269.8	1,023.7
Rocklea System	Basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex and occasionally soft spinifex grasslands with scattered shrubs.	21,132.3	16,341.4
Table System	Low calcrete plateaux, mesas and lower plains supporting mulga and cassia shrublands and minor spinifex grasslands.	292.1	7.4
TOTAL		53,367.4	38,028.3



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- Mine Development Envelope
- Rail Development Envelope

Land system

- Boolgeeda System
- Brockman System
- Calcrete System
- Hooley System
- Jurrawarrina System
- McKay System
- Newman System
- Platform System
- River System
- Robe System
- Rocklea System
- Table System

Figure 2–2

Land systems of the study area

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2.3 CLIMATE

The western Pilbara has a semi-desert to tropical climate with highly variable, mostly summer rainfall (Leighton 2004; McKenzie *et al.* 2009). The average rainfall over the broader Pilbara region is about 290 mm, ranging from a monthly average of approximately 2 mm in September to 66 mm in February. Rainfall patterns are driven by highly variable year-to-year cyclonic activity that accounts for half of the yearly precipitation (McKenzie *et al.* 2009).

The nearest Bureau of Meteorology (BOM) weather station with long term temperature and rainfall data is located at Wittenoom (site 5026) approximately 45 km east of the RDE. Wittenoom climate records show a typical Pilbara climatic pattern, with the wet season running from December to March, hot summers and warm dry winters. The highest maximum mean monthly temperature (39.7°C) occurs in December, the lowest maximum mean annual temperature (11.5°C) in July and average annual rainfall is 462.3 mm (BoM 2018) (Figure 2-3).

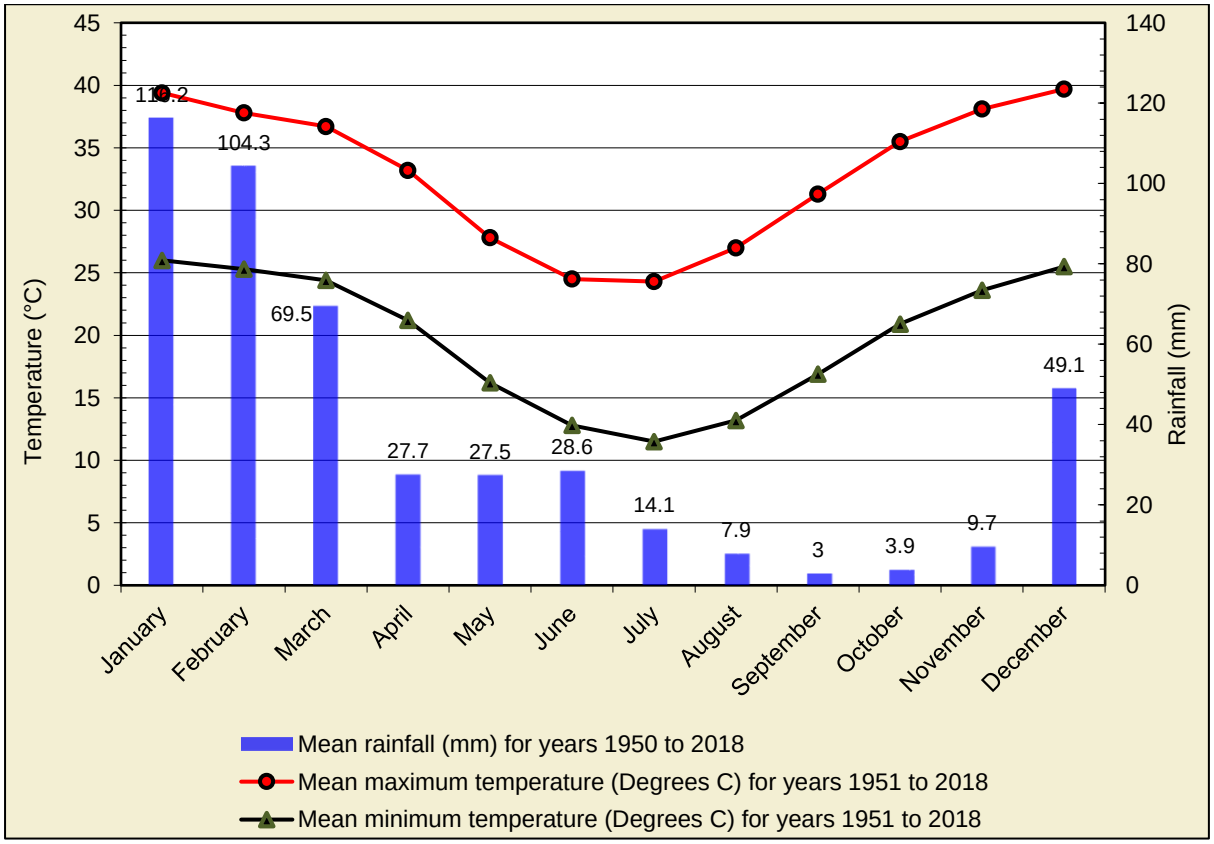


Figure 2-3 Average monthly temperatures and rainfall for Wittenoom (BoM 2018)

3 METHODS

Database searches and a review of previous survey reports were undertaken to compile a list of SRE taxa recorded within ca. 100 km the study area. The following database searches were undertaken:

- WA Museum Arachnology and Myriapodology database, WA Museum Mollusca database and WA Museum Crustacea database (NW corner -21.89 S, 115.99 E; SE corner -23.34, 118.34).
- DBCA NatureMap database (REF) (NW corner -21.89, 115.99, SE corner -23.34, 118.34).

The SRE invertebrate fauna database search areas were based on a rectangular search grid determined by the proposed maximum range of short-range endemism, 10,000 km^2, equivalent to approximately 100 km x 100 km (Harvey 2002). The EPBC Act threatened fauna list (DoEE 2018b) was also reviewed to check if any terrestrial SRE invertebrates from the Pilbara are listed under the act.

The survey data from the previous assessments in the study area (Table 3-1) was collated and is included in the consolidated results for the MDE and RDE.

There is some overlap in the above surveys. Ecologia (2014) is a consolidation report for several previous surveys for the Solomon Project and an additional survey conducted in areas not previously sampled (Ecologia 2010, 2012a, b, 2013a, b, c; Phoenix 2010). For simplicity, all results presented in the consolidation report that are relevant to the current study area are reported here as (Ecologia 2014), unless they were from one of the other source reports listed in Table 3-1. Survey sites from each survey are shown in Figure 3-1. To date, 42 sites have been sampled within the study area, although some of these are overlapping (Table 3-1; Appendix 2).

Previous SRE records within the study area were reviewed for currency of taxonomy and SRE status. All records in the WA Museum databases, were assigned an SRE status by the WAM. Records within the study area that are not in the WAM databases were reviewed and assigned an SRE status by Phoenix.

The WAM applies a two-tiered SRE classification to SREs (Western Australian Museum 2013):

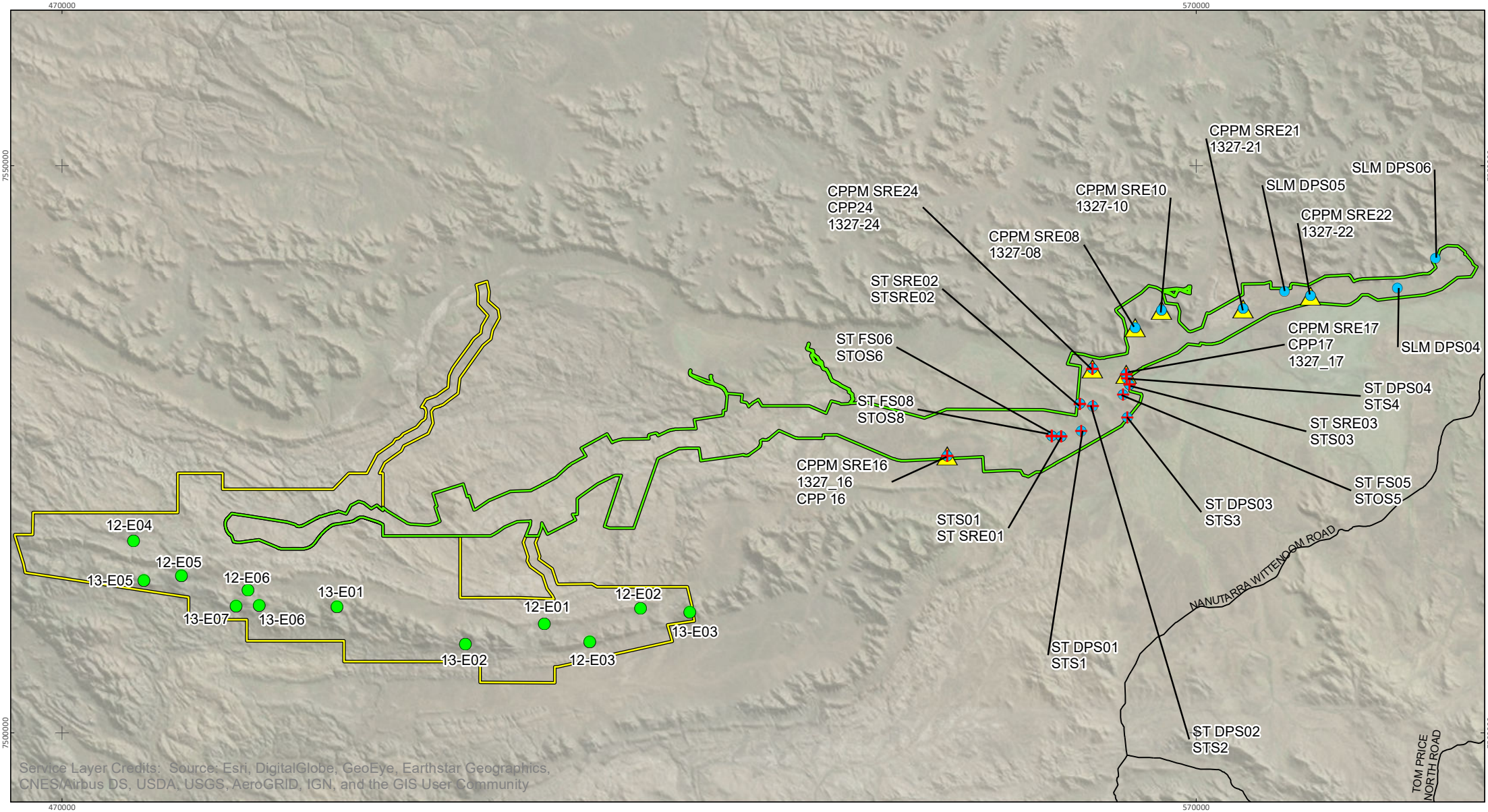
- confirmed SRE
    - known distribution of < 10,000 km^2
    - taxonomy is well known
    - group is well represented in collections and/ or via comprehensive sampling
- potential SRE
    - patchy sampling has resulted in incomplete knowledge of the geographic distribution of the group
    - incomplete taxonomic knowledge
    - group is not well represented in collections
    - category is most applicable to situations where there are gaps in knowledge of the taxon.

Any records in the study area that are no longer considered confirmed or potential SREs were discounted from the list of SRE taxa.

Table 3-1 Summary of SRE surveys completed within the study area to date

Survey title	Study area	Survey dates	No. sites	Methods	Rainfall conditions
Central Pilbara Project – Mine: Short Range Endemic Invertebrate Survey (Ecologia 2012a)	16,3039 ha in total 20,335 ha intersecting RDE	March and April 2011	34	Wet pitfall trapping – 29 sites, 4 traps/site Foraging – 34 sites, ≥1 person-hour/site Leaf litter/soil collection – 30 sites, 1 m^2 plots Seven sites are in the RDE	Optimal
Solomon Hub Short Range Endemic Invertebrate Fauna Assessment (Ecologia 2014)	183,170 ha in total 6,741 ha intersecting RDE	May and July 2014[1]	53	Wet pitfall trapping – 14 sites, 4-5 traps/site Dry pitfall trapping[3] – 16 sites, 5 PVC pipes, 5 20 L buckets and 20 funnels/site Foraging – 23 sites, 1 person-hour/site Leaf litter/soil collection – 22 sites, 1 m^2 plots 20 sites are in the RDE	Optimal
Short Range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish (Phoenix 2014c)	49,652 ha in total 33,935 ha intersecting MDE 2,093 intersecting RDE	April/May 2012, June 2012, April 2013	15	Wet pitfall trapping – 9 sites, 5 traps/site Foraging – 15 sites, ≥1.5 person-hour/site Leaf litter/soil sieving – 15 sites, ≥3 sieves/site 12 sites are in the MDE	Optimal in 2012, suboptimal 2013
Stingray – Short Range Endemic Invertebrate Assessment (Ecologia 2015)	8,932 ha in total 4,052 ha intersecting RDE	May and June 2013	19[2]	Wet pitfall trapping – 6 sites, 4 traps/site Dry pitfall trapping[3] – 7 sites, 5 PVC pipes, 5 20 L buckets and 20 funnels/site Foraging – 12 sites, 1 person-hour/site Leaf litter/soil collection – 6 sites, 1 m^2 plots 13 sites are in the RDE	Optimal

[1]Field dates relevant to study area; previous surveys conducted in 2010, 2011, 2013 reported in Ecologia (2014) but not relevant to current study area. [2]One additional site from Ecologia (2012a) also reported in Ecologia (2015). [3]Vertebrate pit-trap/drift fence and funnel traps from concurrent vertebrate fauna survey.



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Previous survey sites

- Central Pilbara Project – Mine: Short Range Endemic Invertebrate Survey (Ecologia 2012a)
- Solomon Hub Short Range Endemic Invertebrate Fauna Assessment (Ecologia 2014)
- Stingray – Short Range Endemic Invertebrate Assessment (Ecologia 2015)
- Short Range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish (Phoenix 2014b)
- Rail Development Envelope
- Mine Development Envelope

Figure 3–1

Survey site locations of previous surveys

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4 RESULTS

In the previous SRE surveys conducted partly within the MDE or RDE, a total of 65 taxa were assessed as being potential or confirmed SREs (Appendix 3). Following a review of current status, 20 of these are no longer considered SRE taxa (Appendix 3).

Based on current taxonomic, distributional and SRE status, one confirmed SRE and 23 potential SREs have been recorded from the study area (Table 4-1). The list is comprised of representatives of families and at least 11 genera.

The only confirmed SRE is the millipede *Antichiropus* '1021DNA02' (WAM reg. T126620). Cathy Carr at the WA Museum is currently undertaking a study on the *Antichiropus* genus and has identified over 70 species from the Pilbara; these are currently being described. A wide molecular analysis has been undertaken as part of the study.

The status of *Antichiropus* '1021DNA02' was checked with Cathy Carr who advised that there are no sequences available from the vicinity of the study area to check for any matches (C. Carr, pers. comm. to K. Crews, April 2018). The specimen is a female and therefore cannot be further identified by morphology. Therefore, the species is currently only known from the original record, a single site (12-E04) in the MDE in woodland on drainage line habitat (Table 4-1; Figure 4-1).

All other taxa are considered potential SREs on the basis that their current known records fall within the nominate range for SRE taxa (<10,000 km^2). All the potential SRE taxa recorded in the MDE or RDE to date have also been recorded outside the study area, and therefore have distributions beyond it, with the exception of possibly *Dampetrus* '1021DNA02' from the MDE (Table 4-1; Figure 4-1).

The taxonomic status of *Dampetrus* '1021DNA02' recorded within the MDE appears to be unclear. The WAM now lists this as *Dampetrus* sp. indet. and therefore, its distribution is uncertain.

Simon Judd has noted that several of the isopod taxa are likely to be SREs (S. Judd, pers. comm. to A. Leung, May 2018); in this report however, we have adopted the WA Museum's SRE classification system (confirmed or potential; section 3).

Six of the potential SRE taxa from the study area represent higher taxonomic ranks that may contain SREs ('sp. indet.'). None of the SRE taxa from the study area are formally described.

Searches of NatureMap and EPBC Act Threatened Fauna List did not reveal any conservation significant SRE invertebrates from the area of the desktop review.

Table 4-1 SRE invertebrates known from study area

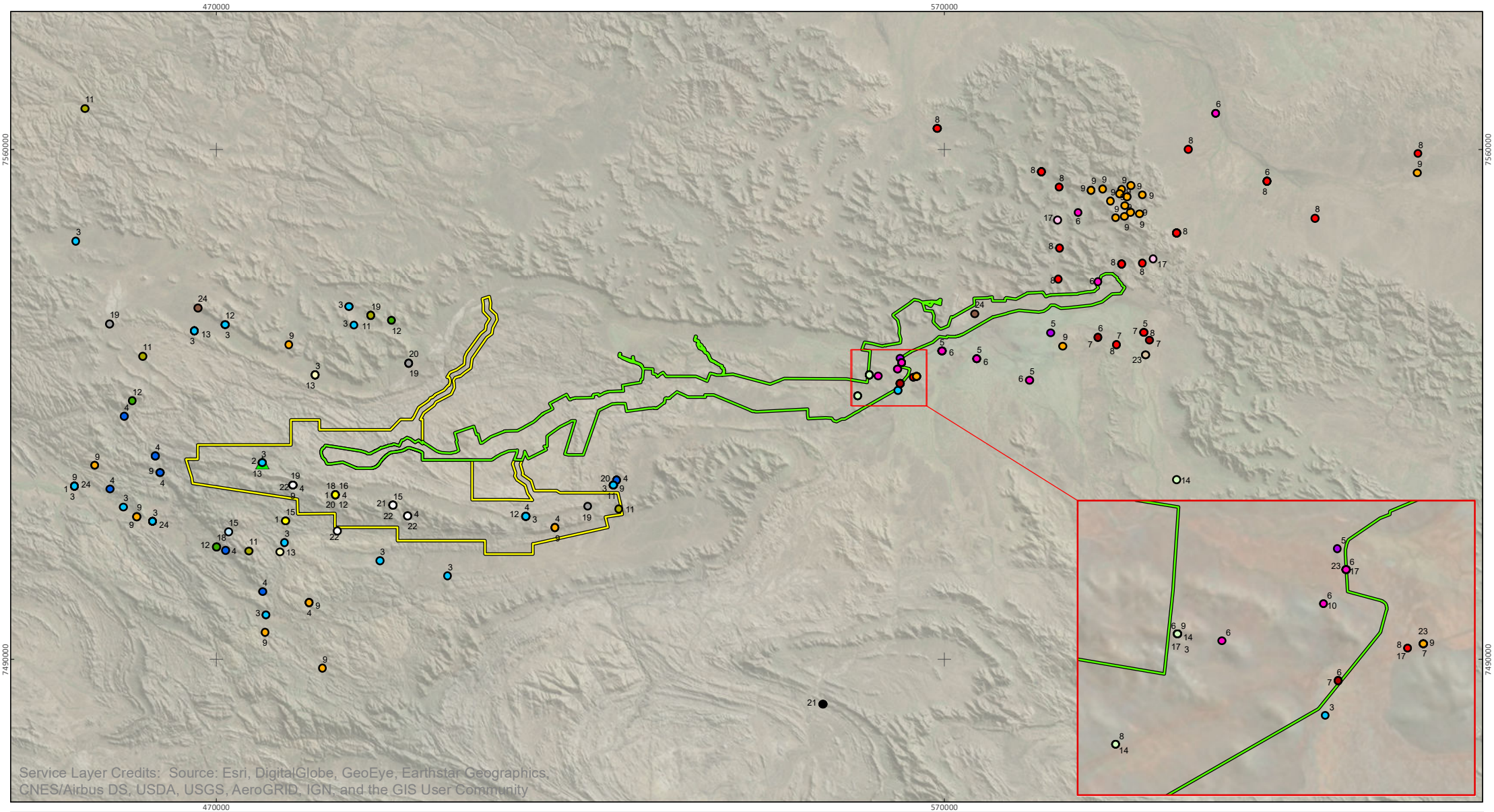
Higher taxon, Family	Species (previous name)	Species (current name, if changed)	Previous status	Current status	Source	MDE	RDE	Outside study area	Sites[1]	Habitat	Comments
Arachnida - Mygalomorphae (trapdoor spiders)											
Barychelidae	*Synothele* '1021DNA01'	*Synothele* 'DNA01'	Potential	Potential	Phoenix (2014b)	yes	no	yes	**12-E05**, **13-E01**	South-facing rockface/ridge, gorge/gully	Also recorded from the Edge (Phoenix 2014c)
Arachnida - Opiliones (harvestmen)											
Assamiidae	*Dampetrus* '1021DNA01'	*Dampetrus* DNA02	Potential	Potential	Phoenix (2014b)	yes	no	yes	**13-E01**	Gorge/gully	Also recorded from The Edge (Phoenix 2014c)
Assamiidae	*Dampetrus* '1021DNA02'	*Dampetrus* sp. indet.	Potential	Potential	Phoenix (2014b)	yes	no	yes	**12-E06**	Gorge/gully	Recorded in study area. WAM has changed name to 'indet.', therefore distribution unknown. Dampetrus sp. indet. recorded elsewhere.
Arachnida - Pseudoscorpiones (pseudoscorpions)											
Chthoniidae	*Tyrannochthonius* sp. indet.		Potential	Potential	Ecologia (2015)	no	yes	yes	**STSRE3**, STSRE6	Woodland (open), Hummock grassland	Species unknown therefore distribution unknown.
Arachnida - Scorpiones (scorpions)											
Urodacidae	*Urodacus* sp. indet.		Potential	Potential	Ecologia (2012a)	no	yes	yes	**CPPM SRE21**	Clump of eucalypt on plain	Species unknown therefore distribution unknown
Chilopoda (centipedes)											
Chilenophilidae	Chilenophilidae sp. indet.		Potential	Potential	Ecologia (2015)	no	yes	yes	**STOS5**	Drainage line/river/creek	Species unknown therefore distribution unknown.

Higher taxon, Family	Species (previous name)	Species (current name, if changed)	Previous status	Current status	Source	MDE	RDE	Outside study area	Sites[1]	Habitat	Comments
Chilenophilidae	*Sepedonophilus* '1021DNA02'	*Sepedonophilus* 'DNA02'	Potential	Potential	Phoenix (2014b)	yes	no	yes	**12-E06**, 12-E07	Gorge/gully	Also recorded at Mt Farquhar (Phoenix 2012b)
Chilenophilidae	*Sepedonophilus* '1021DNA03'	*Sepedonophilus* 'DNA03'	Potential	Potential	Phoenix (2014b)	yes	no	yes	**13-E01**	Gorge/gully	Also recorded at Turner Syncline (Phoenix 2012c)
Cryptopidae	*Cryptops* '1021DNA02'	*Cryptops* 'DNA07'	Potential	Potential	Phoenix (2014b)	yes	no	yes	12-E09, **13-E03**	Gorge/gully	Known from several locations (Phoenix 2012b, d, 2014a)
Cryptopidae	*Cryptops* sp. indet.		Potential	Potential	Phoenix (2014b)	yes	no	yes	**12-E01**, **12-E06**, **13-E07**	Woodland along drainage line, gorge/gully	Known from several locations (Phoenix 2012b, d, 2014a)
Mecistocephalidae	Mecistocephalidae sp. indet.		Potential	Potential	Ecologia (2015)	yes	yes	yes	**STSRE2**, **STSRE3**, STSRE4	Plain (stony gibber), Woodland (open), Plain (cracking clay)	Species unknown therefore distribution unknown.
Mecistocephalidae	*Mecistocephalus* '1021DNA01'	*Mecistocephalus* 'DNA06'	Potential	Potential	Phoenix (2014b)	yes	no	yes	12-E06, 13-E07	Gorge/ gully	Recorded in and outside study area
Mecistocephalidae	*Mecistocephalus* sp. indet.		Potential	Potential	Phoenix (2014b)	no	yes	yes	**12-E02**, **12-E05**	Gorge/gully, south-facing rockface/ridge	Known from several locations (Phoenix 2012a, b, c, 2014a)
Diplopoda (millipedes)											
Paradoxosomatidae	*Antichiropus* '1021DNA02'		Confirmed	Confirmed	Phoenix (2014b)	yes	no	no	**12-E04**	Woodland along drainage line	Only known from MDE
Isopoda (slaters)											
Armadillidae	*Acanthodillo* '999'		Potential	Potential	Phoenix (2014b), Ecologia (2014)	Yes	no	Yes	**12-E06**	Gorge/gully	Also recorded at the Edge (Phoenix 2014c)

Higher taxon, Family	Species (previous name)	Species (current name, if changed)	Previous status	Current status	Source	MDE	RDE	Outside study area	Sites[1]	Habitat	Comments
Armadillidae	*Buddelundia* '10BF'		Potential	Potential	Phoenix (2014b), Ecologia (2015)	yes	yes	yes	**12-E01**, **12-E04**, 12-E09	Gorge/gully, woodland along drainage line	Known from several locations (Phoenix 2014a, b, c)
Armadillidae	*Buddelundia* '64'		Potential	Potential	Phoenix (2014b)	yes	no	yes	**12-E01**, **12-E03**, **12-E05**–E07	Gorge/gully, south-facing rockface/ridge, woodland along drainage line	Known from several locations (Phoenix 2014a, b, c)
Armadillidae	*Buddelundia* '75'		Potential	Potential	Ecologia (2014), Ecologia (2015)	no	yes	yes	SLM DPS07, SLM DPS08, MM DPS01, MM SRE01, STSRE05, **ST0S4**, STSRE5	Drainage line/River/Creek (major), Plain (cracking clay), Plain (stony gibber), Woodland (open)	Known from several locations (Ecologia 2013b, 2014, 2015)
Armadillidae	*Buddelundia* '76'		Potential	Potential	Ecologia (2014), Ecologia (2015)	no	yes	yes	SLM SRE10, SLM SRE11, **SLM DPS06**, SLM DPS07, SLM DPS08, SLM FS09, MM SRE05, STSRE05, **STOS5**, **STS2**, STS3, **STSRE2**, **STSRE3**, **STSRE5**	Plain (cracking clay), Plain (stony calcrete), Plain (stony gibber), Hilltops/Ridges/Plateaux, Woodland (Open Eucalypt), Drainage line/river/creek, Woodland (open)	Known from several locations (Ecologia 2013b, 2014, 2015)
Armadillidae	*Buddelundia* '77'		Potential	Potential	Ecologia (2015)	no	yes	yes	STS3, STSRE6	Plain (cracking clay), Hummock grassland	Also recorded from Mt Macleod (Ecologia 2013b)

Higher taxon, Family	Species (previous name)	Species (current name, if changed)	Previous status	Current status	Source	MDE	RDE	Outside study area	Sites[1]	Habitat	Comments
Armadillidae	*Buddelundia* 'ee1340', Buddelundinae 'EE1340'	Buddelundiinae 'EE1340'	Potential	Potential	Ecologia (2014), Ecologia (2015)	no	yes	yes	INV SRE03, MM SRE01, MM SRE02, SLM SRE07, SLM SRE10, SLM SRE06, SLM SRE08, SLM SRE04, SLM SRE05, SLM SRE14, SLM SRE01, SLM DPS16, SLM SRE03, SLM SRE12, **STSRE1**, STSRE4	Plain (stony gibber), Open eucalypt woodland, Plain (cracking clay), Hilltops/Ridges/Plateaux, Shrubland (open), Drainage line/River/Creek (major), Plain (alluvial), Hummock grassland	Known from several locations (Ecologia 2013a, b, 2015)
Armadillidae	*Buddelundia* sp. indet.		Potential	Potential	Phoenix (2014b)	yes	yes	yes	**12-E03**, **12-E05**, 12-E09	Gorge/gully, south-facing rockface/ridgeline	Known from several locations (Phoenix 2014a, b, c)
Armadillidae	*Cubaris* "EE1515"		Potential	Potential	Ecologia (2015)	no	yes	yes	**STSRE1**, **STSRE2**	Hummock grassland, Plain (stony gibber)	Also recorded from Mt Macleod (Ecologia 2013b)
Armadillidae	*Cubaris* '999'		Potential	Potential	Phoenix (2014b)	yes	yes	yes	**12-E04**	Gorge/gully	Known from several locations (Phoenix 2014a, b, c)

[1]Sites in bold are in study area.



Fortescue Metals Group Ltd
Eliwana Iron Ore Mine and Railway Projects

Project No	1199
Date	01-Jun-18
Drawn by	AL
Map author	KC

0 10 20
Kilometers

1:700,000 (at A4) GDA 1994 MGA Zone 50

\\PHOENIXSERVER\Office-Server\GIS\Projects\Eliwana\1199-ELI-EMG-TIN\Mapping\MapDocuments\Figures\1199_4-1_Records.mxd

Mine Development Envelope
Rail Development Envelope

Species

1, *Acanthodillo* '999', Potential
2, *Antichiropus* 'DNA02', Confirmed
3, *Buddelundia* '10bf', Potential
4, *Buddelundia* '64', Potential
5, *Buddelundia* '75', Potential
6, *Buddelundia* '76', Potential
7, *Buddelundia* '77', Potential
8, *Buddelundia*'EE1340', Potential
9, *Buddelundia* sp. indet., Potential
10, Chilenophilidae sp. indet., Potential
11, *Cryptops* 'DNA07', Potential
12, *Cryptops* sp. indet., Potential
13, *Cubaris* '999', Potential
14, *Cubaris* 'EE1515', Potential
15, *Dampetrus* 'DNA02', Potential
16, *Dampetrus* sp. indet., Potential
17, Mecistocephalidae sp. indet., Potential
18, *Mecistocephalus*'DNA06', Potential
19, *Mecistocephalus* sp. indet., Potential
20, *Sepedonophilus* 'DNA02', Potential
21, *Sepedonophilus* 'DNA03', Potential
22, *Synothele* 'DNA01', Potential
23, *Tyrannochthonius* sp. indet., Potential
24, *Urodacus* sp. indet., Potential

Figure 4–1

Records of confirmed and potential SREs

PHOENIX ENVIRONMENTAL SCIENCES

5 CONCLUSION

To date, all potential SRE taxa recorded in the MDE and RDE have also been recorded outside the study area, with the exception of possibly *Dampetrus* '1021DNA02' from the MDE. The WAM now lists this as *Dampetrus* sp. indet. and therefore, its distribution is uncertain. *Dampetrus* sp. indet. taxa have been recorded elsewhere in the region but it is not possible to state if the record from the MDE is conspecific with any of these.

The status the single confirmed SRE millipede *Antichiropus* '1021DNA02' has been checked with the WA Museum and it is currently only known from the original record, a single site (12-E04) in the MDE.

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Appendix 1 Conservation codes for Western Australian flora and fauna (DPaW 2017)

Department of Parks and Wildlife

CONSERVATION CODES

For Western Australian Flora and Fauna

Specially protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such.

Categories of specially protected fauna and flora are:

T **Threatened species**

Published as Specially Protected under the *Wildlife Conservation Act 1950,* and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

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. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN **Endangered species**

Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU **Vulnerable species**

Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX **Presumed extinct species**

Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

IA **Migratory birds protected under an international agreement**

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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

CD Conservation dependent fauna

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS Other specially protected fauna

Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

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 flora or fauna.

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.

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 2 Survey sites from all surveys

Site name	Easting	Northing	Report title	Company	Location
1327-01	553351	7541841	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-02	555963	7550267	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-03	549638	7545101	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-04	553277	7544145	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-05	550999	7539000	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-06	559229	7542297	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-07	562915	7539217	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-09	565706	7539815	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-11	572632	7545169	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-12	573959	7542245	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-13	562752	7544962	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-14	569862	7545289	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-15	571738	7544582	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-18	548755	7552155	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-19	576625	7546741	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-20	548147	7543633	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-23	576452	7548860	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-25	578898	7532699	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-26	573370	7541656	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-27	554297	7552925	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-28	537106	7533950	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-29	575282	7542490	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-30	572122	7544380	Central Pilbara Project Mine SRE Survey	Ecologia	Outside
1327-08	564625	7535737	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-10	566952	7537236	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-16	548039	7524418	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-17	563810	7531634	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-21	574145	7537397	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-22	580086	7538561	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
1327-24	560845	7532105	Central Pilbara Project Mine SRE Survey	Ecologia	RDE
12-E01	512507.45	7509611.96	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E02	521022.68	7510982.48	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E03	516507.29	7508037.45	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E04	476325.57	7516916	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E05	480534.64	7513855.91	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E06	486414.96	7512564.67	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
13-E01	494255	7511117	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
13-E02	505543	7507823	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE

Site name	Easting	Northing	Report title	Company	Location
13-E03	525342	7510648	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
13-E05	477215	7513442	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
13-E06	487398	7511232	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
13-E07	485337	7511182	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	MDE
12-E07	525002.8	7514542.63	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	Outside
12-E08	528464.55	7519407.25	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	Outside
12-E09	524523.24	7513855.11	Short-range Endemic Invertebrate Fauna Survey of Eliwana and Flying Fish	Phoenix	Outside
CPPM FS01	556576	7545696	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM FS02	552242	7546794	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM FS03	555217	7537781	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM FS04	555100	7539730	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE01	553351	7541841	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE02	555963	7550267	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE03	549638	7545101	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE04	553277	7544145	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE05	550999	7539000	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE06	559229	7542297	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE07	562915	7539217	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE09	565706	7539815	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE11	572632	7545169	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE12	573959	7542245	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE13	562752	7544962	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE14	569862	7545289	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE15	571738	7544582	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE18	548755	7552155	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE19	576625	7546741	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE20	548147	7543633	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE23	576452	7548860	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE25	578898	7532699	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

Site name	Easting	Northing	Report title	Company	Location
CPPM SRE26	573370	7541656	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE27	554297	7552925	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE28	537106	7533950	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE29	575282	7542490	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPM SRE30	572122	7544380	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR FS02	564896	7573911	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR FS06	567496	7563786	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR FS07	572944	7558715	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR FS08	573713	7553717	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR FS09	565910	7565045	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE12	565056	7582641	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE13	564042	7578846	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE14	565024	7569765	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE15	570481	7562282	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE16	572185	7546798	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE22	554447	7575655	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
CPPR SRE23	539644	7583848	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS01	634467	7559074	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS02	635179	7556499	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS03	637776	7559027	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS04	641471	7556744	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS05	645436	7555611	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV DPS06	644876	7559231	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS01	645600	7554462	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS02	641202	7559360	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS03	643211	7555250	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS04	645991	7559090	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS05	646511	7558957	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS06	640568	7558043	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

Site name	Easting	Northing	Report title	Company	Location
INV FS07	641631	7558404	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS08	635059	7559399	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS09	643213	7559185	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS10	644414	7557252	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS15	645225	7556117	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS17	634387	7558901	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS18	635604	7558586	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS20	639270	7557893	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS21	642235	7557170	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS22	644379	7558616	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV FS23	641690	7559377	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE01	634969	7556764	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE02	637412	7558016	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE03	635058	7559395	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE04	643158	7555322	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE05	640572	7557875	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE06	643157	7557706	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE07	645866	7556863	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
INV SRE08	643214	7559174	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS01	584610	7534777	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS02	594171	7534109	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS03	596483	7532374	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS04	598164	7533757	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS05	598260	7519929	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS06	597963	7517723	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS07	598459	7516367	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM DPS08	600844	7520241	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS01	598081	7518923	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS02	585461	7534536	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

Site name	Easting	Northing	Report title	Company	Location
MM FS03	602667	7520360	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS04	594817	7533026	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS09	601063	7517996	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS10	597943	7517552	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS13	589581	7534945	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS14	593140	7534368	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM FS15	598392	7533218	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE01	597375	7534819	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE02	593656	7533155	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE03	597615	7531754	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE04	586229	7532934	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE05	591089	7534154	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE06	600588	7518595	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE07	601892	7514638	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE08	598051	7521356	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE09	598687	7517015	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
MM SRE10	602544	7520495	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS01	594741	7550738	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS02	593661	7550805	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS03	594370	7554500	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS04	595598	7554996	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS05	597228	7553736	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS06	594226	7550262	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS07	591767	7554565	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS08	590154	7554388	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS09	595050	7553467	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS10	597488	7553106	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS11	598251	7552763	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS12	594719	7552244	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

Site name	Easting	Northing	Report title	Company	Location
FT FS13	591287	7553122	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS14	592808	7552885	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS15	596194	7550190	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS16	596791	7551088	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS17	597075	7551080	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS18	595523	7551333	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS19	591545	7554068	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT FS20	590498	7554143	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE01	594353	7550346	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE02	593519	7550564	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE03	595481	7551195	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE04	592142	7554128	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE05	594085	7553875	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE06	590445	7554136	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE07	594782	7552226	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
FT SRE08	590180	7554355	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS01	568867.303	7559251.796	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS02	572922	7556943	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS03	580596.2038	7540708.802	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS07	574464.9009	7531208.098	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS08	581685.3981	7528272.499	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS09	602506	7559729	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS10	607512	7566571	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS11	608576	7561881	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS12	614304	7559688	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS13	618131	7560148	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS14	614323	7557239	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS15	622204	7555686	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM DPS16	620922	7550522	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

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SLM FS17	606774	7560785	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS18	607518	7563783	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS19	600910	7559940	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS20	621042	7552033	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS21	583544	7571552	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS22	572935	7556625	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM FS23	623193	7560104	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE01	569014	7562837	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE02	579924	7541229	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE03	585688	7542144	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE04	585831	7546433	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE05	597224	7544340	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE06	594340	7544268	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE07	585789	7554811	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE08	583343	7556920	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE09	583955	7556274	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE10	614335	7555614	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE11	607267	7564915	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE12	603505	7559988	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE13	626588	7557352	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
SLM SRE14	601871	7548500	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST DPS05	565787	7528575	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST DPS06	568615	7529787	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST DPS07	572604	7532725	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST FS04	569603	7530352	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST FS07	563602	7526906	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST FS09	563600	7526907	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST SRE04	565746	7528660	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
ST SRE05	569695	7532266	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside

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ST SRE06	566155	7528768	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	Outside
KA SRE1	587356	7549934	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE10	594085	7547463	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE11	592983	7547212	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE12	596227	7546644	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE13	595393	7545911	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE14	594165	7548690	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE15	593230	7549204	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE16	591538	7548222	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE17	591804	7550025	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE18	591602	7547704	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE19	588474	7550626	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE2	585755	7551016	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE20	587603	7550442	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE21	597196	7544785	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE22	597047	7544375	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE23	597641	7545711	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE24	597562	7545381	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE25	598691	7544951	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE26	598691	7544951	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE27	599583	7543521	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE28	598872	7545684	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE29	600138	7544731	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE3	585515	7550310	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE30	597365	7545404	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE31	556546	7550001	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE32	557837	7550437	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE33	557454	7550172	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE34	557043	7550293	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside

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KA SRE35	556049	7551886	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE36	555007	7552029	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE37	555029	7554008	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE38	554087	7554414	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE39	553666	7546854	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE4	586901	7550325	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE40	558326	7551201	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE41	554421	7554159	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE42	556915	7547281	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE43	561296	7542969	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE44	559062	7543328	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE45	563705	7547079	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE46	600909	7538265	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE47	601441	7539143	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE48	601818	7539092	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE49	600228	7541449	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE5	589083	7549614	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE50	600651	7542807	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE51	600796	7539228	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE52	601101	7538278	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE53	604062	7537041	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE54	607053	7536035	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE55	607399	7539655	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE56	603775	7543443	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE57	601921	7540633	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE58	605193	7545306	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE59	605574	7545377	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE6	590307	7549756	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE60	607921	7540597	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside

Site name	Easting	Northing	Report title	Company	Location
KA SRE61	606810	7533589	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE7	591677	7549184	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE8	593916	7545940	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
KA SRE9	594494	7547703	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Phoenix	Outside
CPPM SRE08	564625	7535737	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE10	566952	7537236	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE16	548039	7524418	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE17	563810	7531634	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE21	574145	7537397	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE22	580086	7538561	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
CPPM SRE24	560845	7532105	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
SLM DPS04	587737.9955	7539221.697	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
SLM DPS05	577802.4006	7538937.599	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
SLM DPS06	591099.8962	7541802.893	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST DPS01	559875	7526629	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST DPS02	560899	7528850	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST DPS03	563933	7527815	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST DPS04	563909	7531260	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST FS05	563552	7529819	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST FS06	557260	7526195	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST FS08	557254	7526182	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST SRE01	558122	7526141	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST SRE02	559730	7529026	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
ST SRE03	564135	7530707	Solomon Hub Short Range Endemic Invertebrate Fauna Assessment	Ecologia	RDE
STS04	565746	7528660	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS05	569695	7532266	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS06	566155	7528768	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STOS4	569603	7530352	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STOS7	563602	7526906	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside

Site name	Easting	Northing	Report title	Company	Location
STOS9	563600	7526907	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS5	565787	7528575	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS6	568615	7529787	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS7	572604	7532725	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
CPP25	578898	7532699	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	Outside
STS01	558122	7526141	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS02	559730	7529026	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS03	564135	7530707	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STOS5	563552	7529819	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STOS6	557260	7526195	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STOS8	557254	7526182	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS1	559875	7526629	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS2	560899	7528850	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS3	563933	7527815	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
STS4	563909	7531260	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
CPP16	548039	7524418	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
CPP17	563810	7531634	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE
CPP24	560845	7532105	Stingray Project - Short Range Endemic Invertebrate Assessment	Ecologia	RDE

Appendix 3 Short-range endemic invertebrates recorded in surveys

Species (previous name)	Species (current name, if changed)	Previous status	Current status	Taxonomist comment	Source	MDE	RDE	Outside study area
Acanthodillo '999'		Potential	Potential		Phoenix 2014, Ecologia 2014	Yes	no	Yes
Aname 'MYG404-DNA'		Potential	Potential		Ecologia 2014	no	no	yes
Anidiops sp. 'B02'		Potential	Potential		Ecologia 2014	no	no	yes
Antichiropus '1021DNA02'		Confirmed	Confirmed		Phoenix 2014	yes	no	no
Australoschendyla sp. indet.		Potential	Potential		Ecologia 2015	no	no	yes
Austrochthonius 'pilbara'		Potential	Not SRE		Ecologia 2015	no	yes	yes
Austrochthonius 'sp B07'		Potential	Potential		Ecologia 2014	no	no	yes
Austrochthonius sp. indet.		Potential	Potential		Ecologia 2015	no	no	yes
Austrohorus sp. B06'		Potential	Not SRE		Ecologia 2014	no	no	yes
Austrohorus sp. indet.		Potential	Not SRE		Ecologia 2012	no	no	yes
Beierolpium '8/4 sp. B12'		Potential	Not SRE		Ecologia 2014	no	no	yes
Beierolpium 'sp. 6/2'		Potential	Not SRE		Ecologia 2012	no	yes	yes
Beierolpium 'sp. 7/3'		Potential	Not SRE		Ecologia 2012	no	no	yes
Beierolpium 'sp. 8/2'		Potential	Not SRE		Ecologia 2012	no	no	yes
Beierolpium 'sp. 8/4'		Potential	Not SRE		Ecologia 2012	yes	no	yes
Beierolpium 'sp. 8/4'		Potential	Not SRE		Ecologia 2015	yes	no	yes
Buddelundia '10BF'		Potential	Potential		Phoenix 2014, Ecologia 2015	yes	yes	yes
Buddelundia '30'		Potential	Not SRE	Relatively widespread in the northern part of the Hamersley bioregion	Phoenix 2014	yes	yes	yes
Buddelundia '64'		Potential	Potential		Phoenix 2014	yes	no	yes
Buddelundia '75'		Potential	Potential		Ecologia 2014, 2015	no	yes	yes
Buddelundia '76'		Potential	Potential		Ecologia 2014, 2015	no	yes	yes
Buddelundia '77'		Potential	Potential		Ecologia 2015	no	yes	yes

Buddelundia '79'		Potential	Potential	S. Judd has queried this record	Ecologia 2014	no	no	yes
Buddelundia 'ee1340'	Buddelundiinae 'EE1340'	Potential	Potential		Ecologia 2014	no	yes	yes
Buddelundia 'sp 20'		Potential	Potential	Taxon needs revision. Two distinct populations. Almost certainly different species	Ecologia 2012	no	no	yes
Buddelundia sp. indet.		Potential	Potential		Ecologia 2015	yes	yes	yes
Buddelundia sp. indet.		Potential	Potential		Phoenix 2014	yes	yes	yes
Buddelundinae 'EE1340'		Potential	Potential	Two distinct populations. Possibly two different species.	Ecologia 2015	no	yes	yes
Chilenophilidae sp. indet.		Potential	Potential		Ecologia 2015	no	yes	yes
Conothele '1021DNA02'	*Conothele* 'DNA02'	Potential	Potential		Phoenix 2014	no	no	yes
Cryptops '1021DNA02'	*Cryptops* 'DNA07'	Potential	Potential		Phoenix 2014	yes	no	yes
Cryptops sp. indet.		Potential	Potential		Phoenix 2014	yes	no	yes
Cubaris '999'		Potential	Potential		Phoenix 2014	yes	yes	yes
Cubaris 'EE1515'		Potential	Potential		Ecologia 2015	no	yes	yes
Dampetrus '1021DNA01'	*Dampetrus* DNA02	Potential	Potential		Phoenix 2014	yes	no	yes
Dampetrus '1021DNA02'	*Dampetrus* sp. indet.	Potential	Potential		Phoenix 2014	yes	no	yes
Euryolpium 'sp. B06'		Potential	Not SRE		Ecologia 2014	no	no	yes
Idiommata 'MYG382'		Potential	Potential		Ecologia 2014	no	no	yes
Karaops 1021DNA02'	*Karaops martamarta*	Potential	Not SRE		Phoenix 2014	yes	no	yes
Lithobiomorpha sp. indet.		Potential	Potential		Phoenix 2014	no	no	yes
Lychas sp. indet.		Potential	Unlikely	Few *Lychas* are SRE	Ecologia 2012	no	no	yes
Mecistocephalidae sp. indet.		Potential	Potential		Ecologia 2015	yes	yes	yes

Mecistocephalus ‘1021DNA01'	*Mecistocephalus* ‘DNA06'	Potential	Potential		Phoenix 2014	yes	no	yes
Mecistocephalus 'sp. B08'		Potential	Potential		Ecologia 2014	no	no	yes
Mecistocephalus sp. indet.		Potential	Potential		Phoenix 2014	no	yes	yes
Missulena ‘1021DNA01’	*Missulena* 'DNA03'	Potential	Potential		Phoenix 2014	no	no	yes
New Genus (of isopod) 'sp 3'		Potential	Not SRE		Ecologia 2012	no	yes	no
New genus cf. ‘small mt robinson’		Potential	Not SRE		Phoenix 2014	yes	no	yes
Olpiidae sp. indet.		Potential	Not SRE		Ecologia 2015	no	yes	yes
pseudoscorpion 'PSEAA'		Potential	Not SRE		Ecologia 2012	no	yes	yes
Rhagada 'small banded'	*Rhagada radleyi*	Confirmed	Not SRE		Ecologia 2012	yes	yes	yes
Sepedonophilus ‘1021DNA02’	*Sepedonophilus* ‘DNA02'	Potential	Potential		Phoenix 2014	yes	no	yes
Sepedonophilus ‘1021DNA03’	*Sepedonophilus* ‘DNA03'	Potential	Potential		Phoenix 2014	yes	no	yes
Sepedonophilus 'sp. B05'		Potential	Potential		Ecologia 2014	no	no	yes
Succinea sp. indet.		Potential	Not SRE		Ecologia 2012	no	yes	yes
Succinea sp. indet.		Potential	Not SRE		Ecologia 2015	no	yes	yes
Synothele ‘1021DNA01’	*Synothele* 'DNA01'	Potential	Potential		Phoenix 2014	yes	no	yes
Synothele ‘1021DNA02’	*Synothele* 'DNA02'	Potential	Potential		Phoenix 2014	no	no	yes
Synothele sp 'B07'		Potential	Potential		Ecologia 2014	no	no	yes
Tyrannochthonius 'sp. B33'		Potential	Potential		Ecologia 2014	no	no	yes
Tyrannochthonius sp. indet.		Potential	Potential		Ecologia 2015	no	yes	yes
Urodacus 'hamserley black'		Potential	Potential	Awaiting CF from E. Volschenk	Ecologia 2014	no	no	yes
Urodacus sp. indet.		Potential	Potential		Ecologia 2012	no	yes	yes
Xenolpium sp. indet.		Potential	Not SRE		Ecologia 2015	no	no	yes
Yilgarnia sp. indet.		Potential	Potential		Phoenix 2014	no	no	yes