

APPENDIX G: LIKELIHOOD OF OCCURRENCE CRITERIA

Likelihood	Criteria
Highly Likely	The species has been recorded (i.e. during recent assessments of the survey area or from reliable records obtained via database searches or from current vouchered specimen at WA Herbarium) in/immediately surrounding the survey area.
Likely	There is a medium to high likelihood that the species occurs in the survey area as it occurs within the known distribution of the species, contains suitable habitat (either year-round or intermittently, such as temporary water sources or features that are only relied upon during certain times of the year e.g. breeding caves, for fauna) and the species has been recorded recently nearby.
Possible	<p>There is a potential for the species to occur in the survey area, as:</p> <p>The species has been recorded recently nearby; however,:</p> <ul style="list-style-type: none"> the species may not have been detectable during current or previous studies (e.g. rare, patchily distributed, highly mobile (fauna), non-optimal study timing); and/or the species is known to be cryptic and may not have been detectable despite extensive studies. <p>The species has been recorded recently nearby and species presence cannot be ruled out due to factors such as species ecology or distribution; however,:</p> <ul style="list-style-type: none"> doubt remains over taxonomic identification; and/or the majority of habitat does not appear suitable. <p>Coordinates are doubtful.</p>
Unlikely	<p>The species is unlikely to occur in the survey area as:</p> <ul style="list-style-type: none"> The species has not been recorded locally through DBCA database searches. The survey area lacks potential or critical habitat, supporting at best marginally suitable habitat, and/or being severely degraded. Only recorded from a few historic record/s and no other collections in the area. The species has not been recorded in the survey area despite adequate effort, such as a standardised methodology or targeted searching within potentially suitable habitat.

APPENDIX H: LIKELIHOOD OF OCCURRENCE ASSESSMENT

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TABLE 58: SIGNIFICANT FAUNA SPECIES LIKELIHOOD OF OCCURRENCE ASSESSMENT FOR POSSIBLE AND UNLIKELY SPECIES OCCURRENCE (WITHIN 50 KM OF THE PROPOSAL AREA)

Common Name	Scientific Name	Conservation Status		Literature Sources				Habitat Preference	Likelihood Within Proposal Area (50 km buffer)
		BC Act	EPBC Act	Rapallo (2012)	Western Wildlife (2020)	Rapallo (2022)	Phoenix (2022)		
Mammals									
Greater Bilby	<i>Macrotis lagotis</i>	Vu	Vu	-	✓	-	-	In WA, populations are largely restricted to the Gibson, Little Sandy and Great Sandy deserts, and parts of the Pilbara and Kimberley regions. Occurs in a range of vegetation types, including <i>Acacia</i> woodlands and hummock grasslands, open tussock grassland, and Mulga woodland / shrubland.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, the Proposal Area is unlikely to contain sufficient suitable habitat, and the closest records of the species (25 km, 30 km) from the Proposal Area are from 1984.
Brush-tailed Mulgara	<i>Dasycercus blythi</i>	P4	-	-	✓	-	-	The Brush-tailed Mulgara has a wide distribution across central and inland Australia, with a population that fluctuates in response to seasonal conditions. This species is solitary, nocturnal and typically inhabit spinifex grasslands with medium to dense cover, within the arid zone.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution and may contain suitable habitat; however, the species has not been recorded immediately adjacent to the Proposal Area.
Northern Short-tailed Mouse	<i>Leggadina lakedownensis</i>	P4	-	-	✓	✓	-	The Northern Short-tailed Mouse is found across northern Australia where it occupies a range of habitats from monsoon tropical coasts to semi-arid areas containing spinifex and tussock grasslands, samphire and sedge lands, <i>Acacia</i> shrublands, tropical <i>Eucalyptus</i> and <i>Melaleuca</i> woodlands, and stony ranges, often on seasonally inundated red or white sandy-clay soils. They shelter in burrows during the day.	Possible The Terrestrial Fauna Survey Area occurs within the species' known distribution (although this is discontinuous), may contain suitable habitat, and the species has been recorded adjacent to the Proposal Area.
Long-tailed Dunnart	<i>Sminthopsis longicaudata</i>	P4	-	-	✓	-	-	This species occupies exposed rock and stony soils with spinifex hummocks and sparse shrubs on or around flat-topped hills, lateritic plateaus, sandstone ranges and breakaways. It is found within the Gibson Desert, southern Carnarvon Basin, Rangelands and Pilbara in WA.	Possible The Terrestrial Fauna Survey Area occurs within the species' known distribution, contains suitable habitat; however, the species has not been recorded adjacent to the Proposal Area.
Reptiles									
Spotted Ctenotus (northeast)	<i>Ctenotus uber johnstonei</i>	P2	-	-	✓	-	-	Data deficient and known from only a few locations and/or specimens.	Possible While the species' distribution is not confirmed, specimens are known from records adjacent to the Proposal Area and suitable habitat is likely to occur.
Unpatterned Robust Slider (Robertson Range)	<i>Lerista macropisthopus remota</i>	P2	-	-	✓	-	-	Data deficient and known from only a few locations and/or specimens. This species occurs in arid and semi-arid environments and occupies woodlands and shrublands where it uses leaf litter for cover.	Possible The Terrestrial Fauna Survey Area occurs within the species' known distribution (although it may be discontinuous), and contains small areas of suitable habitat; however, the nearest records are more than 30 km away from the Proposal Area.
Birds									

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Common Name	Scientific Name	Conservation Status		Literature Sources				Habitat Preference	Likelihood Within Proposal Area (50 km buffer)
		BC Act	EPBC Act	Rapallo (2012)	Western Wildlife (2020)	Rapallo (2022)	Phoenix (2022)		
Curlew Sandpiper	<i>Calidris ferruginea</i>	Cr	Cr / Mi	-	✓	-	-	This species occurs Australia-wide along coastal regions and within parts of inland WA along intertidal mudflats, freshwater swamps and saltwater lakes.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold surface water for a sufficient time period to promote feeding and breeding, following rainfall.
Night Parrot	<i>Pezoporus occidentalis</i>	Cr	En	✓	✓	✓	-	This species is nocturnal, primarily ground-feeding and inhabit remote arid and semi-arid Australia within open areas (scattered or no shrubs/trees), comprising <i>Triodia</i> grasslands, chenopod shrublands/associations, and ephemeral seasonally inundated areas, particularly supporting diverse seeding vegetation. They roost in clumps of dense vegetation, primarily long un-burnt <i>Triodia</i> hummocks.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution and may contain suitable habitat; however, the species has not been recorded within, or adjacent to, the Proposal Area.
Australian Painted Snipe	<i>Rostratula australis</i>	En	En / Ma	-	✓	-	-	This species inhabits well-vegetated shallows and margins of terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold surface water for a sufficient time period to promote feeding and breeding, following rainfall.
Barking Owl	<i>Ninox connivens</i> subsp. <i>connivens</i>	P3	-	-	✓	-	-	Southwest of WA.	Unlikely Inclusion in database search is likely erroneous.
Letter-winged Kite	<i>Elanus scriptus</i>	P4	-	-	✓	✓	-	This species often nests and roosts colonially and is largely nocturnal, spending the day roosting in trees that occur along dry, timbered watercourses and sparsely vegetated grasslands of channel country and wetlands.	Possible The Terrestrial Fauna Survey Area may contain suitable habitat and the species has been recorded adjacent to the Proposal Area (likely as a vagrant); however, it is not within the species' known distribution.
Southern Giant Petrel	<i>Macronectes giganteus</i>	Mi	En / Mi	-	✓	-	-	This species is primarily a marine species and it breeds on numerous oceanic islands; this record is likely of a vagrant individual.	Unlikely Species is primarily marine and this record was likely of a vagrant individual. There is no suitable habitat located in the Terrestrial Fauna Survey Area.
Common Sandpiper	<i>Actitis hypoleucos</i>	Mi	Mi / Ma	-	✓	-	-	This species occurs Australia-wide within all coastal regions and parts of inland WA along sandy coasts, riverbanks and inland salt lakes.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold

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Common Name	Scientific Name	Conservation Status		Literature Sources				Habitat Preference	Likelihood Within Proposal Area (50 km buffer)
		BC Act	EPBC Act	Rapallo (2012)	Western Wildlife (2020)	Rapallo (2022)	Phoenix (2022)		
									surface water for a sufficient time period to promote feeding and breeding, following rainfall.
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	Mi	Mi / Ma	-	✓	-	-	This species occurs Australia-wide along all coastal regions and within parts of inland WA on intertidal mudflats, freshwater swamps, and saltwater lakes.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold surface water for a sufficient time period to promote feeding and breeding, following rainfall.
Pectoral Sandpiper	<i>Calidris melanotos</i>	Mi	Mi / Ma	-	✓	-	-	This species occurs Australia-wide with patchy records across most coastal regions and inland areas in swamps, floodplains and coastal areas.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold surface water for a sufficient time period to promote feeding and breeding, following rainfall.
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Mi	Mi / Ma	-	✓	-	-	This species occurs on all continents except Antarctica. Habitats include beaches, mudflats, fresh and brackish wetlands and salt lakes, including those far inland, freshwater swamps, grasslands, crops and ploughed fields, throughout much of Australia.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution and may contains suitable habitat; however, the species has not been recorded immediately adjacent to the Proposal Area.
Barn Swallow	<i>Hirundo rustica</i>	Mi	Mi / Ma	-	✓	-	-	Barn Swallows tend to inhabit coastal lowlands, particularly near towns, cities and particularly near water. They are insectivorous and will also forage over open habitats, particularly areas with a high density of insects such as wetlands. The species feeds by aerial pursuit, or by flying low over the ground or water, gleaning or skimming insects from plants or the water surface. The species does not breed in Australia.	Unlikely The Terrestrial Fauna Survey Area may contain suitable habitat; however, the Proposal Area does not occur within the species' known distribution, and the species has not been recorded within the Proposal Area.
Grey Wagtail	<i>Motacilla cinerea</i>	Mi	Mi / Ma	-	✓	-	-	This species is a rare vagrant to the Australian continent from the north. They inhabit areas associated with water including fast running water/streams, sewage ponds, swamp margins and saltmarshes and lawns, ploughed fields, paddocks, and airfields. They forage on the ground and feed on insects. The species does not breed in Australia.	Unlikely The Proposal Area does not occur within the species' known distribution, the Terrestrial Fauna Survey Area is unlikely to contain suitable habitat, and the species has not been recorded within the Proposal Area.
Yellow Wagtail	<i>Motacilla flava</i>	Mi	Mi / Ma	-	✓	-	-	This species is a rare vagrant to the Australian continent from the north. They inhabit areas associated with water including fast running water/streams, sewage ponds, swamp margins and	Unlikely The Proposal Area does not occur within the species' known distribution, the Terrestrial Fauna Survey Area is unlikely

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Common Name	Scientific Name	Conservation Status		Literature Sources				Habitat Preference	Likelihood Within Proposal Area (50 km buffer)
		BC Act	EPBC Act	Rapallo (2012)	Western Wildlife (2020)	Rapallo (2022)	Phoenix (2022)		
								saltmarshes and lawns, ploughed fields, paddocks, and airfields. They forage on the ground and feed on insects. The species does not breed in Australia.	to contain suitable habitat, and the species has not been recorded within the Proposal Area.
Oriental Plover	<i>Charadrius veredus</i>	Mi	Mi	ü	✓	-	-	This species occurs Australian-wide, predominantly in coastal regions and within parts of inland WA, preferring grasslands, salt fields and coastal areas within arid and semi-arid zones. Habitats are often characterised by flat inland plains, sparsely vegetated short grass with hard bare ground including claypans, playing fields, lawns and cattle camps. Often found a great distance from water.	Possible The Terrestrial Fauna Survey Area occurs within the species' known distribution and the area may contain suitable habitat; however, the species has not been recorded immediately adjacent to the Proposal Area.
Common Greenshank	<i>Tringa nebularia</i>	Mi	Mi	-	✓	-	-	This species occurs Australia-wide within all coastal regions and parts of inland WA along coastal environments (mudflats, saltmarshes, river estuaries, deltas, lagoons) and inland wetlands.	Unlikely The Terrestrial Fauna Survey Area occurs within the species' known distribution; however, permanent water is unlikely to occur within the Proposal Area, and areas immediately adjacent, and the area is also unlikely to hold surface water for a sufficient time period to promote feeding and breeding, following rainfall.

APPENDIX I: SRE STATUS CLASSIFICATION

SRE Status	Definition
Confirmed	This category applies when the identity of the taxon is unambiguous and its distribution is less than 10,000 km ² based on publicly available vouchered records. Supporting data can be either genomic (from DNA sequences) or morphological, ideally both.
Potential	<p>This category applies to situations where there are knowledge gaps for the taxon. The following sub-categories further elucidate this status:</p> <ul style="list-style-type: none"> • Data Deficiency (DD): This category covers taxa for which there is insufficient data available to determine SRE status. Factors that fall under this category include: <ul style="list-style-type: none"> ○ insufficient geographic information, and/or ○ inappropriate life stages prevent identification to species level. • Habitat Indicators (H): This category employs habitat characteristics to evaluate SRE status when habitats are known to support SRE taxa. For example, many species sampled from subterranean habitats are known to be range restricted; a new species discovered from such habitat therefore has greater potential to be range restricted (i.e. an SRE) than widespread. • Morphological Evidence (M): This category uses one or more morphological characters that are characteristic of SRE taxa inhabiting restricted environments, e.g. the specialised morphological features of animals adapted to subterranean habitats, including body markings that are absent or significantly paler than surface dwelling relatives, eyes that are absent or significantly reduced, and/or longer appendages (legs and antennae) than surface relatives.
Unlikely	Includes potentially new species that do not possess the traits of a SRE species (i.e. biological or habitat factors). For example, this subcategory may include species recorded during a survey from one or more habitat types that have low prospectivity for SREs or species possessing very few morphological features typical of SREs.
Widespread	This category applies when vouchered evidence demonstrates a distribution greater than 10,000 km ² , or good evidence (multiple collections from different habitats) of a similarly large range.
Unknown	Usually higher-level identifications (possibly due to immature specimens) or identifications of species complexes where there have been recent revisions that make it unclear which species were originally collected. This category relies on unpublished research or expertise to develop SRE status.