



Native Vegetation Clearing Referral

Fisheries Road (Goldfields Intersection) Site Inspection Report

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July 2024



Introduction

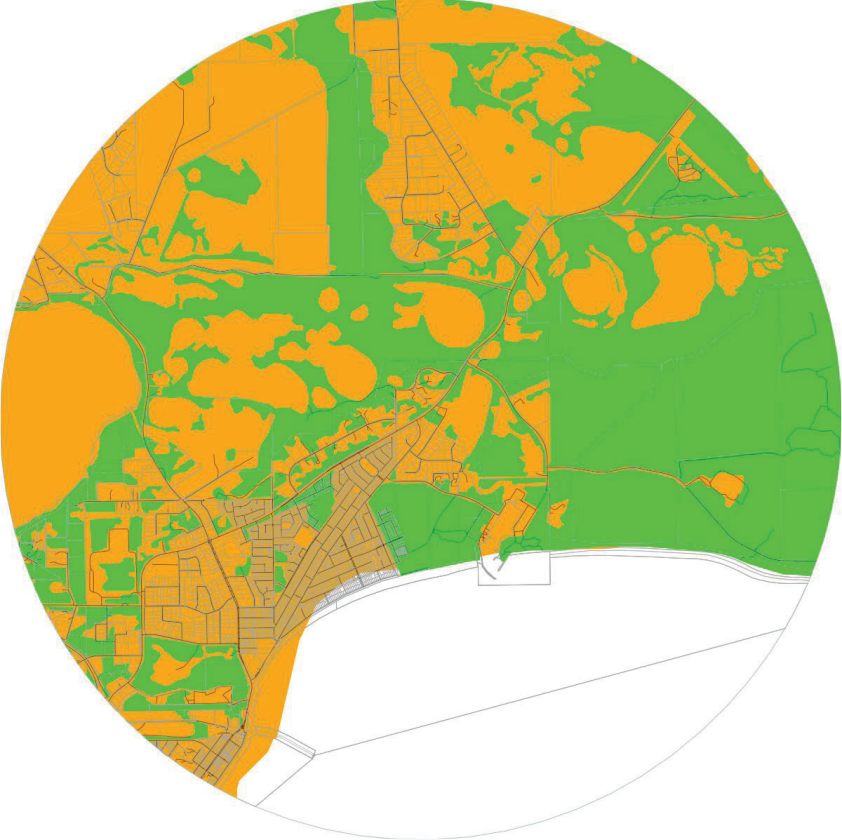
The Shire of Esperance (SOE) has proposed to clear approximately 0.12 ha of native vegetation located within the Fisheries Road Reserve (east of Goldfield Road Intersection) from SLK 2.86 to 3.15 (Main Roads, 2024). Native vegetation is proposed to be cleared for the relocation of Eastern Suburbs Water Supply line associated with intersection upgrades at the intersection of Goldfields and Fisheries roads. Refer to Figure 1 for a map of the proposed area.

Desktop Summary

Prior to the site inspection, the Shire of Esperance's Desktop Environmental Impacts Spatial Interrogation Program (DEISIP) was utilised to conduct a comprehensive desktop search for an area encompassing a 20 km radius of the proposed Fisheries Road clearing site. This program consults numerous Local, State and Federal government spatial data sets to provide valuable environmental, heritage and other relevant information required in the assessment of the project against the ten clearing principles for native vegetation, regulated under Schedule 5 of the *Environmental Protection Act 1986* (EPA 1986).

Table 2. Desktop search results.

Landform	Level plain with moderately inclined dune ridges and associated swales with occasional swamps.
Soils	Tooregullup 5 Subsystem (245To_5) – calcareous deep sands, associated pale deep sands and minor calcareous shallow sands.
Geology / Regolith	Calcareous and predominantly unconsolidated Quaternary coastal sands.

Vegetation remaining within 5km (%)	<p>45.7% of vegetation remains within 5 km of the proposed project area (As shown in green on map below). Note: This is an under representation of the exact figure due to the large area of open water within the Lake Warden Wetland System included as cleared, as shown in the diagram below).</p> 
Threatened and Priority flora (Appendix 1)	<p>Twenty five PF and no TF were recorded within 20 km of the Fisheries Road (Goldfields Intersection) project.</p>
Threatened Ecological Communities (Appendix 3)	<p>Two TEC / PECs were identified as occurring within 20 km of the site:</p> <ul style="list-style-type: none"> • EN / P3 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan)' TEC / PEC; and • VU / P3 'Subtropical and Temperate Coastal Saltmarsh (Coastal Saltmarsh)' TEC / PEC.
Threatened and Priority fauna (Appendix 2)	<p>Fifty one conservation-listed fauna species were recorded within 20 km of the Reserve</p>
Closest conservation reserve	<p>Woody Lake Nature Reserve (Reserve 15231) (part of the RAMSAR listed Lake Warden Wetland System) is the closest conservation reserve to the site, located 339m to the north west of the site.</p>
Aboriginal heritage	<p>The closest Registered Aboriginal Heritage sites to the proposed project area is Barndi Creek, which is located 640m from the site.</p>

The proposed Fisheries Road (Goldfields Intersection) site is mapped as forming a component of one Beard Vegetation System Association (VSA), namely Fanny Cove 42. This VSA has been lightly cleared statewide, with approximately 94.63% of the pre-European extent remaining, and over 94% retained within the Shire of Esperance. According to 2018 data, the Fanny Cove 42 VSA is adequately conserved within the IUCN CAR reserve system, with over 64% conserved in conservation tenure.

Table 1. Quantitative statistics for current extent of pre-European Beard Vegetation System Associations within the proposed Gladstone Street (Lease Road) development site.

Vegetation System Association	Fanny Cove 42
Description	Shrublands; mallee (<i>Eucalyptus angulosa</i>) and Acacia scrub on south coastal dunes.
Pre-European extent remaining within the Shire of Esperance	94.87%
Pre-European extent remaining within the Recherche IBRA Sub-region	95.82%
Pre-European extent in land protected for conservation	64.03%

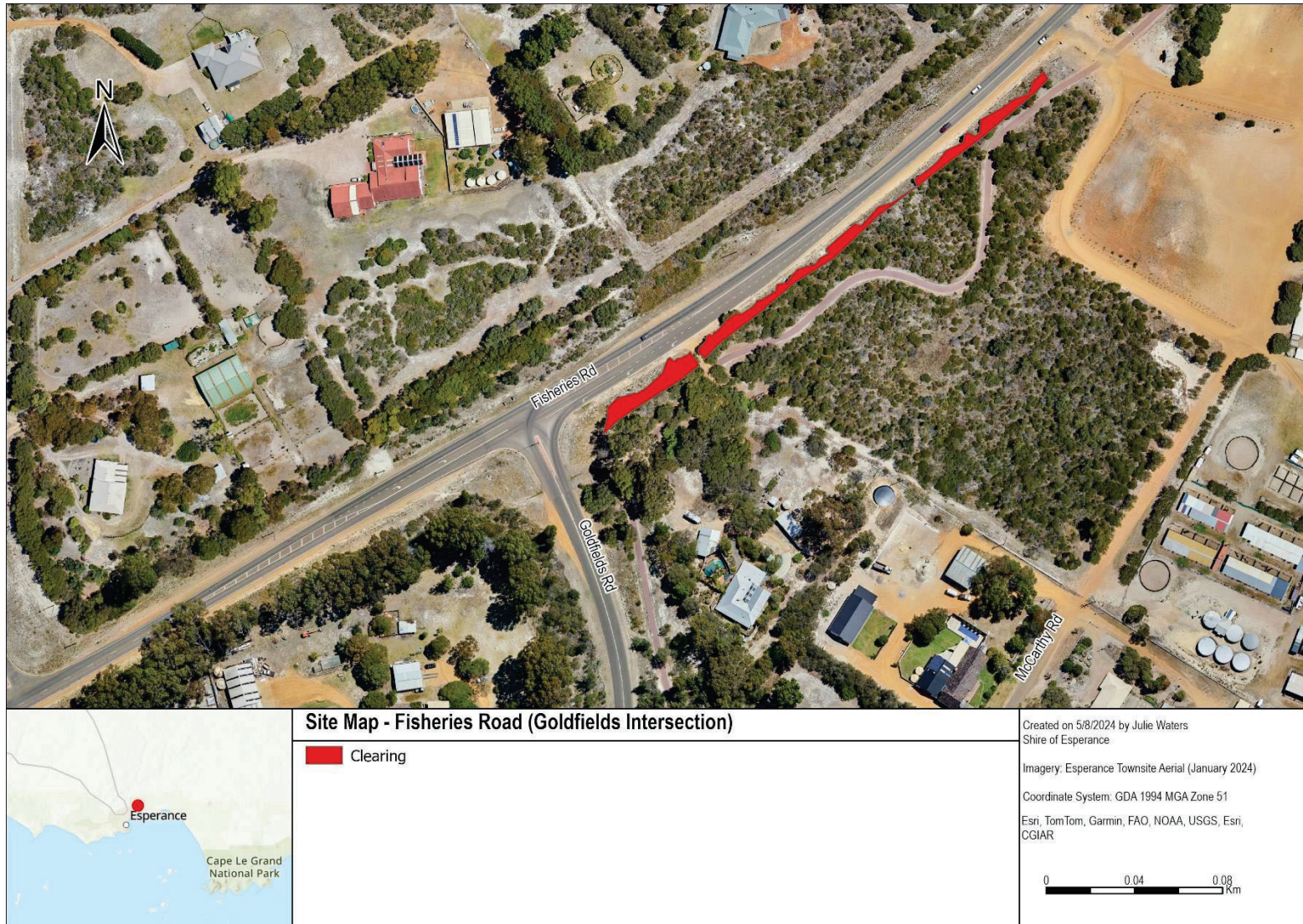


Figure 1. Location and vegetation to be cleared of proposed Fisheries Road (Goldfields Intersection) site. (A point within the site is 400397mE, 6,257384 mE, GDA94, Zone 51).

Site Inspection

A site inspection was conducted by Julie Waters (Environmental Coordinator) of the Shire of Esperance on the 29th of July 2024. The site was characterised by coastal acacia scrub on sands, and was heavily infested by a variety of weeds.

Vegetation Type

Approximately 0.12 ha of native vegetation was present within the project site, which was classified during the site inspection into one distinct vegetation type:

- A. *Acacia saligna* and *Acacia cyclops* and shrubland over *Spyridium globulosum*, *Acacia cochlearis*, *Myoporum insulare* scrub on coastal dunes.

NVIS L5 description:

U[^] *Acacia saligna*, *Acacia cyclops*, [^]tall shrubs\5\c; M[^] *Spyridium globulosum*, *Acacia cochlearis*, *Myoporum insulare*\[^]medium shrubs\3\c; G[^] *Rhagodia baccata*, *Tetragonia implexicoma*, *Dianella brevicaulis*\[^]low shrubs, vines, sedges\2\c.

The observed native vegetation was congruent with the description for the Fanny Cove 42 VSA.

Vegetation Condition

Vegetation was in condition was in Good condition (Keighery 1994). Primary causes of degradation observed to be afflicting the site were invasion by and establishment of environmental weeds, notably Victorian Tea Tree (*Gaudium laevigatum*), and the Weed of National Significance (WONS) / Declared Pest (DP) Bridal Creeper (*Asparagus asparagoides*). Historical clearing has pre-disposed the site to weed invasion.

Threatened and Priority Ecological Communities

The Kwongkan TEC / PEC, listed as EN under the EPBC Act and P3 under the BC Act, was determined in the desktop assessment to be likely to occur within the proposed Fisheries Road (Goldfields Intersection) site due to the close proximity (<1km) of a known occurrence. However, the vegetation type observed lacked representation by Proteaceous species, and existed in Good condition. No other TECs or PECs were recognised as being resembled by any of the distinguished vegetation types, including the Coastal Saltmarsh TEC / PEC which was detected in the desktop assessment as occurring (<1km) from the site near Bandy Creek.

Flora

During the field survey, a total of 23 floral taxa were identified, of which ten were native, non-threatened flora and 13 were exotic or invasive weed species, including non-endemic Western Australian native species, the Peppermint Tree (*Agonis flexuosa*). *Agonis flexuosa* is naturalising throughout coastal vegetation across the Recherche IBRA subregion.

Problematic environmental weeds noted to occur within the proposed Fisheries Road (Goldfields Intersection) site included the WONS / DP, *Asparagus asparagoides* (Bridal Creeper). The Victorian Tea Tree (*Gaudium laevigatum*) is the most prevalent and environmentally-destructive species at present at the site. This large invasive shrub, which produces leaf litter secreting allelopathic chemicals that prevent native species from germinating, has created monocultures across the Esperance sandplains, and is a priority environmental weed under the Shire of Esperance *Environmental Weed Strategy 2009 – 2018* (Field, 2008).

Other key environmental weeds impacting the vegetation condition at the site include *Gazania linearis* (Treasure Flower) and *Foeniculum vulgare* (Fennel).

A full species list is presented in Table 3. No TF or PF identified in the desktop assessment were detected, and a post-survey likelihood of occurrence assessment indicated no species were likely to occur due to lack of suitable habitat and no significant limitations to the species' detectability.

Table 3. Incidental list of flora species within proposed Fisheries Road (Goldfields Intersection) site.

Family	Species	Common Name	Exotic
Aizoaceae	<i>Tetragonia implexicoma</i>	Bower Spinach	
Apiaceae	<i>Foeniculum vulgare</i>	Fennel	*
Asparagaceae	<i>Asparagus asparagoides</i>	Bridal Creeper	* WONS / DP
Asteraceae	<i>Gazania linearis</i>	Treasure Flower	*
Asteraceae	<i>Osteospermum ecklonis</i>	Veld Daisy	*
Asteraceae	<i>Sonchus oleraceus</i>	Sow Thistle	*
Brassicaceae	<i>Raphanus raphanistrum</i>	Wild Radish	*
Chenopodiaceae	<i>Rhagodia baccata</i>	Berry Saltbush	
Cyperaceae	<i>Caustis dioica</i>		
Cyperaceae	<i>Lepidosperma squamatum</i>		
Ericaceae	<i>Leucopogon obovatus</i>	Coast Beard-heath	
Euphorbiaceae	<i>Euphorbia terracina</i>	Geraldton Carnation Weed	*
Fabaceae	<i>Acacia cochlearis</i>	Rigid Wattle	
Fabaceae	<i>Acacia cyclops</i>	Coast Wattle	
Fabaceae	<i>Acacia saligna</i>	Orange Wattle	
Fabaceae	<i>Templetonia retusa</i>	Cockie's Tongue	
Geraniaceae	<i>Pelargonium capitatum</i>	Rose Pelargonium	*
Goodeniaceae	<i>Scaevola crassifolia</i>		
Hemerocallidaceae	<i>Dianella brevicaulis</i>	Coast Flax-lily	
Myrtaceae	<i>Agonis flexuosa</i>	Peppermint Tree	*
Myrtaceae	<i>Gaudium laevigatum</i>	Victorian Tea Tree	*
Pittosporaceae	<i>Billardiera fusiformis</i>	Australian Bluebell	
Poaceae	<i>Cenchrus clandestinus</i>	Kikuyu	*
Poaceae	<i>Eragrostis curvula</i>	African Lovegrass	*
Poaceae	<i>Stenotaphrum secundatum</i>	Buffalo Grass	*
Rhamnaceae	<i>Spyridium globulosum</i>	Basket Bush	
Santalaceae	<i>Exocarpos sparteus</i>	Broom Ballart	
Scrophulariaceae	<i>Myoporum insulare</i>	Common Boobialla	

Fauna

During the site inspection Western wattle birds and New holland honey eaters were observed. An assessment of the suitability of existing vegetation for providing habitat for conservation-significant species considered likely or possible to occur in the pre-survey LOO was undertaken. Based on field observations, the highly-degraded native vegetation does not provide high-quality habitat for any conservation-listed species, and provides marginal, low-quality habitat for the Carnaby's black cockatoo (*Zanda latirostris*, EN / EN), Recherche Cape Barren goose (*Cereopsis novaehollandiae grisea*, VU / VU), Quenda (*Isoodon obesulus fusciventer*, P4), Southern Death Adder (*Acanthophis antarcticus*, P3) and Peregrine falcon (*Falco peregrinus*, OS). Therefore, the remnant was not considered to constitute significant habitat for any threatened or priority-listed fauna.

The Recherche Cape Barren goose most likely utilises the cleared areas adjacent to the vegetation remnant for grazing on the available grasses and herbs during the non-breeding season (summer and autumn); therefore, the vegetation does not form significant habitat. The Carnaby's black cockatoo may opportunistically forage on the *Acacia cyclops* seed pods whilst moving between remnants of high-quality foraging habitat and nearby roosts.

Marginal habitat is offered for the Quenda. Quenda most likely persist in adjoining areas of native coastal and dune vegetation, where ground cover and fungal activity is higher, and where dune swales are present. The high surface area to volume ratio of the remnant also suggests that Quenda using this remnant would be highly susceptible to disturbance by vehicles, dogs, and predation by feral foxes and roaming domestic cats.

Photos

All photos were taken by Shire of Esperance Environmental Coordinator, Julie Waters, on the 29th of July 2024.



Figure 3. Clearing area looking west along Fisheries Road towards Goldfields Road intersection. (Note pink marker spray of ground indicating southern extent of clearing).



Figure 4. Weed invasion along the site.



Figure 5. Eastern end of clearing area looking west along Fisheries Road towards Goldfields Road intersection.

References

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Appendix 1: Threatened and Priority Flora Desktop Survey

Data provided by Department of Biodiversity, Conservation and Attractions (DBCA) and Western Australian Herbarium in June 2024 was used to assess threatened flora (TF), priority flora (PF), and threatened (TEC) and priority (PEC) ecological communities within 20 km radius of the site. Specifically, spatial data included;

- WAHerb extract (DBCA 2024).
- Threatened and Priority Reporting (TPFL; DBCA 2024).
- Esperance District Threatened Flora (DBCA 2024).

Taxon	WA Status	Distance (m)
<i>Carpobrotus</i> sp. Lateral Flowers (N. Gibson & M. Lyons 973)	2	2471.33808
<i>Austrobaeckea uncinella</i>	3	3209.34357
<i>Tecticornia indefessa</i>	2	3791.69938
<i>Grevillea baxteri</i>	4	4020.42032
<i>Comesperma calcicola</i>	3	4828.41459
<i>Leucopogon corymbiformis</i>	2	5029.42115
<i>Eucalyptus x missilis</i>	4	5280.53941
<i>Banksia prolata</i> subsp. <i>calcicola</i>	4	5673.85987
<i>Pityrodia chrysocalyx</i>	3	5673.85987
<i>Cyathostemon</i> sp. Esperance (A. Fairall 2431)	1	5678.43669
<i>Hopkinsia adscendens</i>	3	5678.43669
<i>Lepidium fasciculatum</i>	3	5678.43669
<i>Daviesia pauciflora</i>	3	6910.78147
<i>Hibbertia turleyana</i>	2	7068.50436
<i>Corysanthes limpida</i>	4	7242.34391
<i>Hibbertia carinata</i>	1	7276.27467
<i>Dampiera sericantha</i>	3	7855.82156
<i>Myriophyllum muelleri</i>	2	8214.15084
<i>Styphelia rotundifolia</i>	3	8292.85571
<i>Adelphacme minima</i>	3	11567.7954
<i>Paracaleana parvula</i>	2	14061.07
<i>Eucalyptus foliosa</i>	1	14101.1771
<i>Kunzea salina</i>	3	15258.7619
<i>Schoenus</i> sp. Grey Rhizome (K.L. Wilson 2922)	1	15424.0674
<i>Dampiera triloba</i>	3	15432.5892
<i>Velleia exigua</i>	2	15841.126
<i>Kennedia beckxiana</i>	4	15916.4118
<i>Eucalyptus preissiana</i> subsp. <i>lobata</i>	4	15954.8366
<i>Comesperma griffinii</i>	2	15974.7819
<i>Persoonia scabra</i>	3	15986.7182
<i>Goodenia exigua</i>	2	16079.9385
<i>Gonocarpus pycnostachyus</i>	3	16137.1294
<i>Austrostipa mundula</i>	3	16144.8652

Taxon	WA Status	Distance (m)
<i>Galium leptogonium</i>	3	16159.1328
<i>Eucalyptus famelica</i>	3	16375.6395
<i>Lobelia archeri</i>	1	16521.534
<i>Leucopogon interruptus</i>	3	16896.1859
<i>Leucopogon apiculatus</i>	3	17680.913
<i>Goodenia quadrilocularis</i>	2	17721.0115
<i>Dampiera decurrens</i>	2	17946.8197
<i>Eucalyptus insularis subsp. insularis</i>	4	17973.5039
<i>Pterostylis faceta</i>	3	18030.7816
<i>Myosotis australis subsp. australis</i>	4	18139.6236
<i>Brachyloma mogin</i>	3	18712.8791
<i>Astartea reticulata</i>	3	18789.0645

Appendix 2: Threatened and Priority Fauna Desktop Survey

Assessment of Threatened and Priority fauna potentially occurring within 20 km of the site was conducted utilising the following sources:

- DBCA Threatened Fauna database (DBCA 2024);
- EPBC Act 1986 PMST (DCCEEW, 2024).

Scientific Name	Common Name	WA Status	EPBC Act Status	Distance (km)	Suitable habitat? Y / N	Verdict
<i>Cereopsis novaehollandiae grisea</i>	Recherche Cape Barren goose	VU	VU	0.382	Y - Low-quality foraging habitat present	Possible.
<i>Zanda latirostris</i>	Carnaby's cockatoo	EN	EN	0.382	Y - Opportunistic use of sporadic forage species present (e.g. <i>Acacia cyclops</i>).	Unlikely
<i>Actitis hypoleucos</i>	Common sandpiper	MI	MI	0.633	N	Unlikely
<i>Tringa nebularia</i>	Common greenshank	MI	MI	0.633	N	Unlikely
<i>Oxyura australis</i>	Blue-billed duck	P4		0.672	N	Unlikely
<i>Calidris ruficollis</i>	Red-necked stint	MI	MI	0.680	N	Unlikely
<i>Hydroprogne caspia</i>	Caspian tern	MI	MI	0.687	N	Unlikely
<i>Leipoa ocellata</i>	Malleefowl	VU	VU	0.693	N	Unlikely
<i>Plegadis falcinellus</i>	Glossy ibis	MI	MI	0.757	N	Unlikely
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	MI	MI	0.953	N	Unlikely
<i>Tringa glareola</i>	Wood sandpiper	MI	MI	0.953	N	Unlikely
<i>Charadrius leschenaultii</i>	Greater sand plover, large sand plover	VU	VU & MI	0.986	N	Unlikely
<i>Falco peregrinus</i>	Peregrine falcon	OS		1.081	Y - marginal and insignificant hunting habitat present	Possible
<i>Thinornis cucullatus</i>	Hooded plover, Hooded dotterel	P4		1.109	N	Unlikely
<i>Thalasseus bergii</i>	Crested tern	MI	MI	1.185	N	Unlikely
<i>Calidris melanotos</i>	Pectoral sandpiper	MI	MI	1.245	N	Unlikely

Scientific Name	Common Name	WA Status	EPBC Act Status	Distance (km)	Suitable habitat? Y / N	Verdict
<i>Limosa lapponica</i>	Bar-tailed godwit	MI	MI	1.245	N	Unlikely
<i>Dermochelys coriacea</i>	Leatherback turtle	VU	EN & MI	1.489	N	Unlikely
<i>Calidris ferruginea</i>	Curlew sandpiper	CR	CR & MI	2.480	N	Unlikely
<i>Apus pacificus</i>	Fork-tailed swift	MI	MI	2.797	N	Unlikely
<i>Pluvialis squatarola</i>	Grey plover	MI	MI	3.364	N	Unlikely
<i>Thalassarche chlororhynchos</i>	Atlantic yellow-nosed albatross	VU	MI	3.468	N	Unlikely
<i>Puffinus huttoni</i>	Hutton's shearwater	EN		3.516	N	Unlikely
<i>Calidris alba</i>	Sanderling	MI	MI	3.546	N	Unlikely
<i>Eubalaena australis</i>	Southern right whale	VU	EN & MI	3.773	N	Unlikely
<i>Tringa stagnatilis</i>	Marsh sandpiper	MI	MI	4.152	N	Unlikely
<i>Calidris canutus</i>	Red knot	EN	EN & MI	4.962	N	Unlikely
<i>Tringa brevipes</i>	Grey-tailed tattler	MI & P4	MI	4.962	N	Unlikely
<i>Ardenna carneipes</i>	Flesh-footed shearwater	VU	MI	5.032	N	Unlikely
<i>Neophoca cinerea</i>	Australian sea lion	EN	EN	5.032	N	Unlikely
<i>Stercorarius antarcticus lonnbergi</i>	Brown skua, Subantarctic skua	P4		5.032	N	Unlikely
<i>Westralunio carteri</i>	Carter's freshwater mussel	VU	VU	5.032	N	Unlikely
<i>Notamacropus irma</i>	Western brush wallaby	P4		5.344	N	Unlikely
<i>Isoodon fusciventer</i>	Quenda, southwestern brown bandicoot	P4		6.266	Y – marginal	Unlikely
<i>Acanthophis antarcticus</i>	Southern death adder	P3		6.419	Y – marginal	Unlikely
<i>Arctocephalus forsteri</i>	New Zealand fur-seal, long-nosed fur-seal	OS		6.419	N	Unlikely
<i>Elanus scriptus</i>	Letter-winged kite	P4		7.819	N	Unlikely
<i>Arenaria interpres</i>	Ruddy turnstone	MI	MI	7.829	N	Unlikely
<i>Calidris tenuirostris</i>	Great knot	CR	CR & MI	7.829	N	Unlikely

Scientific Name	Common Name	WA Status	EPBC Act Status	Distance (km)	Suitable habitat? Y / N	Verdict
<i>Diomedea exulans</i>	Wandering albatross	VU	VU & MI	10.136	N	Unlikely
<i>Ardenna tenuirostris</i>	Short-tailed shearwater	MI	MI	10.659	N	Unlikely
<i>Numenius phaeopus</i>	Whimbrel	MI	MI	10.659	N	Unlikely
<i>Oceanites oceanicus</i>	Wilson's storm-petrel	MI	MI	10.659	N	Unlikely
<i>Thalassarche cauta cauta</i>	Shy albatross	VU	EN & MI	10.659	N	Unlikely
<i>Charadrius bicinctus</i>	Double-banded plover	MI	MI	13.127	N	Unlikely
<i>Charadrius mongolus</i>	Lesser sand plover	EN	EN & MI	13.326	N	Unlikely
<i>Pluvialis fulva</i>	Pacific golden plover	MI	MI	13.326	N	Unlikely
<i>Atelomastix dendritica</i>	Recherche atelomastix millipede	VU		15.508	N	Unlikely
<i>Pandion haliaetus</i>	Osprey	MI	MI	18.055	N	Unlikely
<i>Stercorarius parasiticus</i>	Arctic jaeger, Arctic skua	MI	MI	18.322	N	Unlikely
<i>Parantechinus apicalis</i>	Dibbler	EN	EN	19.673	N	Unlikely

Appendix 3: Threatened and Priority Ecological Communities Desktop Survey

Ecological Community	BC Act Status	EPBC Act Status	Record Distance (km)	Verdict
Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia (Kwongan)	Priority 3	Endangered	0.646	Absent
Subtropical and Temperate Coastal Saltmarsh (Coastal Saltmarsh)	Priority 3	Vulnerable	0.938	Absent