ATTACHMENT 13: BLUESPOTTED EMPEROR STUDY SUMMARY

18 July 2025

1. Overview

Mardie Minerals Pty Ltd (Mardie Minerals), a wholly owned subsidiary of BCI Minerals Limited (BCI), is seeking under EPBC 2024/10054 to transport and dispose of dredge spoil from capital and maintenance dredging activities for the Mardie Project (EPBC 2018/8236 and EPBC 2022/9169; Approved Proposal) within a new defined dredge material placement area (DMPA) referred to as 'DMPA4' (Proposed Action).

O2 Marine Group (O2 Marine) (2025a [Draft]) are currently undertaking a targeted fish survey, on behalf of Mardie Minerals, to evaluate the presence and biomass of Bluespotted Emperor (*Lethrinus punctulatus*), and fish community composition at DMPA4 and nearshore areas for the Approved Proposal. As part of this study, O2 Marine reviewed overlapping commercial fisheries with DMPA4 and the zones of impact (Zone of Moderate Impact (ZoMI) / Zone of High Impact (ZoHI), habitat availability for indicator species, and additional Benthic Communities and Habitat (BCH) data opportunistically obtained in May and July 2025 during implementation of the Benthic Communities and Habitat Monitoring and Management Plan (BCHMMP) (O2 Marine 2023) and the Draft Dredge and Spoil Disposal Management Plan (DSDMP) (newest version (Revision 4) provided with the Preliminary Document referenced as O2 Marine (2025)).

This study is still underway, however, this Attachment provides a summary of the interim findings of O2 Marine (2025a [Draft]).

1.1 Bluespotted Emperor

Bluespotted Emperor is endemic to north-western Australia and are found in the waters off Western Australia (WA) from Geraldton to the Kimberley region, with some occurrences in the Northern Territory. The Pilbara region has the highest relative abundance of the Bluespotted Emperor, and the species is of high commercial importance and often cited as a key species of concern by fishing groups including the Western Australia Fishing Industry Council (WAFIC) and the Department of Primary Industries and Regional Development (DPIRD).

Spawning and nursery areas for the species are thought to be restricted to the west Pilbara. Bluespotted Emperor are broadcast spawners where the eggs and larval stages are pelagic. Spawning can occur from June to April, however there are two peak reproductive periods; mid-winter to mid-spring (July-October) and early Autumn (March), which align with the two recruiting cohorts at the Dampier Archipelago (Wakefield et al. 2024).

Juvenile Bluespotted emperor occur exclusively in shallow (< 10 m) inshore macroalgae habitats (i.e. *sargassum* complex), with predominantly two cohorts per year recruiting from these nursery habitats in the Dampier Archipelago. Juvenile Bluespotted emperors are vulnerable to loss of macroalgae nursery habitat (Wakefield et al. 2024) as they are restricted to this habitat type for the first 18 months of life. Their preferred habitat is primarily Sargassum dominated macroalgal habitats which occurs in shallow waters (<~8 m depth) around nearshore islands and coastal waters (DPIRD 2023; Wakefield et al. 2024). Small juveniles, <200 mm, have been found to be limited to shallow waters and are predominantly found in macroalgal dominated habitats, and are rarely found in areas where sandy, coralline or sponge habitats

are present (Talyor et al. 2016), more recently Moustaka et al. (2024) found that juveniles (<140 mm) are rarely observed in mangroves and were entirely absent from coral reefs. The highest abundances of this nursery habitat are in the western Pilbara (particularly around the Dampier Archipelago and Cape Preston area), which is reflected by natural variations in Bluespotted emperor abundance along this coast (Figure 1).

As juveniles increase in size and age, they undergo an ontogenetic shift at ~18 months and where they move further offshore into waters across the continental shelf. The length and age at which 50% of female Bluespotted emperor attained sexual maturity in the Pilbara region is 206 mm fork length and 1.6 years (Wakefield et al., 2024). As the species matures it undergoes as cross-shelf ontogenetic migration, from their shallow coastal macroalgal habitat to deeper offshore waters (Taylor et al. 2016; Moustaka et al. 2024). Adult Bluespotted emperor are typically found in waters depths between 80 m to 150 m, and are often associated with coral, gravel or rubble, and sponge dominated habitats, and can be found in waters adjacent to inshore macroalgae beds (DPIRD 2023). Research in the Dampier Archipelago found larger mature Bluespotted emperor were more common in areas where the water depth was >40 m (Taylor et al. 2016).

A recent study by Moustaka et al (2024) highlights the importance of broad scale habitat availability for Bluespotted emperor. Highly connected macroalgal seascapes appear to similarly moderate post-settlement processes. Juveniles are almost exclusively observed in macroalgal habitats, with higher densities supported when there is a greater areal extent of macroalgae in the surrounding seascape which provides increased shelter and foraging grounds. Increasing local macroalgae cover and water temperatures had the greatest impact on biomass and net productivity, and that macroalgae near complex reefs supports the fastest fish growth. It is understood that DPIRD have targeted monitoring programs for the species around islands within the Dampier Archipelago, which is a known nursery area possessing these characteristics.

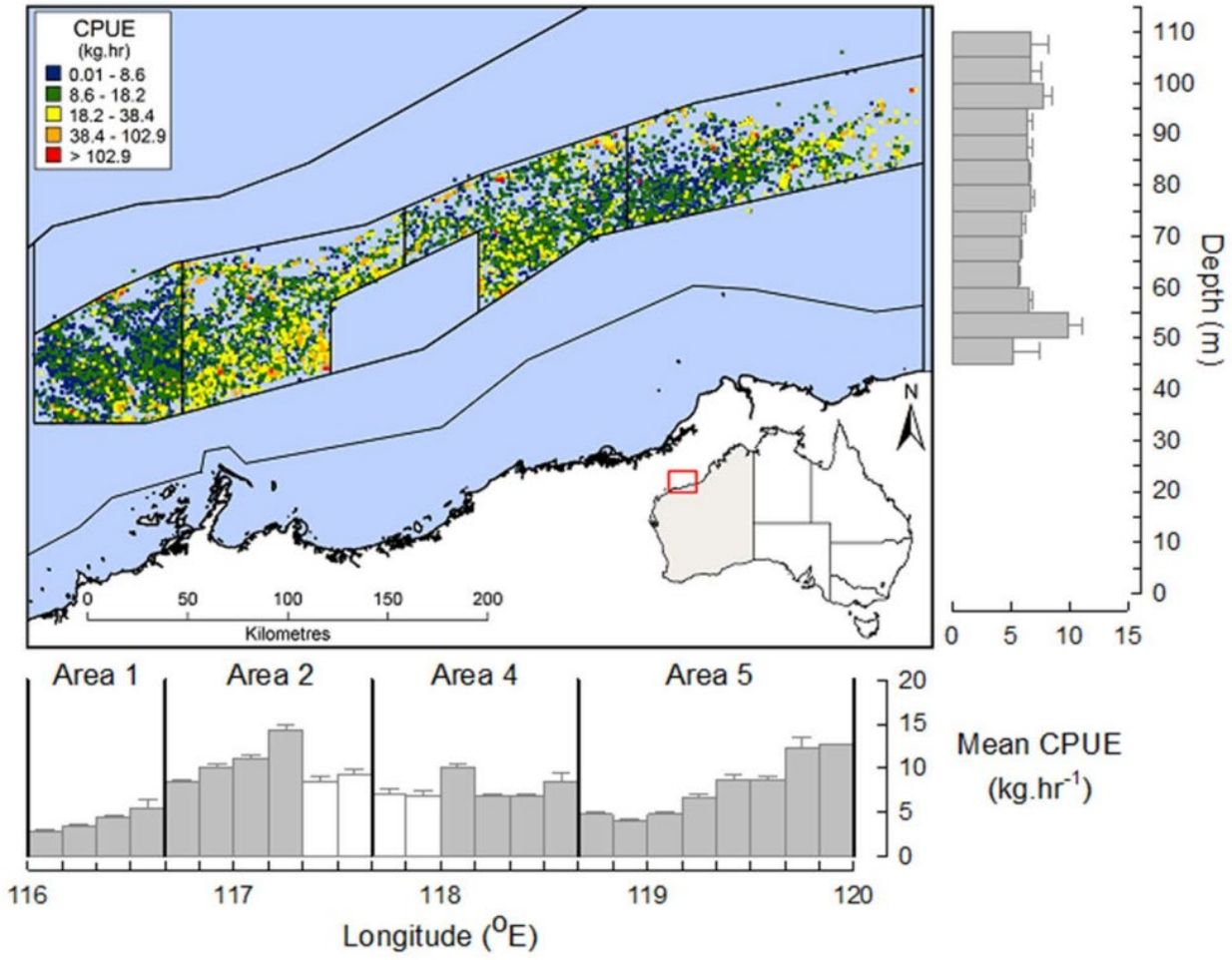


Figure 1: Spatial distribution of the nominal catch per unit effort (CPUE) of Bluespotted emperor for the midpoint of each trawl conducted in the PFTF from 2004-2008 (n = 19,491 trawls). The mean CPUE is shown for each 10' of longitude (below, white bars represent longitudes incorporating the closed area 3), and 5 m of depth intervals (right) (Wakefield et al. 2024)

2. Surveys

1.2 Specific Habitat Surveys

Additional BCH data was opportunistically obtained for the approved nearshore dredge area in May 2025 (Figure 2) and the proposed DMPA4 area in July 2025 (Figure 3) while implementing the BCHMMP (O2 Marine 2023) and commencing implementation of the Draft DSDMP. The results of the BCH monitoring surveys of the approved nearshore dredge area and the proposed DMPA4 area are presented in Table 1 and Table 2, respectively.

Preliminary habitat mapping indicates that these areas are predominantly bare substrate with sparse filter feeders. All nearshore sites (not part of the Proposed Action) are shallow enough to support juvenile Bluespotted emperor, however, their preferred habitat of complex macroalgae beds within an interconnected seascape is predominantly absent, with the macroalgae being of low cover and *Sargassum* only present at only one surveyed site (Ref 1 - Table 1). However, it is noted that hard substrate and potential attachment points of macroalgae are found at other sites. The BCH surveys were

conducted during the summer months, which represents the period where if the area supports *Sargassum* then it would present. For sites located around the jetty infrastructure (not part of the Proposed Action), BCH diversity was low, predominantly sparse (0 – 1%) filter feeders and individual coral colonies.

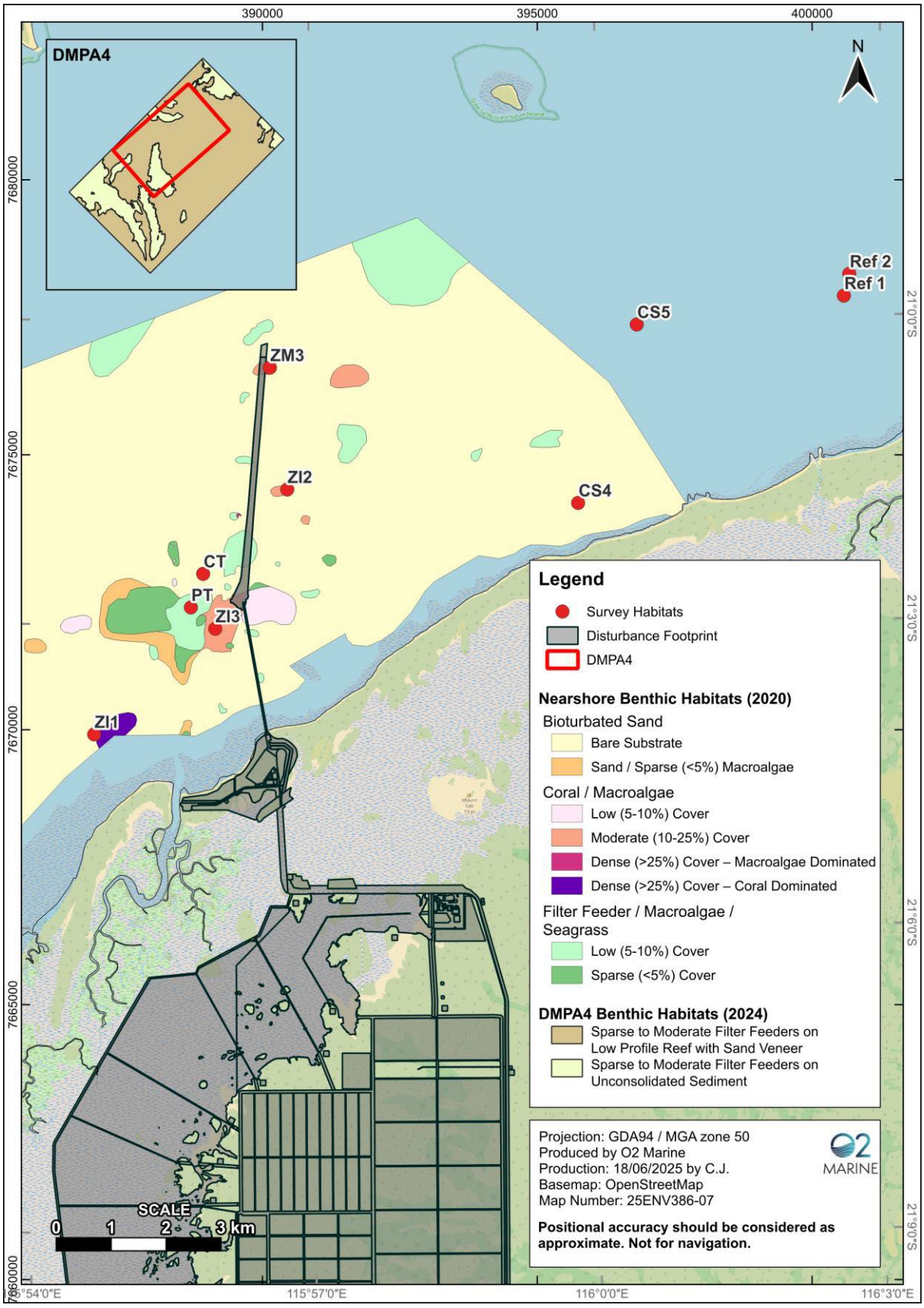


Figure 2: Nearshore BCH monitoring locations surveyed in May 2025 (relevant to Commercial Fisheries)

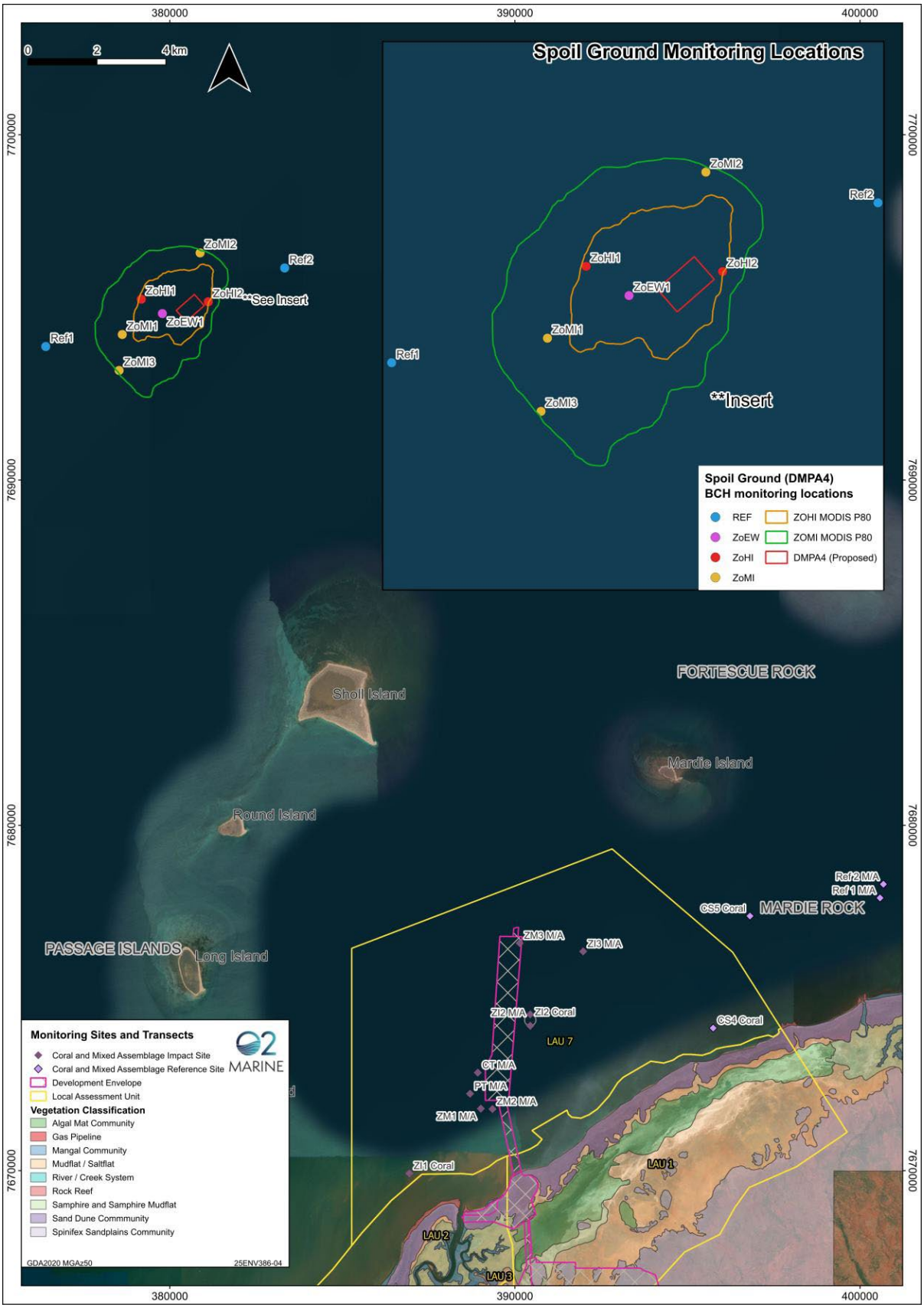
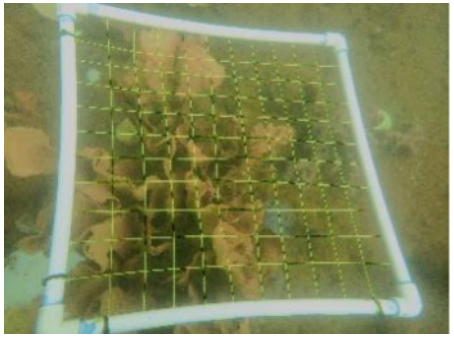


Figure 3: DMPA4 BCH monitoring locations surveyed in July 2025 (relevant to Commercial Fisheries)

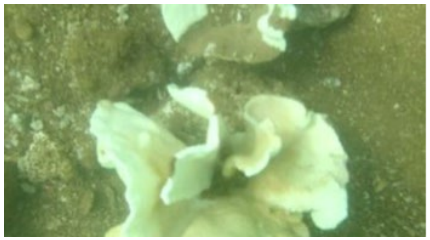
Table 1:BCH of the approved nearshore dredge channel (relevant to Bluespotted Emperor)

Site ID	Target habitats	Observations	Example Image
ZI2	• Coral • Macroalgae • Mixed Assemblage	• Substrate: Soft sediment interspersed with rubble or low reef • Habitat: Low (10 – 25%) to Moderate (25 – 50%) mixed assemblage consisting of sponges and hard corals. Sparse (0 – 1%) brown filamentous macroalgae was observed on one of the Coral LIT transects.Hard corals were generally *Turbinaria*, *Merulina*, *Favites*, *Duncanospammia* and *Goniastrea* colonies. The majority were bleached. Significant juveniles (<10 cm) present). Mixed assemblages were predominantly a variety of sponges, with some ascidians observed. • Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, and distant from reefs and patches of other (dense) macroalgae.	 
ZI3	• Macroalgae • Mixed Assemblage	• Substrate: Soft sediment. Some small rubble or coarse shell. • Habitat: Sparse (0-1%) coverage of macroalgae, either brown or red branching morphologies. • Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, and distant from reefs and patches of other (dense) macroalgae.	

Site ID	Target habitats	Observations	Example Image
			
CS4	• Coral • Macroalgae	• Substrate: Low profile reef, rubble and soft sediment. • Habitat: Low (10 – 25%) to Moderate (25 – 50%) cover of predominantly hard corals (*Turbinaria*, *Porites*, *Dipsastrea* etc.). Sponges also present. • Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, and distant from reefs and patches of other (dense) macroalgae.	 

Site ID	Target habitats	Observations	Example Image
CS5	• Coral • Macroalgae	• Substrate: Low profile reef with coarse shell sediment. • Habitat: Low (10 – 25%) to Moderate (25 – 50%) cover of predominantly hard corals (*Turbinaria*, *Favites* and *Astrea*). Sponges also present. Small proportion of brown and red foliose macroalgae. • Suitable Bluespotted emperor habitat: Unlikely to be juvenile habitat. Although macroalgae is present, it is sparse and low of cover which does not represent preferred habitat characteristics. It is also distant from reefs and patches of other (dense) macroalgae.	 
ZI1	• Coral • Mixed Assemblage	• Substrate: Low profile reef with coarse shell sediment. • Habitat: Low (10 – 25%) to Moderate (25 – 50%) cover of predominantly hard corals (*Turbinaria*, *Favites*, *Goniopora*, *Dipsastrea*). Sponges and echinoderms also present. • Suitable Bluespotted emperor habitat: Unlikely to be juvenile habitat. Although macroalgae is present, it is sparse and low of cover which does not represent preferred habitat characteristics. It is also distant from reefs and patches of other (dense) macroalgae.	

Site ID	Target habitats	Observations	Example Image
			
ZM3	• Mixed Assemblage	• Substrate: Coarse shell and soft sediment with rubble. • Habitat: Low (1 – 10%) density mixed assemblages. Hard corals present largely consist of juvenile *Turbinaria* and free-living *Fungia*. Sponges and brown foliose macroalgae also present. • Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, and distant from reefs and patches of other (dense) macroalgae.	 
CT	• Mixed Assemblage	• Substrate: Soft sediment with some rubble. • Habitat: Sparse (1 – 10%) mixed assemblage consisting of hard coral (*Turbinaria* dominant), including juveniles, and sponges. • Suitable Bluespotted emperor habitat: Unlikely to be juvenile habitat. Although macroalgae is present, it is sparse and low of cover which does not represent	

Site ID	Target habitats	Observations	Example Image
		preferred habitat characteristics. It is also distant from reefs and patches of other (dense) macroalgae.	
PT	• Mixed Assemblage	• Substrate: Soft sediment with some rubble • Habitat: Sparse (1 – 10%) mixed assemblage consisting of hard coral (*Turbinaria*, *Merulina*) and sponges. • Suitable Bluespotted emperor habitat: Unlikely to be juvenile habitat. Although macroalgae is present, t is sparse and low of cover which does not represent preferred habitat characteristics. It is also distant from reefs and patches of other (dense) macroalgae.	 
REF 1	• Mixed Assemblage	• Low visibility. • Substrate: Low profile reef and soft sediment with coarse shell. • Habitat: Sparse (1 – 10%) to Moderate (25 - 50%) mixed assemblage. Macroalgae, including *Sargassum* observed on one transect. Hard corals consisted of large Porites colonies, *Turbinaria* and other massive and submassive colonies. No juveniles observed. Sponges and soft corals also present.	

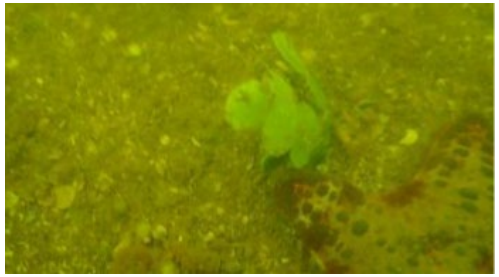
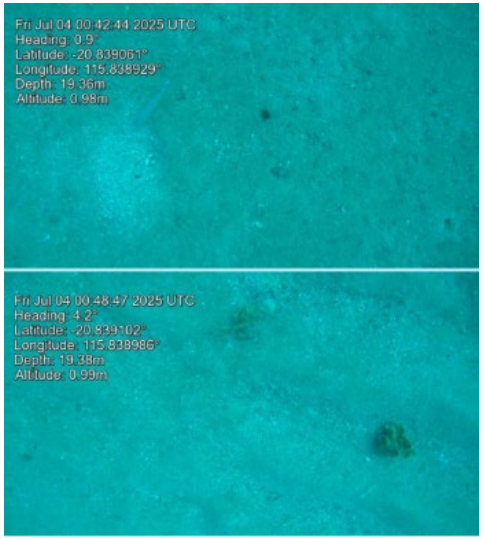
Site ID	Target habitats	Observations	Example Image
		• Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, and distant from reefs and patches of other (dense) macroalgae.	
REF 2	• Mixed Assemblage	• Low visibility. • Substrate: Soft sediment with coarse shell. • Habitat: Sparse (1 – 10%) mixed assemblage. Macroalgae was the dominant taxa, primarily *Halimeda*. Sponges and soft corals also present, as well as other invertebrates such as echinoderms, and hard corals. • Suitable Bluespotted emperor habitat: Potential juvenile habitat, but not preferred due to sparse macroalgae presence, absence of sargassum, and distant from reefs and patches of other (dense) macroalgae.	 

Table 2: BCH of DMPA4 and surrounding monitoring locations (as relevant to Bluespotted Emperor)

Site ID	Qualitative Description	Example Image of Representative Habitat
REF1	• Substrate: Soft sediment. • Habitat: Sparse (0-1%) to low (1-10%) cover mixed assemblage consisting predominantly of hard and soft corals, sponges and other octocorals. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	
REF2	• Substrate: Soft sediment. • Habitat: Sparse (0-1%) to moderate (10-25%) cover mixed assemblage. Predominantly patches of habitat interspersed with bare sediment. Hard and soft corals, including juveniles were present as well as sponges and other octocorals, such as sea whips. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	

Site ID	Qualitative Description	Example Image of Representative Habitat
ZOEW1	• Substrate: Soft sediment. • Habitat: Primarily bare substrate interspersed with isolated filter feeders (sparse (0-1%) to low (1-10%) cover). Echinoderms observed. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	
ZOHI1	• Substrate: Soft sediment. • Habitat: Primarily bare substrate interspersed with isolated filter feeders (soft corals or sponges. Sparse (0-1%) to low (1-10%) cover. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	

Site ID	Qualitative Description	Example Image of Representative Habitat
ZOHI2	• Substrate: Soft sediment. • Habitat: Primarily bare substrate interspersed with isolated filter feeders (sparse (0-1%) to low (1-10%) cover). Echinoderms observed. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	
ZOMI1	• Substrate: Soft sediment. • Habitat: Bare substrate with intermittent patches of moderate (10-25%) cover mixed assemblage consisting of soft corals and octocorals, and sponges. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	

Site ID	Qualitative Description	Example Image of Representative Habitat
ZOMI2	• Substrate: Soft sediment. • Habitat: Bare substrate and rubble with intermittent patches of moderate (10-25%) cover mixed assemblage consisting of soft corals and octocorals, and sponges. • Suitable Bluespotted emperor habitat: Does not represent juvenile habitat, being >10 m deep and lacking macroalgae. Adults may be present in low numbers as this is on continental shelf but within waters less deep than their preferred depth of 40 m, and distant to large expanses of macroalgae.	

1.3 Fish Surveys

Additionally, a study is currently underway to evaluate the presence and biomass of Bluespotted emperor, and fish community composition at DMPA4 and the approved nearshore dredge area using baited remote underwater video systems (BRUVS) and environmental DNA (eDNA). A total of seven BRUVS deployments were conducted across a range of shallow depths (3–19 m) and habitats (Figure 4). Given that the species' habitat use changes throughout its life cycle, survey sites targeted both nearshore and offshore locations, including areas where macroalgae was known to be present (Figure 4). Survey sites were also selected to achieve a before-after-control-impact design that would support an ongoing monitoring program, by sampling within and outside of the dredging zones of moderate and high impact.

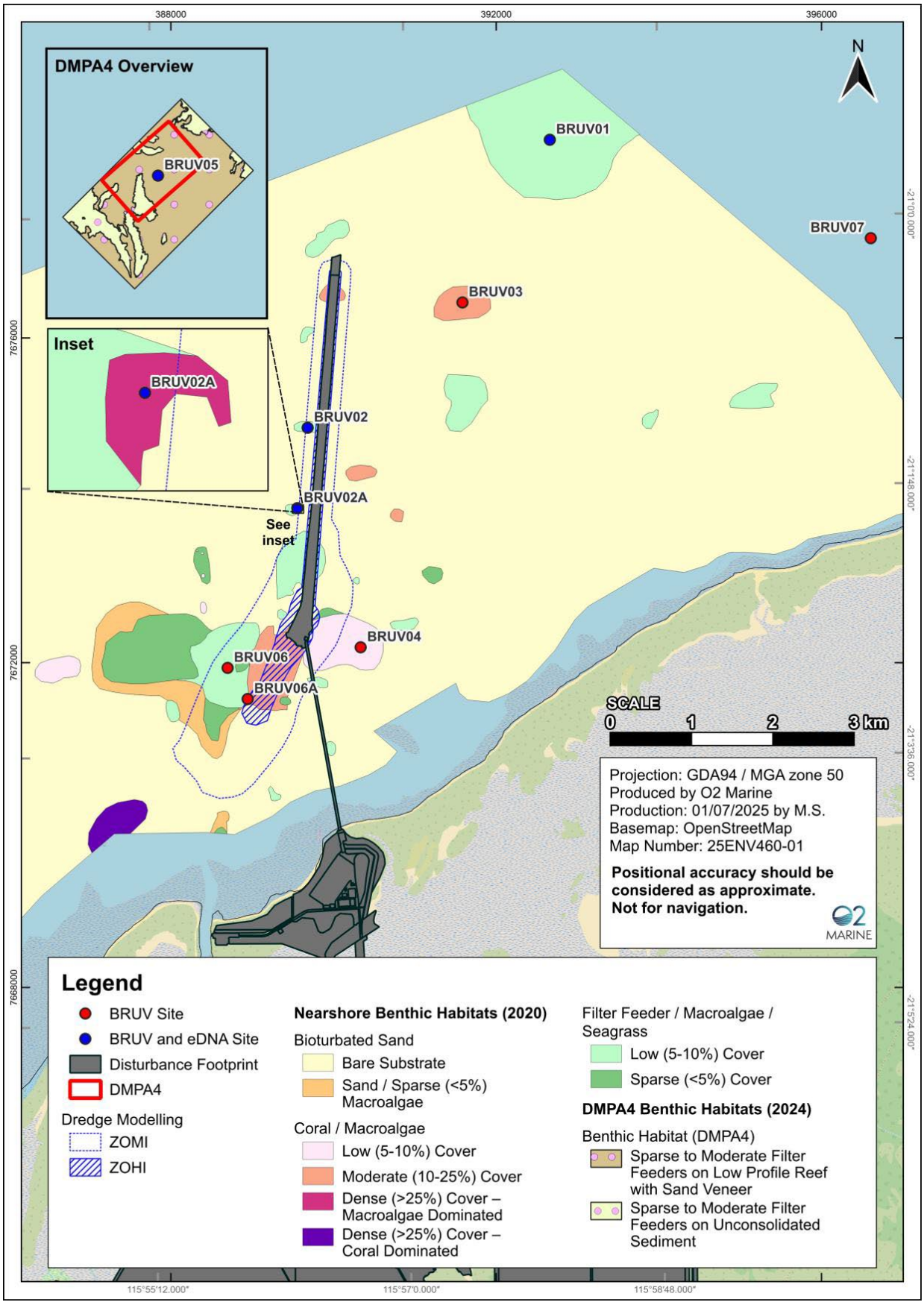


Figure 4: BRUVS and eDNA sample sites - May and July 2025

Table 3 and Figure 5 provide preliminary results from the BRUVS deployed in May 2025, which indicate Bluespotted emperor was recorded at BRUVS sites 03; 04; 05 and 06, with the most having been recorded at site 04.

Table 3: Summary of preliminary BRUVS results from May 2025

Site ID	Depth (m)	Impact / Reference	Habitat	Preliminary Observations
BRUV01	5.1	Reference	Filter feeder / macroalgae / seagrass	*Nemipteridae* (bream), *Scombridae* (Mackerel), *Carangidae* (trevally), *Rhinobatidae* (shovelnose ray), *Echeneidae* (remora)
BRUV02	5.7	Impact – ZoMI approved dredge area	Filter feeder / macroalgae / seagrass	*Nemipteridae* (bream), *Carangidae* (scad)
BRUV03	5.3	Reference	Coral / Macroalgae	*Carcharhinidae* (sandbar shark), *Rhinobatidae* (shovelnose ray), *Scombridae* (mackerel), Nemipteridae (bream), *Lethrinus punctulatus* (Bluespotted emperor), *Lutjanidae* (snapper)
BRUV04	3	Reference	Coral / Macroalgae	*Nemipteridae* (bream), *Lethrinus punctulatus* juvenile (blue spotted emperor), *Muraenidae* (moray eel), *Chaetodontidae* (butterflyfish), *Acanthuridae* (surgeonfish), *Siganidae* (rabbitfish), *Tetraodontidae* (toadfish), *Carcharhinidae* (shark), *Mullidae* (goatfish), *Lutjanidae* (snappers)
BRUV05	19	Impact – DMPA4	Spare to moderate filter feeders	*Nemipteridae* (bream), *Carangidae* (scad), *Labridae* (tuskfish), *Lethrinus spp.* (emperor), Lethrinus punctulatus (bluespotted emperor), *Siganus* (rabbitfish), *Mullidae* (goatfish), *Monacanthidae* (filefish), *Carangidae* (trevally)
BRUV06	3.1	Impact – ZoMI approved dredge area	Filter feeder / macroalgae / seagrass	*Nemipteridae* (bream), *Mullidae* (goatfish), *Carangidae* (trevally), *Rachycentridae* (cobia), *Muraenidae* (moray eel), *Scombridae* (mackerel), *Carangidae* (scad), *Lethrinus* (emperor), *Lethrinus punctulatus* (bluespotted emperor), *Tetraodontidae* (toadfish), *Carcharhinidae* (shark)
BRUV07	5.5	Reference	N/A	*Nemipteridae* (bream), *Lutjanidae* (snapper), *Scombridae* (mackerel), *Carangidae* (scad, trevally), *Dasyatoidea* (stingray), *Lethrinus* (emperor)

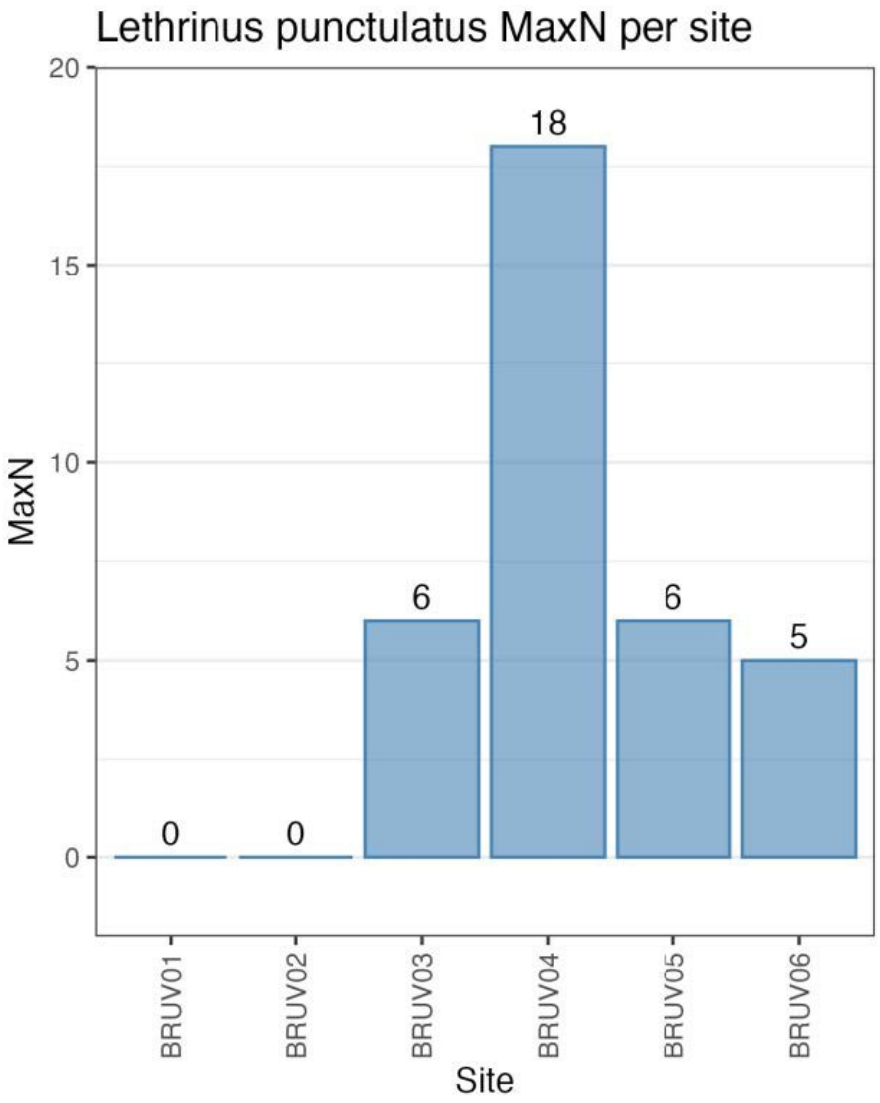


Figure 5: Count of Bluespotted Emperor fish recorded per site surveyed in May 2025

3. Summary

The BCH within DMPA4 and the approved nearshore dredging footprint do not appear to provide suitable nursery habitat due to depths greater than 10 m, and the sparse distribution of macroalgae (Table 4). Adult Bluespotted emperor may inhabit these areas in low numbers, as they may be present in continental shelf waters of at least 80 m deep (Wakefield et al. 2024). The area does not represent their preferred habitat which is ~40 m deep adjacent to large expanses of inshore macroalgae (Taylor et al. 2016; Wakefield et al., 2024).

As described by DPIRD (2023) and Wakefield et al. (2024), the preferred characteristics of Bluespotted emperor nursery habitat are *Sargassum* dominated macroalgal habitats in shallow waters (<~8 m depth) around nearshore islands and coastal waters. Sites within the nearshore area are unlikely to provide preferred juvenile Bluespotted emperor habitat, due to sparse macroalgae presence, and being distant from reefs and patches of other (dense) macroalgae. Results from the BRUVS and eDNA studies will provide greater insight into the occurrence of Bluespotted emperor at various size classes and their proportion to biomass at each survey site.

Table 4: Summary of Bluespotted Emperor habitat overlap with the approved nearshore dredging channel and DMPA4

Habitat Presence in Approved Dredge Channel	Habitat Presence at DMPA4	Commercial Fisheries Catch in Relation to the Dredge Channel and DMPA4
• Juvenile: suitable bathymetry, macroalgae habitat present suitable nursery habitat may be present. May not be preferred habitat with no in high densities or dominated by *Sargassum* species. The area does not appear to reflect a macroalgae-rich seascapes where the species is known to be most abundant (Moustaka et al. 2024). • Adult: suitable shelf habitat present and suitable BCH is present. Adults likely to be present, however, not an area recognised an area where species is most abundant.	• Juvenile: no suitable habitat present. No macroalgae present in DMPA4 or surrounding environment and water depth >10 m. • Adult: suitable shelf habitat present, not located near large expanses of inshore macroalgae habitats. Adults likely to be present, however, not an area recognised an area where species is most abundant and the species is not restricted to the area.	No commercial catch within the Pilbara Trawl (Interim) Managed Fishery (PTIMF). The Pilbara Trap Managed Fishery (PTMF) and the Pilbara Line Fishery (PLF) do not publish location of catch due to confidentiality issues, however, are both not likely to be operational in the waters around DMPA4 given that the PLF primarily targets offshore demersal scalefish species, generally in water depths >250 m (Wellington et al. 2021) and DMPA4 is located within the Inshore Closed Waters (Trap), meaning no commercial fishing would occur in this area.

Definitions

Term	Definition
Approved Proposal	The Mardie Project (EPBC 2018/8236) and the Optimised Mardie Project (EPBC 2022/9169)
BCH	Benthic Communities and Habitat
BCHMMP	Benthic Communities and Habitat Monitoring and Management Plan
BCI	BCI Minerals Limited
BRUVS	Baited Remote Underwater Video Systems
cm	centimetre
CPUE	Catch per unit effort
DMPA	Dredge Material Placement Area
DPIRD	Department of Primary Industries and Regional Development
DSDMP	Dredge and Spoil Disposal Management Plan
eDNA	Environmental DNA
m	metre
Mardie Minerals	Mardie Minerals Pty Ltd, a wholly owned subsidiary of BCI Minerals Limited
mm	millimetre
O2 Marine	O2 Marine Group
PLF	Pilbara Line Fishery
Proposed Action	To transport and dispose of dredge spoil from capital and maintenance dredging activities for the Approved Proposal (EPBC 2018/8236 and EPBC 2022/9169) within a defined offshore spoil ground ‘DMPA4’.
PTIMF	Pilbara Trawl (Interim) Managed Fishery
PTMF	Pilbara Trap Managed Fishery
WA	Western Australia
WAFIC	Western Australia Fishing Industry Council
ZoHI	Zone of High Impact
ZoMI	Zone of Moderate Impact

References

Department of Primary Industries and Regional Development 2023, 'Background Information for the Ecological Risk Assessment for the Pilbara Trap Managed Fishery', *Government of Western Australia*, June 2023, Available from: https://www.dcceew.gov.au/sites/default/files/documents/wa-pilbara-trap-managed-fishery-background-information-2023.pdf

Moustaka, M, Robbins, WD, Wilson, SK, Wakefield, C, Cuttler, MVW, O'Leary, MJ, & Evans, RD 2024, 'Seascape effects on the nursery function of macroalgal habitats', *Marine Environmental Research*, 202, 106767, doi: https://doi.org/10.1016/j.marenvres.2024.106767.

O2 Marine Group 2023, 'Mardie Project Benthic Communities and Habitat Monitoring and Management Plan', Revision D, 13 November 2023, Report Number: R220411-23ENV226-BCHMMP, Available from: https://www.bciminerals.com.au/images/files/1.%2023ENV226%20Mardie%20BCHMMP%20RevD%20DCCEEW%20Updates%20FINAL.pdf.

O2 Marine Group 2025a, [Draft], 'Bluespotted Emperor Fish and Habitat Studies Briefing Note (Interim)', Prepared for Mardie Minerals Pty Ltd, 4 July 2025.

O2 Marine Group 2025b, 'Dredge and Spoil Disposal Management Plan', Prepared for Mardie Minerals Pty Ltd, Revision 4, 17 July 2025, Report Number: R190043, Provided as Attachment 2 of the Preliminary Document (Att2_DSDMP 2025).

Taylor, MD, McLean, D, Candland, L, Piggott, C, Wakefield, C, & Langlois, T 2016, 'Ontogenetic shifts in commercially important Lethrinus punctulatus short-lived endemic species of the Pilbara, Western Australia', Available from: https://research.csiro.au/pmcp/wp-content/uploads/sites/65/2018/11/PMCP_Final_Report_Volume3.pdf [Page 7].

Wakefield, CM, Denham, A, Trinnie, F, Hesp, SA, Marks, R, Boddington, D, & Newman, SJ 2024, 'Assessment of the status of the Pilbara Demersal Scalefish Resource', Fisheries Research Report No. 338, Department of Primary Industries and Regional Development, Western Australia, Available from: https://library.dpird.wa.gov.au/fr_rr/164/.

Wellington, CM, Harvey, ES, Wakefield, CB, Abdo, D, & Newman, SJ 2021, 'Latitude, depth and environmental variables influence deepwater fish assemblages off Western Australia', *Journal of Experimental Marine Biology and Ecology*, 539(151539), doi: 10.1016/j.jembe.2021.151539.