Marine survey of the Bunbury continental shelf.

Application Number: **02627** Commencement Date: **10/10/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Marine survey of the Bunbury continental shelf.

1.1.2 Project industry type *

Science and Research

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/01/2026

1.1.4 Estimated end date *

31/05/2026

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The Minister for Climate Change and Energy has declared two offshore wind areas in the Indian Ocean off the Bunbury region, Western Australia on the 30 August 2024. The two zones have a combined area of 3,995 km2 and are expected to result in the generation of up to 11.4 GW of electricity.

The seabed and shallow subsurface of the region remain largely unexplored with only limited regional data available. This gap in knowledge limits the ability to accurately inform and assess future development options and data requirements, resulting in significant engineering and environmental challenges. The lack of data also facilitates the dissemination of false or misleading information.

The University of Western Australia (UWA) proposes to acquire pre-competitive geophysical data to generate and publish independent scientific knowledge of the ground conditions of the declared areas, targeting primarily the seabed and shallow sub-seabed to a depth of 50 m. In this regard, UWA will integrate the newly acquired geophysical data with legacy and analogue data to develop a baseline shallow ground model of the region. The data will primarily consist of 1,000 line-km of MBES bathymetric data (i.e., seabed elevation) and ultra-high resolution marine geophysical data (i.e., subsurface profiling). Optional actions may be conducted, depending on funding and equipment availability, including limited seabed sampling, underwater sound monitoring and sea state monitoring. All data will be made public upon completion of the research project.

Survey area

The exact location of the survey lines is currently being finalised based on discussions with stakeholders, to ensure that all key ground features are captured. In this regard, this referral has been prepared taking into account the maximum extent to which the survey can take place (Att. 1; purple dashed polygon), corresponding to the declared areas, the likely cable routes required to connect the wind farms to the South West Interconnected System (SWIS) electricity grid, and a buffer. Such a buffer is essential as geological features located outside of the declared areas may affect ground conditions within the declared areas. All survey activities will be carried out exclusively within this area, referred to as the UWA Project area, which covers 1,205,000 hectares. The disturbance footprint is the same as the Project area.

In reality, the survey will only collect approximately 1000-line kilometres of data and is likely to focus on the shallow-water declared area due to the highly complex environment typically encountered at such water depth (Att. 1; solid black line). Considering a 1 km buffer around the survey lines (low power zone as per EPBC Act Policy Statement 2.1 – i.e. true area of disturbance), the true survey area would therefore be approximately 185,000 hectares. The area will be even smaller given the sound signature of the equipment used, and the width of the multibeam swath (i.e. the true survey area - typically 4 to 6 times the water depth). For example, the survey layout shown in Att1_UWA_Project_area (solid black line) occurs at an average water depth of 50 m, which translates to a maximum swath width of 300 m and, in turn, to an area of 30,000 hectares, effectively covering less than 2.5% of the total UWA area of interest. Any additional actions such as the collection of seabed samples or the deployment of monitoring devices will be conducted along the survey lines and will not expend the survey area. It is important to emphasise that the solid black line in Att1_UWA_Project_area is only an example of what the final layout could look like, and that the survey could occur anywhere within the UWA Project area (Att1_UWA_Project_area; purple dashed polygon).

Survey equipment.

The survey will be carried out by a geophysical contractor on behalf of UWA. The selected contractor will be responsible for proposing and selecting the equipment to be used. It is anticipated that the survey will be carried out using a combination of the following (or similar) equipment, which are used to continuously acquire seabed and subsurface data at an average vessel speed of about 3.5 knots:

- Multibeam Echo Sounder (MBES) bathymetry
- Side Scan Sonar (SSS)
- Sub Bottom Profiler (SBP)

- Multichannel and single channel high-resolution seismic profilers (boomer or sparker sources)

The equipment required to undertake the optional activities may include:

- A grab sampler
- Seabed hydrophones
- A wave buoy of the Integrated Marine Observing System (IMOS)

Survey duration and timing

The survey will be conducted shortly after DCCEEW issues the feasibility licenses for the Bunbury offshore wind area, outside the peak whale migration season (September to December). Such surveys typically take 1 to 4 weeks to complete depending on the vessel capabilities, operating hours and weather.

Note on Impacts and Mitigation

The assessment of impacts and required mitigation measures has been carried out considering the largest possible area of interest as well as the maximum possible disturbance theoretically generated by the survey equipment. In reality, geophysical survey equipment is unlikely to be operated at its maximum theoretical power and the survey footprint will cover a much smaller area. This approach has been adopted to ensure that any subsequent changes to the survey remain within the scope of this referral. The activities are not expected to have any detrimental impact on protected matters and more broadly the environment.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The following legislations have been identified as either relevant or worth mentioning:

Commonwealth Legislation:

- *Environmental Protection and Biodiversity Conservation Act 1999*: Referral to determine impact on Matters of National Environmental Significance (MNES). Note: The survey is unlikely to have a significant impact on MNES
- *Underwater Cultural Heritage Act*: any potential site identified during the survey will be reported.
- *Fisheries Administration Act 1991*: The survey area overlaps with fisheries managed by the Department of Primary Industries and Regional Development (DPIRD). The DPIRD was contacted and notified of the survey area as a matter of good practice.
- *Native Title Act 1993*: The area of interest is located within the boundaries of the South West Aboriginal Land and Sea Council which holds traditional ownership of the southwestern region of Australia. The relevant aboriginal corporations have been contacted and notified of the survey as a matter of good practice.
- *Defence Regulation 2016:* The area of interest does not intersect any military firing and training areas. The Australian Hydrographic Office (AHO, department of defence) has been contacted and informed of the survey as a matter of good practice.

Western Australia Legislation:

- Environmental Protection Act 1986: The Environmental Protection Authority (EPA) advises the WA Minister for the Environment on the environmental acceptability of development proposals and statutory planning schemes. The project is not a development and is therefore not considered to fall under the jurisdiction of the EPA.
- Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulations 2018: Protects biodiversity and threatened species/communities. No Biodiversity Conservation Act approval is expected as no adverse impacts on threatened species are anticipated. The DBCA has been contacted and notified of the scope as a matter of good practice.

Gnaala Karla Booka Indigenous Land Use Agreement (ILUA): The agreement extends south of Perth towards Busselton and seawards to the three miles limit. In recognition of the cultural value of submerged landscapes, the Gnaala Karla Boodja and Karri Karrak aboriginal corporations have been contacted as a matter of good practice.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

The university is actively engaging with relevant stakeholders and will continue to do so throughout the life cycle of the project. The following engagements have been undertaken:

- Australian Hydrographic Office (AHO): The office has been contacted and provided with a project brief as a matter of good practice.
- Department of Biodiversity, Conservation and Attractions (DBCA). The department has been contacted and provided with a project brief for comment.
- Department of Transport: The department has been contacted and provided with a project brief for comment.
- Department of Primary Industries and Regional Development: DPIRD has been contacted and provided with a project brief as a matter of good practice.
- Geoscience Australia (GA). The Oceans, Reefs, Coasts and the Antarctic Branch and the partner organisation AusSeabed have helped inform the project plan.
- Gnaala Karla Boodja Aboriginal Corporation. The CEO of the corporation was contacted and provided with a project brief. In person meetings are being organised to inform of the project progress throughout the planning phase.
- Karri Karrak Aboriginal Corporation. The CEO of the corporation was contacted and provided with a project brief. In person meetings are being organised to inform of the project progress throughout the planning phase.
- Southern Ports Authority. The department has been contacted and provided with a project brief for comment. The survey layout was designed to avoid port waters.
- Navigation Safety: The agency has been contacted and provided with a project brief for comment. They asked to be provided a 6-week notice and a detailed description of the survey to promulgate a Temporary Notice to Mariners (TNTM) once the survey is confirmed.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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Alternatively, email us at privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	37882817280
Organisation name	UNIVERSITY OF WESTERN AUSTRALIA
Organisation address	6009 WA

Referring party details

Name	Ulysse Lebrec
Job title	Research Fellow
Phone	+61864888116
Email	ulysse.lebrec@uwa.edu.au
Address	The University of Western Australia, Fairway, Crawley WA 6009, Australia

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

Yes

Person proposing to take the action organisation details

ABN/ACN	37882817280
Organisation name	UNIVERSITY OF WESTERN AUSTRALIA
Organisation address	6009 WA

Person proposing to take the action details

Name	Ulysse Lebrec
Job title	Research Fellow
Phone	+61864888116
Email	ulysse.lebrec@uwa.edu.au
Address	The University of Western Australia, Fairway, Crawley WA 6009, Australia

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The University of Western Australia is a world top 100 university and routinely conducts research on the environment with the aim to protect it. More specifically, the Oceans Institute research aims at addressing the connected and equally urgent crises of biodiversity loss and climate change and work in close collaboration with government agencies to identify and implement protection and conservation measures.

More largely, all activities conducted through The University of Western Australia have to follow – among other policies - the Responsible Conduct of Research Code, the UWA Integrity Policy and the UWA Risk Management Policy (See 1.3.2.18).

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

The Responsible Conduct of Research Code (Att2a_Australian_code_for_the_responsible_conduct_of_research_2018.pdf), the UWA Integrity Policy (Att2b_Research_Integrity_Policy.pdf) and the UWA Risk Management Policy (Att2c_Risk_Policy.pdf) have been appended to the referral.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	37882817280
Organisation name	UNIVERSITY OF WESTERN AUSTRALIA
Organisation address	6009 WA

Proposed designated proponent details

Name	Ulysse Lebrec
Job title	Research Fellow
Phone	+61864888116
Email	ulysse.lebrec@uwa.edu.au
Address	The University of Western Australia, Fairway, Crawley WA 6009, Australia

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	37882817280
Organisation name	UNIVERSITY OF WESTERN AUSTRALIA
Organisation address	6009 WA
Representative's name	Ulysse Lebrec
Representative's job title	Research Fellow
Phone	+61864888116
Email	ulysse.lebrec@uwa.edu.au
Address	The University of Western Australia, Fairway, Crawley WA 6009, Australia

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

Yes

1.4.6 Please provide a waiver application statement of reasons in accordance with EPBC Regulations 5.21A. *

The data acquired during the survey will be used to develop the first ever data-driven surficial ground model of the Perth – Bunbury continental shelf. This is a necessary step to better understand the environment of the declared area, steer research efforts in the right direction, and ensure that wind farms can be developed with minimal impact on the environment. All datasets and knowledge generated during this research project will be made publicly available.

UWA therefore considers that the research project will help better protect the environment (EPBC regulations 5.21(1)a) and is in the public best interest (EPBC regulations 5.21(1)b). On this basis, UWA has requested a full waiver of the EPBC referral fee and of any subsequent assessment fees that may arise as the result of the referral.

The waiver application is attached.

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

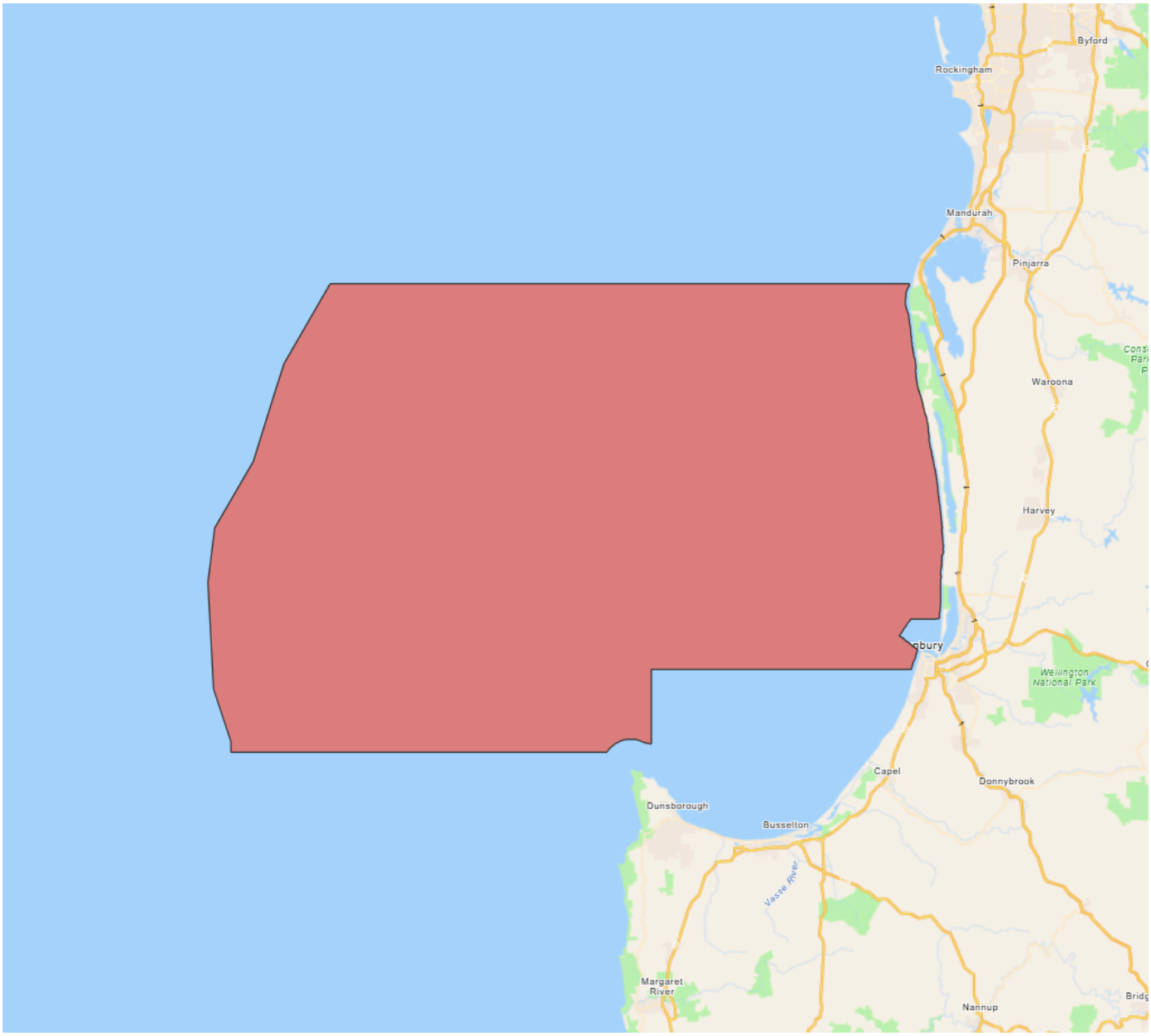
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Referring party

2. Location

2.1 Project footprint



Project Area: 1204685.11 Ha **Disturbance Footprint:** 1204685.11 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

The proposed action will take place offshore Bunbury, between Dawesville and Cape Naturaliste

2.2.2 Where is the primary jurisdiction of the proposed action? *

Commonwealth Marine

2.2.3 Is there a secondary jurisdiction for this proposed action? *

Yes

2.2.4 Where is the secondary jurisdiction of the proposed action? *

Western Australia

2.2.5 What is the tenure of the action area relevant to the project area? *

Not applicable - proposed action is wholly marine without any terrestrial work.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The project area is located offshore Bunbury, between Dawesville to the North and Cape Naturaliste to the South. The area extends offshore from approximately the 10 m isobath to the 1500 m isobath (see Att1_UWA_Project_area.pdf). The current condition of the environment in the project area is largely unknown – the whole point of the project is to acquire the first shallow subsurface data over the area. This being said, the region is known for the following environmental and key ecological features (see Att3_KEF.pdf):

- A resting area for cetaceans during their southward migration between September and December.
- An ancient coastline at 90 – 120 m depth
- The Commonwealth marine environment within and adjacent to the west coast inshore lagoons
- The Commonwealth marine environment within and adjacent to Geographe Bay
- Western rock lobster

It should be noted that for both the Commonwealth marine environment within and adjacent to the west coast inshore lagoons and the Commonwealth marine environment within and adjacent to Geographe Bay, the two main pressures of concern are changes in sea temperature and change in oceanography (Department of Sustainability, Environment, Water, Population and Communities, 2012). These pressures are closely linked to climate change and the survey aims to ensure that offshore wind energy projects, which are critical to supporting the global energy transition, can be developed with minimal impact on the existing environment.

For more information, see: Department of Sustainability, Environment, Water, Population and Communities, 2012. Marine bioregional plan for the South-west Marine Region. 216pp.

3.1.2 Describe any existing or proposed uses for the project area.

The following uses are known to occur within the area:

- Offshore wind energy production. The area of interest engulfs the two declared offshore wind areas. As of the submission date of this referral, wind developers had until January 31st to submit their feasibility licence applications.
- Commercial shipping.
- Commercial Fishing. The area partly overlaps with the Western Tuna and Billfish Fishery and Western Deepwater Trawl Fishery.
- Recreational fishing, boating and diving
- Whale Watching – and more generally wildlife watching.
- Petroleum activities. Two exploration wells were drilled within the area of interest (Surgarloaf 1 and Felix 1) in 1971 and 1998. No other or more recent petroleum activity is known to have taken place in the area.

Consultation with key agencies regarding these uses will continue throughout the project to address any issues that may arise.

For more information, visit: https://amsis-geoscience-au.hub.arcgis.com/, https://www.afma.gov.au/, https://www.dcceew.gov.au.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The following natural features (Key Ecological Features; see Att3_KEF.pdf) are understood to be significant in the area of interest:

- Ancient Coastline at 90 – 120 m depth
- Commonwealth marine environment within and adjacent to the west coast inshore lagoons
- Commonwealth marine environment within and adjacent to Geographe Bay
- Western rock lobster

The survey and more largely the UWA area of interest were specifically designed to avoid Commonwealth and State marine parks, and to limit unnecessary overlap with key ecological features.

For more information, visit https://www.dcceew.gov.au

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The area extends offshore westwards from the 10 m isobath to approximately the 1500 m isobath. The area can be divided into three main provinces:

- The inner shelf [water depth : 0 - 60 m]. A broad gently sloping plateau extending 90 km offshore with a slope of less than 0.04 degrees.
- The outer shelf [water depth : 60 - 200 m]. This province is characterised by a gradual increase in slope with average values of 0.4 degrees.
- The continental slope [water depth : 200 - 1500 m]. Outer limit of the continental shelf characterised by an average slope in excess of 1.2 degrees.

It is expected that most of the survey will take place on the continental shelf between the 30 m isobath and the 150 m isobath.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The UWA Project area is part of South-west Marine Region (Department of Sustainability, Environment, Water, Population and Communities, 2012).

The ecosystem consists of extensive sea grass meadows that support a rich biodiversity down to water depths of 40 to 50 m. In particular the ecosystem provides nursery and resting grounds for many shelf species (Department of Sustainability, Environment, Water, Population and Communities, 2012).

Knowledge of the flora and fauna in deeper habitats appears somewhat limited due to a lack of data. For example, while it is likely that the *Ancient coastline between 90 and 120 m depth* is present (Brooke et al, 2014), it is unclear whether it is associated with specific biodiversity as is the case along the Great Australian Bight and Ningaloo Reef (Department of Sustainability, Environment, Water, Population and Communities, 2012; Aston et al, 2022).

Overall, the key species groups likely to be present in the area according to the Department of the Environment and Water Resources report (McClatchie et al, 2006) on The South-west Marine Region include:

- Phytoplankton
- Macroalgae
- Seagrasses
- Sponges
- Corals
- Infauna
- Zooplanktons
- Prawns
- Rock Lobsters
- Molluscs
- Bryozoans
- Ascidians?
- Elasmobranchs
- Demersal fish (inshore, shelf, and slope)
- Mackerels, tunas and billfishes
- Mesopelagic fish
- Small pelagic fish
- Syngnathid fish
- Seabirds
- Pinnipeds
- Cetaceans

Ecosystem, including plants, animals and ecological communities have been reviewed using the Protected Matters Search Tool. The results of this assessment are presented in Section 4.

More information:

Aston, C., Langlois, T., Fisher, R., Monk, J., Gibbons, B., Giraldo-Ospina, A., Lawrence, E., Keesing, J., Lebrec, U. and Babcock, R.C., 2022. Recreational Fishing Impacts in an Offshore and Deep-Water Marine Park: Examining Patterns in Fished Species Using Hybrid Frequentist Model Selection and Bayesian Inference. Frontiers in Marine Science, 9, https://doi.org/10.3389/fmars.2022.835096.

Brooke, B.P., Olley, J.M., Pietsch, T., Playford, P.E., Haines, P.W., Murray-Wallace, C.V. and Woodroffe, C.D., 2014. Chronology of Quaternary coastal aeolianite deposition and the drowned shorelines of southwestern Western Australia – a reappraisal. Quaternary Science Reviews, 93: 106-124, 10.1016/j.quascirev.2014.04.007.

Department of Sustainability, Environment, Water, Population and Communities, 2012. Marine bioregional plan for the South-west Marine Region. 216pp.

McClatchie S, Middleton J, Pattiaratchi C, Currie D, Kendrick G., 2006. The south-west marine region: ecosystems and key species groups. Department of Sustainability, Environment, Water, Population and Communities. 579 p.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

The soils along the survey route consist primarily of marine sand and clays in shallow water areas, transitioning to silts and clays in deep water. Local outcrops of limestone and igneous rocks should be expected. The nearshore sandy seabed, down to a depth of about 50 m, supports large seagrass meadows that are recognised internationally. Deeper marine vegetation remains poorly described.

The geophysical survey will use only remote non-invasive techniques and should not interact with the seabed and marine vegetation in any detrimental way. Seabed sampling and anchoring of the monitoring devices will only affect areas typically of less than 1 square meter.

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

There are no offshore heritage places listed in the Australian Heritage Database within the Project area.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

Part of the survey will be conducted in water depths of less than 120 m. These areas would have been exposed above sea level during the last glacial maximum (20,000 years ago) and therefore have the potential to contain sites of cultural significance. There is currently no evidence to confirm or refute the existence of such sites. The university is engaging with the aboriginal corporations to identify any elements that may help to better understand the cultural significance of submerged landscapes in the region. The engagement will be maintained throughout the research project to ensure that any unexpected findings will be immediately reported and handled appropriately. In any case, the survey will be conducted primarily, if not exclusively, using remote sensing technics, which means that the survey will not disturb in any way sites that may be encountered.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

Not applicable. The geophysical survey is entirely marine and will be carried out using remote non-invasive techniques. Optional activities will only affect surficial sediments over minimal areas.

As part of the selection process, the survey contractor will be required to demonstrate that they have measures in place to mitigate any source of pollution that could affect the environment during the operation (e.g. fuel spillage, waste management plan etc.).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	Yes	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – there is no World Heritage Site in the area of interest.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – there is no National Heritage Site in the area of interest.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Peel-Yalgorup System

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – there are no Ramsar Wetlands directly in the area of interest.

The Peel-Yalgorup system has been identified in the vicinity of the area of interest, but is entirely onshore and the survey will be entirely marine (see Att4_Ramsar_Wetlands.pdf).

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Anous tenuirostris melanops	Australian Lesser Noddy
Yes	Yes	Ardenna grisea	Sooty Shearwater
No	No	Austrostipa jacobsiana	
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
No	No	Botaurus poiciloptilus	Australasian Bittern
No	No	Caladenia huegelii	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
No	No	Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo, Karrak
Yes	Yes	Carcharias taurus (west coast population)	Grey Nurse Shark (west coast population)
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
Yes	Yes	Centrophorus uyato	Little Gulper Shark
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Chelonia mydas	Green Turtle
No	No	Dasyurus geoffroii	Chuditch, Western Quoll
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Diomedea amsterdamensis	Amsterdam Albatross
Yes	Yes	Diomedea dabbenena	Tristan Albatross
Yes	Yes	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
Yes	Yes	Diomedea sanfordi	Northern Royal Albatross
No	No	Diuris drummondii	Tall Donkey Orchid
No	No	Diuris micrantha	Dwarf Bee-orchid
No	No	Diuris purdiei	Purdie's Donkey-orchid
No	No	Drakaea micrantha	Dwarf Hammer-orchid
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Eucalyptus argutifolia	Yanchep Mallee, Wabling Hill Mallee
No	No	Falco hypoleucos	Grey Falcon
Yes	Yes	Galeorhinus galeus	School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark
Yes	Yes	Halobaena caerulea	Blue Petrel
Yes	Yes	Hoplostethus atlanticus	Orange Roughy, Deep-sea Perch, Red Roughy
No	No	Lambertia echinata subsp. occidentalis	Western Prickly Honeysuckle
No	No	Leipoa ocellata	Malleefowl
Yes	Yes	Limosa lapponica menzbieri	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit
Yes	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Macronectes halli	Northern Giant Petrel
No	No	Nannatherina balstoni	Balston's Pygmy Perch
Yes	Yes	Natator depressus	Flatback Turtle
Yes	Yes	Neophoca cinerea	Australian Sea-lion, Australian Sea Lion
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Pachyptila turtur subantarctica	Fairy Prion (southern)
Yes	Yes	Phaethon rubricauda westralis	Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird
Yes	Yes	Phoebetria fusca	Sooty Albatross
Yes	Yes	Pristis pristis	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish
No	No	Pseudocheirus occidentalis	Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit
Yes	Yes	Pterodroma mollis	Soft-plumaged Petrel
Yes	Yes	Rhincodon typus	Whale Shark
Yes	Yes	Rostratula australis	Australian Painted Snipe
No	No	Setonix brachyurus	Quokka
Yes	Yes	Sphyrna lewini	Scalloped Hammerhead
Yes	Yes	Sternula albifrons	Little Tern
Yes	Yes	Sternula nereis nereis	Australian Fairy Tern
Yes	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
Yes	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
Yes	Yes	Thalassarche steadi	White-capped Albatross
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
No	No	Zanda baudinii	Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo
No	No	Zanda latirostris	Carnaby's Black Cockatoo, Short-billed Black-cockatoo

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Banksia Woodlands of the Swan Coastal Plain ecological community
No	No	Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion
No	No	Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Ecological Communities

The Protected Matters Search Tool (PMST) identified three ecological communities. All three occur on land and are therefore unlikely to be affected by a marine survey.

Threatened Species

The PMST has identified 64 threatened species that have the potential to be found within the UWA area of interest. These include:

- 34 bird species
- 2 fish species
- 2 land mammals
- 6 marine mammals
- 8 plant species
- 4 reptile species
- 7 shark species

These species have the potential to be indirectly Impacted by:

- Underwater noise emissions. Marine species that use sound to navigate or communicate may be affected by the noise generated by the use of geophysical equipment.
- Artificial light emissions. Local fauna may be affected by the vessel artificial light emissions.
- Collisions or entanglement of marine fauna. Collisions between the survey vessel and marine fauna may occur. Similarly, large animals could get entangled in survey equipment (streamers).

Dropped objects. Objects that are dropped (anchors, sampling devices) or fall overboard have the potential to damage the marine environment and fauna.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

In accordance with the Significant Impact Guidelines 1.1 for endangered species (the highest Threatened Category encountered within the UWA area of interest), the survey is unlikely to:

- lead to a long-term decrease in the size of a population
- reduce the area of occupancy of the species
- fragment an existing population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of a population
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat
- introduce disease that may cause the species to decline, or
- interfere with the recovery of the species.

The main source of disturbance associated with marine surveys is underwater noise emissions. The noise signatures of all geophysical equipment that could potentially be mobilised during the survey have been reviewed in light of the EPBC Policy Statement 2.1: Interaction between offshore seismic exploration and whales: Industry guidelines (Att6_Noise_Impacts.pdf). This work demonstrates that the Sound Exposure Levels (SELs) generated by the survey will be orders of magnitude below the threshold of 160dB re 1μPa2·s at 1 km. In fact, even if the equipment is operated at maximum power (unlikely), SELs will typically fall below 160dB re 1μPa2·s within a few tens of metres of the vessel.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

The survey is unlikely to have a significant impact on the identified threatened species and therefore does not qualify as a controlled action.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The following mitigation measures will be taken to minimise impact on threatened species

- Underwater noise emissions. The survey will adhere to the guidelines of the EPBC Policy Statement 2.1 Interaction between offshore seismic exploration and whales: Industry guidelines. The impact of noise on marine fauna and the implementation of the EPBC Policy Statement 2.1 is further discussed in Att6: Impact of high-resolution surveying equipment on marine fauna.
- Artificial light emissions. the vessel will follow best practice lighting design to reduce light spill.
- Marine fauna collisions or entanglement. Vessel operations will adhere to Part 8 of the EPBC regulations, and Australian guidelines for whale and dolphin watching.
- Dropped objects. Vessel to have management controls to ensure that all objects on deck are properly secured and monitored. Only appropriate lifting/ deployment techniques should be used to minimise the risk of incidents.
- A Marine Fauna/Mammal Observer will be present on board. The MFO will have completed a recognised training course that will need to be approved by UWA. The survey will be conducted using a vessel of approximately 20 m, meaning that a single observer will have full visibility over the 3 km radius (observation zone – see Att6) from the bridge. The MFO will prepare compliance and sighting reports in accordance with the EPBC Policy Statement 2.1.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The survey does not require offset.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Actitis hypoleucos	Common Sandpiper
Yes	Yes	Anous stolidus	Common Noddy
Yes	Yes	Apus pacificus	Fork-tailed Swift
Yes	Yes	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
Yes	Yes	Ardenna grisea	Sooty Shearwater
Yes	Yes	Balaenoptera bonaerensis	Antarctic Minke Whale, Dark-shoulder Minke Whale
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera edeni	Bryde's Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris melanotos	Pectoral Sandpiper
Yes	Yes	Caperea marginata	Pygmy Right Whale
Yes	Yes	Carcharhinus longimanus	Oceanic Whitetip Shark
Yes	Yes	Carcharias taurus	Grey Nurse Shark
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
Yes	Yes	Diomedea amsterdamensis	Amsterdam Albatross
Yes	Yes	Diomedea dabbenena	Tristan Albatross
Yes	Yes	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
Yes	Yes	Diomedea sanfordi	Northern Royal Albatross
Yes	Yes	Eubalaena australis	Southern Right Whale
Yes	Yes	Hydroprogne caspia	Caspian Tern
Yes	Yes	Isurus oxyrinchus	Shortfin Mako, Mako Shark
Yes	Yes	Lagenorhynchus obscurus	Dusky Dolphin
Yes	Yes	Lamna nasus	Porbeagle, Mackerel Shark
Yes	Yes	Limosa lapponica	Bar-tailed Godwit
Yes	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Macronectes halli	Northern Giant Petrel
Yes	Yes	Megaptera novaeangliae	Humpback Whale
Yes	Yes	Mobula alfredi	Reef Manta Ray, Coastal Manta Ray
Yes	Yes	Mobula birostris	Giant Manta Ray
Yes	Yes	Motacilla cinerea	Grey Wagtail
Yes	Yes	Natator depressus	Flatback Turtle
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
Yes	Yes	Onychoprion anaethetus	Bridled Tern
Yes	Yes	Orcinus orca	Killer Whale, Orca

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Pandion haliaetus	Osprey
Yes	Yes	Phoebetria fusca	Sooty Albatross
Yes	Yes	Physeter macrocephalus	Sperm Whale
Yes	Yes	Pristis pristis	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish
Yes	Yes	Rhincodon typus	Whale Shark
Yes	Yes	Sterna dougallii	Roseate Tern
Yes	Yes	Sternula albifrons	Little Tern
Yes	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
Yes	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
Yes	Yes	Thalassarche steadi	White-capped Albatross
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The PMST identified 56 migratory species that have the potential to be found within the UWA area of interest. These include:

- 32 bird species (including 20 threatened species)
- 11 marine mammals (whales, orca, dolphins - including 4 threatened whale species)
- 4 reptile species (turtle - including 20 threatened species)
- 9 shark species (including 3 threatened species)

These species have the potential to be indirectly Impacted by:

- Underwater noise emissions. Marine species that use sound to navigate or communicate may be affected by the noise generated by the use of geophysical equipment.
- Artificial light emissions. Local fauna may be affected by the vessel artificial light emissions.
- Collision or entanglement of marine fauna. Collisions between the survey vessel and marine fauna may occur. Similarly, large animals may become entangled in survey equipment (streamers)

Dropped objects. Objects that are dropped (anchors, sampling devices) or fall overboard have the potential to damage the marine environment and fauna.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

In accordance with the Significant impact guidelines 1.1 for migratory species, the survey is unlikely to:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species,
- result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The main source of disturbance associated with marine surveys is underwater noise emissions. The noise signatures of all equipment that could potentially be mobilised during the survey have been reviewed in light of the EPBC Policy Statement 2.1: Interaction between offshore seismic exploration and whales: Industry guidelines (Att6_Noise_Impacts.pdf). This work demonstrates that the Sound Exposure Levels (SELs) generated by the survey will be orders of magnitude below the threshold of 160dB re 1µPa2·s at 1 km. In fact, even if the equipment is operated at maximum power (unlikely), SELs will typically fall below 160dB re 1µPa2·s within a few tens of metres of the vessel.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

The survey is unlikely to have a significant impact on the identified migratory species and therefore does not qualify as a controlled action.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The following mitigation measures will be in place to minimise impact on migratory species:

- Timing. The survey will be carried out outside of the peak migration season of endangered species (the highest threatened category potentially encountered within the UWA AOI). For whales, the most critical period is between September and December when they migrate south. During this journey, whales travel with their calves and tend to stay close to shore.
- Underwater noise emissions. The survey will adhere to the guidelines of the EPBC Policy Statement 2.1 Interaction between offshore seismic exploration and whales: Industry guidelines. The impact of noise on marine fauna and the implementation of the EPBC Policy Statement 2.1 is further discussed in Att6: Impact of high-resolution surveying equipment on marine fauna.
- Artificial light emissions. the vessel will follow best practice lighting design to reduce light spill.
- Collisions or entanglement with marine life. Vessel operations will comply with Part 8 of the EPBC regulations, and Australian guidelines for whale and dolphin watching.
- Dropped objects. Vessel to have management controls to ensure that all objects on deck are properly secured and monitored. Only appropriate lifting/ deployment techniques should be used to minimise the risk of incidents.
- A Marine Fauna/Mammal Observer will be present on board. The MFO will have completed a recognised training course that will need to be approved by UWA. The survey will be conducted using a vessel of approximately 20 m, meaning that a single observer will have full visibility over the 3 km radius (observation zone – see Att6) from the bridge. The MFO will prepare compliance and sighting reports in accordance with the EPBC Policy Statement 2.1.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The survey does not require offsets

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – there is no Nuclear site in the vicinity of the Project area.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.7.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The majority of the UWA area of interest lies within the Commonwealth marine area (the boundary between state waters and commonwealth waters is located 3 NM from shore). The UWA area of interest overlaps four KEFs (see Att3: Map of Key Ecological Features) noting that the best efforts will be made to avoid them. Two KEFs are likely to be unavoidable – Western Rock Lobsters and Ancient coastline at 90-120 m depth – as they extend across much of the South West marine region.

Although there are several marine parks in the vicinity of the UWA area of interest (see Att5_Marine_parks.pdf), they are systematically avoided: no operations of any kind (e.g. survey, transit, calibration etc.) will be carried out over marine parks.

In addition to the impacts already listed in Sections 4.1.4 Threatened Species and Ecological Communities and 4.1.5 Migratory Species, the survey, could result in:

- Vessel discharges (sewage, food waste and salty brine from the desalination system)
- Accidental release of solid wastes
- Interference with other users

4.1.7.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.7.6 Describe why you do not consider this to be a Significant Impact. *

In accordance with the Significant impact guidelines 1.1 for the Commonwealth marine environment, the survey is unlikely to:

- result in a known or potential pest species becoming established in the Commonwealth marine area
- modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results
- have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution
- result in a substantial change in air quality or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity; social amenity or human health
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected, or

have a substantial adverse impact on heritage values of the Commonwealth marine area, including damage or destruction of an historic shipwreck.

4.1.7.7 Do you think your proposed action is a controlled action? *

No

4.1.7.9 Please elaborate why you do not think your proposed action is a controlled action. *

The survey is unlikely to have a significant impact on the commonwealth marine environment and therefore does not qualify as a controlled action.

4.1.7.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The following mitigation measures will be implemented to minimise the impact on the marine environment of the Commonwealth:

- Vessel discharges: The selected contractor will be required to demonstrate its ability to comply with state and commonwealth pollution regulations, and to industry best practices.
- Accidental release of solid waste: The selected contractor will be required to demonstrate its ability to comply with industry best practices (e.g. appropriate waste containers; no overboard disposal etc.).
- Interference with other users: Engagement with relevant stakeholders is ongoing and Department of Transport and Navigation Safety have been notified. A Temporary Notice to Mariners will be issued in due course.
- Damage or destruction of an historic shipwreck. Anchoring and seabed sampling will avoid any areas containing known shipwreck.

4.1.7.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The survey does not require offset.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – the proposed action will not take place in the vicinity of the Great Barrier Reef.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – the proposed action will not take place in the vicinity of a coal mining development.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – the proposed action will not take place on Commonwealth Land.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Not applicable – the proposed action will not take place in the vicinity of Commonwealth Heritage Places Overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The purpose of the survey is to provide early knowledge of the ground conditions of the declared offshore wind area to inform future planning and development options and engineering/ environmental/ data requirements. It is therefore essential that the survey is carried out as early as possible to allow all stakeholders sufficient time to utilise the findings of the survey.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_UWA_Project_area.pdf this document shows UWA Project area	31/03/2025	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att2a_Australian_code_for_the_responsible_conduct_of_research_2018.pdf The Code sets out principles for conducting research responsibly, ethically and with integrity.	01/01/2018	No	High
#2.	Document	Att2b_Research_Integrity_Policy.pdf This document sets out UWA's research integrity policy	08/12/2022	No	High
#3.	Document	Att2c_Risk_Policy.pdf This document sets out UWA's risk policy	23/08/2021	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_UWA_Project_area.pdf this document shows UWA Project area	31/03/2025	No	High
#2.	Document	Att3_KEF.pdf This map presents the Key Ecological Features found in the vicinity of the Project area	31/03/2025	No	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att3_KEF.pdf This map presents the Key Ecological Features found in the vicinity of the Project area	31/03/2025	No	High

4.1.3.3 (Ramsar Wetland) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att4_Ramsar_Wetlands.pdf This map presents the Ramsar Wetlands identified in the vicinity of the Project area	31/03/2025	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Noise_Impact.pdf This document provides an overview of underwater sound, its potential impacts on marine wildlife, the sound signature of the equipment likely to be used in the survey and associated mitigation measures.	31/03/2025	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Noise_Impact.pdf This document provides an overview of underwater sound, its potential impacts on marine wildlife, the sound signature of the equipment likely to be used in the survey and associated mitigation measures.	31/03/2025		High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Noise_Impact.pdf This document provides an overview of underwater sound, its potential impacts on marine wildlife, the sound signature of the equipment likely to be used in the survey and associated mitigation measures.	31/03/2025	No	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Noise_Impact.pdf This document provides an overview of underwater sound, its potential impacts on marine wildlife, the sound signature of the equipment likely to be used in the survey and associated mitigation measures.	31/03/2025	No	High

4.1.7.2 (Commonwealth Marine Area) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document				

		Att3_KEF.pdf This map presents the Key Ecological Features found in the vicinity of the Project area	31/03/2025	No	High
#2.	Document	Att5_Marine_parks.pdf This map shows the marine parks present in the vicinity of the Project area	31/03/2025	No	High

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	EPBC_Fee_waiver_application_signed.pdf This document is UWA's fee waiver application	26/03/2025	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	37882817280
Organisation name	UNIVERSITY OF WESTERN AUSTRALIA
Organisation address	6009 WA
Representative's name	Ulysse Lebrec
Representative's job title	Research Fellow
Phone	+61864888116
Email	ulysse.lebrec@uwa.edu.au
Address	The University of Western Australia, Fairway, Crawley WA 6009, Australia

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Ulysse Lebrec of UNIVERSITY OF WESTERN AUSTRALIA**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Ulysse Lebrec of UNIVERSITY OF WESTERN AUSTRALIA**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I, **Ulysse Lebrec of UNIVERSITY OF WESTERN AUSTRALIA**, the Person proposing the action, consent to the designation of **Ulysse Lebrec of UNIVERSITY OF WESTERN AUSTRALIA** as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Ulysse Lebrec of UNIVERSITY OF WESTERN AUSTRALIA**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *