GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10011/1
Permit Holder:	Mid West Port Authority
Duration of Permit:	From 19 August 2023 to 19 August 2028

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of establishing a maritime navigation channel.

2. Land on which clearing is to be done

Lot 503 on Deposited Plan 57801, Geraldton

3. Clearing authorised

The permit holder must not clear more than 0.62 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

PART III - RECORD KEEPING AND REPORTING

5. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4

6. Reporting

The permit holder must provide to the *CEO* the records required under condition 5 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in

Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.

END OF CONDITIONS

J Burton

Jessica Burton
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

27 July 2023

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the area within which clearing may occur.

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10011/1
Permit type:	Purpose permit
Applicant name:	Mid West Port Authority
Application received:	15 December 2022
Application area:	0.62 hectares of native vegetation within a 2.39 hectare clearing footprint
Purpose of clearing:	Establishing a maritime navigation channel
Method of clearing:	Seabed levelling
Property:	Lot 503 on Deposited Plan 57801
Location (LGA area/s):	City of Greater Geraldton
Localities (suburb/s):	Geraldton

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The application is to clear 0.62 hectares of seagrass within a 2.39 hectare footprint.

In early 2021, the Minister for Transport appointed the Mid West Ports Authority (MWPA) as the lead agency responsible for the construction of a tourism jetty at The Esplanade on the Geraldton foreshore (MWPA, 2022).

The need for a tourism jetty was first identified in the Mid West Tourism Strategy, prepared in July 2014 by the City of Greater Geraldton (CGG) and the Mid West Development Commission (MWDC). Tourism in the Mid-West region has been identified as a key opportunity to enable continued sustainable economic growth. The strategy recognised key opportunities for the region with the first being Abrolhos Islands maritime history and nature-based experiences. As the infrastructure on the Abrolhos Islands is minimal and there are no overnight accommodations available, the strategy identified a growing demand for vessel-based tourism departing from Geraldton (MWPA, 2022).

During the detailed design phase of the project, it was determined that a dedicated maritime approach channel would be required to ensure safe navigation could be maintained to the jetty on all tidal ranges. The permanent modification of the seabed will be required to facilitate the creation of the channel, including removal of seagrass and benthic habitats within the channel footprint (MWPA, 2022).

Seagrasses will be removed via seabed leveling. Seabed levelling is a hydrodynamic dredging technique that mobilises material underwater, levelling high spots by relocating accreted deposits into nearby deeper areas. A plough or sweep bar is mounted on a large steel A-frame then suspended below a seagoing tug or barge that can raise or lower the plough to the required depth.

1.3. Decision on application

Decision:	Granted
Decision date:	27 July 2023
Decision area:	0.62 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G.1), the findings of a benthic communities and habitat cumulative loss assessment (O2 Marine, 2022b), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in a direct loss of 0.62 hectares of seagrass (*Posidonia australis*). The assessment identified that the proposed clearing will have negligible impact on habitat for flora, fauna and ecological communities, conservation areas and/or wetlands.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

The Delegated Officer decided to grant a clearing permit subject to conditions to avoid, minimise and to reduce the impacts and extent of clearing.

1.5. Site map

Figure 1. Map of the application area

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that to reduce impacts to seagrass through implementation of the project, the following was considered before proposing the final access channel footprint and clearing area:

- Conduct bathymetric surveys to identify potential channels to avoid and minimise any seabed disturbance requirements which would result in seagrass loss.
- Minimise the width of the access channel based on the minimum vessel requirements for safe navigation to and from the tourist jetty.
- Undertake a benthic communities habitat (BCH) mapping investigation (O2 Marine, 2022a) to identify where seagrasses occur in order to avoid and minimise impacts to known areas.
- Employing seabed levelling techniques, rather than dredging as this minimises indirect impacts adjacent BCH such as increase in turbidity.
- BCH mapping to identify key BCH types.
- Consultation with stakeholders to identify possible impacts to social surroundings and public safety (02 Marine, 2022b).

A project specific environmental management plan will be developed by the selected contractor who will implement seabed levelling activities. To ensure no impacts occur outside of those expected, the environmental management plan will ensure:

- Seabed levelling and placement occurs within the defined marine project footprint as presented.
- Bathymetric survey will be conducted with seabed levelling to ensure no impacts occur outside of the defined marine project footprint.
- Standard maritime activity environmental management as required by existing Port Policy and Procedure for any activity will be required such as (but not limited to) pollution, waste and vessel environmental management activities are adequately identified and addressed (02 Marine, 2022b).

Prior to any seabed levelling activities taking place the contractor's environmental management plan will be required to be endorsed by MWPA as the overseeing Authority (02 Marine, 2022b).

The total area of clearing required (Clearing Footprint) has been calculated based on the boundary of the inner channel with a nominal buffer of 5 metres to account for any incidental disturbances during seabed levelling. The total area for vegetation clearing is based on the spatial area of seagrass communities occurring within the Clearing Footprint (0.62 ha in a 2.39 ha footprint). A further 1.77 ha of Bare 'unvegetated' substrate will also be directly impacted as a result of seabed levelling (02 Marine, 2022b).

In 2020, a site selection study was commissioned by the City of Greater Geraldton (CGG) in consultation with Department of Transport (DoT), the Midwest Development Commission, and Mid West Ports Authority (MWPA). It was determined the most suitable location for the larger vessels likely to service Abrolhos Islands tourism was the Geraldton Eastern Breakwater, also known as The Esplanade. During the options analysis Batavia Coast Marina (BCM) and Fishing Boat Harbour (FBH) were ruled out for the following reasons:

- The BCM could not accommodate vessels over 25m likely to be used to access the Abrolhos Islands, and

- The FBH, being a light industrial area, did not provide suitable access to make the operation tourism friendly (e.g. no nearby parking, disabled access or suitable staging area) (02 Marine, 2022b).

During the project definition phase MWPA consulted with CGG, DoT and other users of the adjacent Town Beach area providing three possible options for the Tourism Jetty construction along the Esplanade. Via this consultation the final location was chosen as it would minimise interactions with the existing public boat ramp, avoid conflicts with existing infrastructure along the Esplanade and minimise potential interactions with sea lions known to use the waters and rock groin north of the Esplanade (02 Marine, 2022b).

Design Optimization

The channel design has been optimized, in terms of its size and location, to reduce the amount of disturbance to benthic habitats and provide a sufficient buffer to the nearby shipping channel and sea lion haul out area known locally as “Seal Rocks”.

The channel location and size were optimized during the detailed design and operability studies. Using bathymetric surveys, the channel location targeted the deepest water available to minimise the amount of seabed disturbance during the drag plough operations. Benthic habitat mapping assisted to identify and minimise seagrass losses by modifying the channel’s angle of approach.

As a result of this optimization work, the channel width was reduced allowing only one vessel to approach or exit the jetty at any time and only the inner most section of the channel required deepening to facilitate safe access on all tidal ranges (MWPA, 2022).

Clearing Method

Geotechnical studies were undertaken to identify options for establishing the approach channel for the new jetty. It was determined the depths and seabed leveling required could be achieved via drag plough operations as opposed to conventional dredging, minimising dredge related impacts such as turbidity and the need for dredge material disposal.

Drag plough operations allow sediments to be retained within the local coastal processes unit where they can continue to provide benefit to the environment and support natural sediment cycles (MWPA, 2022).

Benthic Community and Habitat Cumulative Loss Assessment

A detailed benthic habitat investigation and assessment was completed in alignment with the EPA (2016) *Technical Guidance: Protection of Benthic Communities and Habitats*. O2 Marine was commissioned to develop a report on the Benthic Communities and Habitat Cumulative Loss Assessment (CLA) for the MWPA Tourist Jetty. The CLA report assisted MWPA to determine how significant the planned benthic habitat disturbance associated with establishing the approach channel would be (MWPA, 2022).

Environmental Impact Assessment

MWPA completed a project risk assessment including the evaluation of potential environmental impacts associated with the construction of a tourism jetty along the Geraldton Esplanade. The fixed pile jetty design involving precast plank and beam construction will result in minimal disturbance to the existing breakwater and seabed.

MWPA consulted with the Environmental Protection Authority (EPA) in 2019 and deem the proposal for the construction of a tourism jetty did not require referral for assessment by the EPA. All potential impacts will be controlled via a construction specific Environmental Management Plan.

A detailed Environmental Impact Assessment (EIA) for the Geraldton Tourism Jetty and its associated channel has been commissioned, via O2 Marine, to capture the operation and ongoing maintenance post construction. The EIA includes an assessment of drag plough operations as an ongoing channel maintenance activity. The EIA identifies long term benthic habitat and marine quality monitoring requirements to assess the ongoing influence of the jetty’s operation on environmental values. Specific monitoring objectives and management targets will be incorporated into the MWPA Marine Environmental Monitoring and Management Plan to allow MWPA to evaluate the environmental performance of these operations long term (MWPA, 2022).

Given the above, the Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna and flroa). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna and flora) - Clearing Principles (a)and (b)

Assessment

Fauna

According to available databases, four conservation significant marine fauna have been recorded within the local area being: humpback whale (*Megaptera novaeangliae*), leatherback turtle (*Dermochelys coriacea)*, Australian sea-lion (*Neophoca cinerea*) and sperm whale (*Physeter macrocephalus*). The seagrass, *Posidonia sinuosa,* proposed to be cleared within the application area, is not likely to provide habitat for these species.

Seagrass meadows can provide habitat, shelter and food resources for a diverse number of fauna. A desktop marine fauna study was undertaken and determined that the application area does not support restricted populations or habitats of conservation significant or commercially important fish species (02 Marine, 2022b).

Marine fauna such as turtles, whales and sea-lions are known to associate with dense seagrass meadows, however as the application area is within a high traffic area and is dominated by bare sand with very little (< 10 %) dense seagrass beds, it is considered that these meadows would be of very low ecological value for large marine fauna. It is also recognised that the seagrass meadows within Champion Bay provide foraging and shelter for a variety of species, including western rock lobster and Australian sea lions. However, it is not expected that any species' populations would be significantly impacted by the removal of seagrasses within the application area, due to the location and small spatial area (02 Marine 2022b).

In addition, benthic community habitat types, mapped within the application area were found to be commonly distributed throughout the wider Mid-West region (02 Marine 2022b).

Given the above, the proposed clearing is not likely to impact upon significant habitat for fauna indigenous to Western Australia.

Flora and vegetation

According to available databases, eight threatened, five Priority 1, eight Priority 2, 22 Priority 3 and eight Priority 4 flora species have been recorded within the local area. None of the recorded flora species are known marine species and the clearing proposed is not likely to impact upon threatened or priority flora species.

According to available databases, two Priority 1 priority ecological communities (PEC) and one state listed Priority 3 PEC (commonwealth listed threatened ecological community (TEC)) has been recorded within the local area. These PECs are terrestrial vegetation communities and therefore the vegetation proposed to be cleared is not representative of these PECs.

The Department of Biodiversity, Conservation and Attractions (DBCA) Species and Communities Program listed *Posidonia australis* meadows as possible threatened ecological communities and assigned a Priority 3(i) for further survey, definition, and evaluation. The community consists of the assemblage of plants, animals and micro-organisms associated with seagrass meadows dominated by species from the *Posidonia australis* complex. It occurs as continuous to patchy monospecific and multispecies seagrass meadows dominated by species from the *Posidonia australis* complex - *P. angustifolia, P. australis and P. sinuosa*. The community is distributed in temperate Australian waters between Shark Bay (25°S) on the west coast, across southern Australia to Wallis Lake (32°S) on the east coast, around Bass Strait islands and along the north coast of Tasmania (DCBA, 2022).

The vegetation present within the application area maybe representative of this PEC, however the removal of 0.62 hectares of seagrass within an area that has already been impacted by multiple sources including boat moorings, the development of the Esplanade rock wall and use of the recreational boat ramp (02 Marine 2022b), the proposed clearing is not considered likely to impact upon the conservation status of this PEC. Immediately adjacent to the

application area, the seagrass meadows are less impacted maintaining a dense and productive seagrass meadow (02 Marine 2022b). This area is not expected to be impacted by the proposed clearing.

Conclusion

Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered **acceptable** in relation to this environmental value.

Conditions:

- Avoid and minimise clearing condition.

3.3. Relevant planning instruments and other matters

The City of Greater Geraldton (2023) advised that they have considered the findings of O2 Marine Benthic Communities and Habitat Assessment (02 Marine 2022a) and there are no additional concerns. The City further advised that the location is outside of any known Aboriginal Cultural Heritage area. However, due to the "High" risk rating, the Aboriginal Heritage Due Diligence Guidelines (2013) Schedule 2 Risk Assessment Matrix, it is recommended the Aboriginal engagement due diligence process is undertaken. In addition, the City advised that the applicant should considered the findings of the Geraldton Coastal Hazard Risk Management and Adaptation Planning Project (CHRMAP) when undertaking the project.

No Aboriginal sites of significance have been recorded within the application area.

End

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. The application is to clear 0.62 hectares of seagrass within a 2.39 hectare footprint.
Ecological linkage	No ecological linkages have been mapped within the vicinity of the application area.
Conservation areas	The closest conservation area is an un-named nature reserve located approximately 1.4 kilometres south east of the application area.
Vegetation description	A Benthic Communities and Habitat Assessment (02 Marine, 2022a and 2022b) indicate the vegetation within the proposed clearing area consists of the following mapped classes and their spatial extent within the surveyed area including; • Bare Sand (1.77 ha); • High Density Seagrass (0.30 ha); • Moderate Density Seagrass (0.24 ha); and • Low Density Seagrass (0.08 ha). The dominant macrophytic community comprised the seagrass, *Posidonia australis* and there was a lack of any other significant macroalgae present (02 Marine, 2022a and 2022b). This is inconsistent with the Beard mapped vegetation type 440 which is described as Wattle, teatree & other species Acacia spp. Melaleuca spp.(Shepherd et al, 2001). The mapped vegetation type is likely present within the terrestrial vegetation located on the mainland. *The mapped vegetation type/s retain approximately 74 per cent of the original extent (Government of Western Australia, 2019).* The Project will result in vegetation clearing of 0.62 ha of seagrasses within a total Clearing Area of 2.39 ha. This includes the irreversible loss of the following seagrass over the entire Project LAU: • 0.08 ha (0.002 %) of low-density seagrass; • 0.24 ha (0.005 %) medium-density seagrass • 0.30 ha (0.006 %) of high-density seagrass Representative photos and the full survey descriptions and maps are available in Appendix F.
Vegetation condition	A Benthic Communities and Habitat Assessment (02 Marine, 2022a and 2022b) indicates that 'Fine scale habitat mapping within the application area shows the seagrass communities to be more fragmented and patchier when compared to the broader populations within Champion Bay'. O2 Marine advised that the vegetation condition can be classified as being 'Degraded to Good'. Within the Tourism Jetty approach channel there are obvious signs of disturbance from multiple sources including boat moorings, the development of the Esplanade rock wall and use of the recreational boat ramp. The full Keighery (1994) condition rating scale is provided in Appendix E. The full survey descriptions and mapping are available in Appendix F.

Characteristic	Details
Soil description	There is no soil mapping data currently available.
Land degradation risk	Given the nature of the application area, land degradation is not likely to be relevant.
Waterbodies	The application area lies within the Indian Ocean. The closest watercourse is located approximately 5.1 km north of the application area.
Flora	Eight threatened, Five Priority 1, eight Priority 2, 22 Priority 3 and eight Priority 4 flora species have been recorded within the local area. None of the recorded flora species are known marine species.
Ecological communities	According to available databases, two Priority 1 priority ecological communities (PEC) and one state listed Priority 3 PEC and commonwealth listed threatened ecological community (TEC) has been recorded within the local area. These TEC/PECs are terrestrial vegetation communities. Nearest Threatened Ecological Community is Subtropical and Temperate Coastal Saltmarsh located 4.89km from the application area. The vegetation proposed to be cleared may be representative of listed PEC 'Posidonia australis meadows'.
Fauna	According to available databases, three marine mammals, one marine reptile and 42 coastal and/or marine birds have been recorded within the local area.

C.2. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
Osprey, eastern osprey (*Pandion cristatus)*	MI	N	Y	0.13	N
Sanderling (*Calidris alba*)	MI	Y	Y	1.89	N
Bar-tailed godwit (*Limosa lapponica*)	MI	Y	Y	10.05	N
hooded plover (*Thinornis rubricollis*)	P4	Y	Y	10.69	N

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared does not contain locally or regionally significant flora, fauna or habitats. The vegetation proposed to be cleared maybe representative of a PEC.	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared does not contain significant habitat for conservation significant fauna.	Not likely to be at variance	Yes *Refer to Section 3.2.1 above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The proposed clearing area is unlikely to contain habitat for flora species listed under the BC Act.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The proposed clearing area does not contain species indicative a threatened ecological community.	Not likely to be at variance	No .
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. Vegetation in the proposed clearing area is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given the nature of the proposed clearing and distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Given the application area lies within the ocean and the closest watercourse is located approximately 5.1km from the application area, the proposed clearing is not considered to be growing in association with a wetland or watercourse.	Not at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The clearing of 0.62 hectares of seagrass vegetation is not likely to cause appreciable land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given the extent of the seagrass vegetation in the context of the marine environment, the removal of the seagrass vegetation is unlikely to have impacts on water quality	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The clearing of 0.6 hectares of seagrass within the Indian Ocean is not likely to cause or exacerbate the incidence or intensity of flooding.	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from:

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.

Condition	Description
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Biological survey information excerpts (O2 Marine, 2022b 2022a).

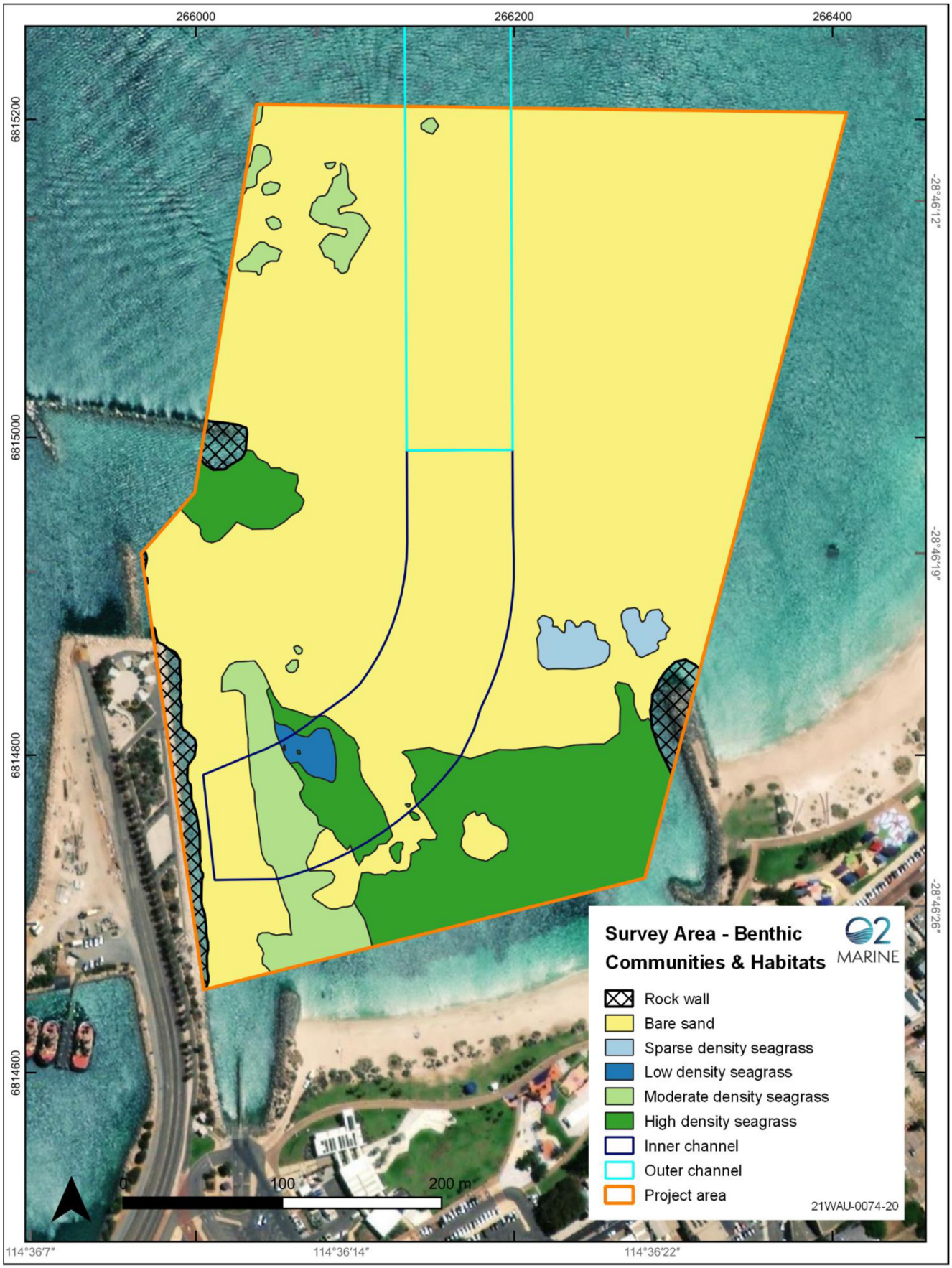


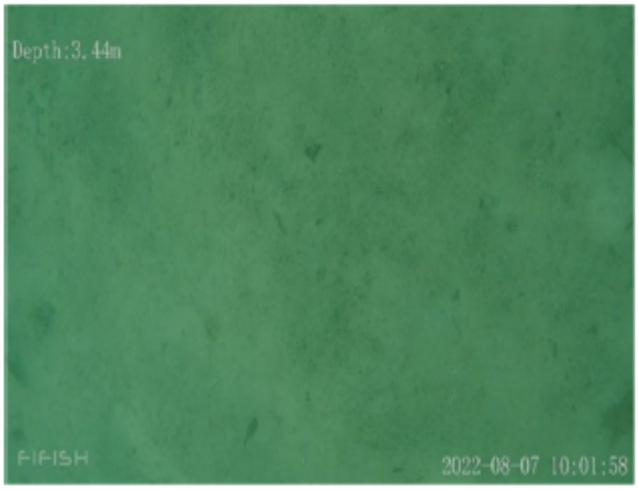
Table 5: Characteristics and spatial area of mapped benthic communities and habitats.

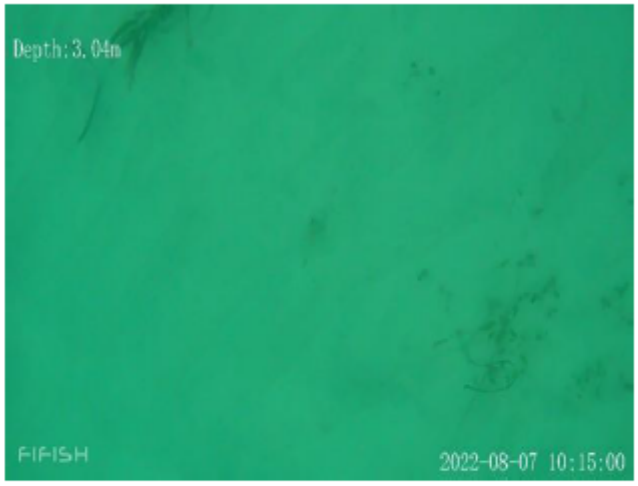
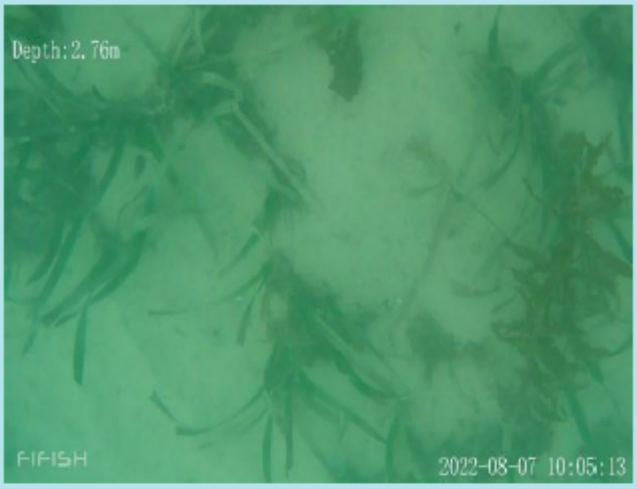
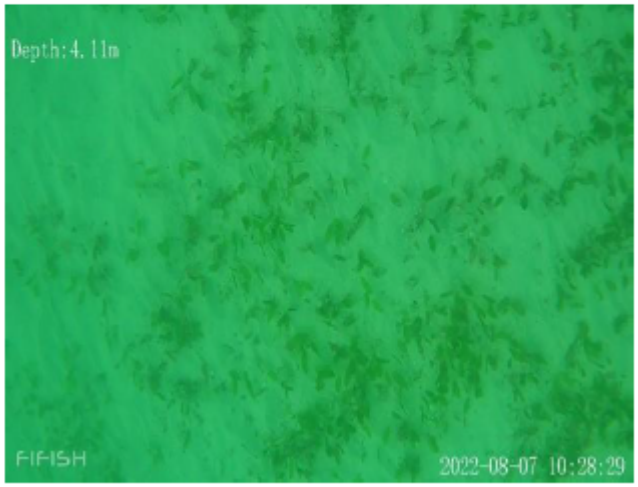
BCH Type	Associated Video Habitat	Distribution	Defining Characteristics	Spatial Area Occupied (Ha, %)
Bare Sand	Fine sand with presence of ripples in some areas.	Down southwest side and to the northeast and middle of survey area.	SSS variable and low brightness.	14.07 Ha; 79.2%
High Density Seagrass	Fine Sand with some ripples. Presence of *Posidonia sinuosa*	Southeast of the survey area in between the two (2) groynes. Small patch to the northeast of the end of the western groyne.	Highly variable roughness. SSS mostly bright and mottled appearance.	2.21 Ha; 12.4%
Low Density Seagrass	Fine Sand with some ripples. Presence of *Posidonia sinuosa*	Small patch to the east of the western groyne surrounded by high and moderate density seagrass	Smooth, few discernible features in any geophysical data.	0.09 Ha; 0.5%
Moderate Density Seagrass	Fine Sand with some ripples. Presence of *Halophila* spp.	Patch to the east of the sand close to the western groyne. Small parches to the northwest of the survey area.	SSS shows some mottled appearance, low brightness.	0.81 Ha; 4.6%
Sparse Density Seagrass	Fine Sand with some ripples. Presence of *Posidonia sinuosa And Halophila* spp.	Two (2) small patches to the north and the northwest of the eastern groyne.	Smooth, few discernible features in any geophysical data. SSS dull.	0.18 Ha; 1.0%
Rockwall	Rock Rubble on Sand.	To the west of the survey area and a small area to the southeast in close to shore	High and varied roughness, SSS bright.	0.41; 2.3%

Table 9: Benthic Communities and Habitat Cumulative Loss Assessment (Area expressed hectares & (%) of LAU).

Loss Assessment	Deep Pavement with Sand, Macroalgae	Deep Sand, No Epibenthic Macrobiota	Deep Water Reef Slope, Macroalgae	High Profile Deep Reef 1-4 m, Macroalgae Dominant	High Profile Shallow Reef 1-4 m, Macroalgae Dominant	Low Profile Reef with Sand, Seagrass and Macroalgae	Pavement with Sand, High Density Seagrass	Pavement with Sand, Low Density Seagrass	Pavement with Sand, Macroalgae	Pavement with Sand, No Epibenthic Macrobiota	Pavement with Shallow Sand, Seagrass Dominant	Sloping Pavement with Sand, Low Density Seagrass and Macroalgae	Sloping Pavement with Sand, No Epibenthic Macrobiota	Coral
Pre-European Extent	48.81 (1.010)	37.56 (0.780)	110.71 (2.290)	737.54 (15.260)	453.50 (9.380)	807.22 (16.710)	559.69 (11.580)	175.42 (3.630)	244.55 (5.060)	26.37 (0.550)	860.40 (17.810)	709.80 (14.690)	60.95 (1.260)	0.00 (0.000)
Current Extent	48.81 (1.010)	37.56 (0.780)	107.81 (2.231)	737.54 (15.260)	451.45 (9.343)	806.99 (16.700)	328.45 (6.797)	158.7 (3.284)	209.94 (4.345)	76.69 (1.587)	830.57 (17.188)	709.800 (14.689)	60.950 (1.261)	0.031 (0.006)
Irreversible Loss from Project	**0.00 (0.000)**	**0.00 (0.000)**	**0.00 (0.000)**	**0.00 (0.000)**	**0.00 (0.000)**	**0.00 (0.000)**	**0.30 (0.006)**	**0.08 (0.002)**	**0.00 (0.000)**	**1.77 (0.037)**	**0.24 (0.005)**	**0.00 (0.000)**	**0.00 (0.000)**	**0.00 (0.000)**
Recoverable Impact	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)	0.00 (0.000)
Cumulative Loss (%)	*0.00 (0.000)*	*0.00 (0.000)*	*-2.90 (0.060)*	*0.00 (0.000)*	*-2.05 (0.042)*	*-0.23 (0.005)*	*-230.94 (4.780)*	*-16.64 (0.344)*	*-34.62 (0.716)*	*+52.09 (1.078)*	*-29.59 (0.612)*	*0.00 (0.000)*	*0.00 (0.000)*	*+0.03 (0.006)*

Table 3: Benthic communities identified using underwater imagery, including example images

Benthic Community	Description	Example Image
Flat bare sand (Site DC1)	Compacted sediment comprising fine sands. No shell debris or algae/seagrass wrack present.	
Bare sand with ripples (Site DC9)	Relatively well compacted sediments comprising fine sands. No shell fragments. Sand ripples present.	

Benthic Community	Description	Example Image
Flat sand with sparse seagrass (Site DC6)	Relatively well compacted sediments comprising fine sands with ripples present. Presence of *Halophila ovalis* and *Posidonia australis*	
Flat sand with low seagrass (Site DC6)	Relatively well compacted sediments comprising fine sands with ripples present. Presence of *Posidonia australis*	
Flat sand with moderate seagrass (Site DC12)	Relatively well compacted sediments comprising fine sands with ripples present. Presence of *Halophila ovalis*.	

Appendix G. Sources of information

G.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)

- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Regional Parks (DBCA-026)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

G.2. References

City of Greater Geraldton (2023) *Advice for clearing permit application CPS 10011/1*, received March 2023 (DWER Ref: DWERDT746523).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.

Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.

Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019.* WA Department of Biodiversity, Conservation and Attractions. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mid West Port Authority (MWPA 2022) *Clearing permit application CPS 1011/1*, received 15 December 2022 (DWER Ref: DWERDT700931).

O2 Marine (2022a). *Benthic Communities and Habitat Assessment; MWPA Tourist Jetty Project*. Report prepared by O2 Marine for Midwest Ports Authority, 2022.

O2 Marine (2022b). *Benthic Communities and Habitat Cumulative Loss Assessment; MWPA Tourist Jetty Project*. Report prepared by O2 Marine for Midwest Ports Authority, 2022.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.