

Ningaloo Coast

1. World Heritage Property Data


1.1 - Name of World Heritage property

Ningaloo Coast

1.2 - World Heritage property details

1.3 - Geographic information table

1.4 - Map(s)

Title	Date	Link to source
Map of Ningaloo Coast inscribed property	2011	

1.5 - Web and Social Media data of the property (if applicable)

2. Other Conventions/Programmes under which the World Heritage property is protected (if applicable)

2.1 - Records indicate that your World Heritage property (in whole or in part) is designated and/or protected under the Conventions/programmes shown in the prefilled table below. Please check and amend as necessary.

		The World Heritage property (in whole or in part) <u>is</u> designated and/or protected under this convention/programme	The World Heritage property (in whole or in part) <u>is not</u> designated and/or protected under this convention/programme
2.1.1	International Register of Cultural Property under Special Protection (1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict)		×
2.1.2	List of Cultural Property under Enhanced Protection (Second Protocol to the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict)		×
2.1.3	The List of Wetlands of International Importance (The Ramsar List) (Convention on Wetlands of International Importance (Ramsar Convention))		×
2.1.4	World Network of Biosphere Reserves Man and the Biosphere (MAB) Programme		×
2.1.5	Global Geoparks Network UNESCO Global Geoparks		×

2.2 - Please provide comments on 2.1 if necessary

2.3 - Do your national authorities intend to request the granting of Enhanced Protection (if relevant) under the Second Protocol to the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict for the World Heritage property in the next three years?

Not applicable

2.4 - Do your national authorities intend to designate whole or part of the World Heritage property for inclusion in the List of Wetlands of International Importance (The Ramsar List), if relevant, in the next three years?

Not applicable

2.5 - Do your national authorities intend to designate whole or part of the World Heritage property as a Man and Biosphere Reserve (if relevant) in the next three years?

Not applicable

2.6 - Do your national authorities intend to apply for whole or part of World Heritage property to be designated as a UNESCO Global Geopark (if relevant) in the next three years?

Not applicable

2.7 - Please indicate the level of cooperation at property level between designations under different Conventions/Programmes

2.7.1	1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict	
2.7.1	There is no contact with the Focal Point(s) of this designation/programme.	×

2.7.2	The World Heritage Site Manager occasionally communicates with the Focal Point(s) of this designation/programme.	
2.7.3	The World Heritage Site Manager regularly communicates with the Focal Point(s) of this designation/programme.	
2.7.4	The World Heritage Site Manager also manages this designation/programme.	
2.7.2	Second Protocol to the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict	
2.7.1	There is no contact with the Focal Point(s) of this designation/programme.	✕
2.7.2	The World Heritage Site Manager occasionally communicates with the Focal Point(s) of this designation/programme.	
2.7.3	The World Heritage Site Manager regularly communicates with the Focal Point(s) of this designation/programme.	
2.7.4	The World Heritage Site Manager also manages this designation/programme.	
2.7.3	Convention on Wetlands of International Importance (Ramsar Convention)	
2.7.1	There is no contact with the Focal Point(s) of this designation/programme.	✕
2.7.2	The World Heritage Site Manager occasionally communicates with the Focal Point(s) of this designation/programme.	
2.7.3	The World Heritage Site Manager regularly communicates with the Focal Point(s) of this designation/programme.	
2.7.4	The World Heritage Site Manager also manages this designation/programme.	
2.7.4	Man and the Biosphere (MAB) Programme	
2.7.1	There is no contact with the Focal Point(s) of this designation/programme.	✕
2.7.2	The World Heritage Site Manager occasionally communicates with the Focal Point(s) of this designation/programme.	
2.7.3	The World Heritage Site Manager regularly communicates with the Focal Point(s) of this designation/programme.	
2.7.4	The World Heritage Site Manager also manages this designation/programme.	
2.7.5	UNESCO Global Geoparks	
2.7.1	There is no contact with the Focal Point(s) of this designation/programme.	✕
2.7.2	The World Heritage Site Manager occasionally communicates with the Focal Point(s) of this designation/programme.	
2.7.3	The World Heritage Site Manager regularly communicates with the Focal Point(s) of this designation/programme.	
2.7.4	The World Heritage Site Manager also manages this designation/programme.	

2.8 - Please add any further comments on cooperation with the other designation(s)/programme(s)

2.9 - Are you aware of any elements associated with the World Heritage property that have been inscribed on the Representative List of the Intangible Cultural Heritage?

No

2.10 - Please list any elements associated with the World Heritage property inscribed under the Convention for the Safeguarding of the Intangible Cultural Heritage of which you are aware

2.11 - Are you aware of any documentary heritage listed under the Memory of the World Programme associated with the World Heritage property?

No

2.12 - Please list any documentary heritage associated with the World Heritage property listed under the Memory of the World Programme of which you are aware.

3. Statement of Outstanding Universal Value

3.1 - Statement of Outstanding Universal Value for the property as adopted by the World Heritage Committee

Statement of Outstanding Universal Value

Brief synthesis

The Ningaloo Coast is located on Western Australia's remote coast along the East Indian Ocean. The interconnected ocean and arid coast form aesthetically striking landscapes and seascapes. The coastal waters host a major near shore reef system and a directly adjacent limestone karst system and associated habitats and species along an arid coastline. The property holds a high level of terrestrial species endemism and high marine species diversity and abundance. An estimated 300 to 500 whale sharks aggregate annually coinciding with mass coral spawning events and seasonal localized increases in productivity. The marine portion of the nomination contains a high diversity of habitats that includes lagoon, reef, open ocean, the continental slope and the continental shelf. Intertidal systems such as rocky shores, sandy beaches, estuaries, and mangroves are also found within the property. The most dominant marine habitat is the Ningaloo reef, which sustains both tropical and temperate marine fauna and flora, including marine reptiles and mammals.

The main terrestrial feature of the Ningaloo Coast is the extensive karst system and network of underground caves and water courses of the Cape Range. The karst system includes hundreds of separate features such as caves, dolines and subterranean water bodies and supports a rich diversity of highly specialized

subterranean species. Above ground, the Cape Range Peninsula belongs to an arid ecoregion recognized for its high levels of species richness and endemism, particularly for birds and reptiles.

Criterion (vii): The landscapes and seascapes of the property are comprised of mostly intact and large-scale marine, coastal and terrestrial environments. The lush and colourful underwater scenery provides a stark and spectacular contrast with the arid and rugged land. The property supports rare and large aggregations of whale sharks (*Rhincodon typus*) along with important aggregations of other fish species and marine mammals. The aggregations in Ningaloo following the mass coral spawning and seasonal nutrient upwelling cause a peak in productivity that leads approximately 300-500 whale sharks to gather, making this the largest documented aggregation in the world.

Criterion (x): In addition to the remarkable aggregations of whale sharks the Ningaloo Reef harbours a high marine diversity of more than 300 documented coral species, over 700 reef fish species, roughly 650 mollusc species, as well as around 600 crustacean species and more than 1,000 species of marine algae. The high numbers of 155 sponge species and 25 new species of echinoderms add to the significance of the area. On the ecotone, between tropical and temperate waters, the Ningaloo Coast hosts an unusual diversity of marine turtle species with an estimated 10,000 nests deposited along the coast annually.

The majority of subterranean species on land, including aquatic species in the flooded caves are rare, taxonomically diverse and not found elsewhere in the southern hemisphere. The combination of relict rainforest fauna and small fully aquatic invertebrates within the same cave system is exceptional. The subterranean fauna of the peninsula is highly diverse and has the highest cave fauna (troglomorphic) diversity in Australia and one of the highest in the world. Above ground, the diversity of reptiles and vascular plants in the drylands is likewise noteworthy.

Integrity

The property is embedded into a comprehensive legal framework for the various protected areas and all other land. As a National Heritage area, it is subject to the federal Environment Protection and Biodiversity Conservation Act of 1999 (EPBC) according to which all proposed activities with possible significant impacts on the values of the site require assessments. The EPBC is applicable to activities located outside of the boundaries of the property. While no formal buffer zones have been established for the property, the Act therefore serves as a legal buffer zone. The boundaries encompass the key marine and terrestrial values with the exclusions being small in size and not conflicting with the maintenance of the values if managed adequately.

Both the marine and the terrestrial areas may face a number of threats to the property's integrity. Learmonth Air Weapons Range Facility, located within the property, includes an ancient reef-complex and cave fauna of exceptional importance. It was one of Australia's most active bombing ranges until around 1990 and future bombing activities may pose a threat, in particular for the Bundera sinkhole which is located on Defence Land. Tourism is on the increase leading to associated threats such as damage to vegetation, illegal fishing, sewage and waste disposal and disturbance to wildlife. Comprehensive management programs and an overall tourism development strategy are functioning as well as appropriate responses which require consolidation in anticipation of further increasing visitation. Future concerns include increased water demand leading to water abstraction with potential effects on the groundwater systems as well documented in arid areas with abruptly increasing numbers of visitors.

Fire, historically part of local indigenous management, is a potential threat to the terrestrial vegetation and requires monitoring and control. Livestock raising on pastoral leases continues to be an important land use which is compatible with nature conservation when managed appropriately.

Potential off-shore hydrocarbon extraction in the region surrounding the property requires careful consideration in order to prevent potential pollution and disturbance. The coastline's significant length and remoteness poses major challenges to responses to pollution incidents suggesting a need for further investments in emergency response.

Sea level rise and increases in seawater temperatures associated with climate change have had comparatively little effect on the property. The good overall integrity suggests a higher resilience that in disturbed systems under additional stress. Still, careful monitoring is highly recommended.

A concern affecting both marine and terrestrial parts of the property and requiring permanent monitoring and management are invasive alien species, most importantly foxes, cats, goats and weeds on land and some marine species.

Protection and management requirements

The Ningaloo Coast benefits from its remoteness and low population density affording it a high degree of natural protection. The entire, mostly state-owned property is comprehensively protected and managed, including by an overarching strategic management framework. Given the various governmental levels and agencies involved and the differentiation between terrestrial and marine parts of the property, effective coordination of the multiple plans in an overall management framework is critical. Full cooperation between agencies, including fisheries, are necessary to ensure management and law enforcement in the vast and remote marine and terrestrial areas. Funding from federal and state levels and staffing as of the time of inscription would benefit from increases.

There is a need for ongoing management of fisheries and careful planning of resource extraction and corresponding monitoring and disaster preparedness to protect the values of the property.

Communication, consultation and joint efforts with local and indigenous stakeholders, including negotiation of native title claims and pastoral leases, are indispensable elements of effective management and local acceptance of conservation efforts. Given the vastness of the area and the limited human and financial resources, co-management approaches with local stakeholders are a promising option. The establishment of a "Ningaloo Coast World Heritage Advisory Committee" or a similar body bringing together representatives from the traditional owners, local government, scientific experts and members of the community, has an important role to play in this regard.

Tourist numbers are expected to rise which will require additional management efforts. Increased water abstraction, including from demand from increased tourism, may affect fragile subterranean aquatic habitats and species communities will require constant monitoring and management.

3.2 - Please list the key attributes of Outstanding Universal Value of your property and give an assessment of their condition. As a guideline, it is suggested to focus on approximately five key attributes (no more than 15 overall).

	Brief identification of attribute	Preserved	Compromised	Seriously compromised	Lost
3.2.1	The landscapes and seascapes of the property are comprised of mostly intact and large-scale marine, coastal and terrestrial environments.		✗		
3.2.2	One of the largest documented aggregation of whale sharks in the world, along with important aggregations of other fish species and marine mammals.		✗		
3.2.3	High diversity of marine fish - more than over 700 reef fish species.		✗		
3.2.4	High diversity of marine reptiles - Situated at an ecotone between tropical and temperate waters, the Ningaloo Coast hosts an unusual diversity of marine turtle species.		✗		

3.2.5	High diversity of terrestrial reptiles - The Carnarvon Xeric Scrub ecoregion is recognized for its high levels of species richness and endemism, particularly for birds and reptiles.		×		
3.2.6	High diversity of marine invertebrates and algae - More than 50 per cent of Indian Ocean coral species (over 300 species in 54 genera), at least 650 mollusc species, 600 crustacean species, 155 sponge species and an undocumented number of echinoderms including 25 new to science, supplemented by more than 1,000 species of marine algae.		×		
3.2.7	Terrestrial arid-zone vascular plant diversity is noteworthy		×		
3.2.8	DATA DEFFICIENT Noteworthy birds - With at least 200 bird species in the property, eleven of these are at the northern or southern limits of their range, or are otherwise isolated from their main populations; The Cape Range Peninsula belongs to an arid ecoregion recognized for its high levels of species richness and endemism, particularly for birds and reptiles				
3.2.9	DATA DEFFICIENT High diversity of marine mammals - Twenty cetacean species have been recorded in the property with frequent observations of dugong and dolphins in the lagoons and other marine areas, and at least eight species of whales				
3.2.10	DATA DEFFICIENT High diversity of cave (troglomorphic) diversity -The subterranean fauna of the peninsula is highly diverse and has one of the highest cave fauna (troglomorphic) diversity in Australia				
3.2.11					
3.2.12					
3.2.13					
3.2.14					
3.2.15					

3.3 - Comments, conclusions and/or recommendations related to Statement of Outstanding Universal Value

Note the following attributes (Qu3.2) - Noteworthy birds; High diversity of marine mammals; High diversity of cave (troglomorphic) diversity have not been categorised due to deficient data, as identified in the IUCN 2020 World Heritage Outlook Report.

4. Factors Affecting the Property

4.1. Buildings and Development

4.1.1 - Housing

Relevant	×	Not relevant
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4.1.2 - Commercial development











Relevant	×	Not relevant
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4.1.3 - Industrial areas

Relevant	×	Not relevant
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



4.1.4 - Major visitor accommodation and associated infrastructure

×	Relevant	Not relevant
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	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ×	×		×				

4.1.5 - Interpretative and visitation facilities

×	Relevant	Not relevant
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	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ×	×		×	×			
 Negative							

4.1.6 - Please comment as necessary on how the factors selected as relevant in 4.1 are affecting the property either negatively or positively

4.1.4 Current and proposed boating facilities within the site are negatively impacting ecological processes (OUV). 4.1.5 Unmanaged visitor access to the site and visitor recreation activities within and adjacent to the site continue to remain major threats to the OUV. Campground delineation and track rationalisation within and adjacent to the site has supported rehabilitation of coastal ecosystems and visitor management.

4.2. Transportation Infrastructure

4.2.1 - Ground transport infrastructure

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive ✕	✕		✕	✕			📈
🔴 Negative							

4.2.2 - Underground transport infrastructure

Relevant	✕ Not relevant
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4.2.3 - Air transport infrastructure

Relevant	✕ Not relevant
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4.2.4 - Marine transport infrastructure

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕			✕		➡	

4.2.5 - Effects arising from use of transportation infrastructure

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕			📈

4.2.6 - Please comment as necessary on how the factors selected as relevant in 4.2 are affecting the property either negatively or positively

4.2.1 Existing roads and carparks within the site mitigate impacts to the surrounding natural environment (OUV). Existing carparks within the site previously encroaching on turtle nesting habitat, have been closed and relocated. 4.2.4/5 Current harbour and port facilities and shipping traffic/routes outside the site, pose a threat to the OUV inside and outside of the site, including oil spills from vessels and collisions with reefs, marine wildlife and other vessels adjacent to the site.







4.3. Services Infrastructures

4.3.1 - Water infrastructure

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕			📈

4.3.2 - Renewable energy facilities

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing

 Positive 							
 Negative							

4.3.3 - Non-renewable energy facilities

 Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.3.4 - Localised utilities

 Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.3.5 - Major linear utilities

 Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.3.6 - Please comment as necessary on how the factors selected as relevant in 4.3 are affecting the property either negatively or positively



4.3.1 Current and potential water extraction (via bores) outside the site. 4.3.2 Milyering Discovery Centre - solar/hybrid system. 4.3.3 Current coal power plant facility outside of the site. 4.3.4 Proposed cell phone towers inside the site, <10 m height, installed next to existing infrastructure to minimise footprint and impact to aesthetic attribute.

4.4. Pollution


4.4.1 - Pollution of marine waters

 Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							


4.4.2 - Ground water pollution

 Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.4.3 - Surface water pollution

Relevant	 Not relevant
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4.4.4 - Air pollution

Relevant	 Not relevant
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4.4.5 - Solid waste

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
➕ Positive							
➖ Negative ✕	✕		✕	✕			↗

4.4.6 - Input of excess energy

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
➕ Positive							
➖ Negative ✕	✕			✕			↗

4.4.7 - Please comment as necessary on how the factors selected as relevant in 4.4 are affecting the property either negatively or positively

4.4.1 Pending sea dumping proposals outside of the site, potential impacts to the OUV inside and outside. 4.4.2 Potential groundwater pollution from residential and development proposals. 4.4.5 Disgarded litter inside the site, potential to increase with increasing visitation. 4.4.6 Potential increase in inappropriate urban lighting from pending offshore and onshore development proposals outside of the site.

4.5. Biological resource use/modification

4.5.1 - Fishing/collecting aquatic resources

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
➕ Positive							
➖ Negative ✕	✕		✕	✕			↗

4.5.2 - Aquaculture

Relevant	✕ Not relevant
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4.5.3 - Land conversion

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
➕ Positive ✕	✕		✕	✕			↗
➖ Negative							

4.5.4 - Livestock farming/Grazing of domesticated animals

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
➕ Positive							
➖ Negative ✕	✕			✕		→	

4.5.5 - Crop production

Relevant	✕ Not relevant
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4.5.6 - Commercial wild plant collection

Relevant	✕ Not relevant
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4.5.7 - Subsistence wild plant collection

Relevant	✕ Not relevant
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4.5.8 - Commercial hunting

Relevant

✕ Not relevant

4.5.9 - Subsistence hunting

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕		→	

4.5.10 - Forestry/Wood production

Relevant

✕ Not relevant

4.5.11 - Please comment as necessary on how the factors selected as relevant in 4.5 are affecting the property either negatively or positively

4.5.1 Increased recreational fishing, inside and outside of the site, reduction in abundance of targeted species. Impact mitigated by zoning, recreational catch limits. Further reductions may be necessary to mitigate increasing trend of impact. Potential impact to species and populations from by-catch issues outside of the site.

4.5.3 Land conversion of adjacent previous pastoral tenure. 4.5.4 Grazing outside, current and potential impacts to habitat and native species (OUV) inside of the site

4.6. Physical resource extraction

4.6.1 - Mining

Relevant

✕ Not relevant

4.6.2 - Quarrying

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕			↗

4.6.3 - Oil and gas

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕			↗

4.6.4 - Water (extraction)

Relevant

✕ Not relevant

4.6.5 - Please comment as necessary on how the factors selected as relevant in 4.6 are affecting the property either negatively or positively

4.6.2 Limestone quarrying current inside of the site at a modest scale, through an extraction lease; and outside of the site at a larger and expanding scale. 4.6.3 Current impacts from oil and gas operations include effects on migratory species, connectivity and ecological linkages within and adjacent to the site. Potential for increase in impacts and cumulative impact on OUV including effects on migratory species from seismic testing, drilling, and operations.

4.7. Local conditions affecting physical fabric

4.7.1 - Wind

✕ Relevant

Not relevant











	Impact		Origin		Trend of impact		
Impact	🔥 Current	🔥 Potential	📍 Inside	📍 Outside	↘ Decreasing	→ Stable	↗ Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕		→	

4.7.2 - Relative humidity

Relevant	<input checked="" type="checkbox"/> Not relevant
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4.7.3 - Temperature

<input checked="" type="checkbox"/> Relevant	Not relevant
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	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

4.7.4 - Radiation/Light









Relevant	<input checked="" type="checkbox"/> Not relevant
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4.7.5 - Dust

Relevant	<input checked="" type="checkbox"/> Not relevant
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4.7.6 - Water (rain/water table)

<input checked="" type="checkbox"/> Relevant	Not relevant
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	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

4.7.7 - Pests

<input checked="" type="checkbox"/> Relevant	Not relevant
----------------------------------------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative <input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

4.7.8 - Micro-organisms

Relevant	<input checked="" type="checkbox"/> Not relevant
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4.7.9 - Please comment as necessary on how the factors selected as relevant in 4.7 are affecting the property either negatively or positively

4.7.3 Climate change poses the biggest threat to the long-term conservation of the OUV. Models predict that bleaching will occur at least twice per decade after 2041 and annual bleaching by 2049. Above average sea surface temperatures in 2011 and 2013 were correlated with bleaching and loss of corals in the northern area of the site.

4.8. Social/Cultural uses of heritage

4.8.1 - Ritual/Spiritual/Religious and associative uses











Relevant	<input checked="" type="checkbox"/> Not relevant
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4.8.2 - Society's valuing of heritage

Relevant	<input checked="" type="checkbox"/> Not relevant
----------	--------------------------------------------------

4.8.3 - Indigenous hunting, gathering and collecting

<input checked="" type="checkbox"/> Relevant	Not relevant
----------------------------------------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

4.8.4 - Changes in traditional ways of life and knowledge system

Relevant

✕ Not relevant

4.8.5 - Identity, social cohesion, changes in local population and community











Relevant

✕ Not relevant

4.8.6 - Impacts of tourism/Visitation/Recreation

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕	✕		✕	✕			

4.8.7 - Please comment as necessary on how the factors selected as relevant in 4.8 are affecting the property either negatively or positively











4.8.3 Some limited hunting by Indigenous residents and visitors. 4.8.6 Increasing visitation and pressures on ecological communities (OUV) continue to impact the site. Unmanaged visitor access to the site and visitor recreation activities within and adjacent continue to impact the OUV. On ground operational works mitigate impacts both within and adjacent to the site.

4.9. Other human activities

4.9.1 - Illegal activities

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕	✕		✕				

4.9.2 - Deliberate destruction of heritage











Relevant

✕ Not relevant

4.9.3 - Military training

✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕	✕		✕				

4.9.4 - War

Relevant

✕ Not relevant

4.9.5 - Terrorism

Relevant

✕ Not relevant

4.9.6 - Civil unrest

Relevant

✕ Not relevant

4.9.7 - Please comment as necessary on how the factors selected as relevant in 4.9 are affecting the property either negatively or positively















4.9.3 Learmonth Air Weapons Range Facility (Australian Department of Defense) covers 18,954 hectares within the site and is used as a defence training area. The area includes the only known remipede habitat in the Southern Hemisphere, species include subterranean aquatic animals - Cape Range remipede.

4.10. Climate change and severe weather events

4.10.1 - Storms














✕ Relevant

Not relevant

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							














4.10.2 - Flooding

 Relevant	Not relevant
--------------------------------------------------------------------------------------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.10.3 - Drought

 Relevant	Not relevant
--------------------------------------------------------------------------------------------	--------------















	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.10.4 - Desertification

Relevant	 Not relevant
----------	------------------------------------------------------------------------------------------------






4.10.5 - Changes to oceanic waters

 Relevant	Not relevant
----------------------------------------------------------------------------------------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.10.6 - Temperature change

 Relevant	Not relevant
----------------------------------------------------------------------------------------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative 							

4.10.7 - Other climate change impacts

Relevant	 Not relevant
----------	--------------------------------------------------------------------------------------------------

4.10.8 - Please comment as necessary on how the factors selected as relevant in 4.10 are affecting the property either negatively or positively

4.10.1-4.10.6 Above average sea surface temperatures in 2011 and 2013 were correlated with bleaching and loss of corals in the northern area of the site. Risk of drought, catastrophic fire, change in cyclone frequency, increased wave energy, change in the temperature of seawater, coral bleaching, ocean acidification, and sea level rise and associated impacts on biodiversity (coral, seaweed/seagrass, fish and other marine fauna) and coastal communities and habitat (i.e turtle rookeries).

4.11. Sudden ecological or geological events

4.11.1 - Volcanic eruption

Relevant	 Not relevant
----------	--------------------------------------------------------------------------------------------------

4.11.2 - Earthquake

Relevant	 Not relevant
----------	--------------------------------------------------------------------------------------------------

4.11.3 - Tsunami/Tidal wave

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕		✕		✕			

4.11.4 - Avalanche/Landslide

Relevant	✕ Not relevant
----------	----------------

4.11.5 - Erosion and siltation/Deposition

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕				📈

4.11.6 - Fire (wildfire)

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕			📈

4.11.7 - Please comment as necessary on how the factors selected as relevant in 4.11 are affecting the property either negatively or positively

4.11.6 Large scale wildfire is a current risk to the OUV, this risk is increasing with potential climate change. However, with improved current fire management practices in partnership with Traditional Owners, risks are mitigated.

4.12. Invasive/alien species or hyper-abundant species

4.12.1 - Translocated species

Relevant	✕ Not relevant
----------	----------------

4.12.2 - Invasive/Alien terrestrial species










✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕		✕	✕		➡	

4.12.3 - Invasive/Alien freshwater species

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		
Impact	🔴 Current	🟡 Potential	🟢 Inside	🟢 Outside	📉 Decreasing	➡ Stable	📈 Increasing
🟢 Positive							
🔴 Negative ✕	✕			✕		➡	










4.12.4 - Invasive/Alien marine species

✕ Relevant				Not relevant			
	Impact		Origin		Trend of impact		

Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕	✕			✕		→	

4.12.5 - Hyper-abundant species

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕		✕	✕	✕			

4.12.6 - Modified genetic material

Relevant	✕ Not relevant
----------	----------------










4.12.7 - Please comment as necessary on how the factors selected as relevant in 4.12 are affecting the property either negatively or positively

4.12.2/4.12.4 Invasive/ alien terrestrial species occur inside and outside of the site, including introduced plants, foxes, cats, goats and some introduced marine species. These are satisfactorily monitored and controlled by DBCA. 4.12.3 Invasive/ alien freshwater fish species outside of the site pose a threat to the OUV, however populations are currently monitored and controlled.

4.13. Management and institutional factors










4.13.1 - Management system/Management plan

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕			↗
 Negative							










4.13.2 - Legal framework

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕		→	
 Negative							










4.13.3 - Governance

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕		→	
 Negative							











4.13.4 - Management activities

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕			↗
 Negative							











4.13.5 - Financial resources

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕			
 Negative							











4.13.6 - Human resources

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕			
 Negative							











4.13.7 - Low impact research/monitoring activities

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive ✕	✕		✕	✕			
 Negative							

4.13.8 - High impact research/monitoring activities

✕ Relevant	Not relevant
------------	--------------

	Impact		Origin		Trend of impact		
Impact	 Current	 Potential	 Inside	 Outside	 Decreasing	 Stable	 Increasing
 Positive							
 Negative ✕	✕		✕				

4.13.9 - Please comment as necessary on how the factors selected as relevant in 4.13 are affecting the property either negatively or positively

4.13.1 DBCA is the lead Western Australian Government agency for the management of the site. Comprehensive management plans are combined under the Ningaloo Coast Strategic Management Framework. Current and potential management system (negative) impacts outside of the site. In support of an integrated planning approach, the Ningaloo Coast Regional Strategy currently being reviewed needs to be re-inforced as the overarching strategy for guiding development proposals adjacent to the site.















4.14. Other factor(s)

4.14.1 - Other factor(s)

An Indigenous Land Use Agreement (ILUA) between the Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) Prescribed Body Corporate (PBC) and State parties formalises the joint vesting and joint management of Ningaloo Marine Park and Cape Range National Park with traditional owners and the creation of 48,456 ha of national park and conservation reserve abutting the site. The Shire of Exmouth and the Department of Defence jointly manage tenure within the site.

4.15. Factors Summary Table

4.15.1 - Factors Summary Table

Name	Impact			Origin		Trend
4.1 Buildings and Development						
4.1.4 Major visitor accommodation and associated infrastructure						
						
4.1.5 Interpretative and visitation facilities						
4.2 Transportation Infrastructure						
4.2.1 Ground transport infrastructure						
4.2.4 Marine transport infrastructure						

4.2.5 Effects arising from use of transportation infrastructure						
4.3 Services Infrastructures						
4.3.1 Water infrastructure						
4.3.2 Renewable energy facilities						
4.3.3 Non-renewable energy facilities						
4.3.4 Localised utilities						
4.3.5 Major linear utilities						
4.4 Pollution						
4.4.1 Pollution of marine waters						
4.4.2 Ground water pollution						
4.4.5 Solid waste						
4.4.6 Input of excess energy						
4.5 Biological resource use/modification						
4.5.1 Fishing/collecting aquatic resources						
4.5.3 Land conversion						
4.5.4 Livestock farming/Grazing of domesticated animals						
4.5.9 Subsistence hunting						
4.6 Physical resource extraction						
4.6.2 Quarrying						
4.6.3 Oil and gas						
4.7 Local conditions affecting physical fabric						
4.7.1 Wind						
4.7.3 Temperature						

4.7.6 Water (rain/water table)						
4.7.7 Pests						
4.8 Social/Cultural uses of heritage						
4.8.3 Indigenous hunting, gathering and collecting						
4.8.6 Impacts of tourism/Visitation/Recreation						
4.9 Other human activities						
4.9.1 Illegal activities						
4.9.3 Military training						
4.10 Climate change and severe weather events						
4.10.1 Storms						
4.10.2 Flooding						
4.10.3 Drought						
4.10.5 Changes to oceanic waters						
4.10.6 Temperature change						
4.11 Sudden ecological or geological events						
4.11.3 Tsunami/Tidal wave						
4.11.5 Erosion and siltation/Deposition						
4.11.6 Fire (wildfire)						
4.12 Invasive/alien species or hyper-abundant species						
4.12.2 Invasive/Alien terrestrial species						
4.12.3 Invasive/Alien freshwater species						
4.12.4 Invasive/Alien marine species						
4.12.5 Hyper-abundant species						
4.13 Management and institutional factors						

4.13.1 Management system/Management plan						
4.13.2 Legal framework						
4.13.3 Governance						
4.13.4 Management activities						
4.13.5 Financial resources						
4.13.6 Human resources						
4.13.7 Low impact research/monitoring activities						
4.13.8 High impact research/monitoring activities						

Legend	Current	Potential	Negative	Positive	Inside	Outside
---------------	---------	-----------	----------	----------	--------	---------

4.16. Assessment of current and potential positive and negative factors





4.16.1 - Assessment of current and potential negative and positive factors

4.1 Buildings and Development

Name	Impact			Origin		Trend
4.1.4 Major visitor accommodation and associated infrastructure						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity

	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.1.5 Interpretative and visitation facilities	 	 	

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread




Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources





Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.2 Transportation Infrastructure

Name	Impact	Origin	Trend
4.2.1 Ground transport infrastructure	 	 	






Spatial scale - Area affected by the factor	
	Restricted

✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.2.4 Marine transport infrastructure						
						

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	

	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.2.5 Effects arising from use of transportation infrastructure			
	 	 	

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread





Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources





Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.3 Services Infrastructures

Name	Impact	Origin	Trend
4.3.1 Water infrastructure			
	 	 	






Spatial scale - Area affected by the factor	
----------------------------------------------------	--

	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.3.2 Renewable energy facilities						

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing





Name	Impact	Origin	Trend
4.3.3 Non-renewable energy facilities			
			
			

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going





Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.3.4 Localised utilities			
			
			

Spatial scale - Area affected by the factor	
---------------------------------------------	--

✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.3.5 Major linear utilities						
						

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Developement over the last 6 years	
	Decreasing
✕	Static
	Increasing

4.4 Pollution

Name	Impact			Origin		Trend
4.4.1 Pollution of marine waters						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread

Temporal scale - Occurence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going






Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources

Trend - Developement over the last 6 years	
	Decreasing
	Static
✕	Increasing





Name	Impact			Origin		Trend
4.4.2 Ground water pollution						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact			Origin		Trend
4.4.5 Solid waste						
						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant

	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.4.6 Input of excess energy			
	 		 

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.5 Biological resource use/modification

Name	Impact	Origin	Trend
4.5.1 Fishing/collecting aquatic resources			

Spatial scale - Area affected by the factor							
	Restricted						
	Localised						
	Extensive						
	Widespread						
Temporal scale - Occurrence of the impact							
	One off or rare						
	Intermittent or sporadic						
	Frequent						
	On-going						
Impact - Impact on the attributes							
	Insignificant						
	Minor						
	Significant						
	Major						
Management response - Capacity of management to respond							
	High capacity						
	Medium capacity						
	Low capacity						
	No capacity and / or resources						
Trend - Development over the last 6 years							
	Decreasing						
	Static						
	Increasing						

Name	Impact			Origin		Trend
4.5.3 Land conversion						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor

✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.5.4 Livestock farming/Grazing of domesticated animals						

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing





Name	Impact			Origin		Trend
4.5.9 Subsistence hunting						

Spatial scale - Area affected by the factor							
<input checked="" type="checkbox"/>	Restricted						
	Localised						
	Extensive						
	Widespread						
Temporal scale - Occurrence of the impact							
	One off or rare						
<input checked="" type="checkbox"/>	Intermittent or sporadic						
	Frequent						
	On-going						
Impact - Impact on the attributes							
	Insignificant						
<input checked="" type="checkbox"/>	Minor						
	Significant						
	Major						
Management response - Capacity of management to respond							
	High capacity						
	Medium capacity						
<input checked="" type="checkbox"/>	Low capacity						
	No capacity and / or resources						
Trend - Development over the last 6 years							
	Decreasing						
<input checked="" type="checkbox"/>	Static						
	Increasing						

4.6 Physical resource extraction






Name	Impact			Origin		Trend
4.6.2 Quarrying						
Spatial scale - Area affected by the factor						
	Restricted					
<input checked="" type="checkbox"/>	Localised					
	Extensive					
	Widespread					
Temporal scale - Occurrence of the impact						
	One off or rare					
	Intermittent or sporadic					
	Frequent					
<input checked="" type="checkbox"/>	On-going					
Impact - Impact on the attributes						

	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.6.3 Oil and gas						
						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.7 Local conditions affecting physical fabric

Name	Impact			Origin		Trend
4.7.1 Wind						
						

Spatial scale - Area affected by the factor

	Restricted
✕	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact

	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going

Impact - Impact on the attributes





	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond

	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years

✕	Decreasing
	Static
	Increasing

Name	Impact			Origin		Trend
4.7.3 Temperature						
						




Spatial scale - Area affected by the factor

	Restricted
	Localised
	Extensive
✕	Widespread

Temporal scale - Occurrence of the impact

	One off or rare
	Intermittent or sporadic
	Frequent

✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.7.6 Water (rain/water table)						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static

	Increasing
--	------------

Name	Impact	Origin	Trend
4.7.7 Pests			

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing





4.8 Social/Cultural uses of heritage

Name	Impact	Origin	Trend
4.8.3 Indigenous hunting, gathering and collecting			

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
✕	Intermittent or sporadic

	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact			Origin		Trend
4.8.6 Impacts of tourism/Visitation/Recreation						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing

	Static
✕	Increasing

4.9 Other human activities

Name	Impact	Origin	Trend
4.9.1 Illegal activities			
	<div> <div></div> <div></div> </div>	<div> <div></div> <div></div> </div>	<div> <div></div> <div></div> </div>






Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
✕	Intermittent or sporadic
	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact	Origin	Trend
4.9.3 Military training			
	<div> <div></div> <div></div> </div>	<div> <div></div> <div></div> </div>	<div> <div></div> <div></div> </div>

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare






	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

4.10 Climate change and severe weather events

Name	Impact			Origin		Trend
4.10.1 Storms						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Developement over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.10.2 Flooding						
						





Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread

Temporal scale - Occurence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going

Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources






Trend - Developement over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.10.3 Drought						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread






Temporal scale - Occurence of the impact	
------------------------------------------	--

	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.10.5 Changes to oceanic waters						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources

Trend - Developement over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.10.6 Temperature change						
						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread



Temporal scale - Occurence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources





Trend - Developement over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.11 Sudden ecological or geological events

Name	Impact			Origin		Trend
4.11.3 Tsunami/Tidal wave						
						



Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
<input checked="" type="checkbox"/>	One off or rare
<input type="checkbox"/>	Intermittent or sporadic
<input type="checkbox"/>	Frequent
<input type="checkbox"/>	On-going
Impact - Impact on the attributes	
<input type="checkbox"/>	Insignificant
<input type="checkbox"/>	Minor
<input checked="" type="checkbox"/>	Significant
<input type="checkbox"/>	Major
Management response - Capacity of management to respond	
<input type="checkbox"/>	High capacity
<input type="checkbox"/>	Medium capacity
<input checked="" type="checkbox"/>	Low capacity
<input type="checkbox"/>	No capacity and / or resources
Trend - Development over the last 6 years	
<input type="checkbox"/>	Decreasing
<input checked="" type="checkbox"/>	Static
<input type="checkbox"/>	Increasing

Name	Impact			Origin		Trend
4.11.5 Erosion and siltation/Deposition						
						

Spatial scale - Area affected by the factor	
<input type="checkbox"/>	Restricted
<input checked="" type="checkbox"/>	Localised
<input type="checkbox"/>	Extensive
<input type="checkbox"/>	Widespread
Temporal scale - Occurrence of the impact	
<input type="checkbox"/>	One off or rare
<input checked="" type="checkbox"/>	Intermittent or sporadic
<input type="checkbox"/>	Frequent
<input type="checkbox"/>	On-going
Impact - Impact on the attributes	
<input type="checkbox"/>	Insignificant
<input type="checkbox"/>	Minor
<input checked="" type="checkbox"/>	Significant
<input type="checkbox"/>	Major
Management response - Capacity of management to respond	
<input type="checkbox"/>	High capacity
<input checked="" type="checkbox"/>	Medium capacity
<input type="checkbox"/>	Low capacity

	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.11.6 Fire (wildfire)			
	 	 	

Spatial scale - Area affected by the factor	
	Restricted
	Localised
✕	Extensive
	Widespread






Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources





Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

4.12 Invasive/alien species or hyper-abundant species

Name	Impact	Origin	Trend
4.12.2 Invasive/Alien terrestrial species			
	 	 	





Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive

	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.12.3 Invasive/Alien freshwater species						
						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity

	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact			Origin		Trend
4.12.4 Invasive/Alien marine species						
						



Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
✕	Insignificant
	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources






Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact			Origin		Trend
4.12.5 Hyper-abundant species						
						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive






	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
✕	Intermittent or sporadic
	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
	Medium capacity
✕	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

4.13 Management and institutional factors

Name	Impact			Origin		Trend
4.13.1 Management system/Management plan						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity

✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.13.2 Legal framework	 	 	



Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major






Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact	Origin	Trend
4.13.3 Governance	 	 	





Spatial scale - Area affected by the factor	
	Restricted
	Localised

	Extensive
✕	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
✕	Static
	Increasing

Name	Impact			Origin		Trend
4.13.4 Management activities						

Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
	Significant
✕	Major
Management response - Capacity of management to respond	
	High capacity

✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.13.5 Financial resources	 	 	






Spatial scale - Area affected by the factor	
	Restricted
	Localised
	Extensive
✕	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going

Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major






Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.13.6 Human resources	 	 	



Spatial scale - Area affected by the factor	
	Restricted
	Localised

✕	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
	Frequent
✕	On-going
Impact - Impact on the attributes	
	Insignificant
	Minor
✕	Significant
	Major
Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact			Origin		Trend
4.13.7 Low impact research/monitoring activities						

Spatial scale - Area affected by the factor	
	Restricted
✕	Localised
	Extensive
	Widespread
Temporal scale - Occurrence of the impact	
	One off or rare
	Intermittent or sporadic
✕	Frequent
	On-going
Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major
Management response - Capacity of management to respond	
	High capacity

✕	Medium capacity
	Low capacity
	No capacity and / or resources
Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

Name	Impact	Origin	Trend
4.13.8 High impact research/monitoring activities			
			

Spatial scale - Area affected by the factor	
✕	Restricted
	Localised
	Extensive
	Widespread

Temporal scale - Occurrence of the impact	
	One off or rare
✕	Intermittent or sporadic
	Frequent
	On-going

Impact - Impact on the attributes	
	Insignificant
✕	Minor
	Significant
	Major

Management response - Capacity of management to respond	
	High capacity
✕	Medium capacity
	Low capacity
	No capacity and / or resources

Trend - Development over the last 6 years	
	Decreasing
	Static
✕	Increasing

4.17. Serial inscriptions (national or transnational)

4.17.1 - If your property is a serial inscription (national or transnational) please identify which components of the property are impacted by each factor

4.18. Prediction of the state of conservation at next cycle of Periodic Reporting.

4.18.1 - Please predict what the state of conservation of each attribute will be approximately 6 years from now (at the time of the next cycle of Periodic Reporting)

Attribute	Preserved	Compromised	Seriously compromised	Lost

4.18.1.1	1. The landscapes and seascapes of the property are comprised of mostly intact and large-scale marine, coastal and terrestrial environments.		×		
4.18.1.2	2. One of the largest documented aggregation of whale sharks in the world, along with important aggregations of other fish species and marine mammals		×		
4.18.1.3	3. High diversity of marine fish - more than over 700 reef fish species		×		
4.18.1.4	4. High diversity of reptiles - Situated at an ecotone between tropical and temperate waters, the Ningaloo Coast hosts an unusual diversity of marine turtle species; The Carnarvon Xeric Scrub ecoregion is recognized for its high levels of species richness and endemism, particularly for birds and reptiles		×		
4.18.1.5	5. High diversity of marine invertebrates and algae - More than 50 per cent of Indian Ocean coral species (over 300 species in 54 genera), at least 650 mollusc species, 600 crustacean species, 155 sponge species and an undocumented number of echinoderms including 25 new to science, supplemented by more than 1,000 species of marine algae		×		

5. Protection and Management of the Property

5.1. Boundaries and Buffer Zones

5.1.1 - Are the boundaries of the World Heritage property adequate to maintain the property's Outstanding Universal Value?

The boundaries **do not limit the ability to maintain** the property's Outstanding Universal Value but they **could be improved**

5.1.2 - Are the boundaries of the World Heritage property known and recognised?

The boundaries **are known** by the management authority **but are not known** by local communities/landowners

5.1.3 - Are the buffer zone(s) of the World Heritage property adequate to maintain the property's Outstanding Universal Value?

The property has **no buffer zone**, but there is a need for one

5.1.4 - Are the boundaries of the buffer zones known and recognised?

The property has **no known and recognised** buffer zone

5.1.5 - Comments, conclusions and/or recommendations related to boundaries and buffer zones of the World Heritage property

The creation of conservation and recreation reserves along the Ningaloo Coast (adjacent to the site), as well as an extension to Cape Range National Park and the intertidal portions of Ningaloo Marine Park will support the integrity of the site. With the finalisation of an ILUA and the creation of the Nyinggulu Coastal Reserves, the Western Australian Government will consider a minor boundary modification to the World Heritage site.

5.2. Protective Measures

5.2.1 - Protective designation (legal, regulatory, contractual, planning, institutional and/or traditional).

5.2.2 - Please list any legislation and other measures (regulatory -including spatial planning- contractual, institutional or traditional) not included in 5.2.1 and indicate the category

2019 / DBCA(2019). Nyinggulu (Ningaloo)Coastal Reserves:Red Bluff to Winderabandi draft joint management plan. / State of Western Australia / <https://www.dpaw.wa.gov.au/images/documents/conservation-management/managementplans/Ningaloo%20coastal%20reserves%20draft%20joint%20management%20plan%202019.pdf>
Conservation and Parks Commission / Department of Biodiversity, Conservation and Attractions / 2020 /

5.2.3 - Is the legal framework (i.e. legislation and/or regulation including spatial planning) adequate for maintaining the Outstanding Universal Value including conditions of Integrity and/or Authenticity of the property?

The **legal framework** for maintaining of the Outstanding Universal Value including conditions of Authenticity and/or Integrity of the World Heritage property provides an **adequate basis for effective management and protection**

5.2.4 - Is the legal framework (i.e. legislation and/or regulation) adequate in the buffer zone for maintaining the Outstanding Universal Value including conditions of Integrity and/or Authenticity of the property?

The property has **no buffer zone**

5.2.5 - Is the legal framework (i.e. legislation and/or regulation) in the broader setting of the World Heritage property adequate for maintaining the Outstanding Universal Value including conditions of Integrity and/or Authenticity of the property?

The **legal framework** for the broader setting of the World Heritage property provides an **adequate basis for** effective management and protection of the property, contributing to the maintenance of its Outstanding Universal Value including conditions of Authenticity and/or Integrity

5.2.6 - Can the legal framework (i.e. legislation and/or regulation) be enforced?

There is **adequate capacity/resources** to enforce legislation and/or regulation in the World Heritage property

5.2.7 - Please provide a short summary of how the legislation, including spatial planning and other regulation, works in practice

Relevant legislation includes the Commonwealth Government EPBC Act (1999) which directs assessment and approval processes relevant to matters of national environmental significance (MNES); and the Western Australian Environmental Protection Act (1986) which directs assessment process for proposals which may impact ecological values. The Biodiversity Conservation Act (2016), and Regulations (2018); Fisheries Resource Management Act (1994); and the Conservation and Land Management Act (1984).

5.2.8 - Comments, conclusions and/or recommendations about the information related to the measures taken to protect the World Heritage property

The entire, mostly Western Australian Government-vested World Heritage site is comprehensively protected and managed, including by an overarching strategic management framework. While overall the integration into regional and national planning systems appears effective, there is a need to reinforce the Ningaloo Coast

Regional Strategy as the overarching strategy for guiding development proposals along the Ningaloo Coast in support of an integrated planning approach to the site.

5.3. Management System/Management Plan

5.3.1 - Please check the box which most closely match the character of the governance and management system of the property

Public management system at provincial/regional level

If 'Other', please specify

5.3.2 - Management System: Please indicate which of the various management tools listed below are used to help protect the property.

<input type="checkbox"/>	A statutory Management Plan or zoning plan for the property.
<input type="checkbox"/>	Other forms of statutory or non-statutory plans (e.g. strategic plans)
<input type="checkbox"/>	Agreed 'Memorandums of Understanding' between different managing institutions, groups or others, including documents agreed with local communities for management
<input type="checkbox"/>	Mechanisms to promote equal participation among and within groups, including different levels of authority, local communities, indigenous people, women and men, and other specific groups
<input type="checkbox"/>	An integrated management plan combining World Heritage and any other designations
<input type="checkbox"/>	A management plan
<input type="checkbox"/>	An annual work plan or business plan
<input type="checkbox"/>	A visitor/visitation management plan
<input type="checkbox"/>	An environmental management framework
<input type="checkbox"/>	A joint approach to management of cultural and natural heritage

5.3.3 - Please give a brief description of the management system currently in place at your property

Comprehensive management plans for the site and adjacent managed tenure are in place to maintain the integrity of the site. An Indigenous Land Use Agreement between the NTGAC PBC and State parties formalises the joint vesting and ongoing joint management of the Ningaloo Marine Park and Cape Range National Park and the Nyinggulu Coastal Reserve. The Reserve abuts the southern portion of the site to enhance existing management and protection of the OUV.

5.3.4 - Management Documents

5.3.5 - Has any use been made of the 2011 Recommendation on the Historic Urban Landscape in developing policies and best practices for the protection of this property?

The 2011 Recommendation on the Historic Urban Landscape is **not relevant** to this property

5.3.6 - If the Historic Urban Landscape Recommendation has been used at this property, please describe briefly what has been done.

5.3.7 - Has any use been made of the Policy Document on the Impacts of Climate Change on World Heritage Properties at the property?

Some use has been made of the World Heritage Policy for Climate Change

5.3.8 - If the Climate Change policy has been used, please briefly describe what has been done along with any research on the impacts of Climate Change on the property:

The site is taking part in the Resilience Reefs Initiative to enhance existing resilience strategies and employ new innovative and coordinated approaches to build resilience in the natural environment and local communities in relation to climate change impacts. Some aspects of the Draft Resilience Strategy align with the approach taken in the Policy Document however this policy was not used as guidance within the Draft Resilience Strategy process.

5.3.9 - Has any use been made of the Strategy for Reducing Risks from Disasters at World Heritage Properties at the property ?

No use has been made of the Strategy for Reducing Risks from Disasters at World Heritage Properties

5.3.10 - If the Strategy for Reducing Risks from Disasters at World Heritage Properties has been used, please briefly describe what has been done

5.3.11 - Rate the coordination between the various levels of administration (i.e. national/federal; regional/provincial/state; local/municipal etc.) involved in the management of the World Heritage property

There is **coordination** between the range of administrative bodies involved in the management of the property, **but it could be improved**

5.3.12 - Is the management system/plan adequate to maintain the property's Outstanding Universal Value?

The management system/plan is **only partially adequate** to maintain the property's Outstanding Universal Value

5.3.13 - Is the management system being implemented?

The management system is being **fully implemented and monitored**

5.3.14 - Is there an annual work/action plan and is it being implemented?

An annual work/action plan **exists and many of its activities are being implemented**

5.3.15 - Does the management system include formal mechanisms and procedures that ensure participation and contribution of the following groups, living within or near the World Heritage property and/or buffer zone in management decisions that maintain the Outstanding Universal Value of the property?

		Not applicable	No mechanisms for participation	Some participation	Direct participation	Transformative participation in all relevant decision processes
5.3.15.1	Local communities			✕		
5.3.15.2	Local authorities				✕	
5.3.15.3	Landowners in the property and the buffer zone				✕	
5.3.15.4	Indigenous peoples				✕	
5.3.15.5	Women				✕	
5.3.15.6	Other specific groups					
	If you selected, 'Other specific groups' please specify					

5.3.16 - Please rate the cooperation/relationship between the World Heritage property managers/coordinators/staff and the following groups

		Not applicable	Non-existent	Poor	Fair	Good
5.3.16.1	Local communities					✕
5.3.16.2	Local/Municipal authorities					✕
5.3.16.3	Indigenous peoples					✕
5.3.16.4	Landowners				✕	
5.3.16.5	Women					✕
5.3.16.6	Youth/Children				✕	
5.3.16.7	Researchers					✕
5.3.16.8	Local Visitors/Tourists				✕	
5.3.16.9	National/International tourists				✕	
5.3.16.10	Tourism Industry				✕	
5.3.16.11	Local businesses and industries				✕	
5.3.16.12	NGOs				✕	
5.3.16.13	Other specific groups					
	If you selected 'Other specific groups', please specify					

5.3.17 - Please rate the extent to which the management system of your property contributes towards achieving the objectives of the World Heritage Committee's Policy for the Integration of a Sustainable Development Perspective into the Processes of the *World Heritage Convention*

		Not applicable	No contribution	Limited	Significant	Full achievement
5.3.17.1	The management system of the property contributes to gender equality				✕	
5.3.17.2	The management system of the property provides ecosystem services/benefits to the local community (e.g. fresh air, water, food, medicinal plants)				✕	
5.3.17.3	The management system of the property contributes to social inclusion and equity, improving opportunities for all, irrespective of age, sex, disability, ethnicity, origin, religion or economic or other status				✕	
5.3.17.4	The management system of the property integrates a human rights-based approach				✕	
5.3.17.5	The management system of the property contributes to fostering inclusive local economic development, and to enhancing livelihood				✕	
5.3.17.6	The management system of the property contributes to conflict prevention, including respect for cultural diversity within and around the World Heritage property				✕	

5.3.18 - Please provide further details on the ratings of the management system given in the table above

There is a strong commitment to conserve the World Heritage values of the property among all stakeholders involved including traditional owners, community, scientists, local businesses, tourism operators, volunteers, Western Australian and local government agencies. An Indigenous Land Use Agreement between the NTGAC PBC and State parties formalises the joint vesting and ongoing joint management of the Ningaloo Marine Park, Cape Range National Park and the Nyinggulu Coastal Reserve.

5.3.19 - Comments, conclusions and/or recommendations related to the management system/plan

There is a need for ongoing management of fisheries and visitation and careful planning of resource extraction with corresponding monitoring and disaster preparedness to protect the OUV. This was recognised at the time of the World Heritage listing. Ensure management programs addressing threats, particularly building resilience to climate change, are sustained and supported by additional resources.

6. Financial and Human Resources

6.1. Funding

6.1.1 - If your funding sources do not exactly fit those shown, put the relevant amounts against the funding type that most closely represents your situation, and use the comment box below to provide more details.

		Project costs	Running costs
6.1.1.1	Multilateral funding (GEF, World Bank, etc.)	0 %	0 %
6.1.1.2	Bilateral international funding	0 %	0 %
6.1.1.3	World Heritage Fund (International Assistance)	0 %	0 %
6.1.1.4	Contribution from other conventions and programmes	0 %	0 %
6.1.1.5	International donations (NGOs, foundations, etc.)	0 %	0 %
6.1.1.6	Governmental (national/federal)	0 %	0 %
6.1.1.7	Governmental (regional/provincial/state)	0 %	0 %
6.1.1.8	Governmental (local/municipal)	0 %	0 %
6.1.1.9	In-country donations (NGOs, foundations, etc.)	0 %	0 %
6.1.1.10	Individual visitor charges (e.g. entry, toilets, parking, camping fees, etc.)	0 %	0 %
6.1.1.11	Commercial activities (e.g. merchandising and catering, filming permit, concessions, etc.)	0 %	0 %
6.1.1.12	Other	0 %	0 %
		Total 0 %	Total 0 %

6.1.2 - Please comment here on any other aspects of funding sources not covered in the table above

Australia cannot provide the requested data for 6.1, as funding is spread across a large number of different programs and priorities which may have multiple benefits for particular properties. That is, it is not possible to disaggregate the funding component attributed to each property. Funding comes from the State Government and Commonwealth Government.

6.1.3 - Is the current budget sufficient to manage the World Heritage property effectively?

The available budget is adequate for effective management of the World Heritage property

6.1.4 - Are the existing sources of funding secure and likely to remain so?

The existing sources of funding are secure over the medium-term and planning is underway to secure funding over the long-term

6.1.5 - Comments, conclusion, and/or recommendations related to finance and infrastructure

The Australian Government funding is limited to support for employment of an Executive Officer and conduct of the Committee. Current funding does not cover these costs completely. World Heritage specific project funding is available through grant funding and not guaranteed. The Western Australian Government provides funding for the ongoing management of the World Heritage site, these funds are limited in relation to World Heritage specific projects but overall enhance the OUV.

6.1.6 - Estimate the distribution of men and women involved in the management, conservation, interpretation of the World Heritage properties and the extent to which they are drawn from local communities.

		From local communities %	From elsewhere %
6.1.6.1	Men	25 %	40 %
6.1.6.2	Women	75 %	60 %
		Total 100 %	Total 100 %

6.1.7 - Are available human resources adequate to manage the World Heritage property?

Human resources partly meet the management needs of the World Heritage property

6.1.8 - Considering the management needs of the World Heritage property, please rate the availability of professionals in the following disciplines

Conservation	Good
Environmental sustainability	Fair

Community participation and inclusion	Fair
Risk preparedness	Good
Capacity development and education	Poor
Administration	Good
Research and monitoring	Fair
Awareness raising and public information/communication	Fair
Marketing and promotion	Not available
Interpretation	Fair
Visitor management/tourism	Good
Enforcement (custodians, police)	Fair

6.1.9 - Please rate the availability of training opportunities for the management of the World Heritage property in the following disciplines

Conservation	Good
Environmental sustainability	Not available
Community participation and inclusion	Fair
Risk preparedness	Good
Capacity development and education	Fair
Administration	Good
Research and monitoring	Fair
Awareness raising and public information/communication	Fair
Marketing and promotion	Poor
Interpretation	Fair
Visitor management/tourism	Fair
Enforcement (custodians, police)	Good

6.1.10 - Has any use been made of the World Heritage Strategy for Capacity Building at the property?

No use has been made of the World Heritage Strategy for Capacity Building

6.1.11 - If the World Heritage Strategy for Capacity Building has been used, please briefly describe what has been done.

6.1.12 - Are there site-specific capacity building plans or programmes that develop local expertise and that contribute to the transfer of skills for the conservation and management of the World Heritage property?

A site-based capacity building plan or programme is in place and fully implemented; **all technical skills are being transferred** to those managing the property locally

6.1.13 - Comments, conclusions and/or recommendations related to human resources, expertise and training

6.1.1 The WA State Government provides majority of funding for the management of the site. The Australian Government provides for a portion of the provision of an Executive Officer and conduct of the advisory committee. 6.1.6 Currently 43 staff work in and around the site. This does not include additional state-wide departmental staff or other key stakeholders who support and assist with the management of the site and adjacent tenure to the site that ensure the protection of the OUV.

7. Scientific Studies and Research Projects

7.1 - Is there adequate knowledge (scientific or traditional) about the values and attributes of the World Heritage property to support planning, management and decision-making to ensure that Outstanding Universal Value is maintained?

Knowledge about the values and attributes of the World Heritage property is **acceptable** for most key areas but there are gaps

7.2 - Is there a planned programme of research at the property which is directed towards management needs and/or improving understanding of Outstanding Universal Value?

There is **considerable research** but it is **not directed towards management needs and/or improving understanding of Outstanding Universal Value**

7.3 - Are results from research programmes publicly available and disseminated?

Research results **are shared with local communities and some national agencies**

7.4 - Comments, conclusions and/or recommendations related to scientific studies and research projects

There is adequate research and monitoring in the terrestrial /marine environments to support and inform management of some of the attributes, for example, sea turtles, shorebirds, whale sharks and black-flanked rock-wallabies. However, deficiencies exist in targeted research of attributes to improve understanding of the

OUV in its entirety and better inform management to ensure the integrity of the property is maintained.

8. Education, Information and Awareness Building

8.1 - Please rate the awareness and understanding of the existence and justification for inscription of the World Heritage property amongst the following groups

Local communities	Fair
Local/municipal authorities	Fair
Indigenous peoples	Fair
Landowners	Fair
Women	Fair
Youth/children	Fair
Researchers	Fair
Local visitors	Fair
National/international tourists	Fair
Tourism industry	Fair
Local businesses and industries	Fair
NGOs	Fair
Other specific groups	Good
If you selected 'Other specific groups', please describe	Ningaloo Coast World Heritage Advisory Committee; Australian World Heritage Advisory Committee; Australian Government – Heritage Unit

8.2 - Does the property have a heritage education programme(s) for children and/or youth, that can contribute to a better understanding of heritage, promote diversity and foster intercultural dialogue?

There is a **planned and effective education and awareness programme** for children and youth that contributes to the protection of the World Heritage property

8.3 - Who are the target audiences for education and awareness programmes at your property?

Local communities
Local/municipal authorities
Landowners
Women
Youth/children
Researchers
Local Visitors
National/international tourists
Tourism industry
Local businesses and industries
NGOs

8.4 - Please rate the adequacy of the following visitor facilities and services at the World Heritage property for education, information, interpretation and awareness building

Visitor centre	Good
Site museum	Not needed
Information booths	Fair
Guided tours	Fair
Trails/routes	Fair
Printed information materials	Fair
Online (website, social media, etc.)	Fair
Transportation facilities	Poor

Other	Not needed
If 'Other' is selected, please specify	

8.5 - Comments, conclusions and/or recommendations related to education, information and awareness building

Visitor education programmes are well developed with opportunities for community education and involvement through volunteer programmes involving people in the management and monitoring of the site. DBCA implements a number of local education and interpretation programmes that inform local community members and visitors of attributes of the OUV, management and research outcomes.

9. Visitor Management

9.1 - Please provide estimated annual visitor numbers (including national and international visitors) since the last Periodic Report

639,354 / 693,774 / 328,211 / 286,592 / 260,205 /

9.2 - What information sources are used to collect visitor statistics?

Entry tickets and registries

Tourism industry

Visitor surveys

Other

Pedestrian and vehicle counters, aerial visitation statistics and patrol log statistics

9.3 - What is the average length stay of a visitor to the World Heritage property?

One day (no overnight stay)

9.4 - Please provide the source of information

DBCA collects, reports and monitors statistics in relation to visitation for the site and adjacent managed tenure, to ensure recreational use of public lands is facilitated and changes to environmental impacts are better understood. The average length stay of a visitor to the site is based on "day use" visitation numbers. This number does not include the average length of stay for visitors utilising campground facilities inside the site.

9.5 - What is the approximate average daily visitor expenditure? (Please provide an estimated monetary figure in USD)

9.6 - Please provide the source of information

9.7 - Does the management system/plan for the World Heritage property include a strategy with an action plan to manage visitors, tourism activity and its derived economic, socio-cultural and environmental impacts?

There is a **strategy** to manage visitors, tourism activity and its derived impacts on the World Heritage property but there are **some deficiencies in implementation**

9.8 - Please provide any comments relating to the answer provided above in question 9.7

Increasing visitation and pressures on natural values, sensitive coastal habitats and ecological communities continue to remain major threats to the OUV. Tourism in the area is highly focused on nature-based or World Heritage values-based tourism. Several tourism activities are comprehensively managed to mitigate impacts to the OUV from tourism activities and visitation. However, some there are deficiencies in overall strategic direction for tourism and visitation management for the site.

9.9 - Is visitor use effectively managed to maintain the Outstanding Universal Value of the property?

Visitor use of the World Heritage property is **effectively managed and does not impact its Outstanding Universal Value**

9.10 - Is the effectiveness of tourism management regularly monitored?

Yes, using a different system

If a different system, please specify

Comprehensive management plans and programs with emphasis on continual review of management actions; attribute specific research including behavioural research (i.e., whale shark and humpback whale management programs) to ascertain impacts from current tourism activities and visitation numbers within the property.

9.11 - How does the tourism industry cooperate with the site management to improve visitor experiences and maintain the Outstanding Universal Value of the World Heritage property?

There is **limited cooperation** between those responsible for the World Heritage property and the tourism industry **to present the Outstanding Universal Value and increase appreciation**

9.12 - How well is the information on the Outstanding Universal Value of the property presented and interpreted?

The presentation and interpretation of the Outstanding Universal Value of the property is **acceptable but improvements could be made**

9.13 - At how many locations is the World Heritage emblem displayed at the property?

In **many locations**, but **not easily visible** to visitors

9.14 - How does visitor/tourism revenue (e.g. entry charges, permits) contribute to the management of the World Heritage property?

Fees are collected, and make **some contribution** to the management of the World Heritage property

9.15 - Are there locally driven sustainable tourism initiatives?

Yes

If 'Yes', please specify

Nature-based tourism initiatives - example, whale shark tourism industry.

9.16 - Are the benefits of tourism shared with local communities?

Yes

If 'Yes', please specify

Economic benefits to local community and businesses

9.17 - Comments, conclusions and/or recommendations related to visitation/tourism/public use of the World Heritage property

9.9.3 Visitor use of the World Heritage property is managed but improvements could be made to ensure management reflects current increase in visitation pressure to the OUV. 9.11 There is adequate cooperation with the the tourism industry to present the OUV and increase appreciation. This could be improved to provide additional support for protection to the OUV and the integrity of the site. 9.12.3 Improvements could be made to reflect current media access and tenure changes within the site.

10. Monitoring

10.1 - Is there a monitoring programme at the property directed towards management needs and/or towards improving the understanding of the Outstanding Universal Value?

There is **considerable monitoring** but it is not directed towards management needs and/or improving the understanding of Outstanding Universal Value

10.2 - Is necessary information available in order to define key indicators for measuring the state of conservation and are they used in monitoring how the Outstanding Universal Value of the property is being maintained?

Information on the values of the World Heritage property is **adequate** and **key indicators have been defined** but **monitoring of the status of indicators could be improved**

10.3 - Are key indicators defined and in place for the following principal aspects of the property?

	Extend of indicators	Not applicable	No indicators	Indicators have been defined but are not yet in use	Indicators are in place and in use since the last Periodic Reporting cycle
10.3.1	State of conservation				×
10.3.2	Effectiveness of the management system				×
10.3.3	Character of governance				×
10.3.4	Appropriate synergy with other conservation designations				×
10.3.5	Contribution to sustainable development				×
10.3.6	Capacity development				×

10.4 - Please provide information on relevant key indicators adopted at the property

Key indicators are in place for several attributes within the management system. Currently the site doesn't have indicators to monitor the state of conservation for the entire OUV. Several of the existing indicators are not all effective to monitor the OUV. Improvements to ensure all aspects of the OUV are considered and effective indicators are in place, to better understand the individual attribute as well as to better understand if the OUV and the integrity of the site is being maintained.

10.5 - Please rate the level of involvement in monitoring of the following groups:

World Heritage managers/coordinators and staff	Good
Local/municipal authorities	Fair
Local communities	Fair
Indigenous peoples	Poor
Landowners	Poor
Women	Good
Researchers	Fair
Tourism industry	Fair
Local businesses and industry	Fair
NGOs	Fair
Other specific groups	Not applicable
If you selected 'Other specific groups', please specify	

10.6 - Has the State Party implemented relevant recommendations arising from the World Heritage Committee?

Implementation is planned, but has not yet begun

10.7 - Please provide comments relevant to the implementation of recommendations from the World Heritage Committee.

An Indigenous Land Use Agreement between the NTGAC PBC and State parties formalises the joint vesting and ongoing joint management of the Ningaloo Marine Park and Cape Range National Park and the Nynggulu Coastal Reserve. The Western Australian Government will now consider a minor boundary modification to the site.

10.8 - Comments, conclusions and/or recommendations related to Monitoring

Some monitoring programmes in place have been strategically designed and implemented at relevant spatial and temporal scales to inform and support operational management and conservation. Other monitoring programmes, however, continue at spatial and temporal scales not useful for supporting management of OUV and the integrity of the site. Response at 10.6.2 relates to the 2011 recommendations from inscription.

11. Identification of Priority Management Needs

11.1 - Identification of Priority Management Needs

5.1	Boundaries and Buffer Zones	
5.1.2	The boundaries of the World Heritage property are known by the management authority but are not known by local communities/landowners	
5.1.3	The property has no buffer zone, but there is a need for one	
5.1.4	The property has no known and recognised buffer zone	
5.2	Protective Measures	
5.2.4	The property has no buffer zone	
5.3	Management System/Management Plan	
5.3.7	Some use has been made of the Policy Document on the Impacts of Climate Change on World Heritage Properties at the property	✕
5.3.9	No use has been made of the Strategy for Reducing Risks from Disasters at World Heritage Properties at the property	
5.3.11	There is coordination between the range of administrative bodies involved in the management of the property, but it could be improved	
5.3.12	The management system/plan is only partially adequate to maintain the property's Outstanding Universal Value	
6.1	Funding	
6.1.7	Human resources partly meet the management needs of the World Heritage property	✕
6.1.10	No use has been made of the World Heritage Strategy for Capacity Development at the World Heritage property	
7	Scientific Studies and Research Projects	
7.2	There is considerable research in the World Heritage property but it is not directed towards management needs and/or improving understanding of Outstanding Universal Value	✕
9	Visitor Management	
9.7	There is a strategy to manage visitors, tourism activity and its derived impacts on the World Heritage property but there are some deficiencies in implementation	✕
9.11	There is limited cooperation between those responsible for the World Heritage property and the tourism industry to present the Outstanding Universal Value and increase appreciation	✕
9.12	The presentation and interpretation of the Outstanding Universal Value of the property is acceptable but improvements could be made	✕
10	Monitoring	
10.1	There is considerable monitoring at the World Heritage property but it is not directed towards management needs and/or improving understanding of Outstanding Universal Value	✕
10.2	Information on the values of the World Heritage property is adequate and key indicators have been defined but monitoring of the status of indicators could be improved	

Please select 3 more issues.

☒ Please save this question to reflect changes

12. Summary and Conclusions

12.1. Summary - Factors affecting the Property

12.1.1 - Summary - Factors affecting the Property

4.1	Buildings and Development
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4.1.4		Major visitor accommodation and associated infrastructure							
4.4		Pollution							
4.4.1	Pollution of marine waters	Criterion (vii): Intact large-scale marine environments. Criterion (x): High diversity of marine fish, marine invertebrates and algae.	Continual collaboration with all stakeholders in relation to pending sea dumping proposals and potential pollution of marine waters outside of the site, to mitigate potential impacts to the OUV both inside and outside of the site.	Continued monitoring of shipping vessels. Continued monitoring of offshore projects and sea dumping proposals via the Australian Government and NOPSEMA assessments division.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE, Marine Parks Australia NOPSEMA Key Stakeholders	*		
4.4.2		Ground water pollution							
4.7		Local conditions affecting physical fabric							
4.7.3	Temperature	Criterion (vii) Criterion (x)	Implement the Resilience Strategy; undertake climate change vulnerability assessment; Minimise local stressors; Preserve key ecosystem features and functions; Support reef ability to recover, evolve and adapt to changing environmental conditions.	In-water temperature loggers.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders Resilient Reefs	Involve all key stakeholders with emphasis on community consultation - environmental social and economic resilience.		
4.7.6	Water (rain/water table)	Criterion (vii) Criterion (x)	Implement the Resilience Strategy for the Ningaloo Coast; Undertake studies to determine aquifer capacity and sustainable drawdown rates; Enhance or support recovery and adaptation processes for species and ecosystems.	No current monitoring.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Resilient Reefs Local Government authorities DWER Water Corp Key Stakeholders	Involve all key stakeholders with emphasis on community consultation - environmental social and economic resilience.		
4.8		Social/Cultural uses of heritage							
4.8.6	Impacts of tourism/Visitation/Recreation	Criterion (vii): Mostly intact and large-scale marine, coastal and terrestrial environments. Criterion (x): High diversity of marine fish; reptiles; marine mammals; marine invertebrates and algae, arid-zone vascular flora; bird species.	Continual review of tourism activities, monitoring and management strategies; Continual on-ground operational works to mitigate impacts from unmanaged visitor access to the site and recreation activities.	Visitation statistics, Tourism management program monitoring, Attribute specific behavioural monitoring, Other monitoring as required.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate Local Government authorities Key Stakeholders	*		
4.10		Climate change and severe weather events							
4.10.3		Drought							
4.10.5	Changes to oceanic waters	Criterion (vii) Criterion (x)	Implement the Resilience Strategy; Model the potential changes to hydrodynamics with climate change and impacts on species and ecosystems; Assess the impacts of ocean acidification on corals, plankton and primary productivity.	In-water temperature loggers. Leeuwin current strength (recently commissioned).	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders Resilient Reefs	Enhance or support recovery and adaptation processes for species and ecosystems; Involve all key stakeholders with emphasis on community consultation - environmental social and economic resilience.		

4.10.6	Temperature change	Criterion (vii) Criterion (x)	Implement the Resilience Strategy; undertake climate change vulnerability assessment; Minimise local stressors; Preserve key ecosystem features and functions; Support reef ability to recover, evolve and adapt to changing environmental conditions.	In-water temperature loggers.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders Resilient Reefs	Involve all key stakeholders with emphasis on community consultation - environmental social and economic resilience.
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4.12	Invasive/alien species or hyper-abundant species
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4.12.2	Invasive/Alien terrestrial species						
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Question not completed

12.2. Summary - Management Needs

12.2.1 - Summary - Management Needs

5.3	Management System/Management Plan				
		Actions	Timeframe	Lead agency (and others involved)	More info / comment
5.3.7	Some use has been made of the Policy Document on the Impacts of Climate Change on World Heritage Properties at the property	Review policy and implement guidelines, where possible, through the management framework, for example, the Ningaloo Coast Climate Change Vulnerability Assessment (2021); Use the policy, where appropriate to inform and support the Resilience Strategy	2021 - 2023	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE, CSIRO Local Government authorities Key Stakeholders Resilient Reefs	*

6.1	Funding				
6.1.7	Human resources partly meet the management needs of the World Heritage property	Continue to increase funding and human resource capacity inside the site and on adjacent tenure, to improve management, conservation and strategic research of the OUV and better maintain the integrity of the site.	Ongoing.	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders	*

7	Scientific Studies and Research Projects				
7.2	There is considerable research in the World Heritage property but it is not directed towards management needs and/or improving understanding of Outstanding Universal Value	Develop relationships, incentives and mechanisms to encourage strategic, responsive research which informs management. Improving the alignment of research aims and management needs will better inform management of the OUV.	2021 - 2027	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders	*

9	Visitor Management				
9.7	There is a strategy to manage visitors, tourism activity and its derived impacts on the World Heritage property but there are some deficiencies in implementation	Continual review of current visitation planning and visitation use management to mitigate derived impacts to the OUV. Refine monitoring and management planning to understand and manage increase in visitation pressures to the site.	2021 - 2027	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders	*

9.11	There is limited cooperation between those responsible for the World Heritage property and the tourism industry to present the Outstanding Universal Value and increase appreciation	Increase collaboration with tourism industry to transfer knowledge to empower community, build stewardship to better protect and present the OUV through tourism.	2023 - 2027	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate Tourism industry Key stakeholders The Australian Government - DAWE Local Government authorities	*
9.12	The presentation and interpretation of the Outstanding Universal Value of the property is acceptable but improvements could be made	Revise and implement the World Heritage Communication plan to reflect the presentation and interpretation of the OUV within the property and on adjacent tenure; and reflect increase in visitation as a significant pressure to the site.	2021 - 2027	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders	Develop new and improved modalities for presenting and communicating the OUV to visitors.

10	Monitoring				
10.1	There is considerable monitoring at the World Heritage property but it is not directed towards management needs and/or improving understanding of Outstanding Universal Value	Identify key priorities for research that will inform and support management of the OUV and maintain integrity of the site; Design and implement monitoring programs which support resilience-based management.	2021 - 2027	The Western Australian Government - DBCA The NTGAC Prescribed Body Corporate The Australian Government - DAWE Local Government authorities Key Stakeholders	Collaborate with research providers to guide and focus research programs and communicate outcomes to community and visitors.

Summary - Management Needs completed

12.3. Conclusions on the State of Conservation of the Property

12.3.1 - Following the analysis undertaken for this report, what is the current state of Authenticity of the World Heritage property?

Not applicable (sites inscribed exclusively under criteria vii to x (natural World Heritage properties))

12.3.2 - Following the analysis undertaken for this report, what is the current state of Integrity of the World Heritage property?

The Integrity of the World Heritage property is **intact**

12.3.3 - Following the analysis undertaken for this report, what is the current state of the World Heritage property's Outstanding Universal Value?

The World Heritage property's Outstanding Universal Value has been **maintained**.

12.3.4 - What is the current state of the property's other values?

Other important cultural and/or natural values are being **partially degraded** but the state of conservation of the World Heritage property has **not been significantly impacted**

12.3.5 - Comments, conclusions and/or recommendations related to the state of conservation of the property.

12.3.2 The integrity of the World Heritage property is intact and the site remains overall well preserved, however some of the attributes have been compromised by factors described in this report. Climate change poses the greatest threat to long-term conservation. Increasing visitation, recreational use and associated pressures continue. Increases in recreational fishing, concerns over short term impacts on populations and longer term impacts on the broader ecosystem.

13. Impact of World Heritage Status

13.1 - Please rate the impacts of World Heritage status of the property in relation to the following areas

Conservation	Very positive
Research and monitoring	Very positive
Management effectiveness	Positive
Quality of life for local communities and indigenous peoples	Positive
Recognition	Positive

Education	Positive
Infrastructure development	Positive
Funding for the property	Positive
International cooperation	Positive
Political support for conservation	Positive
Legal/Policy framework	Positive
Advocacy	Positive
Institutional coordination	Very positive
Security	Not applicable
Gender equality	Positive
Provision of ecosystem services/ benefits to local communities	No impact
Social inclusion and equity, and improvement of opportunities for all, irrespective of age, sex, disability, ethnicity, origin, religion, or economic or other status	Positive
Fostering inclusive local economic development and enhancing livelihood	Positive
Contributing to conflict prevention, including respect for cultural diversity within and around heritage properties	Not applicable
Other	Not applicable
If 'Other', please specify	

13.2 - Comments, conclusions and/or recommendations related to World Heritage status and its impacts

14. Good Practice in the Implementation of the World Heritage Convention

14.1 - Example of good practice in World Heritage protection, identification, conservation or management at the property level

The site hosts one of the largest reliable whale shark aggregations in the world. DBCA manages a licensed tourism activity for whale shark interactions within the property (Ningaloo Marine Park (State waters)). The management of the whale shark tourism industry based around this exceptional phenomenon is acknowledged globally as best practise and considered a successful model for sustainable nature-based tourism, inspiring other countries to establish similar conservation management programs to protect their aggregations (Norman 2002; Rowat & Brooks 2012; Sanzogni et al 2015). Rowat, D. & Brooks, K.S. (2012). A review of the biology, fisheries and conservation of the whale shark *Rhincodon typus*. *Journal of Fish Biology* 80, 1019-1056. Norman B. (2002). Review of Current and Historical Research on the Ecology of Whale Sharks (*Rhincodon typus*), and Applications to Conservation through Management of Species. Fremantle: Western Australian Department of Conservation and Land Management. Citation: RL, Meekan MG, Meeuwig JJ (2015) Multi-Year Impacts of Ecotourism on Whale Shark (*Rhincodon typus*) Visitation at Ningaloo Reef, Western Australia. *PLoS ONE* 10(9).

14.2 - Define which topics are covered by this example of best practice at the property level

Sustainable Development
Synergies
State of Conservation
Management
Governance
Capacity Building

15. Assessment of the Periodic Reporting Exercise

15.1. Relevance of Periodic Reporting

15.1.1 - Has the Periodic Reporting process improved the understanding of the following?

The <i>World Heritage Convention</i>
The concept of Outstanding Universal Value
The concept of Integrity and/or Authenticity
The property's Integrity and/or Authenticity
Management effectiveness to maintain the Outstanding Universal Value
Monitoring and reporting

15.1.2 - Please rate the follow-up to conclusions and recommendations from previous Periodic Reporting exercise by the following entities

State Party	Not needed
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Site Managers	Not needed
UNESCO World Heritage Centre	Not needed
Advisory Bodies (ICOMOS, IUCN, ICCROM)	Not needed

15.2. Use of Data

15.2.1 - How do the authorities in charge of the property plan to use the data recorded from this cycle of Periodic Reporting?

Revision of priorities/strategies/policies for the protection, management and conservation of heritage
Update of management plans

15.2.2 - Comments on use of data from the Cycle of Periodic Reporting

15.3. Timing and resources

15.3.1 - Entities involved in the filling out of this online questionnaire (tick as many boxes as applicable)

Governmental institutions responsible for cultural and natural heritage
Site Manager/Coordinator World Heritage property staff
Focal points of other international conventions/programmes

15.3.2 - Has a gender balanced contribution and participation been considered in the filling out of this questionnaire?

Gender balance has been **explicitly considered** in the process **but there are still deficiencies in the implementation.**

15.3.3 - Were you given adequate time (i.e. roughly ten months) to gather necessary information and to fill in this questionnaire?

Yes

15.3.4 - Please estimate the time (working hours) needed to complete this questionnaire

6 / 6 / 30 /

15.3.5 - Did you mobilise any additional resources to fill out this questionnaire?

	Additional resources	No	Yes
15.3.5.1	Human resources	✗	
15.3.5.2	Financial resources for organizing consultation meetings/ training	✗	

15.4. Format and content of the Periodic Report

15.4.1 - How accessible was the information required to complete this questionnaire?

Most required information was accessible.

15.4.2 - Was the questionnaire easy to use and clear to understand?

		Very Difficult	Difficult	Easy	Very easy
15.4.2.1	Ease of use of questionnaire			✗	
15.4.2.2	Clarity of questions		✗		

15.4.3 - Please provide suggestions for improvement of the Periodic Reporting questionnaire

Section 4 Factors affecting the property - provide option to write specific factor and option to give both negative and positive impact that is then addressed separately as current and potential impact in Section 4.16. Assessment of current and potential positive and negative factors. This would ensure a more accurate assessment of factors affecting the property and ensure correct information received to inform management decisions and planning for the World Heritage property.

15.5. Training and Guidance

15.5.1 - Please rate the level of support in terms of training and guidance from the following entities in completing this questionnaire

UNESCO World Heritage Centre	Not applicable
UNESCO (other sectors/field offices)	Good
UNESCO National Commission	Not applicable
ICOMOS International	Not applicable
IUCN International	Not applicable
ICCROM international/regional	Not applicable
ICOMOS national/regional	Not applicable
IUCN national/regional	Not applicable

15.5.2 - Please rate the level of support for completing the Periodic Reporting questionnaire from the following entities

UNESCO World Heritage Centre	Not applicable
State Party Representative (national Focal Point)	Good
UNESCO other sectors (e.g. field office)	Good
National Commission for UNESCO	Not applicable
ICOMOS International	Not applicable
ICCROM International/regional	Not applicable
ICOMOS national/regional	Not applicable
IUCN national/regional	Not applicable
IUCN International	Not applicable

15.5.3 - Were the online training resources prepared by the World Heritage Centre regarding Periodic Reporting adequate for you to complete this questionnaire?

Yes

15.5.4 - If you found that the online training resources were not adequate, what changes would you like to see implemented?

15.6. Actions that will require formal consideration by the World Heritage Committee

15.6.1 - Summary of actions that will require formal consideration by the World Heritage Committee

No item were proposed for update

15.7. Comments, conclusions and/or recommendations related to the Assessment of the Periodic Reporting Exercise

15.7.1 - Comments, conclusions and/or recommendations related to the Assessment of the Periodic Reporting Exercise

15.7.2 - Thank you for having filled in all the questions. Please contact your National Focal Point for validation.