The Sundarbans

1. World Heritage Property Data

1.1 - Name of World Heritage property

The Sundarbans

1.2 - World Heritage property details

Comment

Your comment: Name of the State Party: Bangladesh Type of Property: World Heritage Site (Natural) World Heritage Identification no: 798 Year of Inscription on the World Heritage list: 1997

1.3 - Geographic information table

Name	Coordinates	Property (ha)	Buffer zone (ha)	Total (ha)	Inscription year
Sundarbans West Wildlife Sanctuary	21.776 / 89.232	71500	?	71500	1997
Sundarbans South Sanctuary	21.797 / 89.407	37000	?	37000	1997
Sundarbans East Sanctuary	21.945 / 89.778	31000	?	31000	1997
Total (ha)		**139500**	**0**	**139500**	

Comment

Geographic information: 1.Sundarbans West Wildlife Sanctuary- ID 798-001, Coordinates: N21degree 35minute, E89degree 00minute, Area: 71,502.103 ha 2.Sundarbans South Wildlife Sanctuary- ID 798-002, Coordinates: N21degree 35minute, E89degree 20minute, Area: 36,970.455 ha and 3.Sundarbans East Wildlife Sanctuary- ID 798-003, Coordinates: N21degree 50minute, E89degree 40minute, Area:31,226.938 ha Inscription year of all WHS 1997 , No Buffer Zone Within WHSs, Total Area of WHSs 1,39,699.496 ha.

1.4 - Map(s)

Title	Date	Link to source
Map showing the components of the inscribed property	1986	

Comment

The map submitted to the World Heritage Center earlier during inscription is a older one , black and white and not so detailed. For this reason, the state party have submitted a more detailed updated map to the World Heritage Centre this year in due time. The submitted map is the map of the Sundarbans Reserved Forest (SRF) showing the World Heritage Site (WHS) in detail (showing Core Zone and Buffer Zone). So requesting to replace the newly submitted updated map with the older one

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

Comment

http://www.bforest.gov.bd/ , http://bfis.bforest.gov.bd/bfis/

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) is designated and/or protected under this convention/programme	The World Heritage property (in whole or in part) is not 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

Approximately 68.3% of the Sundarbans is land portion and 31.7% of the land is water body. The Sundarbans is internationally recognized for it's high bio-diversity of mangrove flora and fauna both on land and water. The site supports exceptional biodiversity in its terrestrial, aquatic and marine habitats; ranging from micro to macro flora and fauna. For this reason, the whole Sundarbans was declared as the 560th RAMSAR Site in 1992.

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?

No

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?

No

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?

No

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?

No

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)

The state party is also working actively with East Asian Australasian Flyway Partnership (EAAFP), Global Tiger Initiative (GTI), Global Tiger Forum (GTF), Mangrove For Future (MFF), Asia Protected Area Partnership (APAP), South Asia Wildlife Enforcement Network (SAWEN), Asia Pasific Network for Sustainable Forest Management (APF Net), Bi- lateral MoU for Conservation of Sundarbans with India, Protocol with India for Tiger Conservation, Mangrove Ecosystem and Livelihood Action Group (MELAG).

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

Not applicable.

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 aware.

Not applicable.

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 Sundarbans Reserve Forest (SRF), located in the south-west of Bangladesh between the river Baleswar in the East and the Harinbanga in the West, adjoining to the Bay of Bengal, is the largest contiguous mangrove forest in the world. Lying between latitude 21° 27′ 30″ and 22° 30′ 00″ North and longitude 89° 02′ 00″ and 90° 00′ 00″ East and with a total area of 10,000 km^2, 60% of the property lies in Bangladesh and the rest in India. The land area, including exposed sandbars, occupies 414,259 ha (70%) with water bodies covering 187,413 ha (30%).

The three wildlife sanctuaries in the south cover an area of 139,700 ha and are considered core breeding areas for a number of endangered species. Situated in a unique bioclimatic zone within a typical geographical situation in the coastal region of the Bay of Bengal, it is a landmark of ancient heritage of mythological and historical events. Bestowed with magnificent scenic beauty and natural resources, it is internationally recognized for its high biodiversity of mangrove flora and fauna both on land and water.

The immense tidal mangrove forests of Bangladeshs' Sundarbans Forest Reserve, is in reality a mosaic of islands of different shapes and sizes, perennially washed by brackish water shrilling in and around the endless and mind-boggling labyrinths of water channels. The site supports exceptional biodiversity in its terrestrial, aquatic and marine habitats; ranging from micro to macro flora and fauna. The Sundarbans is of universal importance for globally endangered species including the Royal Bengal Tiger, Ganges and Irawadi dolphins, estuarine crocodiles and the critically endangered endemic river terrapin (Batagur baska). It is the only mangrove habitat in the world for Panthera tigris tigris species.

Criterion (ix): The Sundarbans provides a significant example of on-going ecological processes as it represents the process of delta formation and the subsequent colonization of the newly formed deltaic islands and associated mangrove communities. These processes include monsoon rains, flooding, delta formation, tidal influence and plant colonization. As part of the world's largest delta, formed from sediments deposited by three great rivers; the Ganges, Brahmaputra and Meghna, and covering the Bengal Basin, the land has been moulded by tidal action, resulting in a distinctive physiology.

Criterion (x): One of the largest remaining areas of mangroves in the world, the Sundarbans supports an exceptional level of biodiversity in both the terrestrial and marine environments, including significant populations of globally endangered cat species, such as the Royal Bengal Tiger. Population censuses of Royal Bengal Tigers estimate a population of between 400 to 450 individuals, a higher density than any other population of tigers in the world.

The property is the only remaining habitat in the lower Bengal Basin for a wide variety of faunal species. Its exceptional biodiversity is expressed in a wide range of flora; 334 plant species belonging to 245 genera and 75 families, 165 algae and 13 orchid species. It is also rich in fauna with 693 species of wildlife which includes; 49 mammals, 59 reptiles, 8 amphibians, 210 white fishes, 24 shrimps, 14 crabs and 43 mollusks species. The varied and colourful bird-life found along the waterways of the property is one of its greatest attractions, including 315 species of waterfowl, raptors and forest birds including nine species of kingfisher and the magnificent white-bellied sea eagle.

Integrity

The Sundarbans is the biggest delta, back water and tidal phenomenon of the region and thus provides diverse habitats for several hundreds of aquatic, terrestrial and amphibian species. The property is of sufficient size to adequately represent its considerably high floral and faunal diversity with all key values included within the boundaries. The site includes the entire landscape of mangrove habitats with an adequate surrounding area of aquatic (both marine and freshwater) and terrestrial habitats, and thus all the areas essential for the long term conservation of the Sundarbans and its rich and distinct biodiversity

The World Heritage property is comprised of three wildlife sanctuaries which form the core breeding area of a number of species of endangered wildlife. Areas of unique natural beauty, ethno botanical interest, special marine faunal interest, rivers, creeks, islands, swamps, estuaries, mud flats, and tidal flats are also included in the property. The boundaries of the property protect all major mangrove vegetation types, areas of high floral and faunal values and important bird areas. The integrity of the property is further enhanced by terrestrial and aquatic buffer zones that surround, but are not part of the inscribed property.

Natural calamities such as cyclones, have always posed threats on the values of the property and along with saline water intrusion and siltation, remain potential threats to the attributes. Cyclones and tidal waves cause some damage to the forest along the sea-land interface and have previoulsy caused occasional considerable mortality among some species of fauna such as the spotted deer. Over exploitation of both timber resources and fauna, illegal hanting and trapping, and agricultural encroachment also pose serious threats to the values of the property and its overall integrity.

Protection and management requirements

The property is composed of three wildlife sanctuaries and has a history of effective national legal protection for its land, forest and aquatic environment since the early 19th century. All three wildlife sanctuaries were established in 1977 under the Bangladesh Wildlife (Preservation) (Amendment) Act, 1974, having first been gazetted as forest reserves in 1878. Along with the Forest Act, 1927, the Bangladesh Wildlife (Preservation) (Amendment) Act 1974, control activities such as entry, movement, fishing, hunting and extraction of forest produces. A number of field stations established within Sundarbans West assist in providing facilities for management staff. There are no recognised local rights within the reserved forest with entry and collection of forest products subject to permits issued by the Forest Department.

The property is currently well managed and regularly monitored by established management norms, regular staff and individual administrative units. The key objective of management is to manage the property to retain the biodiversity, aesthetic values and integrity. A delicate balance is needed to maintain and facilitate the ecological process of the property on a sustainable basis. Another key management priority is the maintenance of ongoing ecological and hydrological process which could otherwise be threatened by ongoing developmental activities outside the property. Subject to a series of successively more comprehensive management plans since its declaration as reserved forest, a focus point of many of these plans is the management of tigers, together with other widlife, as an integral part of forest management that ensures the sustainable harvesting of forest products while maintaining the coastal zone in a way that meets the needs of the local human population. The working plans for the Sundarbans demonstrate a progressive increase in the understanding of the management requirements and the complexity of prescriptions made to meet them.

Considerable research has been conducted on the Sundarbans wildlife and ecosystem. International input and assistance from WWF and the National Zoological Park, the Smithsonian Institution as well as other organisations has assisted with the development of working plans for the property, focusing on conservation and management of wildlife.

The Sundarbans provides sustainable livelihoods for millions of people in the vicinity of the site and acts as a shelter belt to protect the people from storms, cyclones, tidal surges, sea water seepage and intrusion. The area provides livelihood in certain seasons for large numbers of people living in small villages surrounding the property, working variously as wood-cutters, fisherman, honey gatherers, leaves and grass gatherers.

Tourism numbers remain relatively low due to the difficult access, arranging transport and a lack of facilities including suitable accommodation. Mass tourism and its impacts are unlikely to affect the values of the property. While the legal protection afforded the property prohibit a number of activities within the boundaries illegal hunting, timber extraction and agricultural encroachment pose potential threats to the values of the property. Storms, cyclones and tidal surges up to 7.5 m high, while features of the areas, also pose a potential threat with possible increased frequency as a result of climate change.

Comment

The Forest Act, 1927, Wildlife (conservation and security) Act, 2012 and Management Plans (IRMP & others) provides protection to the property. Special measures like Moratorium (stopped timber extraction), SMART patrolling (reduced poaching/trapping of wildlife), Expansion of Wildlife Sanctuary, functional Co-management, training on AIGA, EIA, SEA, contributed a lot to conserve the OUV of the property. The Population of Tigers, Dolphins & other wildlife and the Carbon stock have been increased.

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	plant (334 species)	×			
3.2.2	abundance of Sundri (Heritiera fomes) , Gewa (Excoecaria agallocha), Keora (Sonneratia apetala) and Goran (Ceriops decandra)	×			
3.2.3	Mammals (49 species)	×			
3.2.4	Reptiles (59 species)	×			
3.2.5	Amphibians (8 species)	×			
3.2.6	Birds (260 species)	×			
3.2.7	Crabs (14 species) & Mollusks (43 species)	×			
3.2.8	Bengal Tigers (106 nos in 2015 and 114 nos in 2018)	×			
3.2.9	Deer (1,00,000 to 1,50,000 nos)	×			
3.2.10	Fishes (210 species)	×			
3.2.11	Shrimps (24 species)	×			
3.2.12	Dolphins (increased 55% in the year 2019 in comparison to year2017)	×			
3.2.13	White-rumped Vulture (around 100 nos)	×			
3.2.14	Salt Water Crocodile (around 140 nos)	×			
3.2.15	Masked Finfoot	×			

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

Effective monitoring system through modern technologies and Co-management are adopted to protect the OUV of the property. Resource extraction is strictly prohibited in the WHSs as well as in the wildlife sanctuary (WS) areas. In other areas, resource extraction is allowed seasonally with some regulations following the Management Plans (IRMP & others) and Acts. Thus, the bio-diversity of the property is conserved. Data source: http://bfis.bforest.gov.bd/bfi/# https://whc.unesco.org/en/list/798

4. Factors Affecting the Property

4.1. Buildings and Development

4.1.1 - Housing

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.1.2 - Commercial development

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.1.3 - Industrial areas

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Potential, Outside

✖ Relevant	Not relevant

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

4.1.4 - Major visitor accommodation and associated infrastructure

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.1.5 - Interpretative and visitation facilities

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Current, Inside, Outside

✖ Relevant	Not relevant

	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

There are some agro-based factories outside the property and these are now managed in a way that produces less impact to the surroundings. The factories are treated as negative factor. Visitation facilities attracts tourists and the Interpretation centers aware the tourists about what to do and not to do in the forest during eco-tourism. Thus, interpretative and visitation facilities have a positive effect. Eco-tourism is regulated by the approved eco-tourism policy in the Sundarbans and IRMP.

4.2. Transportation Infrastructure

4.2.1 - Ground transport infrastructure

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.2.2 - Underground transport infrastructure

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.2.3 - Air transport infrastructure

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Inside, Outside

Relevant	✖ Not relevant

4.2.4 - Marine transport infrastructure

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Potential, Inside

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

Previous answer Cycle 2 (29/07/2011):

- Not relevant

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

Marine transport infrastructure like harbor and port facilities and Effects of shipping traffic in shipping routes outside the property has a potential negative impact to the property ecosystem but it is not so significant. So, these factors are treated as negative.

4.3. Services Infrastructures

4.3.1 - Water infrastructure

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant

4.3.2 - Renewable energy facilities

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant

4.3.3 - Non-renewable energy facilities

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant

4.3.4 - Localised utilities

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Potential, Inside

Relevant	Not relevant

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

4.3.5 - Major linear utilities

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant

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

After establishing the towers, the tele- communication system is better. As a result, the monitoring systems become strengthen. Thus, the patrolling and vigilance is better than the previous time. Thus it is treated as positive factor.

4.4. Pollution

4.4.1 - Pollution of marine waters

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Outside

Relevant	Not relevant
✖	

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

4.4.2 - Ground water pollution

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant
	✖

4.4.3 - Surface water pollution

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

Relevant	Not relevant
✖	

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

4.4.4 - Air pollution

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Outside

Relevant	Not relevant
✖	

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

4.4.5 - Solid waste

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

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

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant
	✖

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

Pollution of marine waters (like Ocean dumping and Plastic), Surface water pollution (like Agricultural runoff), Air pollution (like Excessive smoke or other airborne particulates and Dust) and Solid waste (like Litter) have an insignificant negative impact since the origin of these factors are much more away from the property. Thus, these factors are treated as negative.

4.5. Biological resource use/modification

4.5.1 - Fishing/collecting aquatic resources

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.5.2 - Aquaculture

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Outside

✖ Relevant	Not relevant

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

4.5.3 - Land conversion

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.4 - Livestock farming/Grazing of domesticated animals

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.5 - Crop production

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.6 - Commercial wild plant collection

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.7 - Subsistence wild plant collection

Previous answer Cycle 2 (29/07/2011):

- Not relevant

✖ Relevant	Not relevant

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

4.5.8 - Commercial hunting

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.9 - Subsistence hunting

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.5.10 - Forestry/Wood production

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Inside

✖ Relevant	Not relevant

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

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

Factors like Fishing by Netting, Aquaculture have an insignificant level of negative impact and are treated as negative factors. whereas Subsistence wild plant collection like thatching is allowed outside the property and the WS area as well in the mature Nypa palm after proper inventory as a silviculture operation and Forestry/Wood production (like Restoration/Regeneration) is done at the outside of the property have a very positive impact for the property and treated as positive factors.

4.6. Physical resource extraction

4.6.1 - Mining

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.6.2 - Quarrying

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.6.3 - Oil and gas

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.6.4 - Water (extraction)

Previous answer Cycle 2 (29/07/2011):

- Not relevant

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

All the factors are not relevant.

4.7. Local conditions affecting physical fabric

4.7.1 - Wind

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

	Impact	Origin	Trend of impact

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

4.7.2 - Relative humidity

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.7.3 - Temperature

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.7.4 - Radiation/Light

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Potential, Inside

✖ Relevant	Not relevant

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

4.7.5 - Dust

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Outside

Relevant	✖ Not relevant

4.7.6 - Water (rain/water table)

Previous answer Cycle 2 (29/07/2011):

- Not relevant

✖ Relevant	Not relevant

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

4.7.7 - Pests

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

Positive							
Negative ✖	✖		✖	✖		→	

4.7.8 - Micro-organisms

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Potential, Inside

✖ Relevant	Not relevant

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

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

Factors like wind, Dust, Pests/fungus have detrimental impacts and treated as negative factors. On the other hand, Micro-organisms play a positive role by decomposing the litter falls and lops & tops and treated as positive factor. Relative humidity, Temperature, radiation/Light, rain etc. are very important ecological factors and playing a very positive role to the growth of the vegetation of the forest since these are occurring at the optimum level. So, these are treated as positive factors

4.8. Social/Cultural uses of heritage

4.8.1 - Ritual/Spiritual/Religious and associative uses

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.8.2 - Society's valuing of heritage

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Current, Outside

✖ Relevant	Not relevant

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

4.8.3 - Indigenous hunting, gathering and collecting

Previous answer Cycle 2 (29/07/2011):

- Not relevant

✖ Relevant	Not relevant

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

4.8.4 - Changes in traditional ways of life and knowledge system

Previous answer Cycle 2 (29/07/2011):

- Not relevant

✖ Relevant	Not relevant

	Impact	Origin	Trend of impact

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

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

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.8.6 - Impacts of tourism/Visitation/Recreation

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Negative, Current, Potential, Inside, Outside

✖ 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

Factors like Ritual/Religious and associative uses, tourism/visitation/recreation, Society's valuing of heritage (Changes in values leading to new uses of resources etc.), Indigenous gathering and collecting (like fishing), Changes in traditional ways of life and knowledge system, play positive role and are treated as positive factors.

4.9. Other human activities

4.9.1 - Illegal activities

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Inside, Outside

✖ 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

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Inside

Relevant	✖ Not relevant

4.9.3 - Military training

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.9.4 - War

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.9.5 - Terrorism

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Inside, Outside

Relevant	✖ Not relevant

4.9.6 - Civil unrest

Previous answer Cycle 2 (29/07/2011):

- Not relevant

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

Illegal activities like Illegal extraction of biological resources (i.e., poaching) and illegal fishing is occurred sometimes outside the property. These have a detrimental effect to the bio-diversity of the property. So, these are treated as negative factors. Due to SMART based monitoring, and co-management, these sorts of illegal activities have been lessened and the negative impact become reduced. Drone supported monitoring system is also introduced to stop such illegal activities.

4.10. Climate change and severe weather events

4.10.1 - Storms

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.10.2 - Flooding

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.10.3 - Drought

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.10.4 - Desertification

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.10.5 - Changes to oceanic waters

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.10.6 - Temperature change

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ 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

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

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

Factors like Storms (Tornadoes, Hurricanes/Cyclones etc.), Flooding, Changes to oceanic waters (Changes to pH, Changes in temperature), Temperature change, other climate change impacts (raise in mean sea level, salinity etc.) may have a detrimental effect when it occurs in a very high level or high velocity or in a higher content, but at present it is not significant. Thus, these factors play potential negative role and treated as negative.

4.11. Sudden ecological or geological events

4.11.1 - Volcanic eruption

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.11.2 - Earthquake

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.11.3 - Tsunami/Tidal wave

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.11.4 - Avalanche/Landslide

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.11.5 - Erosion and siltation/Deposition

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

✖ Relevant	Not relevant

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

4.11.6 - Fire (wildfire)

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

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

Factors like Tidal wave may play potential negative role by washing out effect and treated as negative. On the other hand, factor like siltation/Deposition play positive role to the property by new land formation and treated as positive. Other factors are not relevant to the property. Since the rate of deposition/siltation is higher than the rate of erosion in the property, it is treated as positive.

4.12. Invasive/alien species or hyper-abundant species

4.12.1 - Translocated species

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

Relevant	✖ Not relevant

4.12.2 - Invasive/Alien terrestrial species

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.12.3 - Invasive/Alien freshwater species

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.12.4 - Invasive/Alien marine species

Previous answer Cycle 2 (29/07/2011):

- Relevant, Negative, Current, Potential, Inside, Outside

Relevant	✖ Not relevant

4.12.5 - Hyper-abundant species

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	✖ Not relevant

4.12.6 - Modified genetic material

Previous answer Cycle 2 (29/07/2011):

- Not relevant

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

All the factors are are not relevant .

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

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Current, Inside, Outside

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

Previous answer Cycle 2 (29/07/2011):

- Relevant, Positive, Current, Potential, Inside, Outside

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

Previous answer Cycle 2 (29/07/2011):

- Not relevant

Relevant	Not relevant
	✖

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

The Management plans and Legal framework (like Acts and Laws) are the principal tool for the protection of the OUV and eco system of the property. The Management activities (protection and management) are the strategies to implement the Acts, Rules and Management plans on field by the Human resources by sufficient Financial resources and support of Low impact research/monitoring activities playing a great positive role in the conservation of the OUV and these are treated as positive factors.

4.14. Other factor(s)

4.14.1 - Other factor(s)

Not applicable.

4.15. Factors Summary Table

4.15.1 - Factors Summary Table

Name	Impact			Origin		Trend
4.1 Buildings and Development						
4.1.3 Industrial areas						
	⊖		☝		↻	→
4.1.5 Interpretative and visitation facilities	⊕	☝		⊙	↻	↗
4.2 Transportation Infrastructure						
4.2.4 Marine transport infrastructure						
	⊖		☝	⊙	↻	→
4.2.5 Effects arising from use of transportation infrastructure						
	⊖		☝		↻	→
4.3 Services Infrastructures						
4.3.4 Localised utilities	⊕	☝		⊙	↻	↗
4.4 Pollution						
4.4.1 Pollution of marine waters						
	⊖		☝		↻	→
4.4.3 Surface water pollution						
	⊖		☝		↻	→
4.4.4 Air pollution						
	⊖		☝		↻	→
4.4.5 Solid waste						
	⊖		☝		↻	→
4.5 Biological resource use/modification						
4.5.1 Fishing/collecting aquatic resources						
	⊖	☝			↻	→
4.5.2 Aquaculture						
	⊖	☝			↻	→
4.5.7 Subsistence wild plant collection	⊕	☝			↻	↘
4.5.10 Forestry/Wood production	⊕	☝			↻	↗
4.7 Local conditions affecting physical fabric						

4.7.1 Wind
4.7.2 Relative humidity
4.7.3 Temperature
4.7.4 Radiation/Light
4.7.6 Water (rain/water table)
4.7.7 Pests
4.7.8 Micro-organisms
4.8 Social/Cultural uses of heritage
4.8.1 Ritual/Spiritual/Religious and associative uses
4.8.2 Society's valuing of heritage
4.8.3 Indigenous hunting, gathering and collecting
4.8.4 Changes in traditional ways of life and knowledge system
4.8.6 Impacts of tourism/Visitation/Recreation
4.9 Other human activities
4.9.1 Illegal activities
4.10 Climate change and severe weather events
4.10.1 Storms
4.10.2 Flooding
4.10.5 Changes to oceanic waters
4.10.6 Temperature change
4.10.7 Other climate change impacts
4.11 Sudden ecological or geological events
4.11.3 Tsunami/Tidal wave
4.11.5 Erosion and siltation/Deposition

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						

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**
4.1.3 Industrial areas						

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
4.1.5 Interpretative and visitation facilities						

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

4.2 Transportation Infrastructure

Name	Impact			Origin		Trend
4.2.4 Marine transport infrastructure						

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
4.2.5 Effects arising from use of transportation infrastructure						
	⊖					→

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

4.3 Services Infrastructures

Name	Impact			Origin		Trend
4.3.4 Localised utilities						

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

4.4 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
4.4.3 Surface water pollution						

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
4.4.4 Air pollution						

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
4.4.5 Solid waste						

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

4.5 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 - 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
4.5.2 Aquaculture						
	⊖	↓			↻	→

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

4.5.7 Subsistence wild plant collection						

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
4.5.10 Forestry/Wood production						

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

4.7 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 - 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
4.7.2 Relative humidity						

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
4.7.3 Temperature						

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
4.7.4 Radiation/Light						

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

4.7.6 Water (rain/water table)						

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
4.7.7 Pests						

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
4.7.8 Micro-organisms						

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

4.8 Social/Cultural uses of heritage

Name	Impact			Origin		Trend
4.8.1 Ritual/Spiritual/Religious and associative uses						

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
4.8.2 Society's valuing of heritage						

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
4.8.3 Indigenous hunting, gathering and collecting						→

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

4.8.4 Changes in traditional ways of life and knowledge system						

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
4.8.6 Impacts of tourism/Visitation/Recreation						

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

4.9 Other human activities

Name	Impact			Origin		Trend
4.9.1 Illegal activities						

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

4.10 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 - 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
4.10.2 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
4.10.5 Changes to oceanic 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
4.10.6 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

Name	Impact			Origin		Trend
4.10.7 Other climate change impacts						
	⊖					→

	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 - 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
4.11.5 Erosion and siltation/Deposition						→

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

4.13 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 - 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
4.13.2 Legal framework						

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
4.13.3 Governance						

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
4.13.4 Management activities						

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
4.13.5 Financial resources						

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
4.13.6 Human resources						→

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
4.13.7 Low impact research/monitoring activities						↗

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

4.17. 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

Not applicable.

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	plant (334 species)	✖			
4.18.1.2	abundance of Sundri (Heritiera fomes) , Gewa (Excoecaria agallocha), Keora (Sonneratia apetala) , Goran (Ceriops decandra)	✖			
4.18.1.3	Bengal Tigers (106 nos in 2015 and 114 nos in 2018) and Deer (1,00,000 to 1,50,000 nos)	✖			
4.18.1.4	Mammals (49 species), Birds (260 species)	✖			
4.18.1.5	Reptiles (59 species) and Amphibians (8 species), Fishes (210 species)	✖			

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 are **adequate to maintain** the property's Outstanding Universal Value

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

The boundaries **are known by both** the management authority and 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 buffer zones are **adequate** to maintain the property's Outstanding Universal Value

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

The buffer zones of the World Heritage property **are known and recognised by both** the management authority and local communities/landowners

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

Including the extended area, at present the total Wildlife Sanctuary area (317950.08 ha) of the Sundarbans Reserved Forest is managed as the core zone and rest of the area of the forest is recognized as the buffer zone (277086.74 ha). The WHSs are the old Wildlife sanctuary areas (139699.496 ha). All sorts of resource extraction activities like fishing, honey collection, golpata(Nypa frruiticans) collection, crab collection etc. is strictly prohibited in the core zone area and in the WHSs.

5.2. Protective Measures

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

Declared as Reserved Forests under Section 34 of the Indian Forest Act, 1878 (vii of 1878) vide notification dated 23rd January 1879. Total area of Bangladesh part of Sunderbans is 580000 hectares of which 139699.496 ha (inclusive of 48670 ha water area) was declared as wildlife sanctuary vide MOEF's notification no S-3/7/96/147 dated 6.04.96 under Article 23 (1) (2) of Bangladesh Wildlife Preservation Order 1973 amended by Bangladesh Wildlife (Preservation) (Amendment) Act, 1974. The139699.496 ha is also the area of the World Heritage Property.

Source: Periodic Reporting Cycle 2

Comment

The forest was first declared as Reserved Forest in 1875 and 1876, then in 1879. For bio-diversity richness, 139699.496 ha area was declared as Wildlife sanctuary in 1977 and in 1996 and declared as the World Heritage Site in 1997. In 2017, the WS area become extended to 317950.08 ha. So, the property is a RF, as well as WS and WHS, controlled by the Forest Act, 1927, the Wildlife (conservation and security) Act, 2012 and PA Co-management Rules,2017, managed by IRMP and other Management Plans.

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

2010-2020 (in force, till now) /
The Integrated Resources Management Plan (IRMP) for the Sundarbans. link: http://bfis.bforest.gov.bd/library/integrated-resource-management-plans-for-the-sundarbans-2010-2020-volume-1/ http://nishorgo.org/wp-content/uploads/2017/02/5-45-NN_SRF_IRMP_Volume-2.pdf Management Plan / 2015- 2025 /

Sundarbans West Wildlife Sanctuary Management Plan / Management Plan / 2019- 2028 /
Community-based Resources Management Plan of the Wildlife Sanctuaries for Dolphins in Bangladesh Sundarbans, link: http://bforest.portal.gov.bd/sites/default/files/files/bforest.portal.gov.bd/notices/30f5b6ba_cc83_4e05_8a70_bfebf7378296/Community-based%20NRM%20Plan%20for%20Dolphins-29July2018.p

Management Plan for Dolphin conservation / 2018- 2027 /
Bangladesh Tiger Action Plan, link: http://103.48.18.141/library/wp-content/uploads/2018/10/Bangladesh-Tiger-Action-Plan_2018-2027.pdf

Action Plan for Tiger / 2017- 2020 (in force, till noW) / National Tiger Recovery Programme, link: /

Program / 2017 /
SOP on SMART patrolling in Sundarbans Mangrove Forests Of Bangladesh , LINK: http://bfis.bforest.gov.bd/library/wp-content/uploads/2019/08/Smart-Operating-Procedures.pdf

2017 /
SOP on SMART, link: https://snrd-asia.org/wp-content/uploads/2021/02/giz2017-en-smart-flyer.pdf ,,,, http://bfis.bforest.gov.bd/library/wp-content/uploads/2019/08/Smart-Operating-Procedures.p
Operating procedure on SMART based monitoring /

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 **legal framework** in the buffer zone for the maintenance 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**

5.2.5 - 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

The property is Reserved Forest, Wildlife Sanctuary & World Heritage Site at the same time. To ensure undisturbed breeding ground for the wildlife, resource extraction is prohibited in the WSs and in WHSs. In other areas, resource harvesting (collection of nypa palm, honey, crabs, fishing) and eco-tourism is allowed seasonally following the rules and regulations of the Forest Act, 1927, the Wildlife (conservation and security) Act, 2012 and and prescriptions of IRMP and other Management Plans.

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

Resource extraction is strictly prohibited all through the year in the WHSs. Special measures like Moratorium (stopped timber extraction), Expansion of WS, SMART based patrolling (reduced wildlife related offences), more functional Co-management, wildlife breeding center, training on AIGA and on sustainable resource use, EIA, SEA, Ecological monitoring contributes a lot for the conservation of the OUV. The population of Tigers, Dolphins, other wildlife and Carbon stock are increasing.

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 joint national/ local

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.

A statutory Management Plan or zoning plan for the property.

Governance mechanisms that foster and respect traditional practices, knowledge and uses of the property

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
A framework for inclusive economic development, including equal access and distribution of resources and opportunities arising from the protection of the property
An integrated management plan combining World Heritage and any other designations
A management plan
An annual work plan or business plan
A disaster, climate or conflict risk management plan
A visitor/visitation management plan
An environmental management framework
Other (please specify below)
Besides, there are 1. Standard operating procedure for SMART based monitoring, 2. Policy for Eco-tourism in the Sundarbans,3. National Tiger Action Plan and 4. National Tiger Recovery Program for Management Purpose.

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

The property is managed by Co-management approach. Any type of resource harvesting is prohibited in the WHS and in WS areas, limited scale eco-tourism is allowed from September to May. In other areas, eco-tourism & extraction of non-wood forest products e.g. fish, honey, nypa palm, crab is allowed with specific regulations. To prevent illegal activities (specially wildlife related offences), SMART based patrolling was started in June,2015 and the numbers of offences become reduced dramatically.

5.3.4 - Management Documents

Title	Status	Available	Date	Link to source
The Sundarbans Wildlife Management Plan: Conservation in the Bangladesh Coastal Zone	N/A	Available	1983	

Comment

1.Integrated Resources Management Plan (IRMP), 2010-2020 http://103.48.18.141/library/wp-content/uploads/2018/11/5-44-NN_SRF_IRMP_Volume-1.pdf http://nishorgo.org/wp-content/uploads/2017/02/5-45-NN_SRF_IRMP_Volume-2.pdf 2.Community-based Resources Management Plan of the WSs for Dolphins in BD Sundarbans, 2019-2028
http://bforest.portal.gov.bd/sites/default/files/files/bforest.portal.gov.bd/notices/30f5b6ba_cc83_4e05_8a70_bfebf7378296/Community-based NRM Plan for Dolphins-29July2018.pdf

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.

Not applicable.

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?

The policy for dealing with climate change is **fully based** on the agreed World Heritage policy

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:

IRMP addressed Climate Change Mitigation Programs with the objectives to identify and review possible climate change impacts on the Sundarbans ecosystem and to quantitatively assess carbon sequestrated and stored in the mangrove forests for developing a REDD+ proposal for carbon financing. The total carbon stock of the Sundarbans was found 139.28 mill tons, link: http://bfis.bforest.gov.bd/bfi/wp-content/uploads/2021/02/BFI-Report_final_08_02_2021.pdf . Researches was conducted in this regards.

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

The risk management policy is **fully based** on the agreed 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

The IRMP addressed the Strategy for Reducing Risks from Disasters through climate change adaptation program aims to quantify the economics of harvest and sale of various products marketed from the SRF and develop appropriate economic interventions for improved management of the Sundarbans ensuring economic and climate change resilience benefits to local community.

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 **adequate coordination** between all bodies/levels involved in the management of the property

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

The management system/plan is **fully 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 all of its activities are being implemented and monitored**

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

The management system of the property contributes to gender equality, to provide ecosystem services/benefits to the local community (e.g. fresh air, water, food, medicinal plants), to social inclusion and equity, improving opportunities for all, irrespective of age, sex, disability, ethnicity, origin, religion or economic or other status, to integrate a human rights-based approach, contributes to fostering inclusive local economic development and to enhancing livelihood at a significant level.

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

The present Co-management approach and SMART based monitoring system enriched the bio-diversity and conserved the OUV of the property. This management system increased the number of tigers (106 in 2015 and 114 in 2018), dolphins (55% increase in 2019 than in 2017) and other wildlife and the population of endangered species like salt water crocodile, white-rumped vulture, Batagur basca (river terrapin). The total carbon stock is increased (106 million ton in 2009 and 139.28 million ton in 2019).

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% %	1% %
6.1.1.2	Bilateral international funding	3% %	39% %
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)	1% %	55% %
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% %	1% %
		Total 4 %	Total 96 %

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

Not applicable

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

The available **budget is acceptable** but **could be further improved** to fully meet the management needs

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

Approx. 1.0 million people are dependent on its resources. For conservation of this property, their dependency should be diminished. Besides, FD officials should be provided with modern technologies, sufficient logistics for their monitoring and management activities. So, projects for alternative livelihoods of forest dependent people and capacity building of FD officials with technologies, logistics & better working environment is needed. Rationing allowance is provided to the FD field staffs.

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	60 %	15 %
6.1.6.2	Women	20 %	5 %
		Total 80 %	Total 20 %

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	Good
Community participation and inclusion	Good

Risk preparedness	Fair
Capacity development and education	Good
Administration	Good
Research and monitoring	Good
Awareness raising and public information/communication	Good
Marketing and promotion	Fair
Interpretation	Fair
Visitor management/tourism	Good
Enforcement (custodians, police)	Good

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	Good
Community participation and inclusion	Good
Risk preparedness	Fair
Capacity development and education	Good
Administration	Good
Research and monitoring	Fair
Awareness raising and public information/communication	Good
Marketing and promotion	Fair
Interpretation	Fair
Visitor management/tourism	Good
Enforcement (custodians, police)	Good

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

Training and capacity building at this property is **fully based** on 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.

The Forest Departmental officials were provided with Capacity Building trainings and they become adopted with the efficiencies like Tiger survey trough camera trapping, Crocodile survey, Dolphin survey, Carbon inventory, Forest inventory, SMART based monitoring, Drone based monitoring etc.

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

For the conservation of the resources and bio- diversity of the property, the Government in association with national and international NGOs providing training for capacity building to the FD officials for better management and monitoring they are getting training on Computer application, Cyber tracker application, combatting wildlife related offences, GIS mapping, ecological monitoring, filing of forest cases etc. so that they can perform their duties properly.

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 **adequate**

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 a **comprehensive, integrated programme** of research, which is relevant to 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** widely **with active outreach** to local communities and national and international audiences

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

The Sundarbans has a unique bio-diversity. It is one of the richest bio-diversity hotspots in the world. It is World Heritage Site and Ramsar site as well. So, its diverse ecosystem should be maintained by regular scientific studies and researches to conserve its Outstanding Universal Value intact. By relevant scientific

studies and researches the future challenges and threats should be identified properly in time so that the management plans can provide prescriptions to mitigate the problem.

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	Good
Local/municipal authorities	Good
Indigenous peoples	Good
Landowners	Fair
Women	Good
Youth/children	Good
Researchers	Good
Local visitors	Good
National/international tourists	Good
Tourism industry	Good
Local businesses and industries	Good
NGOs	Good
Other specific groups	Not applicable
If you selected 'Other specific groups', please describe	

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
Indigenous peoples
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	Good
Information booths	Good
Guided tours	Good
Trails/routes	Good
Printed information materials	Good
Online (website, social media, etc.)	Good
Transportation facilities	Good

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

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

It is must to aware the resource users and all sorts of stakeholders of the property to conserve its ecosystem and bio-diversity. The Government is trying to educate and aware them through various training programs. Co- management activities are going on involving the local people in resource management and sharing. Local people including the community leaders and the students of adjacent schools and colleges are provided with training to make them for the conservation of the property.

9. Visitor Management

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

156607 / 154268 / 148385 / 133668 / 121212 /

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

Entry tickets and registries

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

Official records of Bangladesh Forest Department (like permit for tourism in the Sundarbans, registers of tourist etc.) is the source of information.

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

12 / 10 / 8 / 3 / 0 / 0 /

9.6 - Please provide the source of information

The information provided through consultation with the tour operators and tourists and from records of Bangladesh Forest Department.

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 planned and **effective strategy** to manage visitors, tourism activity and its derived impacts on the World Heritage property

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

The Integrated Resources Management Plan (IRMP) and the Policy for Tourism in the Sundarbans is followed to manage visitors and eco-tourism.

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

The Integrated Resources Management Plan (IRMP) and the Policy for Tourism in the Sundarbans is followed to manage visitors and eco-tourism in the Sundarbans.

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 **good 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 Outstanding Universal Value of the property **is adequately presented and interpreted**

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

In **one location** and **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 a **substantial contribution** to the management of the World Heritage property

9.15 - Are there locally driven sustainable tourism initiatives?

Yes

If 'Yes', please specify

There are some local driven sustainable tourism initiatives like home stay, eco- cottage, commercial hotel/motel etc. outside the Sundarbans.

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

Yes

If 'Yes', please specify

The local people are aware about the benefit of eco-tourism activities e.g., tour operators, tour guides, interpreter, selling of souvenir items to the tourists, developing of home stay or eco cottage facilities etc., since it is the best alternative livelihood for them to replace the traditional resource collection activities. The WS

area is Protected Area (PA) and it is managed under the PA co-management rules, 2017 which have the provision to provide 50% of the revenue earned from the PA (from ecotourism or other source) to the CMC (co- management committee) in the next year.

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

Eco-tourism & other interventions are strictly prohibited from June to August (breeding season) to provide an undisturbed breeding ground to the wildlife. The Government is trying to engage the local forest dependent people in eco-tourism based alternative livelihoods and to shift it to the Buffer zone areas. The WS area is managed under the PA co-management rules, 2017 which have the provision to provide 50% of the revenue earned to the CMC (co-management committee) in the next year as grant.

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 a **comprehensive, integrated programme of monitoring**, which is relevant to management needs and/or improving understanding of the 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** for measuring the state of conservation and **are being used in monitoring** of how the Outstanding Universal value of the property is being maintained

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

The key indicators adopted are the status of vegetation (growth rate, regeneration status, stocking, crop composition, carbon stock etc.) and the population status of wildlife (tiger, deer, dolphin, endangered species like salt water crocodile, white rump vulture etc.).The status of vegetation is surveyed regularly by BFD & BFRI from the Permanent Sample Plots (PSPs) and from periodic inventory data. The population of wildlife is surveyed through proper method (e.g., camera trapping for tiger).

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

World Heritage managers/coordinators and staff	Good
Local/municipal authorities	Good
Local communities	Good
Indigenous peoples	Good
Landowners	Fair
Women	Good
Researchers	Good
Tourism industry	Good
Local businesses and industry	Fair
NGOs	Good
Other specific groups	Fair
If you selected 'Other specific groups', please specify	Bangladesh Police, Rapid Action Battalion , Bangladesh Coast Guard sometimes work with Bangladesh Forest Department in a coordinated manner to combat Offences in the forest.

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

Implementation is underway

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

The state party implemented the recommendations of the world heritage committee (43 COM 7B.3). Strategic Environmental Assessment (SEA) is going on. If unavoidable, dredging is done after completion of EIA (following EMP). The National Oil Spill Contingency Plan has been approved and being implemented, The state party sent the updated report on SOC to the WHC and four member RMM visited Bangladesh Sundarbans (9-16 Dec, 2019) in response to the invitation of the state party to assess the SOC.

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

Now, the forest is managed by co-management approach. To combat the forest offences (specially wildlife related) GPS based SMART patrolling and for vegetation survey, PSP based survey and periodic inventory is going on by BFD at present. Ecological monitoring and Change Trend Analysis of vegetation (by vegetation mapping) is going to be started very soon. Drone supported SMART patrolling and Ecological Monitoring, including training is going on for the conservation of the OUV of the property.

11. Identification of Priority Management Needs

11.1 - Identification of Priority Management Needs

6.1	Funding	
6.1.3	The available **budget is acceptable** but **could be further improved** to fully meet the management needs of the World Heritage property	✖
6.1.7	Human resources **partly meet** the management needs of the World Heritage property	✖

Please select 0 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

4.4	Pollution						
4.4.1	Pollution of marine waters	Ocean dumping and Plastic may affect sometimes. It is originated outside the property but may be carried out by the ocean water. It may have a potential insignificant effect for vegetation (plants).	when plastic comes to the property by the marine waters through waves, it is kept outside the property so that it can not do any harm to the property.	The plastic materials comes to the property by the ocean wave, regularly monitored by the staffs and kept outside the property..	regular monitoring is done.	Bangladesh Forest Department.	no significant effect at present
4.4.3	Surface water pollution						
4.7	Local conditions affecting physical fabric						
4.7.1	Wind	Sometimes wind originated from outside with very high speed may cause negative impact .	To reduce the harmful impact, announcement is done so that people and Forest Departmental staff may be aware to avoid any serious damage .	Regularly monitored (data collection and analysis) by meteorological Department .	regular monitoring is going on	Department of Meteorology	It is rare to be very much harmful, normally insignificant negative effect.
4.7.7	Pests						
4.10	Climate change and severe weather events						
4.10.1	Storms						
4.10.2	Flooding						

4.10.5	Changes to oceanic waters	Changes to pH and temperature may change (originated from outside of the property) the chemical and physical property respectively of the oceanic water. This altered water may affect the OUV of the property though it is insignificant at present.	Researches are being carried out in this regards.	It is being monitored by the Department of Environment (DoE) regularly to detect the changes.	The survey (data collection and analysis) is being conducted regularly by Department of Environment (DoE) at a regular interval.	Department of Environment (DoE)	At present it is not significant.
4.10.6	Temperature change	Changes in temperature may change physical property of the oceanic water. This may affect potentially the OUV of the property by affecting the growth of the vegetation though it is insignificant at present.	Researches are being carried out in this regards.	It is being monitored by the Department of Environment (DoE) regularly to detect the changes.	The survey is being conducted (data collection and analysis) regularly by Department of Environment (DoE) at a regular interval.	Department of Environment (DoE).	At present it is not significant.
4.10.7	Other climate change impacts	Rise in Mean Sea Level (MSL) due to Climate Change (originated from outside of the property) may affect the OUV of the property.	Researches are being carried out in this regards and survey (by regular data collection) is being done.	Being monitored by the Department of Environment (DoE) regularly.	The Survey (Data collection and analysis) is done regularly at a certain interval .	Department of Environment (DoE).	Rise in Mean Sea Level due to climate change may potentially affect the property in future though at present it is not significant.
4.11	**Sudden ecological or geological events**						
4.11.3	Tsunami/Tidal wave	Tidal wave (originated from the outside of the property) may affect by washing out vegetation ,though it is insignificant at present.	Researches are going on. Regular data is taken by the Department of Environment in this regards.	Regularly monitored by the Department of Environment (DoE)	The Survey (Data collection and analysis) is done regularly at a certain interval .	Department of Environment (DoE)	At present, there is no significant effect.

Question not completed

12.2. Summary - Management Needs

12.2.1 - Summary - Management Needs

6.1	**Funding**				
		Actions	**Timeframe**	**Lead agency (and others involved)**	**More info / comment**
6.1.3	The available **budget is acceptable** but **could be further improved** to fully meet the management needs of the World Heritage property	Projects for modern scientific management (for necessary researches, Ecological Monitoring, SMART patrolling, Co- Management, Vegetation Mapping, Logistics and better working environment and training to the staff and stakeholders) have been taken.	Sufficient Budget is needed continuously from Revenue Head of the Government.. At present, there are some projects working for modern scientific management and fund is sufficient at this moment (from 2020-2021 to 2024-2025).	Bangladesh Forest Department (BFD). For research and monitoring purpose national and international organizations are engaged.	There should be sufficient fund allocation for necessary monitoring, management , researches and running cost for regular activities. Staffs should be provided with logistics, special incentive packages like rationing allowance, risk allowance etc.
6.1.7	Human resources **partly meet** the management needs of the World Heritage property	Reorganization of Forest Department for modern management of the Sundarbans is proposed .Recruitment is under process against vacant posts. Specialists are hired for specific activities and to provide training to BFD staffs for capacity building	After approval of the proposed organogram by the Government, the inadequacy of human resources would be solved through recruitment hopefully by 2023.	Bangladesh Forest Department (BFD)	After approval of the proposed organogram, recruitment will be done. There should be sufficient human resources for management after recruitment.

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?

The Authenticity of the World Heritage property **has been preserved**

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 and the state of conservation of the World Heritage property are **intact**

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

The updated report on State of Conservation (SOC) has been sent to the World Heritage Centre from the state party. As per the recommendations of 43 COM 7B.25 (link: https://whc.unesco.org/en/decisions/7431) of the World Heritage Committee, the state party have taken necessary measures to conserve the Outstanding Universal Value of the property and details of the measures is stated on the SOC report.

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	Very positive
Quality of life for local communities and indigenous peoples	Positive
Recognition	Very positive
Education	Very positive
Infrastructure development	Very positive
Funding for the property	Very positive
International cooperation	Very positive
Political support for conservation	Very positive
Legal/Policy framework	Very positive
Advocacy	Very positive
Institutional coordination	Very positive
Security	Very positive
Gender equality	Positive
Provision of ecosystem services/ benefits to local communities	Positive
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	Here "Other" refers to not relevant. So the "Not applicable" rating is given for that.

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

After inscription as the World Heritage Site, the management becomes more scientific to protect the OUV of the property. All sorts of resource users and stakeholders become more aware for its conservation. The Government has taken special measures like SMART patrolling, expansion of WS area, Co-management, moratorium, SEA, EIA, Ecological monitoring, Expansion of WS area etc. to protect the OUV as well as the ecosystem and bio-diversity of the property. Drone supported SMART and Ecological Monitoring, including training is going on.

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

SMART based monitoring is going on since 2015 is an important tool to combat forest offences specially to protect wildlife related offences. BFD & BFRI laid out 120 and 33 PSPs in the Sundarbans respectively to study the vegetation status (status of regeneration, distribution, growth rate, stocking etc.). Drone supported Ecological Monitoring (periodic changes in the ecosystem is to be studied) and SMART based monitoring is going to be started. . Co-management activities was initiated in the Sundarbans in 2009-10 to ensure equitable participation and distribution of rights and benefits received from the natural resources. Awareness program for all sorts of stakeholders about the importance of conservation of the bio-diversity of the Sundarbans is going on as a regular basis. EIA is going on prior to any project activities (like dredging) and the project is running as per prescription of the EMP as per recommendation of the World Heritage Committee. As per recommendations of World Heritage Committee, SEA of South West region of Bangladesh for conserving OUV of the Sundarbans is being conducted (http://www.seasw-sundarbansbd.org/), Another initiative is to prohibit all sorts of intervention during the breeding season of wild lives i.e., during June to August to ensure an undisturbed breeding ground for the wildlife. Resource users of the Sundarbans are provided with training on Alternative Income Generation Activity to reduce pressure on the Sundarbans (75840 individuals till 2020).The state party is planning to shift the eco-tourism from core zone to the buffer zone and new four eco- tourism spots are to be developed which are located in the buffer zone area. The area of three WS increased from 139699.496 ha to 3,17,950 ha in 2017. Five dolphin sanctuaries of total 4093.0 ha area have also been declared in 2012 and 2020. Conservation of the Endangered species like White-rumped vulture, Batagur basca, salt water crocodile and Masked finfoot is another good practice

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 *World Heritage Convention*
The concept of Outstanding Universal Value
The property's 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	Good
Site Managers	Good
UNESCO World Heritage Centre	Good
Advisory Bodies (ICOMOS, IUCN, ICCROM)	Good

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
Fundraising
Awareness raising
Advocacy

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

The data of periodic reporting reflects the prevailing status of Outstanding Universal Value, management and monitoring system, research and management needs etc. of the concerned World Heritage Site that may be used to formulate the future management plan of the property. This management approach may be more scientific and will lead to a sustainable management of the property maintaining its Outstanding Universal Value.

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
Responsible persons for local designated sites under other international conventions/ programmes
Local communities
Indigenous people

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

720 / 240 / 240 /

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?

All 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

Due to the COVID-19 pandemic situation, the WHC arranged the training sessions/ meetings to answer the questionnaire (section 1 and section 2) on virtual platform. It is suggested to arrange such facilitating programs to answer the questionnaire physically. Different Questionnaire is required for Natural and Cultural World Heritage Site.

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	Good
UNESCO (other sectors/field offices)	Fair
UNESCO National Commission	Fair
ICOMOS International	Fair
IUCN International	Fair
ICCROM international/regional	Fair
ICOMOS national/regional	Fair
IUCN national/regional	Fair

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

UNESCO World Heritage Centre	Good
State Party Representative (national Focal Point)	Good
UNESCO other sectors (e.g. field office)	Fair
National Commission for UNESCO	Fair
ICOMOS International	Fair
ICCROM International/regional	Fair
ICOMOS national/regional	Fair
IUCN national/regional	Fair

IUCN International	Fair

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?

Not applicable.

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

- **Geographic information table**

  Reason for update: Geographic information: 1.Sundarbans West Wildlife Sanctuary- ID 798-001, Coordinates: N21degree 35minute, E89degree 00minute, Area: 71,502.103 ha 2.Sundarbans South Wildlife Sanctuary- ID 798-002, Coordinates: N21degree 35minute, E89degree 20minute, Area: 36,970.455 ha and 3.Sundarbans East Wildlife Sanctuary- ID 798-003, Coordinates: N21degree 50minute, E89degree 40minute, Area:31,226.938 ha Inscription year of all WHS 1997 , No Buffer Zone Within WHSs, Total Area of WHSs 1,39,699.496 ha.

- **Map(s)**

  Reason for update: The map submitted to the World Heritage Center earlier during inscription is a older one , black and white and not so detailed. For this reason, the state party have submitted a more detailed updated map to the World Heritage Centre this year in due time. The submitted map is the map of the Sundarbans Reserved Forest (SRF) showing the World Heritage Site (WHS) in detail (showing Core Zone and Buffer Zone). So requesting to replace the newly submitted updated map with the older one

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

  Reason for update: The Forest Act, 1927, Wildlife (conservation and security) Act, 2012 and Management Plans (IRMP & others) provides protection to the property. Special measures like Moratorium (stopped timber extraction), SMART patrolling (reduced poaching/trapping of wildlife), Expansion of Wildlife Sanctuary, functional Co-management, training on AIGA, EIA, SEA, contributed a lot to conserve the OUV of the property. The Population of Tigers, Dolphins & other wildlife and the Carbon stock have been increased.

Changes to these items will need to go through the proper processes.

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

The Periodic reporting was done on the basis of the information of last cycle of periodic reporting, on last updated report on status of conservation sent to the World Heritage Centre by the state party and on the updated information on management practices of the property.

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