Cetacean Conservation in Bangladesh

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Expanding the Protected Area System to Incorporate Important Aquatic Ecosystems Project

Dolphin, whale and porpoise of Bangladesh

Conservation Status of Dolphin, Porpoise and Whale		
Name	**Bangladesh**	**Global**
Ganges River Dolphin	Vulnerable	Endangered
Irrawaddy Dolphin	Near threatened	Vulnerable
Indo-pacific Humpback Dolphin	Least Concern	Near threatened
Pantropical Spotted Dolphin	Least Concern	Least Concern
Spinner Dolphin	Data Deficient	Data Deficient
Indo-pacific Bottlenose Dolphin	Least Concern	Data Deficient
Rough-toothed Dolphin	Data Deficient	Least Concern
Finless Porpois	Near threatened	Vulnerable
Bryde's Whale	Data Deficient	Data Deficient
False Killer Whale	Data Deficient	Data Deficient
Sperm Whale	Data Deficient	Vulnerable

Dolphin-7

Whale-3

Popoise-1

Government initiative to conserve dolphin: PA declaration in 2012, 2013 & 2014

Protected Areas	Ecosy stem	Conservation Focus / Objective	Area (ha)	Date of designa tion	Location
Chandpai WS	Tidal River	Ganges River Dolphin & Irrawaddy Dolphins	560.00	29-Jan-12	Bagherhat
Dudmukhi WS	Tidal River	Ganges River Dolphin & Irrawaddy Dolphins	170.00	29-Jan-12	Bagherhat
Daingmari WS	Tidal River	Ganges River Dolphin & Irrawaddy Dolphins	340.00	29-Jan-12	Bagherhat
Nagarbari-Mohongonj WS	River	Ganges River Dolphin	408.11	1-Dec-13	Bera, Pabna
Shilonda-Nagdemra WS	River	Ganges River Dolphin	24.17	1-Dec-13	Sathia, Pabna
Nazirgonj WS	River	Ganges River Dolphin	146.00	1-Dec-13	Sujanagar, Pabna
Swatch of No-ground Marine Protected Area	Marine	Cetacean species	173800	27-Oct-14	Bay of Bengal

Government initiative to conserve dolphin in the Sundarbans

- Expanding the Protected Area System to Incorporate Important Aquatic Ecosystems (EPASIIAE) Project;
- Project period: Jul 2016-Dec 2019
- Commencement: Jul 2017;

Project Implementation

Sponsoring Ministry: MoEFCC

Implementing Agency-

- Bangladesh forest Department in association with UNDP, Bangladesh
- Finance: GEF

Partner NGO-

- IUCN, CNRS
- CODEC

EXPANDING THE PROTECTED AREA SYSTEM TO INCORPORATE IMPORTANT AQUATIC ECOSYSTEMS PROJECT

Project Goal & Outcome

Goal

Contribute to the sustainable management of important aquatic ecosystems of the Sundarbans

OUTCOME 1: Important aquatic ecosystems of the Sundarbans supporting the globally threatened species of cetaceans conserved.

OUTCOME 2: Community-based ecosystems management systems in place to support aquatic biodiversity conservation.

Project Objectives

1	2	3
• To introduce an effective management system in the existing Protected Areas	• To expand the coverage of dolphin protected area	• To enhance alternative livelihood options

Project Objectives

4

- To enrich knowledge and information base of aquatic habitats in the region

5

- To provide Sectoral policy recommendation for aquatic ecosystem friendly practices

Project Inception

Objective 1

To introduce an effective management system in the existing Protected Areas

Project activities

| Diesel Fuel, Engine boat maintenance	Life Jacket, Raincoat	Vest, Shoe, Torch
Office renovation and furniture	Scientific instrument	Staff capacity improvement & GPS

Results

- Introduced an effective management system in the three Wildlife Sanctuaries of the Sundarbans.

- Demarcated sanctuary boundary with buoys and flags

- Frontline staff are patrolling with GPS and recording data and preparing reports

Patrolling and boundary demarcation
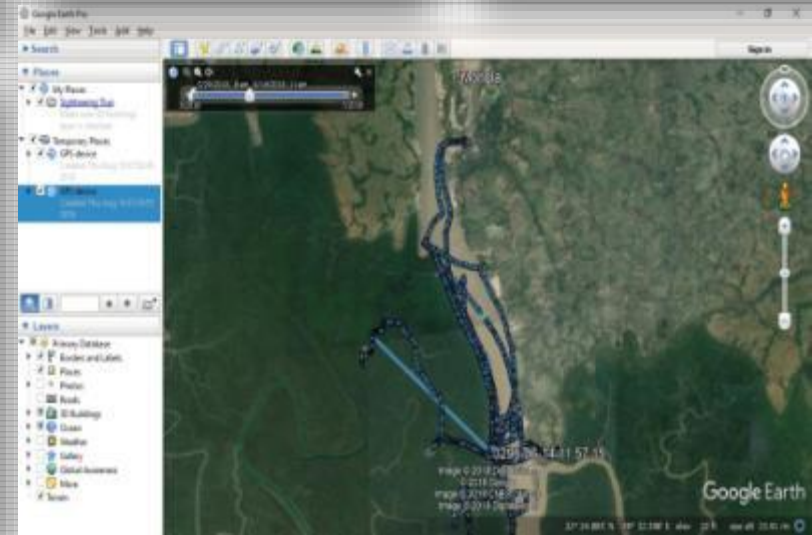
Objective 2

To expand the coverage of dolphin protected area
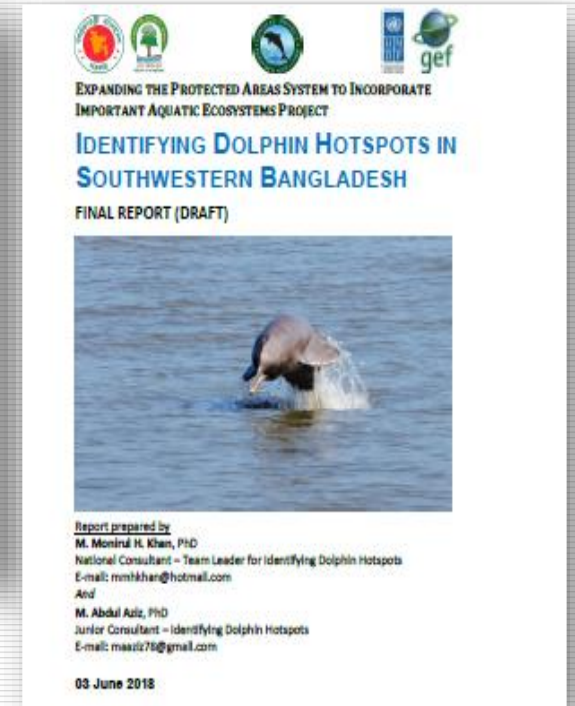
New hotspots for extending PA in the SRF

Table 4.2 Dolphin hotspots in the Sundarbans and adjacent coastal areas

Name of Hotspot	Segment Length (km)			Area (km²)		
	Inside WS	Outside WS	Total	Inside WS	Outside WS	Total
Sela-Supati	143	15.5	158.5	75.1	38.8	113.9
Sibsa	-	102	102	-	54.5	54.5
Puntey	92.9	-	92.9	58.7	-	58.7
Passur	50.7	81.2	131.9	26.3	56.4	82.7
Baleshwar Estuary	-	82.3	82.3	-	24.7	24.7
Total	286.6	281	567.6	160.1	174.4	334.5

[N.B. WS=Wildlife Sanctuaries]

Table 4.3 Dolphin semi-hotspots in the Sundarbans and adjacent coastal areas

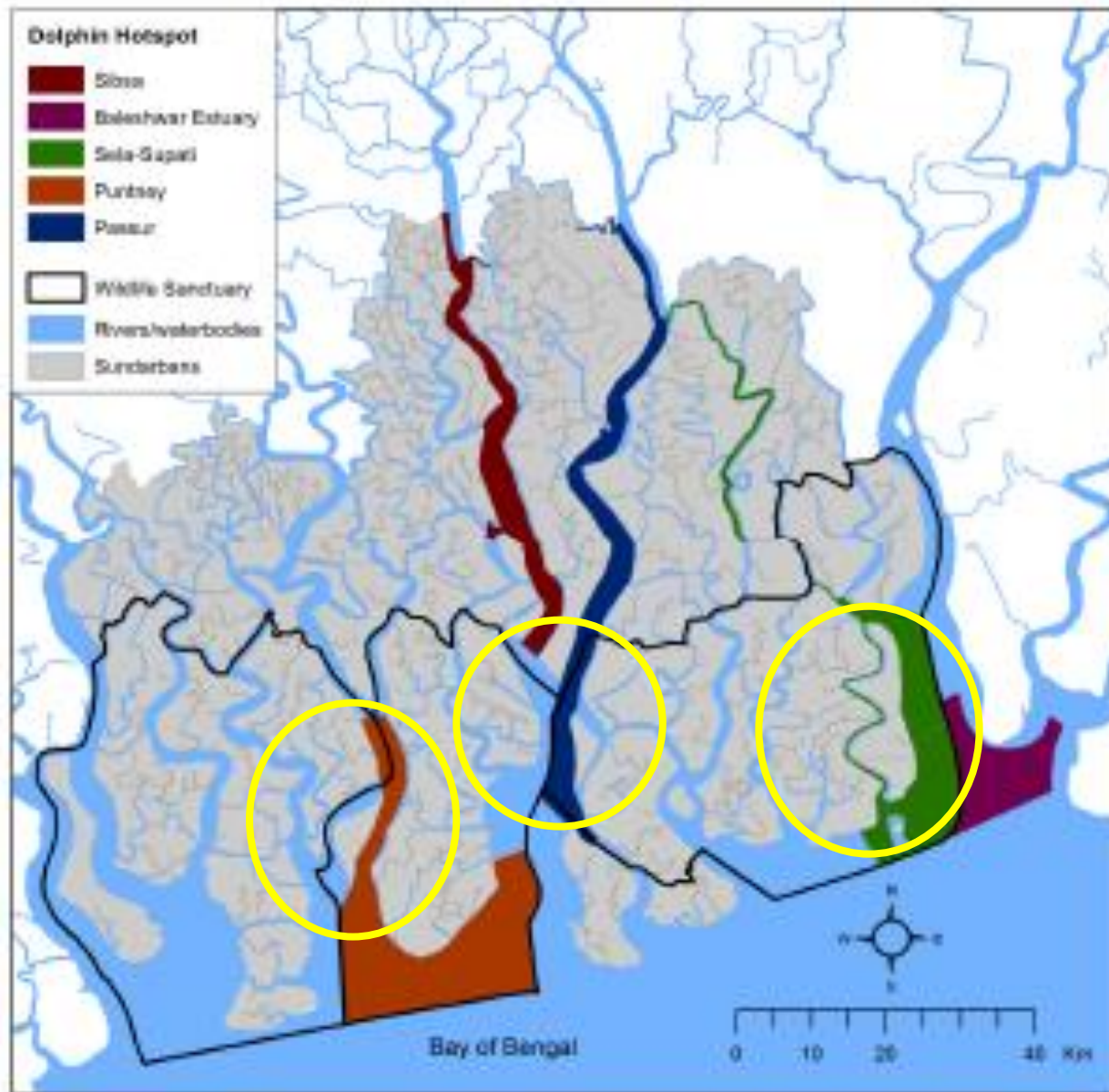| Name of Semi-hotspot	Segment Length (km)	Area (km²)
Marjat	87.7	170
Mahmuda-Malancha	102	60.7
Arpangassia	133	92.1
Puntey	74.3	88.3
Total	397	411.1

Figure 4.4 Identified dolphin hotspots and semi-hotspots in the Sundarbans and adjacent coastal areas.

Dolphin Hotspots in the WHS

- Sela-Supati-75.1 Sq km
- Passur-26.3 Sq km
- Putney-58.7 Sq km

TOTAL=160.1 Sq km

Results: Three new PA (dolphin) declared in 2020
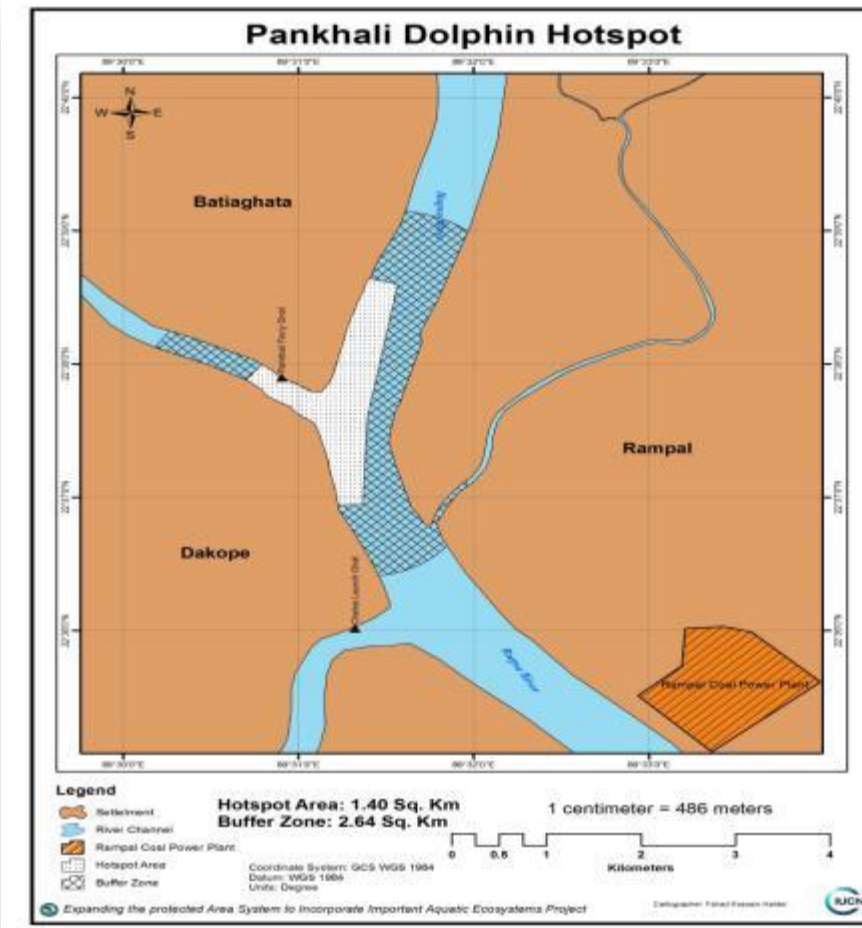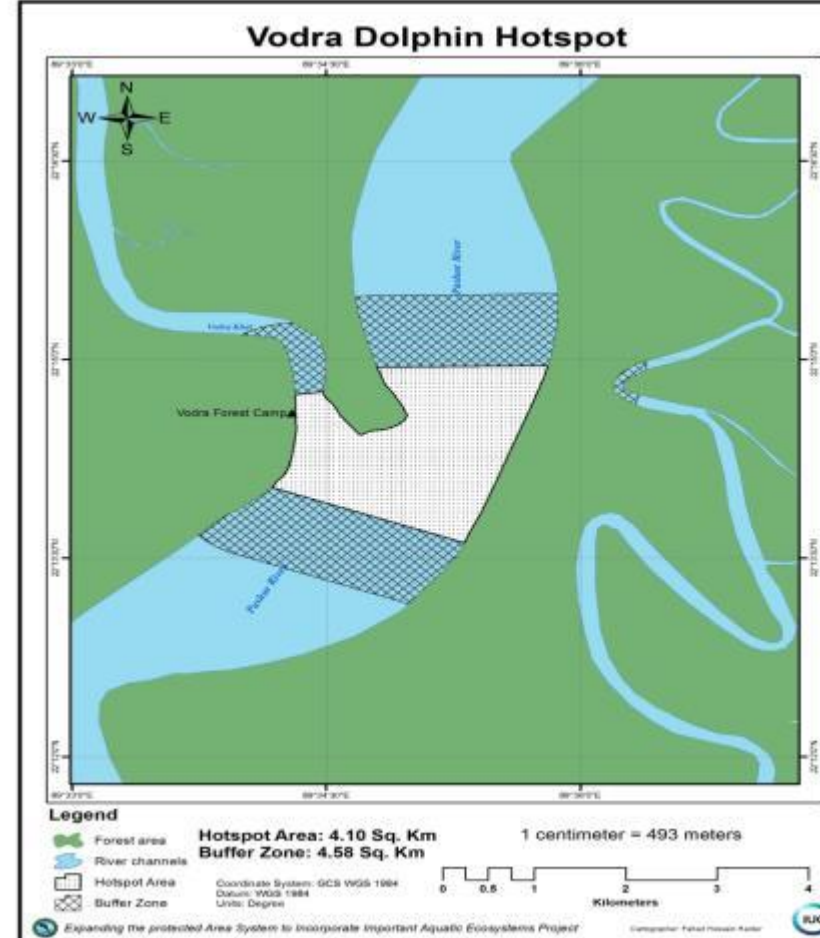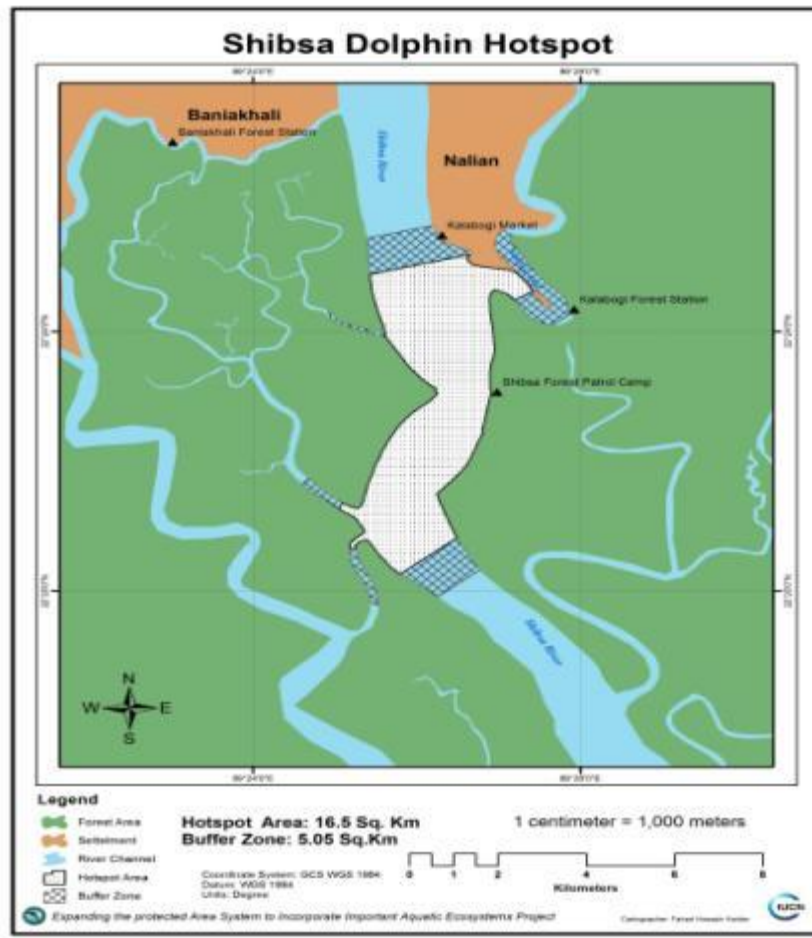
Map showing all sanctuaries (including proposed)

Objective 3

To enhance alternative livelihood options

Results

- Total number of trade: 26

- 1000 household got training and started livelihood activities

- Linked with Karmasangsthan Bank to get credits

- Strategic livelihood sustainability plan of alternative income generation activities (AIGAs) for the project beneficiaries of the project prepared

Objective 4

To enrich knowledge and information base of aquatic habitats in the region (including awareness programs)

RESEARCH GAP ANALYSIS
(BIODIVERSITY & AQUATIC)
IN DOLPHIN CONSERVATION
IN THE SUNDARBANS

EXPANDING THE PROTECTED AREA SYSTEM TO INCORPORATE
IMPORTANT AQUATIC ECOSYSTEMS PROJECT

ATLAS ON
GANGES RIVER DOLPHIN
AND IRRAWADDY DOLPHIN
OF BANGLADESH

EXPANDING THE PROTECTED AREA SYSTEM TO INCORPORATE
IMPORTANT AQUATIC ECOSYSTEMS PROJECT

POPULATION STATUS OF THE
GANGES RIVER DOLPHIN IN
HALDA RIVER OF BANGLADESH

EXPANDING THE PROTECTED AREA SYSTEM TO INCORPORATE
IMPORTANT AQUATIC ECOSYSTEMS PROJECT

MANAGEMENT PLAN FOR
THE GANGES RIVER DOLPHIN IN
HALDA RIVER OF BANGLADESH

BACKGROUND

The Sundarbans supports a healthy population of Irrawaddy and Ganges river dolphin. However, these two species are under increasing threats from - increasing maritime traffic and tourism, excessive extraction of aquatic resources, use of harmful gears and methods for fishing, by catch, poaching, aquatic pollution, unplanned development, climate change etc. In 2012 the Forest Department declared three Wildlife Sanctuaries covering six 'dolphin hotspot' channel segments in Sundarbans. These areas alone cannot ensure the long-term survival of the dolphins and their habitats. Conservation of these species and their habitat can be strengthened by increasing capacity of both forest department and local communities to support aquatic biodiversity conservation and to mitigate the threats.

PROJECT AT A GLANCE

DURATION:	JULY 2016 TO DECEMBER 2019
FUND:	BDT 1284.922 LAC
AREA:	SUNDARBANS & ADJACENT AREAS
IMPLEMENTING PARTNER:	FOREST DEPARTMENT WITH SUPPORT FROM UNDP

GOAL

Contribute to the sustainable management of important aquatic ecosystems of the Sundarbans.

TARGETS

- Introduce an effective management system in the existing Protected Areas established for dolphin conservation in the Sundarbans;
- Expand the coverage of dolphin protected areas in and around the Sundarbans;
- Enhance alternative livelihood options for local fisher folk to reduce their dependency on aquatic resources;
- Enrich knowledge and information base of aquatic habitats in the region.
- Provide sectoral policy recommendation for aquatic ecosystem friendly practices.

OUTCOME 1

Important aquatic ecosystems of the Sundarbans supporting the globally threatened species of cetaceans conserved

Output 1.1: Decision making related to the management and sustainable use of aquatic habitats and resources is supported by knowledge generation and dissemination system

Output 1.2: Existing dolphin hotspots/PAs are managed; additional areas to be identified and declared as Protected Areas and buffer areas; and capacities of conservation and economic sector staff are strengthened for management effectiveness of important aquatic ecosystems.

Output 1.3: Support provided to implement Management Plans in new PAs and buffer areas to address existing and emerging threats to aquatic biodiversity particularly the cetaceans

Output 1.4: Monitoring and evaluation framework, and replication strategy developed for effective aquatic PA management specifically for the Sundarbans and other aquatic ecosystems across country

OUTCOME 2

Community-based ecosystems management systems in place to support aquatic biodiversity conservation. This component focuses on-

Output 2.1: Community based resource management plan prepared, capacities developed and financial support extended for operationalizing sustainable resource use practices and conservation of aquatic biodiversity

Output 2.2: Strategies for alternate income generation and livelihood diversification developed and implemented leading to reduced dependence on natural resources.

MAJOR PROJECT ACTIVITIES

- Identify new dolphin hotspots
- Establish a strong database on dolphin habitat
- Identify research gap and conduct priority research work related to dolphin and their habitats
- Develop and implement PA management plans
- Develop and implement community based resource management plan, and provide support to local community for sustainable aquatic resource use
- Livelihood diversification of local community
- Replicate strategy developed for effective aquatic Protected Area management for the Sundarbans and other aquatic ecosystems

IMPLEMENTATION ARRANGEMENT

The project is being implemented by Bangladesh Forest Department under Ministry of Environment, Forest and Climate Change. A Project Management Unit (PMU) at Khulna to manage day to day activities. Financial support is provided by GEF through UNDP Bangladesh.

ALIGNMENT WITH KEY INTERNATIONAL MANDATES

The project is aligned with the Sustainable Development Goal-14 'sustainably use the oceans, seas and marine resources for sustainable development'. It will contribute to achieve the following targets of the goal.

Target-14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

Target-14.4: By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

Target-14.5: By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

Aichi Target 1 – "By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably."

Furthermore, the project will directly support Target 11 - "By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes".

THREATS IN CETACEAN CONSERVATION

- Overharvesting of fishery stock & continued use of destructive methods
- Entanglement of dolphins in the fishing gear
- Reckless handling of incidental by-catch
- Increasing maritime traffic
- Upstream industrial developments
- Poaching
- Unplanned tourism
- Climate change

Protected Areas	Ecosystem	Conservation Focus / Objective	Area (ha)	Date of designation	Location
Chandpai WS	Tidal River	Ganges River Dolphin & Irrawaddy Dolphins	560.00	29-Jan-12	Bagharhat
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DOLPHIN, WHALE AND PORPOISE OF BANGLADESH

The order Cetacean includes carnivorous marine mammals commonly known as whales, dolphin, and porpoise. In Bangladesh, there are about 11 species of cetacean – comprising of 7 dolphin, 3 whale and 1 porpoise species.

Conservation Status of Dolphin, Porpoise and Whale

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False Killer Whale	Data Deficient	Data Deficient
Sperm Whale	Data Deficient	Vulnerable

Dolphin is protected by the Bangladesh Wildlife (Conservation & Security) Act, 2012 and enlisted in Schedule I of this Act. Under Section 37, there are penalties for killing whale or dolphin are-

- If any person kills dolphin or whale, he will be punished with imprisonment for 3 (three) years / with a fine of Taka 3 lac or with both, In case of repetition, person will be subject to imprisonment for 5 years or with a fine of Taka 5 lac or with both
- Under Section 37, if anybody collects, acquires or purchases or sells or transports any trophy, uncured trophy, meat, parts of body dolphin or whale, he shall be with imprisonment for 2 years or with a fine of Taka 1 lac or with both, and in case of his repetition of the same offence, he shall be punished with imprisonment for a term of 4 years or with a fine of Taka 2 lac or with both.

HOW DOLPHINS ARE IMPORTANT TO ECOSYSTEM

Dolphins are important to the aquatic ecosystem in the sense that they are apex or top-level predators which control populations of fishes and squids and keep the balance of that ecosystem. The bottlenose dolphins have been identified as sentinels of the coastal marine ecosystems, because they consume a wide variety of fishes and squids, they absorb pollutants in their bodies when there are high concentrations of contaminants in the water so scientists can have an idea of the status of the marine ecosystem.
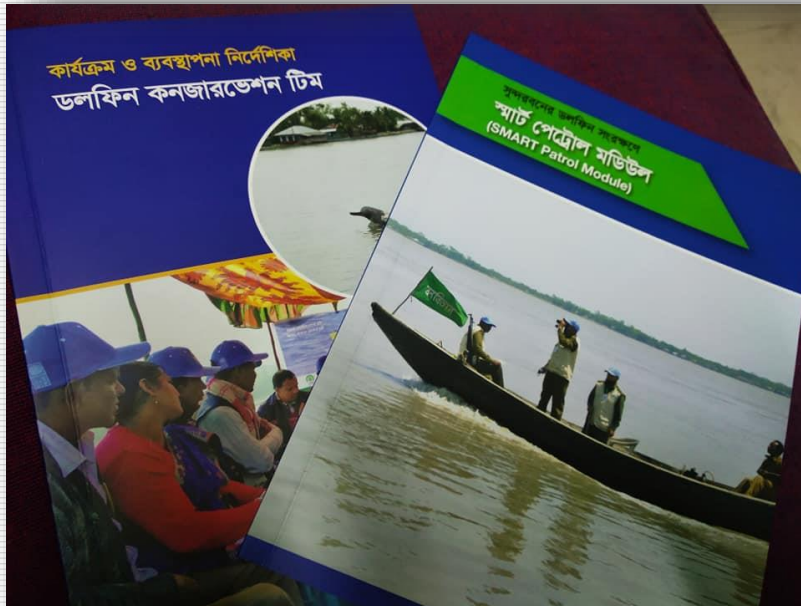
Photo Credit: Dr. M Monirul H Khan, Md. Rezaul Karim Chowdhury ABM Sarowar A Dipu, Delip K Das, Z H Fahad & Md. Touhidur Rahman

EXPANDING THE PROTECTED AREA SYSTEM TO INCORPORATE IMPORTANT AQUATIC ECOSYSTEMS PROJECT

Project Management Unit
Expanding the Protected Area System to Incorporate Important Aquatic Ecosystems Project
Sundarbans West Forest Division Campus, K. D. Ghosh Road, Khulna
Email: pd-epas@bforest.gov.bd

কার্যক্রম ও ব্যবস্থাপনা নির্দেশিকা
ডলফিন কনজারভেশন টিম
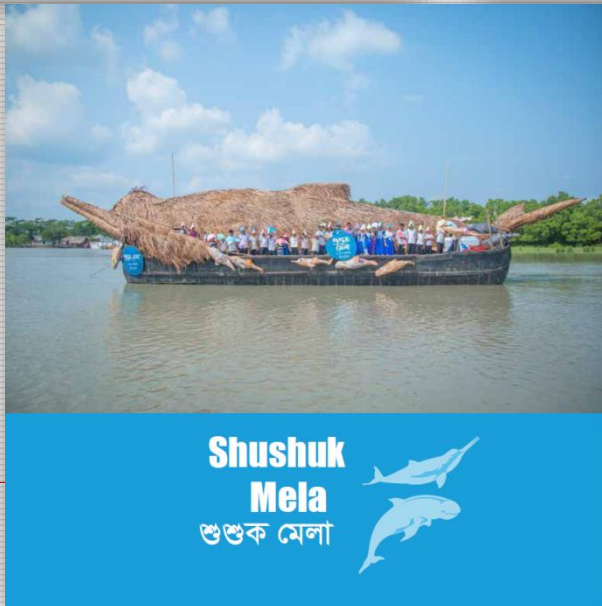
সুন্দরবনের ডলফিন সংরক্ষণ
স্মার্ট পেট্রোল মডিউল
(SMART Patrol Module)

Shushuk Mela
শুশুক মেলা

04

কার্যক্রম ও ব্যবস্থাপনা নির্দেশিকা
ডলফিন কনজারভেশন টিম

Awareness activities

Awareness materials

Celebrating International Freshwater Dolphin Day (24 October)

Dolphin fare

Awareness program at Dublar Char

Objective 5

To provide Sectoral policy recommendation for aquatic ecosystem friendly practices

Biodiversity Friendly guidelines on Industrial development for the Dolphin Sanctuaries in Bangladesh Sundarbans

Biodiversity Friendly guidelines on Maritime Traffic for the Dolphin Sanctuaries in Bangladesh Sundarbans

Biodiversity Friendly Guidelines on Aquaculture for the Wildlife Sanctuaries in Bangladesh Sundarbans

Biodiversity Friendly Guidelines on Fisheries for the Wildlife Sanctuaries in Bangladesh Sundarbans

Biodiversity Friendly guidelines on Tourism for the Dolphin Sanctuaries in Bangladesh Sundarbans

Effectiveness assessment of three existing PA

Table: Assessment Scores of Dolphin Sanctuaries		
Sanctuary	2015-16	2019
Chandpai WS	33 (35.48%)	59 (59.59%)
DudhmukhiWS	37 (40%)	56 (54.90%)
Dhangmari WS	33 (35.48%)	71 (69.60%)