



Sustainable Forests & Livelihoods (SUFAL) Project

Shark and Ray and Associated Species Conservation
Strategy Development and Non-Detriment Findings

Third Progress Report

January - June 2022

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Bangladesh Forest Department
Ministry of Environment, Forest and Climate Change

Third Progress Report:

Shark and Ray and Associated Species Conservation Strategy Development and Non-Detriment Findings

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Cover Photo

Sunset at Dubla Island with fishermen tending to their boats. © WCS Bangladesh



Executive Summary

The Wildlife Conservation Society (WCS) has completed all planned activities of the *Shark and Ray and Associated Species Conservation Strategy Development and Non-Detriment Findings* assignment for achieving objectives that include (1) Protecting sharks and rays threatened by overexploitation from targeted and non-targeted catches; (2) Ensuring that the exploitation of non-threatened sharks and rays is sustainable and does not result in them becoming threatened; (3) Sustaining fishing livelihoods through the conservation of threatened sharks and rays and sustainable exploitation of non-threatened species; (4) Developing an informed public about the critical role of sharks and rays in maintaining a healthy ecosystem through mass awareness programs for species conservation; (5) Establishing a strong capacity among government and community stakeholders for the conservation management of sharks and rays; (6) Achieving compliance with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulating international trade in globally threatened sharks and rays; and (7) Strengthening coordination with the Department of Fisheries regarding shark and ray conservation.

For conducting an assessment on the status of sharks and rays and identifying threats to their survival, we made 2,602 visits to six fish landing sites recording 394 landings of 616,850 sharks from 14 species and 559 landings of 92,128 rays from 39 species. We also examined shark and ray catches from 59 fishing boats, conducted interviews with 150 fishers and traders, and investigated shark and ray catches in commercial trawlers. These investigations resulted in science-based, community-informed recommendations that, together with the baseline status report and threat assessment included in the first SUFAL progress report, were incorporated into the *National Conservation Strategy and Plan of Action for Sharks and Rays in Bangladesh* (NCS/NPOA-Sharks & Rays).

During two intensive three-day long workshops with 22 representatives from relevant government agencies and academia, WCS conducted CITES Non-Detriment Findings (NDFs) for Silky and Smooth hammerhead sharks, and Mobula and Rhino rays. The assessments resulted in a positive NDF recommended for Silky sharks, with a minimum retention length of 200 cm, and negative NDF recommended for Smooth hammerhead sharks, Mobulid rays, and Rhino rays, which justifies their inclusion in Schedule I of the shark and ray amendment to the Bangladesh Wildlife (Conservation and Security) Act, 2012, gazetted in September 2021.

Based on three consultative workshops with senior and field-level government and community stakeholders, WCS also developed a report on actions needed for the conservation of threatened sharks and rays and the sustainable exploitation of species not in immediate danger of extinction, which was combined with the NCS/NPOA-Sharks & Rays to comply with the requirements of international conventions. Suggestions for improved governance were also made, including scaling-up regulatory and policy changes, engaging law enforcement and local communities, and providing novel incentives for poverty reduction in shark and ray dependent coastal fishing communities.

Under the SUFAL assignment, WCS provided technical support to law enforcement agencies on prosecuting illegal trade in protected sharks and rays. In addition, we conducted interactive *Ocean Guardians – Protecting Threatened Sharks and Rays in Bangladesh* exhibitions in six coastal fish landing sites, engaging more than 4,000 fish traders, government officials, law enforcement officers, students, and community members. To support outreach and training activities, WCS also developed mass communication tools including a poster on protected sharks and rays of Bangladesh, a leaflet version of this poster for wider dissemination, a richly illustrated water-proof brochure on commonly traded sharks and rays in Bangladesh, and a pocket-size identification guide on protected sharks and rays and instructions for their safe release from fishing gears to empower fisherfolk, fish traders and law enforcement officers to recognize protected sharks and rays and safely release them.

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Acronyms and Abbreviations

BFD	Bangladesh Forest Department
BFDC	Bangladesh Fisheries Development Corporation
BFRI	Bangladesh Fisheries Research Institute
CCF	Chief Conservator of Forest
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species
CR	Critically Endangered
DG	Director General
DoF	Department of Fisheries
EN	Endangered
FAO	Food and Agriculture Organization
IOTC	Indian Ocean Tuna Commission
IUCN	International Union for Conservation of Nature
LC	Least Concern
MFSMU	Marine Fisheries Survey Management Unit
MoEFCC	Ministry of Environment, Forest, and Climate Change
MoFL	Ministry of Fisheries and Livestock
MPA	Marine Protected Area
MSP	Marine Spatial Planning
NCS/NPOA	National Conservation Strategy and Plan of Action
NDF	Non-Detriment Finding
NGO	Non-Governmental Organization
NPOA	National Plan of Action
NT	Near Threatened
PMU	Project Management Unit
SoNG	Swath-of-No-Ground
SUFAL	Sustainable Forests and Livelihoods Project
SRF	Sundarbans Reserved Forest
VU	Vulnerable
WCCU	Wildlife Crime Control Unit
WCS	Wildlife Conservation Society

1. Conduct an assessment for the scientific investigations on the status of sharks and rays and identify threats to their survival

Investigation at fish landing sites

During the SUFAL project, between January 2021 and May 2022, the WCS *Citizen Scientist Shark and Ray Landing Site Data Collector Network* made 2,602 visits to the six fish landing sites in Alipur/Kuakata, Cox's Bazar, Parerhat, Rupsha/Khulna, Bhola, and on Saint Martin's Island.

Photo-verified data were recorded on 394 landings of 616,850 sharks from 14 species. Shark landings were recorded during 15% of the visits with the highest percentage per visit in Cox's Bazar (40%) followed by Parerhat (13%). The total weight of landed sharks was about 406 metric tonnes with an estimated selling price of more than 47.6 million (4 crore 76 lakh) BDT or about 560,000 USD.

Landed sharks were dominated by the Carcharhinidae family (74%) and Sphyrnidae family (25%), with just three species accounting for 66% of landings: Near Threatened (NT) Spadenose sharks *Scoliodon laticaudus* (31%), Critically Endangered (CR) Scalloped hammerhead sharks *Sphyrna lewini* (24%) and Vulnerable (VU) Bull sharks *Carcharhinus leucas* (11%) of the total landed shark specimens (Figure 1). Two-thirds of all shark landings occurred from November to March, following the 22-days fishing ban from 4-25 October 2021, with 66% caught in medium-mesh gillnets, 12% in large-mesh gillnets, 10% in baited longlines, and the remaining in set-bag nets and unbaited bottom-set long lines.

A total of 559 landings of 92,128 rays from 39 species were recorded during the same period. Rays were found in 21% of the landing site visits with most ray landings recorded in Cox's Bazar (42%) followed by Saint Martin's Island (30%). Landed rays had an estimated total weight of 340 metric tonnes with an approximate selling price of nearly 65.5 million (6 crore 55 lakh) BDT or about 770,600 USD.

Rays were dominated by the Dasyatidae and Gymnuridae families that together made up 72% of all landings. Dominant species were VU Longtail butterfly ray *Gymnura poecilura* (14%), CR Sharpnose guitarfish *Glaucostegus granulatus* (8%), VU Bengal whipray *Brevitrygon imbricata* (7%) and Endangered (EN) Honeycomb whipray *Himantura undulata* (6%) (Figure 2). Almost 80% of all ray landings occurred from November to April with 44% caught in medium-mesh gillnets followed by 17% in bottom-set longlines with hundreds of unbaited hooks specifically targeting rays and 16% in midwater-set baited longlines.



Figure 1. NT Spadenose sharks (left) and CR Scalloped hammerheads (right) and VU Bull sharks (bottom) are by far the most landed shark species.



Figure 2. VU Longtail butterfly rays (top left), CR Sharpnose guitarfish (top right), VU Bengal whiprays (bottom left) and EN Honeycomb whipray (bottom right) are the most landed ray species.

Dwarf whiprays *Brevitrygon heterura* and Smalleye stingrays *Megatrygon microps* were recorded for the first time in Bangladesh during landing site visits, with the identifications confirmed by international experts. In addition, a potentially new species for Bangladesh belonging to the *Maculabatis* genus was also recorded (Figure 3).



Figure 3. Experts confirmed identifications of the Dwarf whipray *Brevitrygon heterura* (top left) and Smalleye stingray *Megatrygon microps* (top right), and a possible new species for Bangladesh from the *Maculabatis* genus (bottom).

At-sea investigation of elasmobranch catches of coastal small-scale fisheries in Bangladesh

WCS conducted fisheries investigations from 24 November 2021 to 13 February 2022 in a locally hired vessel along 443 kms of systematic transect lines in nearshore waters generally less than 10 m deep between the eastern boundary of the Sundarbans Reserved Forest (SRF) and Nijhum Dwip National Park/Marine Protected Area (MPA), searching for fishing operations and examining their shark and ray catches. Fifty-nine fishing boats with eight different types of gear were approached to see if any sharks and/or rays were caught, including small- and medium-mesh drifting and anchored gillnets, large-mesh drifting gillnets, and seine nets (Figure 4).



Figure 4. Searching for fishing operations (left) and examining the shark and ray catch of a small-mesh drifting gillnet (right) during the survey conducted by WCS from November 2021 to February 2022.

During at-sea catch investigations, WCS documented globally EN Giant freshwater whipray *Urogymnus polylepis* in a small-mesh anchored gillnet and VU Bengal whipray in a small-mesh drifting gillnet. Both these species along with CR Sharpnose guitarfish and EN Round *Maculabatis pastinacoides*, Whitespotted *Maculabatis gerrardi*, Honeycomb whiprays, Zonetail butterfly rays *Gymnura zonura*, and NT Spadenose sharks were documented at fish landing sites in the survey area (Figure 5).

Between 24 November 2021 to 13 February 2022, WCS documented 41 fish landing sites while conducting an interview survey with 150 local fishers and traders along the coast between the Sundarbans and Nijhum Dwip (Figure 6). Forty-four percent of the fishers interviewed stated they sell their shark and/or ray catches to local small traders, followed by 41% who sell to moneylenders, and 8% directly to local consumers, 4% to dry fish processors, 3% to a vessel-based buyer, and 1% didn't respond. The interviewees reported that, due to the high number of juveniles regularly caught in nearshore shallow waters around islands and mudflats or *chars*, they suspected these waters are used as nursery grounds by several ray species.

About 100 Spadenose sharks, including a few gravid females, and four ray species including five Butterfly rays *Gymnura sp.* (disc width 12-37 cm), three stingrays *Myliobatoidei sp.* (disc length >20 cm), one EN Bleeker's whipray *Pateobatis bleekeri* and an EN Honeycomb whipray were seen being landed or drying on racks while interviewing 28 local fish traders and dry fish processors on Dubla island. In addition, 180 EN Bleeker's whiprays (disc width 12-25 cm) and 92 unidentified electric rays *Torpediniformes sp.* (total length 10-12 cm), were examined that were reportedly caught in set-bag nets.

Our investigation on threatened sharks and rays in shallow nearshore waters between the Swatch-Of-No-Ground (SoNG) MPA and the SRF (Figure 7) led to incorporating recommendations into the *National Conservation Strategy and Plan of Action for Sharks and Rays in Bangladesh* (NCS/NPOA-Sharks & Rays). Priority recommendations include live-release requirements, gear restrictions, applying time-area closures, and empowering community-based monitoring of protected species and of shark and ray trade.



Figure 5. Globally Endangered Giant freshwater whipray (top left), EN Honeycomb whipray (top right), EN Zonetail butterfly ray (bottom left), and CR Sharptooth guitarfish and NT Spadenose sharks (bottom right) were documented at landing sites along the coast between the SRF and Nijhum Dwip.

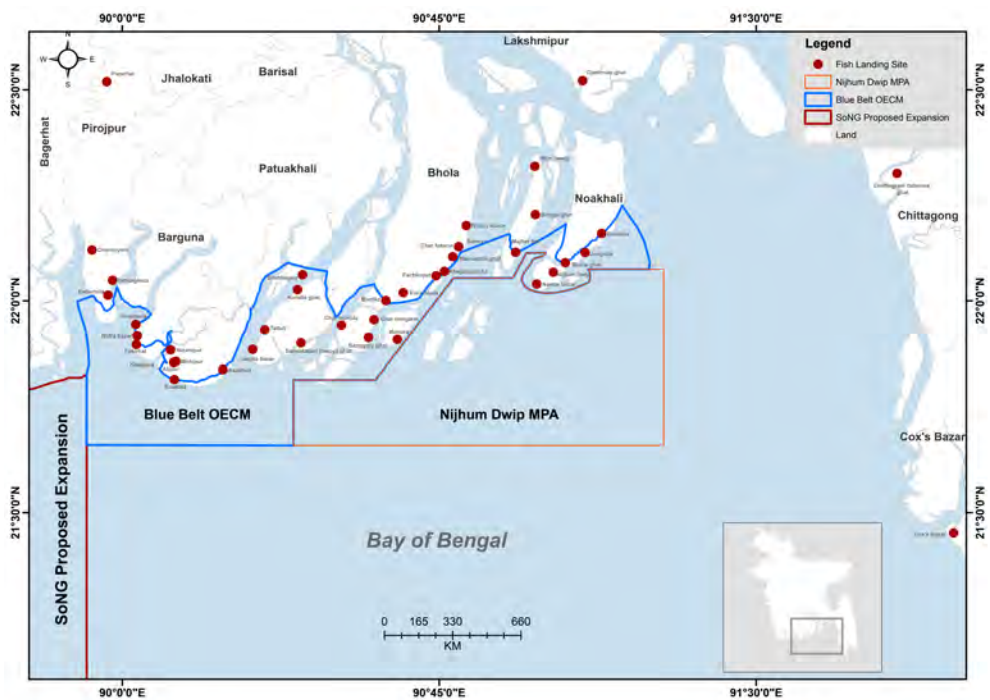


Figure 6. Forty-one fish landing sites were documented where sharks and rays are landed and processed along the coast of Bangladesh.



Figure 7. WCS conducted a systematic survey from December 2021 to January 2022 for sampling shark and ray catches caught in different fishing gears.

Recommendations were also made to develop new fishing rules to prohibit the use of all bottom-set fishing gears, including longlines and gillnets in waters <10 meters deep, wire leaders on long-lines, and gaffing and/or spearing of protected sharks and rays, as well as requiring the use of circle hooks (versus J-hooks) made of iron or other corrosive metals.

Recommendations also included measures to incorporate time-area fishing or gear-specific closures into marine spatial planning (MSP) and MPA plans, and to use predictive models of the overlap between shark and ray species occurrence (particularly during critical life-history stages such as breeding, pupping, and juvenile growth) and fishing intensity for identifying areas for focused conservation attention.

In addition, recommendations were made for marine fisheries rules requiring live releases and prohibiting the retention of protected sharks and rays. Following the Indian Ocean Tuna Commission (IOTC) resolution 19/03, discards of Mobuild rays from industrial fishing operations should also be documented with information recorded on their condition on release. Also, shark and ray finning, which is the removal of fins and discarding of the rest of the body at sea, should be prohibited as a precautionary measure.

Perceptions of small-scale fishers on sharks and rays in the coastal waters of Bangladesh

During interview surveys conducted by WCS from November 2021 to February 2022 along the coast between the eastern edge of the SRF and Nijhum Dwip, fishers and traders (N=150) identified 28 shark and 52 ray species caught in their fishing gear. Of the reported sharks, five species, including Pondicherry sharks *Carcharhinus hemiodon*, Sand tiger sharks *C. taurus*, Ganges sharks *Glyphis gangeticus*, Scalloped hammerhead sharks, and Great hammerhead sharks *Sphyrna mokarran* are considered CR, with the remaining species considered EN (4), VU (13) and NT (6). Of the reported rays, ten are considered CR, including Sharpnose, Widenose *Glaucostegus obtusus*, Clubnose *G. thouin*, and Giant *G. typus* guitarfishes, Tentacled butterfly rays *Gymnura tentaculate*, Bowmouth guitarfish *Rhina ancylostoma*,

Smoothback guitarfish *Rhinobatos lionotus*, Annandale's guitarfish *Rhinobatos annandalei*, Bottlenose wedgefish *Rhynchobatus australiae*, and Smoothnose wedgefish *Rhynchobatus laevis*, with the remaining species considered EN (19), VU (16), NT (2), Least Concern (LC) (2), Data Deficient (2), and Not Evaluated (1) in the Global IUCN Red List.

According to the interviewed fishers and traders, small rays such as VU Bengal and NT Scaly whiprays, as well as juveniles of other species, are usually discarded alive at sea, while larger rays such as Rhino rays (*Rhinobatos* and *Glaucostegus* sp.), Eagle rays (*Aetomylgeus* sp.), VU Leopard whiprays *Himantura leoparda*, and EN Giant freshwater and Bleeker's whiprays, which fetch a higher price, and are retained and sold to local traders or money lenders.

About 18% of interviewed fishers and traders stated that sharks and rays were targeted using baited and unbaited longlines. Most interviewees reportedly caught sharks and rays unintentionally, but three fishers reported catching them intentionally. One-third of those interviewed reported having caught sawfish in large-, medium-, and small-mesh drifting gillnets, baited and un-baited long lines, and monofilament gillnets in the past five years. The interviewed fishers reported 122 CR/EN sawfishes *Pristis* sp. caught between 2000 and 2022, mostly in medium-mesh drifting gill nets (57%).

Between November 2021 and February 2022, WCS conducted nine at-sea interviews with set-bag net fishermen around Dubla Island to better understand shark and ray catches and their knowledge, attitudes, and practices about threatened marine wildlife, particularly sharks and rays. The interviewed fishers identified CR Sharpnose guitarfish, EN Bleeker's whiplay, VU Round and Bengal whiplays, Long-tailed butterfly rays, and NT Spadenose sharks as among the species most often caught in their gear (Figure 8).

Three of the nine fishers interviewed at-sea reported sharks and rays being targeted by longlines. Six fishermen said they had accidentally caught sharks and rays in their gear, and one said he targeted sharks and rays. While one fisher observed no change in shark and ray catches, six said that numbers had decreased over the past 5-10 years. Three fishermen reported catching CR sawfish in the past five years, two weighing about 100 kg each in estuarine set-bag nets, and one weighing about 50 kg in a medium-mesh drifting gillnet. Four of the nine fishermen had heard about other fishers catching sawfish in the past five years in set-bag nets. One fisherman reported hearing sawfish weighing about 1,000 kg being caught in trawls, while another claimed a sawfish weighing about 400-520 kg being caught in a medium-mesh drifting gillnets.



Figure 8. WCS conducted at-sea interviews with fishers (top left) and land-based interviews with local dry fish processors and traders on Dubla Island (top right), and distributed booklets and brochures (bottom left and right) on threatened marine wildlife, including sharks and rays, to encourage fishers to safely release protected species found alive in their nets, and traders to comply with the Wildlife (Conservation and Security) Act, 2012.

Investigation of shark and ray catches in commercial trawlers

With the consent of the Marine Fisheries Director, WCS team members, together with three senior Fisheries Inspectors from the Department of Fisheries (DoF) visited the Chattogram port between 11-13 February 2022 to gain a better understanding of industrial fishery catches and landings of sharks and rays.

Industrial trawlers are anchored or tied up on the Karnaphuli River near Sadarghat in Chattogram. Trawling vessels include metal and wooden trawlers (Figure 9). We accompanied the DoF inspectors on visits to two trawlers and were allowed to visit the cold storage areas below deck (Figure 10).

Catch information from industrial trawls is recorded in the official daily fishing log provided by the Marine Fisheries Office of the DoF. Despite a few entries in the fishing logs we examined about catches of sharks and rays, we found protected species in two of the five vessels we visited, indicating that not all caught individuals are recorded in the fishing logs. The boat owners told us that they often sell sharks and rays along with bony fish if they have small quantities. For large quantities, they reportedly sell the sharks and rays separately to specialized traders.



Figure 9. Metal (left) and wooden (right) mechanized trawler with small wooden engine boats used to transport the catch to land.

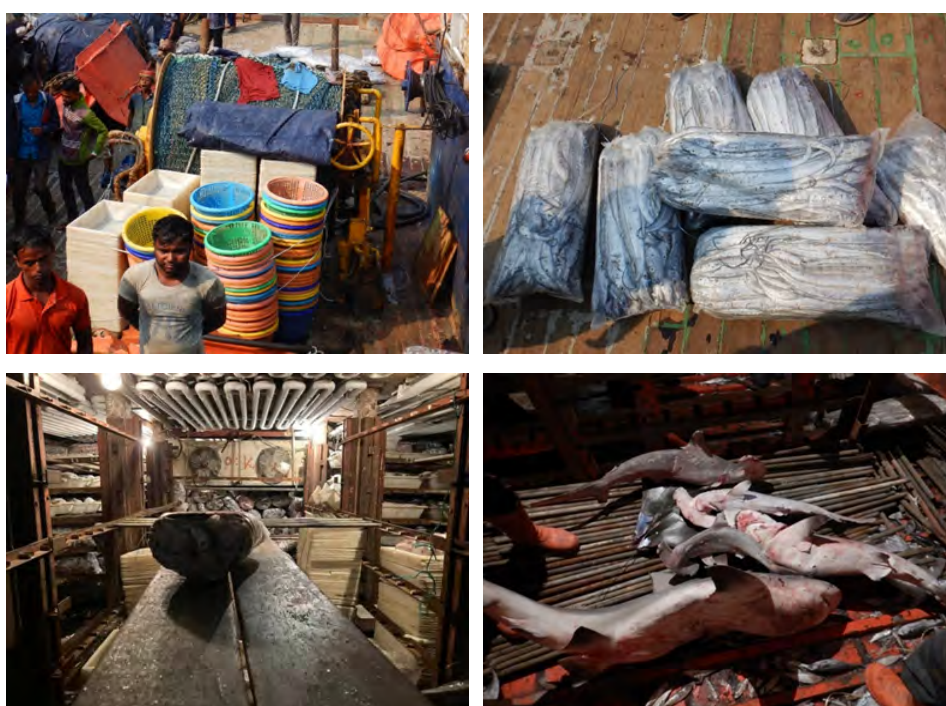


Figure 10. After each net haul, the catch of commercial trawlers is sorted into plastic baskets and crates (top left) before being packaged in plastic bags (top right). The assorted bags are stored in the cold storage chamber below the deck (bottom left). Sharks and rays, along with other large fish such as billfish, are frozen outside the cold storage chamber (bottom right).

Eleven inspectors are appointed by the Marine Fisheries Wing of the DoF to collect fish catch records/logbooks from industrial trawling vessels and cross-check entries with the catches being unloaded. They work in four groups with three inspectors each visiting industrial trawlers between 1-4 times in a month or less depending on ancillary work requirements. Inspectors informed us that they never enter the cold storage area for health and safety reasons. They were seen giving fishing vessel captains notices at the end of inspections, informing them that, according to the Wildlife (Conservation and Security) Act, 2012, *“No mammal or protected sharks and rays can be targeted, and bycatch should be reported to the Marine Fisheries Department”* (Figure 11).

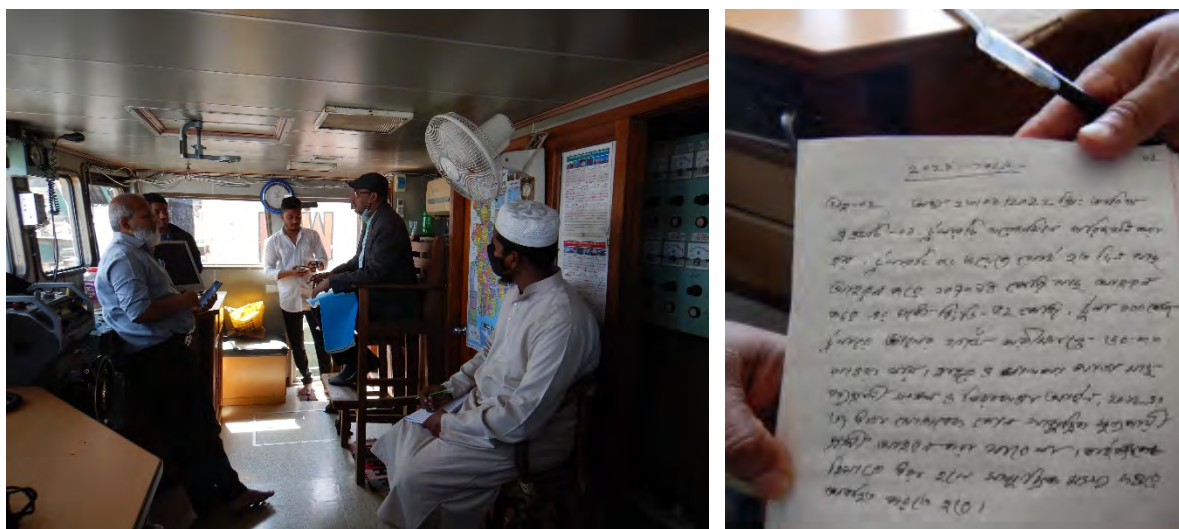


Figure 11. The Fisheries Inspector checks the logbooks in the presence of the vessel captain (left) and provides written instructions about protection for marine mammals and sharks and rays (right).

The trawler captains and officers informed us that they do not know about shark and ray species identification. To solve this problem, they suggested that we provide them with training on species identification. The DoF inspectors also suggested we provide them with training so that they can inspect the catches and landings more effectively for sharks and rays, and that they could share the specimen pictures with us via the WhatsApp phone application for species confirmation.

Domestic and international trade of shark and ray products in Bangladesh

WCS summarized and analyzed information from Government statistics, published reports, and from interviews conducted by WCS with shark and ray fishers, traders, and consumers as reported in the *Shark and Ray Assessment Report*.

Additional insights on shark and ray consumption and trade were gained during surveys conducted by WCS from November 2021 to February 2022. Large-sized rays fetch a good price in Mohipur and Alipur (Kuakata). Smaller rays, such as butterfly and whips, are mostly consumed locally. People who have returned from Oman, where sharks and rays are apparently part of the traditional diet, living on Hatiya and Nijhum Dwip were identified as a large consumer group for ray meat. In Monpura, rays are primarily consumed by fishers and their families. Rays are in high demand at the local market on Charfesson, with fisherfolk, poor Muslims, and many Hindus from Char Montaz and Rangabali consuming rays.

Sharks and rays, as well as marine and freshwater turtles, are commonly consumed by the approximately 800 and 640 Buddhist ‘Mog’ families living in Kuakata and Taltali, respectively. In Kuakata, rays of various species, including EN Javan cownose rays *Rhinoptera javanica*, Butterfly rays *Gymnura sp.*, and other small-sized stingrays, are sold to tourists.

Floating fishers from the ‘Boirali’ community believe that ray meat helps treat bacillary dysentery and enhances sexual stamina, shark liver oil helps arthritis, and eating guitarfish meat enhances lactation in breastfeeding women. The Boirali people eat, process, preserve, and sell dried ray meat, shark liver oil, and dolphin oil as medicinal remedies (Figure 12).



Figure 12. WCS met floating boat people known as *Boralis* at Ramraj and Monpura (left) and spoke to them about their floating life and fishing practices. WCS used educational outreach materials developed under the SUFAL assignment to engage them in discussions about threatened marine wildlife, including sharks and rays, and solutions for halting biodiversity loss and sustaining their livelihoods (right).

Current domestic and international trade procedures, mandates, and requirements for sharks and rays in Bangladesh were a priority focus during the Non-Detrimental Finding (NDF) assessment workshops. The current export procedure for shark and ray products is the same as for any other fish species. However, unlike fish, where species identification is provided, sharks and rays are not identified according to species. During the NDF workshops held in Chattogram and Dhaka (see below), participants highlighted that CITES permit rules should be incorporated into the DoF's official dry fish export shipment inspection procedures and the Marine Fisheries Rules aligned with Wildlife Act Schedule I and II regulations.

Recommendations included producing a user-friendly shark and ray identification guide for government officials that will help them identify legally protected species and their commonly traded parts and require traders to declare all international exports of sharks and rays and their products to the DoF. Priority recommendations were also for Customs to designate a limited number of ports for exit and entry for sharks and rays while also monitoring other ports for illegal trade. Additionally, guidelines should be created that require fish traders and exporters to watch a short educational film on laws and rules regarding possession and trade in sharks and rays and review the list of protected species in the Bangladesh Wildlife (Conservation and Security) Act, 2012, before they receive a trade license. Informing shipping and courier services about export and import regulations for CITES-listed and nationally protected sharks and rays was also recommended.

Proposals for trade regulations included increasing the inspection of exported goods, particularly that are crossing to Myanmar, and prosecuting traders without appropriate permits and legal documents. Traders should also be required to provide copies of CITES export/trade permits issued by the BFD and verified by the DoF before an export certificate is issued by Customs. Export monitoring can be improved with support from the DoF and Customs, including document verification, for detecting fins, meat, skins, gill plates, and other body parts from protected sharks and rays.

In collaboration with Customs and the BFD, a methodology should be developed, and training be provided for DoF officers to sample export shipments for shark and ray products based on suspicious packaging or declaration, destinations with a known demand for shark and ray products (e.g., Hong Kong, Singapore, China), or intelligence (e.g., blacklisted courier services or exporting companies). Lastly, all cases of illegal possession, trade, or consumption of protected sharks and rays should be shared with the BFD Wildlife Crimes Control Unit (WCCU) for inclusion in the national wildlife crime database which will enable multiple agencies to monitor investigations, support prosecutions and facilitate international reporting requirements.

Institutional and legal frameworks for the conservation and management of sharks and rays in Bangladesh

Through the SUFAL assignment, WCS is supporting the BFD in communicating the gazette notification of the amended listing of sharks and rays protected under the Bangladesh Wildlife (Conservation and Security) Act, 2012, through mass awareness programs and educational outreach tools, and its implementation through interagency trainings and strengthening collaborations between the BFD with other Government agencies (see sections below on mass communication instruments for shark and ray conservation and formulating recommendations to amend the Wildlife (Conservation and Security) Act, 2012 to protect sharks and rays).

During the outreach exhibitions (see below), traders informed us that they had imported four EN Honeycomb whipsrays along with bony fishes from India via Benapole customs to Bagerhat. When these rays were unloaded from the truck in Bagerhat, officers from the BFD WCCU seized these rays, weighing about 158 kg, because they are listed in Schedule II of the Wildlife (Conservation and Security) Act, 2012. Traders shared the clearance documents from Customs at the Benapole port (Figure 13). They also mentioned that Customs officials are unaware of the law, and, if they knew about it, they should notify the traders during clearance so they could avoid such trouble in the future.

Form of Finance Customs Headquarters

Consignee: **NAAZ IMPEX (INDIA) PVT LTD.**
 Invoice number: **2022-11245**
 Amount: **421,933.22**

DECLARATION

1. Exporter: **NAAZ IMPEX (INDIA) PVT LTD.**
 2. Importer: **M/S MUKTA ENTERPRISE**
 3. Declarant: **ALEYA ENTERPRISE**
 4. Goods: **SEA FISH**

Type	Tax base	Rate	Amount
CD	720,022.55	25.00	180,005.64
RD	720,022.55	3.00	21,600.68
SD	921,628.66	20.00	184,325.77
VAT	1,105,954.64	0.00	0.00
AIT	720,022.55	0.00	0.00
AT	1,105,954.64	0.00	0.00
ATV	1,474,679.91	0.00	0.00
Total			421,933.22

Figure 13. Clearance documents from Benapole port customs for the import of four honeycomb whips along with other bony fishes from India to Bangladesh.

2. Submit a baseline status report and threat assessment of sharks and rays

The *Shark and Ray Assessment Report - Baseline information on status, threats and governance in Bangladesh* provides current knowledge and verified information on the status, threats and governance frameworks for sharks and rays in Bangladesh. This comprehensive background document reports on results from scientific investigations, educational outreach, and policy related activities conducted by WCS in partnership with citizen scientists and government agencies and is enriched with information from published reports. It was submitted with the first progress report and used to inform the draft NCS/NPOA-Sharks & Rays presented by WCS to the BFD on 28 March 2022.

CITES Resolution Conf. 12.6 requires Parties to provide a *Shark Assessment Report* for evaluating progress made towards developing and implementing a *National Plan of Action for Shark and Ray Conservation and Management* as per commitments to the CITES, Convention on Migratory Species (CMS), Food and Agriculture Organization (FAO), and IOTC. It is therefore recommended that the Bangladesh National CITES Management Authority consider submitting this report, along with the NCS/NPOA-Sharks & Rays, to the CITES Secretariat upon final approval.

3. Identify priority species for conservation management and conducting CITES Non-Detriment Findings (NDFs)

For conducting NDFs, selection criteria for candidate species or species groups included that they are confirmed as occurring in Bangladesh, listed in CITES Appendix II, not considered Critically Endangered in the IUCN Global Red List, sufficient catch or landing data are available to evaluate the status and trade of the species, and there is a potential for international trade to be both profitable and sustainable.

From the 12 CITES Appendix II listed shark species confirmed or suspected to occur in Bangladesh, six of which were never recorded in catches or landings from coastal small-scale fisheries monitored by WCS, VU Silky shark *Carcharhinus falciformis* and Smooth hammerhead shark *Sphyrna zygaena* had sufficient information on catches and landings for preparing NDF assessments.

All 13 ray species listed in CITES Appendix II and confirmed as occurring in Bangladesh belong to two groups: EN Mobula rays (*Mobula* spp.) and CR Giant guitarfishes (*Glaucostegidae*) and Wedgefishes (*Rhinidae*) also known as Rhino rays. Since we had sufficient information on the catches and landings for preparing NDF assessments on both these species groups, we conducted NDF assessments for all Mobula and Rhino rays.

4. Develop a report on actions needed for the conservation of threatened sharks and rays and the sustainable exploitation of species not in immediate danger of extinction

Recommendations from a consultation held with 59 national experts in May 2021, as well as from discussions with technical training workshop participants in October/November 2021, a consultative workshops conducted on November 2021 in Kuakata with 30 fishers, fishing vessel owners, and traders engaged in shark and ray fisheries, together with those resulting from NDF assessment and validation workshops conducted in February 2022, and standardized interviews with 150 fishers and research investigations summarized above contributed to developing a report on actions needed for the conservation of threatened sharks and rays and the sustainable exploitation of species not in immediate danger of extinction. Priority actions included in the report aimed to (1) Reduce mortalities of threatened sharks and rays, (2) Protect priority shark and ray habitat, (3) Strengthen legal protection for threatened sharks and rays and enforce national laws and rules, (4) Engage fishing communities in shark and ray protection, (5) Improve monitoring and reporting of shark and ray fisheries and trade, and (6) Strengthen governance and coordination based on the baseline status and threat assessment.

To comply with CITES, CMS, FAO, and IOTC requirements, the report on recommended actions for the conservation of threatened sharks and rays and the sustainable exploitation of species not in immediate danger of extinction was combined with the conservation strategy in the NCS/NPOA-Sharks & Rays document. Discussions to finalize the NCS/NPOA-Sharks & Rays for government endorsement occurred during a third national consultation with 42 senior representatives from relevant Government agencies, institutions, and ministries on 19 June 2022. The document is submitted for final approval by the BFD with this report.

5. Conduct NDFs for priority shark and ray species considering their economic importance, conservation status and available data

To develop NDF assessments for Silky and Smooth hammerhead sharks and Mobulid and Rhino rays, two intensive NDF workshops were hosted by the BFD and organized by WCS on 8-10 February 2022 in the conference room of the Marine Fisheries Survey Management Unit (MFSMU) in Agrabad, Chattogram, and on 13 -15 February 2022 in the After-Hours Residence in Banani, Dhaka.

Twenty-two nominated representatives from the BFD, DoF, Bangladesh Fisheries Research Institute (BFRI), Institute of Marine Sciences of the Chattogram University, Dhaka University, and Sher-e-Bangla Agricultural University were engaged in the NDF development training workshops. The NDF development process was facilitated by the international CITES shark and ray expert Daniel Fernando. It followed official CITES NDF guidance supported by a newly developed eNDF tool. Preparing the NDFs using a facilitated training workshop approach provided participants with practical experience for strengthening technical capacity among government officials and local experts for preparing future NDFs.

A positive NDF with conditions (200 cm minimum retention length) was recommended for the sustainable exploitation and trade in Silky sharks. The three other NDF assessments for Smooth hammerhead sharks, Mobulid rays, and Rhino rays recommended negative NDFs due to overexploitation. This validates their Schedule II and I listing in the revised shark and ray amendment to the Bangladesh Wildlife Act.

These results were presented in a validation workshop to representatives from the BFD and DoF and national fisheries and wildlife experts on 17 February 2022 and approved for submission to the CITES Secretariat by the Wildlife Advisory Board on 28 February 2022. Resulting recommendations from the NDF assessments were also presented and positively reviewed during a third national consultation on the NCS/NPOA-Sharks & Rays and CITES NDFs held on 19 June 2022, with the participation of the Honourable Minister, Secretary, and Joint Secretary of the Ministry of Environment, Forest and Climate Change (MoEFCC), and other senior government representatives (see section below).

WCS prepared the NDF documents and a draft cover letter to support their official submission to the CITES Secretariat by the National CITES Management Authority. A detailed report on the NDF assessment process and development training workshops is provided in a separate document with this third progress report.

6. Formulate a National Conservation Strategy for the conservation management of sharks and rays in partnership with government and community stakeholders

The first draft of the NCS/NPOA for sharks and rays in Bangladesh was submitted to the BFD and the SUFAL Project Management Unit (PMU) on 12 July 2021 and revised according to comments received on 18 August 2021. We resubmitted the document to the SUFAL PMU on 23 September 2021. The draft NCS/NPOA-Sharks & Rays was approved for external comments on 8 December 2021 and shared by the SUFAL PMU with participants at the first consultation workshop on 23 December 2021, which was reported in the second progress

report on *Shark and Ray and Associated Species Conservation Strategy Development and Non-Detriment Findings* submitted to SUFAL.

Recommendations for improved governance and locally feasible actions in the NCS/NPOA-Sharks & Rays also benefitted from inputs received during the second consultation conducted with local fishery stakeholders in Kuakata in November 2021, discussions with technical training workshop participants in October/November 2021 (reported in the second progress report), and the NDF workshops in February 2022 (see separate report submitted with the third progress report). Additional technical support for finalizing the NCS/NPOA-Sharks & Rays in line with international requirements to CITES, CMS, FAO, and IOTC was provided by a national working group established by the Ministry of Fisheries and Livelihood (MoFL), including representatives from the BFD and WCS, during four formal meetings (Figure 14).

The document was reviewed and revised in a meeting called by the Chief Conservator of Forest (CCF) with senior BFD officers and SUFAL PMU members on 18 June 2022, and discussions were held to finalize the document during the third national consultation on 19 June 2022 for submission and interministerial endorsement.

The third national consultative meeting for finalizing the NCS/NPOA-Sharks & Rays was convened by the BFD with support from WCS at the Radisson Blue Hotel in Dhaka. Forty-one senior representatives from the MoEFCC, MoFL, DoF, BFD, Ministry of Commerce, Customs, BFRI, BFDC, Navy, Coast Guard, and Bangladesh Police attended the meeting. Details of the participants are provided in Appendix 1. The Honorable Minister MoEFCC, Md. Shahab Uddin M.P, graced the event as Chief Guest, along with Iqbal Abdullah Harun Additional Secretary (Admin), MoEFCC, with the Chief Conservator of Forests (CCF) of the BFD, Md. Amir Hosain Chowdhury, and the Director General of the DoF, Kh. Mahbubul Haque, as Special Guests. The meeting was chaired by the Secretary MoEFCC, Dr. Farhina Ahmed. The agenda of the 3rd national consultation is provided as Appendix 2.

Key inputs from meeting participants included:

- a. The BFRI has the mandate for research and development in the fisheries sector.
- b. To strengthen the enforcement of legal protection, requests for species and product specific HS codes should be proposed by the MoEFCC to the MoC/Customs for inclusion in the import/export policy.
- c. Sufficient penalties for illegal shark/ray trade should be specified in the Wildlife Act to enable prosecution of infractions as serious crimes.
- d. Additional training should be provided to enable officers from the Coast Guard to differentiate legally protected sharks and rays during at-sea checks of fishery catches.
- e. Additional time-area closures could be considered to coincide with pupping seasons of threatened sharks and rays, but due consideration must be given to the impacts of such interventions on fishing livelihoods.
- f. To enable species-specific landing reports, additional training and guidance is required for BFDC officers. Mass communication and training programs are also needed to enable fishers and traders to comply with protected species and trade regulations.



Figure 14. The BFD engaged with the DoF to finalize the NCS/NPOA-Sharks & Rays through a national working group (top left and right). Resulting recommendations were presented to representatives from the MoEFCC and MoFL at the third consultative meeting on the NCS/NPOA-Sharks & Rays and Non-Detrimental Findings held in the Radisson Blue Hotel in Dhaka in June 2022 (bottom).

7. Suggest governance frameworks to strengthen the conservation of threatened sharks and rays and the sustainable exploitation of non-threatened species

Suggestions for improved governance frameworks to strengthen the conservation management of sharks and rays, including scaling-up effective models for regulatory and policy changes, engaging law enforcement and communities, and novel incentives to assist in poverty reduction in shark and ray dependent coastal communities, were discussed in the second consultative workshop with 30 local shark and ray fishery stakeholders in Kuakata on 6 November 2021 as detailed in the *Report on the 2nd consultation workshop with fishers, fishing vessel owners, and traders engaged in shark and ray fisheries, processing, and trade, for sharing knowledge on the status of and threats to sharks and rays for a national conservation strategy* submitted with the second progress report.

Additional recommendations from technical training workshop participants, national experts, the NPOA-Sharks working group, and the 3rd national consultation with senior government representatives were used to revise the draft NCS/NPOA-Sharks & Rays for Bangladesh.

The draft of NCS/NPOA-Sharks & Rays for final review by the BFD/MoEFCC is enclosed. WCS is prepared to provide technical support beyond the SUFAL assignment for pursuing inter-ministerial approval and government endorsement of the document.

In line with commitments to CITES, CMS, as well as FAO and IOTC, it is recommended that, after official approval, the NCS/NPOA-Sharks & Rays for Bangladesh should be submitted to the CITES Secretariat and published on the MoEFCC/BFD websites.

8. Develop technical capacity and awareness, and foster increased commitment, political will, and financial investment for the conservation management of sharks and rays across multiple sectors

In addition to the technical trainings reported in the second progress report and mass awareness programs described below, WCS provided technical support to law enforcement agencies including the BFD/WCCU, DoF, and Coast Guard on prosecuting illegal trade in protected sharks and rays. WCS communicated by phone or WhatsApp on several occasions with government officers trained under the SUFAL assignment to follow up about the sharks and rays related activities. Officers from the BFD, DoF, and BFDC made several calls to WCS for verifying shark and ray identifications and their protected status. Several officers requested educational materials to disseminate among fishermen, traders, and vessel owners. Some field-level officers mentioned that they are conducting awareness activities in coastal communities and landing sites where sharks and rays being landed and sold. An overview of communications with government officers and agencies conducted between January – June 2022 under the SUFAL shark and ray assignment is provided in Appendix 1.

During shark and ray outreach programs in coastal communities and fish landing sites (see below), the fishermen, traders, and fisher associations informed us that they do not know about laws and rules protecting sharks and rays. They also mentioned that most of the officers from law enforcement agencies do not know which sharks and rays are protected. They further mentioned that government officers are treating all sharks and rays as if they are protected, which is forcing the trade to go underground. Fishermen and traders suggested that the BFD provide them information with pictures on which sharks and rays are protected.

9. Develop mass communication instruments for shark and ray conservation

From 17–28 April 2022 and 11–16 May 2022, WCS conducted ‘*Ocean Guardians – Protecting Threatened Sharks and Rays in Bangladesh*’ exhibitions in six coastal fish landing sites where sharks and rays are regularly landed, processed, and traded (Table 1). The exhibitions comprised interactive games, infographics, information panels, 2D and 3D models of sharks and rays, high-quality photographs, and discovery towers to describe and experience the senses of sharks and rays. Trained interpreters facilitated the visits, encouraged questions, explained the games, and engaged visitors in informal discussions. Facilitators have proven to be a key part of successful educational outreach activities because they not only ensure active participation, but they also provide an opportunity for gaining a better understanding of local attitudes and practices.

During the exhibitions, WCS engaged more than 4,000 visitors, including fishers, fish traders, government officials, law enforcement officers, students, and community members. A shortened version of the exhibition was also displayed in training and consultative workshops

conducted under the SUFAL shark and ray assignment, including at the third national consultation on the NCS/NPOA-Sharks & Rays held on 19 June 2022 in Dhaka.

Table 1. Dates and locations of exhibitions with number of visitors at each exhibition.

Date	Venue	Number of visitors
17-18 April	Fish Landing and Wholesale Fish Market, Rupsha, Khulna	615
21 April	KB Ghat Fish Landing Site, Bagerhat	484
24 April	Fish Landing and Wholesale Fish Market, BFDC, Patharghata, Barguna	389
27-28 April	Fish Landing and Wholesale Fish Market, BFDC, Alipur, Kuakata	656
11-12 May	Fish Landing and Wholesale Fish Market, BFDC, Cox's Bazar	1,259
15-16 May	New Fishery Ghat, Chattogram	724

WCS distributed flyers in advance of the event to invite fishers and traders from nearby fish markets and landing sites, wildlife activist groups, students, community members, and government officials to the program (Figure 15). WCS also distributed several sets of posters on protected sharks and rays of Bangladesh during the visit to the local fisheries, forest, and other law enforcement and trader's association offices for display in the publicly accessible areas of their offices.



Figure 15. To encourage local fish traders, fishers, and law enforcement officers to attend the *Ocean Guardians* exhibition, WCS distributed flyers at the nearby fish markets, landing sites, and offices before the event.

Through questions asked to 100 visitors before and after the event, WCS evaluated the effectiveness of the *Ocean Guardians* exhibitions based on changes in visitor knowledge. Additionally, we have received feedback on the exhibits that they liked and those they thought needed improvement. Results indicated that the exhibitions achieved a 45% increase in knowledge about sharks and rays amount the fishers, traders, and community members participating in the exhibition (Figure 16).



Figure 16. To improve their ability to recognize protected sharks and rays, the WCS field coordinator led BFD field level officers on a guided tour of the exhibition (top left and right); fish traders learned about the protected sharks and rays with the help of an exhibition interpreter (bottom left); and a *Wheel of Fortune* game taught visitors about the strictly protected species (bottom right).

WCS produced a poster on the protected sharks and rays listed in Schedule I and II of Wildlife (Conservation & Security) Act, 2012 illustrating the key characteristics for each species and species groups. The listing of look-a-like species with common features, such as dark fin tips in protected requiem shark species, makes it easier for law enforcement officers, traders, fishers, and consumers to recognize them. A leaflet version of this poster was also developed for wider dissemination during educational outreach events (Figure 17).



Figure 17. Posters use tools that resemble shark and ray characteristics to help fishers, traders, and government from carcasses and their body parts.

WCS developed and produced a richly illustrated water-proof brochure for the commonly traded sharks and rays of Bangladesh in both the English and Bengali language. This brochure will enable the fishers, traders, and government officers to recognize commonly landed and traded protected and non-protected species. The brochure contains short descriptions about the physical characteristics, biology, ecology, and habitat preferences of each species, fun facts, and safe release guidelines (Figure 18).

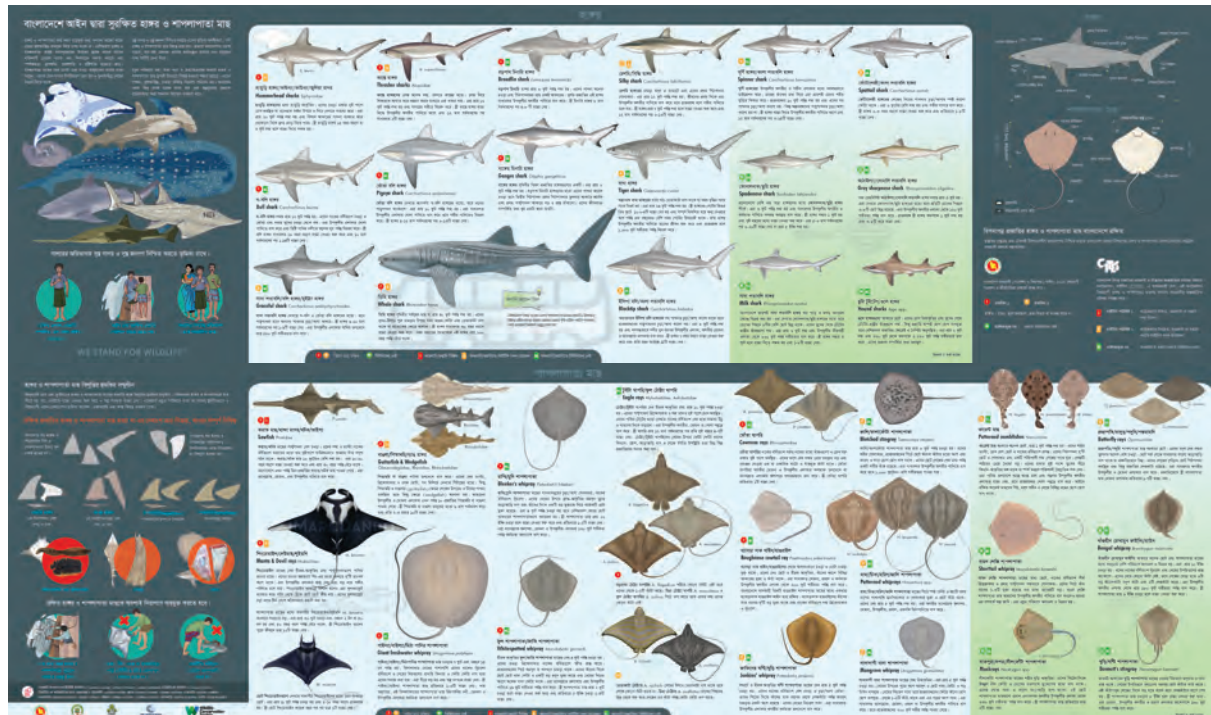


Figure 18. Water-proof brochure for distributing to the fishers, traders, and government officers during the outreach activities.

WCS also produced a pocket-size identification guide on protected and look-a-like sharks and rays of Bangladesh in English and Bengali language to enable law enforcement officers, fishers, shark and ray traders, and citizen scientists to identify protected sharks and rays and their commonly traded parts. An overview of legal regulations and instructions for the safe release of protected species at sea was also provided.

A short 12-minute documentary film is under development to empower fisherfolk, fish traders and law enforcement officers to recognize protected shark and ray species, safely release them, and understand the critical role they play in maintaining a healthy marine ecosystem and sustaining fisheries. This short film is intended for showing during outreach programs and for wider dissemination via social media channels.

10. Formulate recommendations to amend the Wildlife (Conservation and Security) Act, 2012 to protect sharks and rays

On request from the BFD, WCS prepared the revised listing of sharks and rays, facilitated the revision by local and international experts, and assisted the BFD in obtaining interministerial approval for an amendment to the list of sharks and rays included in Schedule I and II of the Bangladesh Wildlife (Conservation and Security) Act, 2012, officially gazetted in September 2021. WCS has also assisted the BFD with formulating additional recommendations to amend the Wildlife (Conservation and Security) Act, 2012, for clarifying the definitions of Schedule I and II, suggesting penalties for exploitation, trade, possession, and consumption of listed species, and specifying rules for wildlife possession, transit, and registration permits. On request from the BFD, WCS also drafted proposed formulations for amending the Import Policy Order, Coast Guard and Border Guard Acts, to align with the Bangladesh Wildlife (Conservation and Security) Act, 2012.

WCS is assisting the DoF on request from the Marine Fisheries Office in formulating rules under the new Marine Fisheries Act 2020 that align with the amended shark and ray listing and other marine wildlife protected under the Wildlife (Conservation and Security) Act, 2012, and fisheries management regulations to improve the protection of threatened sharks and rays and the sustainability of the extraction of non-threatened species as per recommendations from the NCS/NPOA-Sharks & Rays.

11. Update on activity plan for achieving the objectives of the assignment and submitting updates and progress reports to the PMU/PMS

WCS completed all contractually required activities and deliverables, including the development and validation of NDF assessments, developing and conducting educational outreach programs, and revising the NCS/NPOA-Sharks & Rays. Details on these activities were provided in three progress reports, monthly updates, and separate reports that enable the replication particularly of training and educational outreach programs.

WCS will address any comments received from the SUFAL PMU on the third progress report or the documents submitted along with it for re-submission along with the draft final report by 12 August 2022 as per contractual agreement.

Appendix 1. Details of participants of the Third National Consultation on the *National Conservation Strategy and Plan of Action for Sharks and Rays in Bangladesh* and CITES Non-Detriment Findings.

S#	Designation	Ministry/Agency	Name	Representation
1	Honourable Minister <i>Chief Guest</i>	Ministry of Environment, Forests, and Climate Change (MoEFCC)	Md. Shahab Uddin, MP	Ministries (14)
2	Secretary <i>Chair</i>		Dr. Farhina Ahmed	
3	Additional Secretary (Admin) <i>Special Guest</i>		Iqbal Abdullah Harun	
4	Joint Secretary (Development Wing)		Zakia Afroz	
5	Joint Secretary (Admin)		Shamima Begum	
6	Joint Secretary (Climate Change-1)		Kazi Abu Taher	
7	Deputy Secretary (Forest-1)		Mohammad Barad Hossain Chowdhury	
8	Deputy Secretary (Law-2), Law (Additional Charge)		AKM Tareque	
9	Deputy Secretary (Plan-4)		Shahanara Begum	
10	Deputy Secretary (Development Wing)		Abu Nasar Uddin	
11	Public Relations Officer		Dipankar Bar	
12	Joint Secretary, Blue Economy, Ministry of Fisheries and Livestock	Ministry of Fisheries and Livestock (MoFL)	Md. Hamidur Rahman	
13	Additional Secretary	Ministry of Commerce	Abdur Rahim Khan	
14	Second Secretary (Transfer pricing & money laundering Tax-24)	National Board of Revenue, Customs	Md. Saifur Rahman	
15	Chief Conservator of Forests <i>Special Guest</i>	Bangladesh Forest Department	Md. Amir Hosain Chowdhury	Bangladesh Forest Department, including SUFAL PMU (16)
16	Deputy Chief Conservator of Forests and Project Director, SUFAL Project		Gobinda Roy	
17	Deputy Chief Conservator of Forests (Planning Wing)		Dr. Md. Zaglul Hossain	
18	Deputy Chief Conservator of Forests (Education and Training Wing)		Md. Moyeenuddin Khan	
19	Conservator of Forests (Wildlife & Nature Conservation Circle)		Dr. Mollah Rezaul Karim	
20	Conservator of Forests (Khulna)		Mihir Kumar Doe	
21	Conservator of Forests (Chittagong)		Bipul Krishna Das	

22	Conservator of Forests (Coastal Circle, Barisal)		Mohammad Harun Ur Rashid Khan	
23	Director, Sheikh Kamal Wildlife Center, Gazipur		Imran Ahmed	
24	Director, Wildlife Crime Control Unit		A.S.M. Jahir Uddin Akon	
25	Conservator of Forests (Admin)		Hossain Mohammad Nishad	
26	Deputy Project Director SUFAL		Md. Abdullah Abraham Hossain	
27	ACCF DP		Dr. Mariam Akhter	
28	Deputy Project Director SUFAL		Sharmin Akter	
29	Assistant Project Director SUFAL		Md. Mehedi Hasan Khan	
30	SUFAL PMU member (Consultant)		Ishtiaq Uddin Ahmad	
31	Director General, DoF	Department of Fisheries (DoF)	Kh. Mahbubul Haque	Department of Fisheries (8)
32	Project Director, Sustainable Coastal and Marine Fisheries (SCMF) Project		Dr. Md. Abdul Alim	
33	Director (Marine), Chattogram		Dr. Sharif Uddin	
34	Assistant Director		Md. Shafaet Alam	
35	Deputy Chief (Marine), Headquarters		Jinat Jahan Barnali	
36	Assistant Director, (Marine), Headquarters		Md. Asaduzzaman	
37	Chief Scientific Officer (Research and Planning)	Bangladesh Fisheries Research Institute (BFRI)	Dr. Md. Zulfikar Ali	
38	Financial Explanator, Planning, Bangladesh Fisheries Development Corporation	Bangladesh Fisheries Development Corporation (BFDC)	Md. Ayub Afnan	
39	Staff Officer (Aviation), Headquarters	Bangladesh Navy	Lieutenant Commander Siam	Law Enforcement agencies (3)
40	Deputy Director, Headquarters	Coast Guard	Commander M. Noor-Uz-Zaman (ND), PPM, PSC, BN (P No. 1460)	
41	Additional Superintendent of Police, LIC, Police Headquarters	Bangladesh Police	Mahbubur Rahman	
42	Senior Environmental Specialist and Co-TTL, SUFAL Project	World Bank	Dr. Istiak Sobhan	Donor
Total Participants				42

Appendix 2.



AGENDA FOR NATIONAL CONSULTATION ON NATIONAL CONSERVATION STRATEGY AND PLAN OF ACTION FOR SHARKS AND RAYS IN BANGLADESH AND CITES NON-DETRIMENT FINDINGS (NDFs)

Date	: Sunday, 19 June 2022
Venue	: Radisson Blu Water Garden, Dhaka.
Chief Guest	: Mr. Md. Shahab Uddin M.P., Honorable Minister, Ministry of Environment, Forest and Climate Change (MoEFCC)
Special Guests	: Mr. Iqbal Abdullah Harun, Additional Secretary (Admin), MoEFCC : Mr. Md. Mizanul Hoque Chowdhury, Additional Secretary (Development Wing), MoEFCC : Mr. Md. Amir Hosain Chowdhury, Chief Conservator of Forests, Forest Department (BFD) : Mr. Kh. Mahbubul Haque, Director General, Department of Fisheries (DoF)
Chair	: Dr. Farhina Ahmed, Secretary, MoEFCC

8:30-9:30 Registration	
Inaugural Session	
9:30	Welcoming words (brief introduction, overview of consultation objectives) — Mr. Gobinda Roy, DCCF and Project Director, SUFAL Project, BFD
9:40	Improving shark and ray conservation management in Bangladesh through collaborative action: Keynote speech by Elisabeth Fahrni Mansur, Senior Manager Marine Conservation Program, Wildlife Conservation Society (WCS) Bangladesh, Regional Vice-Chair IUCN Shark Specialist Group
10:00	Speech by Special Guest Mr. Kh. Mahbubul Haque, Director General, DoF
10:10	Speech by Special Guest Mr. Md. Amir Hosain Chowdhury, Chief Conservator of Forests, BFD
10:20	Speech by Special Guest Mr. Md. Mizanul Hoque Chowdhury, Additional Secretary (Development Wing)
10:30	Speech by Special Guest Mr. Iqbal Abdullah Harun, Additional Secretary (Admin), MoEFCC
10:40	Address by Chief Guest Mr. Md. Shahab Uddin, M.P., Honorable Minister, MoEFCC
10:50	Address by Chair Dr. Farhina Ahmed, Secretary, MoEFCC
11:00	Tea Break
Technical Session	
(10 minutes presentations and 5 minutes Q&A, moderated by Dr. Syed Arif Azad, former DG DoF/Advisor, WCS)	
11:30	CITES Non-Detriment Finding (NDF) assessment process and resulting recommendations – Presented by Elisabeth Fahrni Mansur, Team leader SUFAL Shark and Ray consultancy assignment, WCS
11:50	Vision, goal, and objectives of the NCS/NPoA-Sharks and Rays in Bangladesh – Presented by Mr. Gobinda Roy, DCCF and Project Director, SUFAL Project
12:05	Actions to strengthen legal protection for threatened sharks and rays and enforcement of national laws and rules – Presented by Mr. Md. Abdullah Abraham Hossain, Deputy Project Director, SUFAL Project
12:20	Actions to engage fishing communities in shark and ray protection – Presented by Dr. Md. Abdul Alim, Project Director, Sustainable Coastal and Marine Fisheries Project, DoF
12:35	Actions to improve monitoring and reporting of shark and ray fisheries and trade – Presented by Dr. Sharif Uddin Director (Marine), DoF
12:50	Actions to reduce mortalities of threatened shark and ray species and protect priority shark and ray habitat – Presented by Mr. Imran Ahmed, Conservator of Forest and Director, Sheikh Kamal Wildlife Centre, BFD
13:05	Summary of revisions and adjustments proposed by participants – Presented by Dr. Syed Arif Azad, Senior Advisor to WCS
Next steps and closing	
13:15	Next Steps for Government endorsement of NCS/NPoA-Sharks and Rays by Mr. Md. Amir Hosain Chowdhury, Chief Conservator of Forests, BFD
13:30	Closing remarks on next steps to endorse and implement NCS/NPoA-Sharks and Rays by Chair Dr. Farhina Ahmed, Secretary MoEFCC
13:45	Lunch — End of consultation workshop

Appendix 3. Overview of communications between WCS and Government agencies aimed to strengthen collaborations with the Bangladesh Forest Department under the SUFAL shark and ray assignment from January – June 2022.

Date	Agency/Department	Name(s) of Officer(s)	Request/Action
1 January	Manager, Bangladesh Fisheries Development Corporation (BFDC) Pathorghata	Lieutenant Luffor	Verification of strictly protected Sharpnose guitarfish identified by WCS from pictures sent via WhatsApp.
3 January	Manager, BFDC Pathorghata	Lieutenant Luffor	Verification of WA II listed Whitenose whipsrays identified by WCS from pictures sent via WhatsApp.
16 January	Manager, BFDC Pathorghata	Lieutenant Luffor	Verification of strictly protected Giant freshwater whipsray identified by WCS from pictures sent via WhatsApp.
8-10/13-15 February	BFD, DoF/MFSMU, BFRI, National Universities	22 participants	NDF development training workshops (Chattogram/Dhaka)
14 February	Inspector, Wildlife Crime Control Unit (WCCU), BFD	Ashim Mollick	Identification of dried fins from strictly protected Pigeye, Bull, and Scalloped hammerhead sharks, and dried skins from strictly protected Bleeker's whipsray and guitarfishes confirmed by WCS from pictures sent via WhatsApp, leading to seizure of 160 kg dried shark and ray products. Trader was warned.
14 February	Inspector, Fish Inspection and Quality Control (FIQC) Chattogram, DoF	Aminul Islam	Verification of protected species and their parts (including fins from whale shark and sawfish) by WCS from online traders Facebook page. Trader was warned.
17 February	BFD, DoF, BFRI, Customs, National Universities	30 participants	NDF Validation Workshop at BFD Headquarters in Dhaka
28 February	Wildlife Advisory Board		Approval of NDF assessments for submission to CITES Secretariat
8 March	Inspector, WCCU, BFD	Abdullah As Sadik	Identification of WAII listed Honeycomb whipsray confirmed by WCS from pictures sent via WhatsApp, leading to seizure of four specimens (total weight 157.50 kg) and a case filed against two offenders.
17 March	BFD Range officer, Pathorghata	Md. Monirul Haque	After WCS received news of non-protected shark species being

			seized, the range officer was requested to verify species identification and protection status before taking action.
18 March	ACF and Biodiversity Officer BFD, Cox's Bazar	Anisul Islam and Israt Jahan	Identification tools and educational outreach materials requested.
19 March	Manager, BFDC Cox's Bazar	Ehsanul Haque	After WCS was informed about misinformed notification displayed at landing site, official notification was sent to be displayed and communicated.
28 March	Inspector, WCCU, BFD	Ashim Mollick	Educational outreach materials requested.
6 April	3 rd meeting of NPOA-Working Group (11 participants)	DoF, MFSMU, BFD, BFDC, MoFL, BFRI, WCS	Unanimous decision to pursue single NCS/NPOA document to be prepared by designated subgroup (DoF/BFD/WCS).
24 April	Virtual meeting of designated subgroup of NPOA-Working Group	Deputy Chief, Director and Assistant Director (Marine), DoF, WCS	Review of priority actions to achieve strategic objectives in draft NCS/NPOA.
27 April	Inspector, WCCU, BFD	Ashim Mollick	Official invitation to enable attendance at educational outreach events requested.
19 May	Inspector, WCCU, BFD	Abdullah As Sadik	Information about protected shark and ray species requested.
22 May	World Bank Implementation Support Mission for the SUFAL Project	World Bank and SUFAL PMU representatives	Presentation on progress of SUFAL shark and ray consultancy assignment provided by WCS.
23 May	Meeting with DoF	Deputy Chief, Assistant Director (Marine), DoF, WCS	Discussion on draft NCS/NPOA and preparations for 3 rd National Consultation.
26 May	Virtual meeting of designated subgroup members from NPOA-Working Group	Deputy Chief, Assistant Director (Marine) DoF, Conservator of Forests (Wildlife Circle) BFD, WCS	Finalized draft NCS/NPOA for comments from NPOA-working group, national experts, and preparations for 3 rd National Consultation
27 May	BFD Biodiversity Officer, Chattogram	Dipannita Bhattacharjee	Verification of WA II listed Round whiplay identified by WCS from pictures sent via WhatsApp.
31 May	4 th meeting of the National Plan of Action (NPOA-)-Sharks working group (12 participants)	DG DoF (Chair), DoF, MoFL, BFD, BFDC, SAU, IUCN-BD, WCS-BD	Consensus on draft NCS/NPOA for presentation to MoEFCC and MoFL in 3 rd National Consultation
19 June	3 rd National Consultation on NCS/NPOA and NDFs (42 participants)	Details on participants provided in Appendix 1.	Presented and discussed draft NCS/NPOA and NDFs for government endorsement. Agenda provided in Appendix 2.

