



Sustainable Forests & Livelihoods (SUFAL) Project

Report on the Technical training workshops on shark and ray data collection and monitoring for field and mid-level government officers

November 2021



Bangladesh Forest Department
Ministry of Environment, Forest and Climate Change

Report on Technical training workshops on shark and ray data collection and monitoring for field and mid-level government officers

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Acronyms and Abbreviations

ACF	Assistant Conservator of Forest
BFD	Bangladesh Forest Department
BFDC	Bangladesh Fisheries Development Corporation
BFRI	Bangladesh Fisheries Research Institute
CF	Conservator of Forest
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DG	Director General
DFO	Divisional Forest Officer
DoF	Department of Fisheries
EEZ	Exclusive Economic Zone
GPS	Geographic Information System
IUCN	International Union for Conservation of Nature
MFSMU	Marine Fisheries Survey Management Unit
MoEFCC	Ministry of Environment, Forest, and Climate Change
MoFL	Ministry of Fisheries and Livestock
MPA	Marine Protected Area
NDF	Non-Detriment Finding
SOP	Standard Operating Procedure
SUFAL	Sustainable Forests and Livelihoods Project
WCCU	Wildlife Crime Control Unit
WCS	Wildlife Conservation Society

Background

The consultancy assignment *Shark and Ray and Associated Species Conservation Strategy Development and Non-Detriment Findings* contributes to the *Sustainable Forests and Livelihoods (SUFAL) Project* implemented by the Bangladesh Forest Department (BFD). The objectives of this assignment are to make major contributions towards (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 (DoF) regarding shark and ray conservation.

On 22 September 2021, the official gazette notification for the amended list of sharks and rays protected under the Wildlife (Conservation and Security) Act, 2012 was published. The updated list strictly protects eight genera and 23 shark and ray species under Schedule I, while allowing the sustainable exploitation, consumption, and trade of one genus and 29 species under Schedule II.

The gazette notification coincided with an improved Covid-19 situation, enabling in-person trainings to strengthen the technical capacity of government officers and citizen scientists to identify and monitor legally regulated shark and ray species at landing and in trade, and support raising awareness about and enforcing of the amended listing. The participatory and collaborative training workshops also helped ensure that the technical capacity to sustain project objectives after completion of the SUFAL assignment is in place.

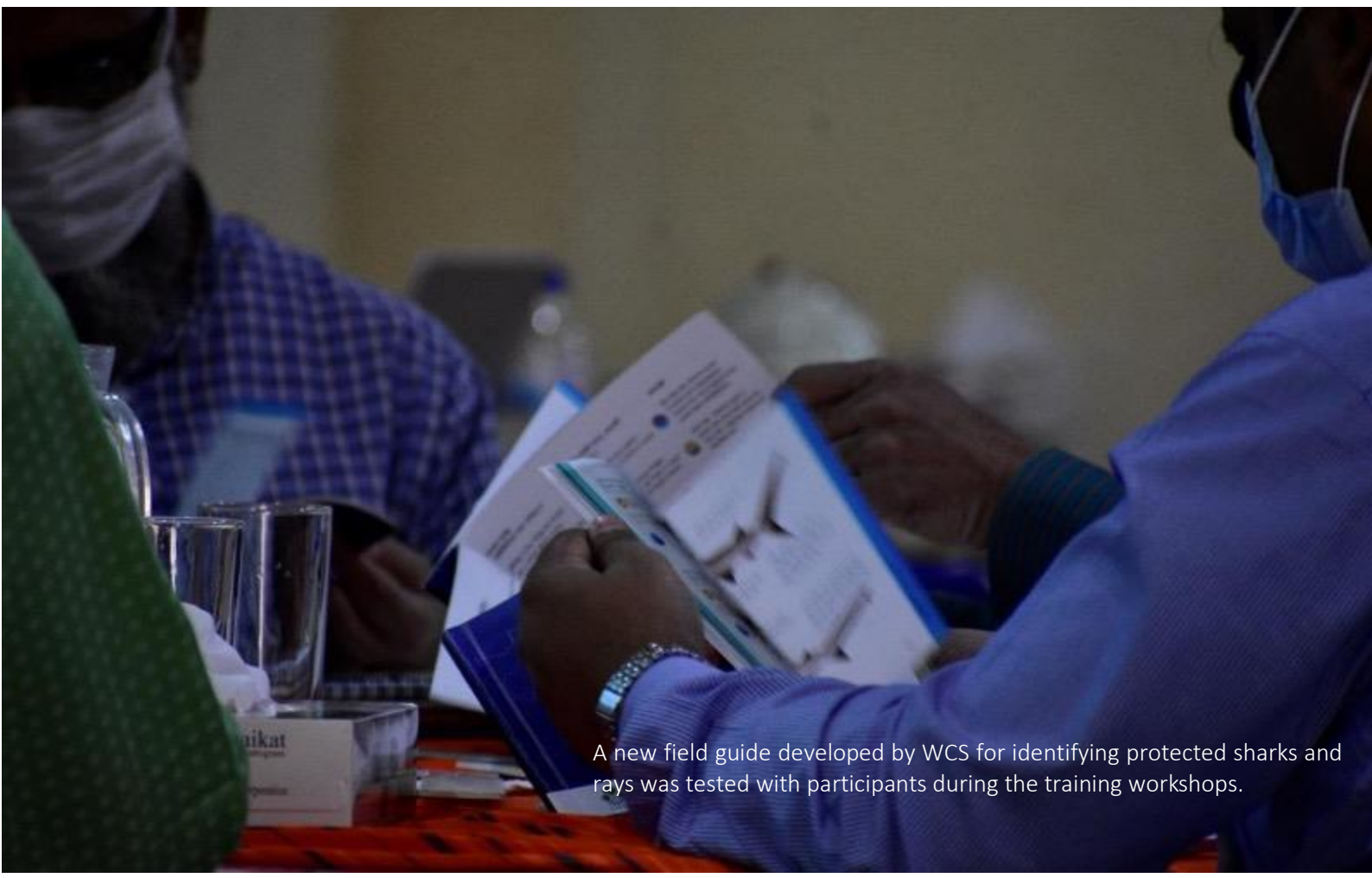
This report includes the proceedings of the four technical training workshops conducted by WCS under the SUFAL shark and ray assignment in October/November 2021 in Chattogram and Khulna, results from the impact assessment, and an overview of follow-up mentoring provided to participants by WCS shark and ray experts. The detailed lesson plans serve as guidance for replicating these trainings and further strengthening technical capacity among government and community stakeholders for communicating, monitoring, and enforcing species protection and trade regulations for sharks and rays in Bangladesh.

Training objectives and organization

The primary goal of the training workshops was to strengthen the technical capacity and coordination among government and community stakeholders for the conservation management of sharks and rays in Bangladesh. More specifically, the technical trainings aimed to empower mid-level government officials to collect rigorous scientific data and monitor landings and trade in protected sharks and rays, detect and confiscate illegal shark and ray products, and develop legal cases for the successful prosecution of illegal shark and ray trading. The training workshop agenda is provided in Appendix 1.

The trainings for field-level officers and citizen scientists focused on the identification of legally protected sharks and rays, with additional topics covered on collecting data on catch/landing numbers, sizes, weights, lengths, economic value, and gear type responsible for the catch, and on the safe release of legally protected sharks and rays, the use of a GPS for collecting information on the locations of fishing gear deployment and retrieval, and safe navigation during hazardous weather conditions. The agenda is provided in Appendix 2.

A total of 95 participants and guests completed the four intensive two-day technical training workshops. Twenty mid-level officers and 29 field-level officers and citizen scientists engaged in the WCS *Citizen Scientist Landing Data Collection Network* participated in the two trainings conducted between 24 - 28 October 2021 in the 'Parjatan Motel Shaikat' in Chattogram, and 20 mid-level officers and 26 field-level officers and members of the WCS citizen science network in the two training workshops arranged between 31 October - 3 November in the CSS AVA Center in Khulna. Participant details are provided in Appendix 3.



A new field guide developed by WCS for identifying protected sharks and rays was tested with participants during the training workshops.

Most participating officers from the BFD, DoF, Bangladesh Fisheries Research Institute (BFRI), Bangladesh Fisheries Development Corporation (BFDC), and Customs were informed by their supervisors before being nominated, while about 20% were nominated without their prior consent. Ninety percent of the participants indicated having received timely information about workshop arrangements.

In the training venues, seating arrangements were organized to maximize the distance between participants for reducing risks of Covid-19 infection. All participants, guests, facilitators, and service personnel were provided with a reusable facemask and requested to wear it properly. Participants were requested to sit at tables with officers from other agencies to enhance interagency and interpersonal relations. This mixed seating was particularly appreciated by those who had not previously met officers from other agencies posted in their locality. It also enabled WCS training facilitators to move easily between tables during training activities (Figure 1).



Figure 1. Intermixed seating arrangement at the workshops ensured interactions between participants.

In support of the trainings, WCS produced field-testing versions of a user-friendly manual in simple Bengali language with Standard Operating Procedures (SOP) for shark and ray data collection and an illustrated field guide for identifying CITES-listed sharks and rays and species protected under Schedule I and II listing in the Wildlife (Conservation and Security) Act, 2012 from carcasses and commonly traded body parts. Both tools will be refined based on experiences gained during the trainings.

Elements from the mobile educational outreach exhibition *Ocean Guardians: Protecting Threatened Sharks and Rays* developed by WCS for mass awareness events to be conducted under the SUFAL shark and ray assignment were incorporated in the sessions. These included life-size models, gameboards, and infographics (Figure 2).



Figure 2. An array of supporting tools enhanced the trainings, including exhibition elements.

At the time of registration, all participants were given field-testing versions of the *Identification Guide to Protected Sharks and Rays of Bangladesh* and the SOP for data collection on sharks and rays landed from small-scale fisheries, along with a notebook, pen, and educational outreach publications. Once seated, everyone was requested to complete a pre-training assessment consisting of seven questions based on which changes in knowledge gained through the training were evaluated (see section on impact assessment below). To provide participants with context, the documentary film *Protecting Threatened Sharks and Rays in Bangladesh* produced by WCS was screened before the inaugural session.

Inaugural Session

Elisabeth Fahrni Mansur, WCS Senior Manager of the WCS Bangladesh Marine Conservation Program, Team Leader of the SUFAL Shark and Ray Assignment, and IUCN Shark Specialist Group Vice-Chair for the Indian Ocean Region, welcomed all guests and participants. She provided a brief overview of the SUFAL Shark and Ray Assignment, the objectives of the training workshop, and the ground rules for respectful and inclusive discussions.

For introductions, guests, participants, and facilitators recounted memorable encounter with sharks or rays. These included memorable sightings of large manta rays, freshwater whiprays, and whale sharks at local landing sites, large numbers of small specimens at fish processing centers or local markets, encounters with live sharks and rays in aquariums, and rays scuttling ashore in a Sundarbans mangrove channel after fishers had poured poison into the water.

Each workshop was inaugurated with brief welcoming words from a representative of the BFD and the DoF. In the first workshop held from 24-25 October 2021 in Chattogram, A.S.M Jahir Uddin Akon, Director of the BFD Wildlife Crime Control Unit (WCCU), thanked the participating mid-level Government officers on behalf of the BFD for joining, and commended WCS for the

arrangements made under the SUFAL project. He hoped that with technical support from WCS, the WCCU would be enabled to implement regulations protecting globally threatened sharks and rays. He emphasizes that implementation of the Wildlife Act required collaboration across agencies and must include civil society. He encouraged participants to apply their newly acquired knowledge and skills (Figure 3, left).



Figure 3. BFD representatives A.S.M Jahir Uddin Akon (left), Mollah Rezaul Karim (center) and Dr. Farhana Rahman (right) welcomed participants in the opening sessions.

Md. Golam Kibria, Principal Scientific Officer in the Marine Fisheries Survey Management Unit (MFSMU) of the DoF stated that the DoF must engage in the conservation management of sharks and rays and hoped that participants would learn the necessary skills.

In his inaugural speech at the second workshop held from 27-28 October 2021 in Chattogram, Mollah Rezaul Karim, Conservator of Forests of the Wildlife and Nature Conservation Circle (Figure 3, center) explained that wildlife does not only include tigers, elephants, birds, or other forest creatures, but also animals that live in water. He thanked WCS for arranging this timely training opportunity under the SUFAL project and cheered participants to learn what was needed to work for conserving sharks and rays. Md. Abdur Rouf, Deputy Director of the DoF's Marine Fisheries Office in Chattogram expressed his delight in the participants' experience with sharks and rays. He stressed that although their habitat differs, sharks and rays are wildlife in need of protection. He recommended that the DoF and BFD work together and ended with best wishes for a successful training workshop.

The third training workshop held from 31 October-1 November 2021 in Khulna was inaugurated by Dr. Farhana Rahman (Figure 3, right), epidemiologist at the BFD's Sheikh Kamal Wildlife Center, on behalf of SUFAL. She wished for a successful workshop and added that although it was being conducted under the SUFAL project of the BFD, the DoF had been actively involved in the shark and ray assignment since its inception. Dr. Muhammad Tanvir Hossain Chowdhury, Deputy Chief (Marine Wing) of the DoF said in his opening words that it was time for the DoF and the BFD to collaborate effectively protecting threatened sharks, rays, and associated marine wildlife.

A.S.M Jahir Uddin Akon also inaugurated the fourth training workshop conducted from 2-3 November 2021 in Khulna. He said that the government enacted the Wildlife Act in 2012 to conserve the country's wildlife and that the list of shark and ray species amended in September would play an important role in their conservation management. Mr. Akon urged everyone to contribute in creating awareness among fishery stakeholders to encourage compliance. S. M. Hasan Ali, Assistant Director of the DoF, stated in his opening words that sharks and rays were important among the 465 species of marine fish species in Bangladesh and that legislation safeguarding endangered species needed to be enforced. He urged participants to work together for making people aware of the BFD and DoF efforts.

Lesson plans and training methods

Four training modules and a facilitated discussion in working groups were covered in the two-day training workshops. Lesson plans for each session under the modules were developed following basic pedagogic principles (Appendix 4). For maximizing knowledge retention and motivation to engage and apply newly attained skills, sessions were gamified and included many hands-on learning opportunities. The training programs included an early morning visit to a local fish landing site (Figure 4). Due to the coinciding 22-day long ban on fishing, during which official landing sites remain closed, unfortunately only participants in the Khulna workshops got an opportunity to put their newly acquired species identification and data recording skills to the test.



Figure 4. Participants in Khulna visited the Rupsa fish landing center as part of the training.

Technical Workshop Proceedings

Module 1: What do we know about sharks and rays in Bangladesh?

Session 1a: Current knowledge on sharks and rays in Bangladesh and threats to their survival

Learning objectives of this module were to enable participants to (a) differentiate sharks and rays from other marine wildlife, bony fishes, and from each other, (b) relate basic shark and ray biology and ecology, including where and how sharks and rays live, eat and reproduce, and the names of their body parts used for identification, and (c) understand that two-thirds of all shark and ray species known or suspected to occur in Bangladesh are threatened with extinction from overfishing driven by the national and international demand for their parts.

Differentiating sharks and rays from other marine wildlife, bony fishes, and from each other

WCS Educational Outreach Program Coordinator Nadim Parves introduced the basic physical characteristics of sharks and rays so that participants gained a clear understanding of how sharks and rays differ from other animal groups, marine mammals, and bony fishes (Figure 5). Following each characteristic described by the facilitator, participants were tasked with separating all shark and ray images from 20 animal photographs laid out on each table.



Figure 5. Participants learned to distinguish sharks and rays based on their characteristic features.

Basic shark and ray biology and ecology

Participants were divided into three groups that rotated between facilitators who introduced shark and ray body parts, their functions, and how to recognize female and male specimens, the ecological vulnerability of most sharks and rays due to their slow growth, late maturity, and low number of offspring, and the important role of sharks and rays in maintaining productive ecosystems (Figure 6). They were also familiarized with the symbols used in the *Identification Guide to Protected Sharks and Rays of Bangladesh* representing their habitats.



Figure 6. WCS facilitators provided participants with a brief introduction to shark and ray biology and ecology using images, samples, and informative exhibits.

Status, threats, and governance of sharks and rays in Bangladesh

Baseline information on the status, threats, and governance of sharks and rays in Bangladesh presented in the *Shark and Ray Assessment Report* prepared by WCS under the SUFAL shark and ray assignment was presented to participants, highlighting the complexity of shark and ray fishery in Bangladesh in terms of targeted and non-targeted catches according to gear types and catches as well as spatial and temporal differences recorded by coastal small-scale fishers participating in the *WCS Citizen Science Fishermen Safety Network*, and landing records collected daily by WCS citizen scientists from coastal fish landing centers. Participants learned that Bangladesh is a stronghold for several Critically Endangered and Endangered shark and ray species in urgent need of conservation management, including sawfish, great and scalloped hammerhead sharks, giant and sharpnose guitarfish, ocellate eagle rays, giant devil rays, and giant freshwater whiprays. High demand from largely unmonitored domestic and international trade in their parts drives fishers in Bangladesh to retain all sharks and rays caught, leading to overfishing of species at high risk of extinction. Shark and ray species habitat preference models and bycatch risk assessments prepared by WCS to inform marine spatial plans and protected area management were presented as science-based approaches for sustaining fisheries and providing spatial protection for threatened sharks, rays, and associated marine wildlife in Bangladesh.

Session 1b: Legal Protection of sharks and rays - National and international laws protecting threatened sharks and rays and regulating their trade

The learning objectives were for participants to (a) understand that the IUCN Global Red List indicates the conservation status of all species assessed, (b) recognize that the Bangladesh Wildlife (Conservation and Security) Act 2012 aims to protect globally threatened species by prohibiting (Schedule I) or regulating (Schedule II) permissible killing, landing, and trading, (c) understand that as a party to the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES), Bangladesh has committed to protect species regulated for international trade, (d) recognize protected species by characteristic features that resemble

everyday tools, and (e) understand that Marine Protected Areas (MPAs) in Bangladesh cover priority shark and ray habitats and aim to protect threatened species and sustain fisheries.

Species status as per Global IUCN Red List, Bangladesh Wildlife Act, and CITES

Participants were shown the introductory movie '[The IUCN Red List - A Barometer of Life](#)', to explain the significance of the IUCN Global Red List, in which species are assessed every 10 years to determine their extinction risk. They were informed about the Bangladesh Wildlife (Conservation and Security) Act 2012, which provides legal protection to globally threatened species, including sharks and rays, by prohibiting (Schedule I) or regulating (Schedule II) permissible killing, landing, and trading, including for species in which international trade is regulated under CITES. Participants learned to interpret the symbols used in the *Identification Guide to Protected Sharks and Rays of Bangladesh* to indicate the species status according to the IUCN Global Red List, the Bangladesh Wildlife Act, and CITES. To test their understanding, images of shark and ray species were shown for which they had to state the IUCN Global Red List, Wildlife Act, and CITES status.

Module 2 - How can I tell which sharks and rays are legally regulated?

Session 2a: Release or retain? – Practicing the use of the identification guide for protected sharks and rays in Bangladesh (Full body section)

The learning objectives of this session was for participants to recognize strictly protected species from characteristic visual features to use the identification guide for determining their conservation and protection status.

Identifying species protected under Schedule I of the Wildlife Act

Sets of common tools were placed on each table before the session (Figure 7). Participants were shown photographs of strictly protected species, namely hammerhead, thresher, and mako sharks, sawfish, rhino rays and devil rays. The visible features and characteristics unique to these species or genera were described. Participants were then asked to find the tool that resembled the species or species group being shown. They were very receptive to this teaching approach and matched all tools and species correctly. Once participants were confident in identifying strictly protected species, recognizable characteristic features of species or species groups regulated for catch and trade under the Schedule II of the Wildlife Act were introduced.

Identifying species protected under Schedule II of the Wildlife Act

The next step was a bit more challenging. Participants learned to recognize species and species groups protected under Schedule II of the Wildlife Act. But with the help of the field guide most managed to differentiate even the similar looking whipray and shark species.

The newly acquired knowledge about protected species was put to the test in a friendly competition between tables. Ten photographs of shark and ray species from landing sites were provided to each table, and the team to first separate all the legally protected specimens correctly was pronounced as the winner. Firstly, they were asked to find the strictly protected shark and ray species based on their distinguishing characteristics. All teams completed the

task correctly, and most were also able to identify the species regulated under Schedule II. Some enthusiast teams went on to identify specimens shown in the images to the species level, showing high confidence in their use of the field guide.



Figure 7. The use of tools representing characteristic features of strictly protected sharks and rays enhance the ability to recognize them at landing.

Session 2b: Safe release of protected sharks and rays at sea

The objective of this session was for participants to learn and be able to instruct others on how to release sharks and rays at sea while keeping themselves and the animals unharmed.

Using life-size models of a tiger shark and a sharpnose guitarfish, WCS facilitators demonstrated the important steps for releasing sharks and rays entangled in fishing gear. Following their example, participants were invited to come forward and disentangle the models and stage their safe release. Participants greatly enjoyed this session as an opportune photo moment with the attractive models (Figure 8).



Figure 8. Participants practiced the correct handling and release of protected sharks and guitarfish.

Session 2c: Identifying protected sharks and rays from commonly traded body parts

This session aimed to enable participants to recognize and identify commonly traded parts of protected sharks and rays.

Specimens of commonly traded shark and ray body parts were provided, including dried fins, gill plates, and ray skins (Figure 9). Participants learned to recognize dried gill plates of mobulid rays, which are highly valued in international trade and illegal in Bangladesh due to all mobulid rays being listed under Schedule I of the Bangladesh Wildlife Act and regulated under CITES Appendix II.

Participants were shown how to distinguish dorsal, pectoral, and tail fins of sharks and rays based on their coloration and shape. The trainees learned to recognize the dried fins of strictly protected rhino rays from their glossy shine, golden color, and enlarged denticles. Using the identification guide, they were also enabled to differentiate fin sets from protected shark species. Participants also learned to identify dried skins from protected sting- and whipray species by using a pearl-code provided in the field guide developed by WCS.



Figure 9. With dried specimens and the identification guide developed by WCS, participant learned to recognize of commonly traded fins, gill plates, and skins of protected sharks and rays.

Module 3 - How to measure and record information on sharks and rays?

The objective of this module was to enable participants to systematically collect data on shark and ray catches or landings.

Divided into three groups, participants rotated between facilitators for demonstrations and hands-on training on how to correctly determine the size, weight, sex, and level of maturity of shark and ray specimens using basic equipment and tools, take the photographs necessary to

verify species identifications, identify fishing gears in which they were caught, and record the collected data according to the SOP for shark and ray data collection (Figure 10).

Field-level officers and landing site data collectors engaged as citizen scientists by WCS were also given a refresher training on basic functions and the use of a geographic information system (GPS) device. After the basic concept of latitude and longitude and how a GPS gets location information were explained, the facilitator reminded them about the functions of different buttons, how to change the batteries, view maps and change between pages, set and navigate to destinations using the track back function, and record waypoints.

With instructions on how to safely store and transfer data records to avoid loss of valuable information, the first day of the technical training workshop was concluded.



Figure 10. Through hands-on training in small groups, participants learned to systematically record data on sharks and rays in catches and at landing.

Module 4: Detecting, investigating, and reporting illegal trade in sharks and rays

Learning objectives of this module were for mid-level officers to (a) gather legitimate intelligence regarding illegally traded shark and ray parts, and (b) prepare a wildlife crime report.

To exemplify basic investigation and detection approaches for illegal trade, participants conducted an online search for shark and ray traders. Using their mobile phones, they searched with the keywords ‘Bangladesh’, ‘Sharks’, ‘Trade’ and were lead to the website <https://fishmawbangladesh.com/>, which features detailed photographs of shark fins. Participants were able to identify fins of Bangladesh Wildlife Act Schedule I and CITES Appendix II listed whale sharks and hammerheads. WCS facilitators emphasized the importance of informing traders about the newly amended law and warning perpetrators before pursuing their prosecution to provide clarity on legal aspects and avoid the trade going underground.

The participants were shown samples of genuine and false CITES export certificates so inspectors could detect fake documentation. Since the rate and success of wildlife crime

prosecution is very low in Bangladesh, workshop participants were given sample cases and crime scenes for learning how to fill out and process a wildlife crime report developed by the BFD WCCU with support from WCS to aid in standardized reporting.

Facilitated discussion on proposed actions for improving the effectiveness of the legal protection of threatened sharks and rays in Bangladesh

In the final session of the training workshop, participants discussed suggested approaches for (a) sharing the newly acquired knowledge with fishers, traders, and consumers or buyer, (b) for motivating them to comply with shark and ray catch and trade rules, and (c) for improving information, inspection, and certification to control trade in shark and ray body parts, in facilitated working groups of 6-8 persons.

Specific questions addressed by the working groups were -

- a) *What incentives could work to make shark and ray traders compliant with the Wildlife Act?*
- b) *What approaches could work for getting shark and ray consumers compliant with the Wildlife Act?*
- c) *What approaches could work for sharing knowledge with fishers about protected sharks and rays and motivate their compliance with fishery and wildlife protection regulations?*
- d) *What changes are needed to improve the monitoring and enforcement of shark and ray species protection and trade regulations?*
- e) *What changes are needed to report landing and trade data on priority shark and ray groups in fisheries and export statistics published by the Government?*

A WCS facilitator ensured that everyone understood the question and then requested group members to share their ideas on sticky notes. Participants were asked not to speak or worry about how their ideas would be perceived by others. Those unable to write were assisted by a WCS co-facilitator.



Figure 11. Results from the working groups were presented to the plenum.

After the ten-minute silent brainstorming session, the facilitators read out the ideas to the working group members. In discussion with each other, they sorted the ideas into clusters according to 'Who? What? How? Where? When?'. Facilitators guided working group members to think beyond the boundaries of agencies and identify novel and locally feasible approaches. Many of the resulting recommendations, which were presented by a working group member to the plenum (Figure 11) and are summarized in Appendix 5, overlap with the proposed actions in the first draft of the *National Conservation Strategy and Plan of Action for the Conservation of Sharks and Rays in Bangladesh*. The discussions also yielded some new ideas and suggested approaches or incentives, which will be integrated in the revision.

Closing Session

The closing of the training workshop commenced with a summary of the outcomes by the SUFAL team leader and key experts, followed by closing words from the invited guest participants of the BFD, DoF, and Customs. Participants were presented with a certificate from the guests as a sign of appreciation for their participation and encouragement for implementing the newly acquired learnings (Figure 13).



Figure 12. Group photographs with all participants, guests, and facilitators from workshops in Chittagong (top) and Khulna (bottom).

Acknowledgements and closing words

25 October 2021 (Chattogram)

A.S.M. Jahir Uddin Akon thanked WCS and the SUFAL project for the successful arrangement of the training that enriched participants understanding of sharks and rays in Bangladesh, their legal protection, and enabled them to identify protected species and their body parts as well

as collecting systematic data of landings. He hoped that this event would also help strengthen the collaboration between the DoF, BFD, and Customs, for improving the protection of threatened sharks and rays in Bangladesh.

Md. Golam Kibria, Principle Scientific Officer of the Marine Fisheries Survey Management Unit, expressed his appreciation to SUFAL and WCS for the well organized event. He wished that all DoF officers could receive this training, perhaps even extended by another day, and encouraged participating agencies and their officers to collaborate for improved the monitoring of the trade in shark and ray parts.

Md. Abdul Alim, Deputy Commissioner of the Chattogram Customs House, was grateful to SUFAL and WCS for providing the enriching training. He emphasized that by participating together in such training courses, officers from different agencies could collaboratively strengthen efforts for shark and ray conservation.

28 October 2021 (Chattogram)

Mollah Rezaul Karim, Conservator of Forests, Wildlife and Nature Conservation Circle, hoped that the scope of the participants knowledge has increased after the two-day workshop. He appreciated WCS's excellent work, reiterating that healthy people and a healthy environment needed a healthy ocean. He said that in addition to protecting the mountains and forests, we should protect the sea and not underestimate its contribution to our wellbeing. Wildlife conservation demands everyone's most sincere participation, he said, adding that he hoped everyone enjoyed the program and would share their learnings with others.

1 November 2021 (Khulna)

On closing the training workshop in Khulna, Mollah Rezaul Karim stated that the workshop accomplished two goals, the first being teamwork, and the second the ability will recognize protected sharks and rays. He requested that this training not be restricted to 'pen and paper learning' but that participants take the lead in the field, and that participants inform their coworkers about the importance of conserving sharks and rays.

3 November 2021 (Khulna)

Nirmal Kumar Paul, Divisional Forest Officer of the Wildlife Management and Nature Conservation Division in Khulna, congratulated all the participants for joining this training workshop funded by Forest Department's SUFAL project and implemented by WCS. He explained that we must protect the sea and its animals and enforce national law. He requested attendees to inform their colleagues about their learnings to move forward with actions.

Raj Kumar Biswas, Assistant Director of the DoF Deputy Director's office in the Khulna Division, thanked participants for attending and stated that this program was the greatest of all the wildlife training he had ever attended. He noted that no one used their mobile phones because the training activities were so beautiful. His request was that WCS train all DoF and BFD personnel in every district.

Impact assessment of training workshop

WCS assessed the effectiveness of the technical trainings based on the changes in answers to seven questions completed by 54 field and 39 mid-level officers from the BFD, DoF, Customs, and members of WCS citizen science network before and after the workshop.

The questions addressed key topics covered in the training sessions, including the conservation status of sharks and rays, laws and regulations for their protection, visual recognition of strictly protected species, data collection and safe release procedures. Multiple choice or true/false options were provided on a printed questionnaire in Bangla (provided as Appendix 6) for the following questions:

Q1. Why do sharks and rays need to be protected?

Q2. Which law protects sharks and ray in Bangladesh?

Q3. Who should follow the national regulation of shark and ray conservation?

Q4. From which department must traders obtain permission to trade species listed under Schedule II of the Bangladesh Wildlife Act?

Q5. Which object matches which strictly protected species group?

Q6. Which of these tools are not needed for collecting data on sharks and rays?

Q7. What steps make releasing a shark at sea safe for the animal and people (true/false)?

Changes in pre-existing to post-training knowledge for each question (Q1-7) are shown in Figure 14. Results show that participants started out with a good level of knowledge, scoring 76% overall in the pre-training assessment. The trainings achieved a knowledge increase of 17% overall, with a remaining knowledge gap of 7%.

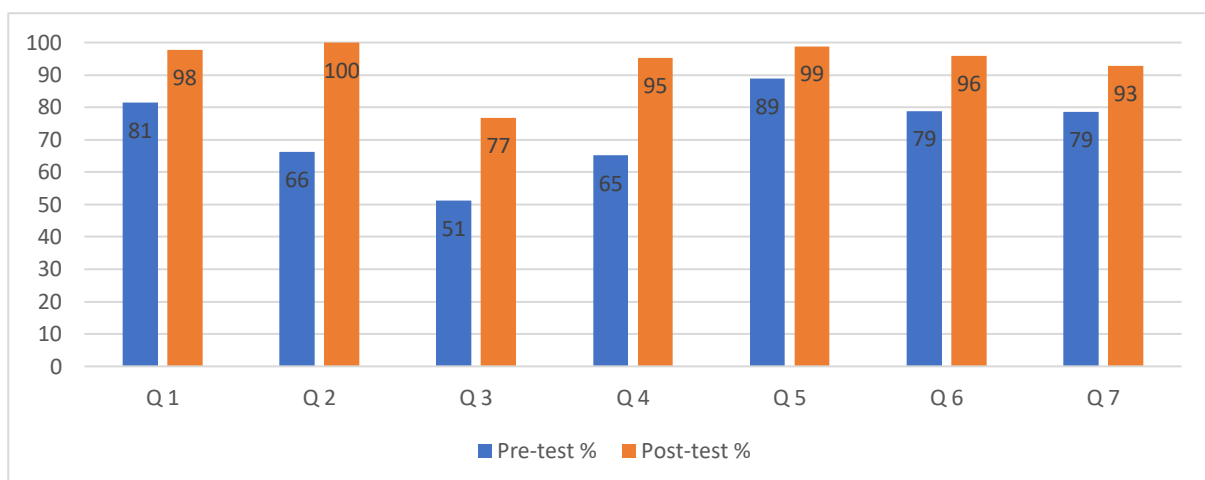


Figure 13. Knowledge levels of workshop participants assessed before (blue) and after (orange) the training show an overall positive change of 17% across participants.

The most significant change (+66%) was achieved in informing participants about the legal protection of threatened sharks and rays under the Wildlife Act, which about a third of the participants (34%) were unaware of before the workshop. Only about half of the participants (51%) knew beforehand that as a national law it applies to every person in Bangladesh. But recognition of the BFD as national CITES authority to issue trade permits for protected species remained largely unchanged and low.

Eighty-one percent of the participants already knew why threatened sharks and rays need conservation attention, and that realization increased by a further 16% after the training. Even before the training, 89% of the participants were able to match shark and ray species groups regulated under CITES with common tools representing their characteristic feature. Almost all participants (99%) did this correctly after the training. There were only slight increases in participants knowledge about what equipment is required for collecting data on sharks and rays (17%) and on how to safely release them at sea (14%).

This impact assessment indicates that there is overall a low level of awareness about the Wildlife Act even among Government officers. The suggestion from training participants that the BFD should proactively communicate regulations about sharks and rays with other relevant Government agencies and the public to increase knowledge about and compliance with national species protection and enable the enforcement thereof is therefore valid.

WCS also requested feedback from participants on the training methods they liked most. As was to be expected, the visit to a fish landing site was ranked as most enjoyable (70%). The majority appreciated the instructional presentations (69%), facilitated working groups (67%), and the practical training sessions (66%). All respondents recommended this training program for their colleagues, especially for DoF and BFD officers, to increase their capacity for identifying protected sharks and rays, systematically collect data on landings, and effectively combat illegal trade in their parts.

Post-Training Mentoring

WCS followed up with most trainees from all four workshops through mentoring calls to reinforce lessons learned, answer questions on shark and ray related issues, and solicit feedback to improve future training and mentoring activities. The mentoring calls conducted between October and December 2021 and topics discussed are presented in Appendix 7. Additional calls were conducted in January, particularly with BFD officers who were less responsive to first calls. WCS will provide additional educational outreach materials to those trainees requesting them and inform them about upcoming awareness raising events in their proximity so that they can extend the invitation to their constituencies. Mentoring calls will continue in the next phase to enhance the positive outcomes and impacts of the technical trainings on shark and ray data collection and monitoring.

Appendix 1. Agenda for intensive two-day technical training workshops on identifying protected sharks and rays, standard operating procedures for data collection on protected sharks and rays, and prosecuting illegal shark and ray traders for mid-level officers conducted in Chattogram (24 - 25 October 2021) and Khulna (31 October – 1 November 2021).

Day 1

<i>Time</i>	<i>Objective/Content</i>
09:00	Registration
Inaugural Session	
09:30	"Protecting Threatened Sharks and Rays in Bangladesh" – screening of WCS documentary film
09:45	Welcome and introductions
09:55	Guest speeches
10:15	Training workshop overview: objectives, activities, logistics
10:20	Tea break
1st Session - What do we know about sharks and rays in Bangladesh?	
10:50	Current knowledge on sharks and rays in Bangladesh and threats to their survival
2nd Session - How can I tell which sharks and rays are legally regulated?	
11:30	Legal protection of sharks and rays – National and international laws regulating catch and trade
12:10	Release or retain? – Identifying protected species
12:55	Lunch and prayer break
14:00	Safe release of protected marine wildlife at sea
14:35	Identifying protected sharks and rays from commonly traded body parts
3rd Session – How to measure and record information on sharks and rays?	
15:35	Using standard operating procedures (SOP) for recording shark and ray catches and landings
17:10	Recap of the day, instructions for visit to landing site and closing remarks
17:20	Refreshments - End of Day 1

Day 2

<i>Time</i>	<i>Objective/Content</i>
4th Session – Visit to fish landing site for collecting data on sharks and rays	
07:00	Practical session on applying the SOP for systematic data collection on shark and ray landings
09:00	Breakfast
10:00	Addressing challenges encountered while collecting and reporting landing data
10:45	Detecting, investigating, and reporting illegal trade in sharks and rays
11:25	Tea break
11:55	"Ocean Guardians: Protecting Threatened Sharks and Rays in Bangladesh" – a guided tour of the interactive educational exhibition developed by WCS
12:55	Lunch and prayer break
5th Session – Improving effectiveness of protection for threatened sharks and rays in Bangladesh	
14:00	Facilitated discussion on suggested approaches and measures to improve the compliance of fishers, traders and consumers/buyers on shark and ray catch and trade rules
14:45	Assessment of training workshop effectiveness with individual evaluation
Closing Session	
15:00	Summary and closing of training workshop
15:10	Certificate, Group Photo

Appendix 2. Agenda for intensive two-day technical training workshops on standard operating procedures for data collection on protected sharks and rays and their safe release at sea for field-level officers and citizen scientists conducted in Chattogram (27-28 October 2021) and Khulna (2-3 November 2021).

Day 1

<i>Time</i>	<i>Objective/Content</i>
09:00	Registration
Inaugural Session	
09:30	"Protecting Threatened Sharks and Rays in Bangladesh" – screening of WCS documentary film
09:45	Welcome and introductions
09:55	Guest speeches
10:15	Training workshop overview: objectives, activities, logistics
10:20	Tea break
1st Session - What do we know about sharks and rays in Bangladesh?	
10:50	Current knowledge on sharks and rays in Bangladesh and threats to their survival
2nd Session - How can I tell which sharks and rays are legally regulated?	
11:30	Legal protection of sharks and rays – National and international laws regulating catch and trade
12:10	Release or retain? – Identifying protected species
12:55	Lunch and prayer break
14:00	Safe release of protected marine wildlife at sea
3rd Session – How to measure and record information on sharks and rays?	
14:35	Using standard operating procedures (SOP) for recording shark and ray catches and landings
16:10	Recap of the day, instructions for visit to landing site and closing remarks
16:20	Refreshments - End of Day 1

Day 2

<i>Time</i>	<i>Objective/Content</i>
4th Session – Visit to fish landing site for collecting data on sharks and rays	
07:00	Practical session on applying the SOP for systematic data collection on shark and ray landings
09:00	Breakfast
10:00	Addressing challenges encountered while collecting and reporting landing data
10:45	Improving the use of a GPS for navigation and collecting location data on shark and ray catches
11:15	Tea break
11:45	"Ocean Guardians: Protecting Threatened Sharks and Rays in Bangladesh" – a guided tour of the interactive educational exhibition developed by WCS
13:00	Lunch and prayer break
5th Session – Improving effectiveness of protection for threatened sharks and rays in Bangladesh	
14:00	Facilitated discussion on suggested approaches and measures to improve the compliance of fishers, traders and consumers or buyers on shark and ray catch and trade rules
14:45	Assessment of training workshop effectiveness with individual evaluation
Closing Session	
15:00	Summary and closing of training workshop
15:10	Certificate, Group Photo

Appendix 3. Lists of participants and guests in the four intensive technical training workshops on identifying protected sharks and rays, standard operating procedures for data collection, and prosecuting illegal shark and ray traders.

24-25 October 2021, Parjatan Motel Shaikat, Chattogram (Mid-level officers and guests)

Agency/ Organization	Designation	No.
Forest Department (BFD)		
- A.S.M. Jahir Uddin Akon, Director, Wildlife Crime Control Unit - Kazi Tariqur Rahman, ACF, Coastal Division Noakhali - Md. Anisur Rahman, ACF, Cox's Bazar South Forest Division - Ismat Ara Nur, Wildlife and Biodiversity Conservation Officer, Cox's Bazar North Forest Division - Md. Khorshed Alam, Wildlife and Biodiversity Conservation Officer, Wildlife Management and Nature Conservation Division, Chattogram - Noor Jahan, Wildlife & Biodiversity Conservation Officer, Wildlife Management and Nature Conservation Division, Chattogram		6
Department of Fisheries (DoF)		
Marine Fisheries Office, Chattogram	- Md. Nazim Uddin, Assistant Director - Md. Arshad Sheikh, Marine Production Officer - Md. Zaherul Hoque, Statistical Officer	3
Fish Inspection and Quality Control Office, Chattogram	Md. Aminul Islam Bhuiyan, Fish Inspection and Quality Control Officer,	1
District Fisheries Office, Chattogram	Bikram Jit Roy, Assistant Director	1
Marine Fisheries Survey Management Unit, Chattogram	- Md. Golam Kibria, Principle Scientific Officer - Al Mamun, Scientific Officer - Ireen Asad, Scientific Officer	3
Bangladesh Fisheries Development Corporation (BFDC)	- Md. Ahsanul Hoque, Manager, BFDC Fish Landing and Wholesale Fish Market, Cox's Bazar - Shah Md. Mohiuddin, Manager in Charge, Fish Processing and Distribution Centre, Cox's Bazar - Md. Delwar Hossain, Manager in Charge, BFDC Fish Landing and Wholesale Fish Market, Ramgati, Lakshmipur	3
Bangladesh Fisheries Research Institute (BFRI)	Turabur Rahman, Scientific Officer, Marine Fisheries and Technology Station, Cox's Bazar	1
Chattogram Custom House		
Chattogram Custom House	- Md. Abdul Alim, Deputy Commissioner - Santosh Soren, Assistant Commissioner	2
Total Participants		20

27-28 October 2021, Parjatan Motel Shaikat, Chattogram
(Field-level officers, citizen scientists, and guests)

Agency/ Organization	Designation	No.
Forest Department (BFD)		
- Mollah Rezaul Karim, Conservator of Forests, Wildlife and nature conservation circle - Dr. Mohammad Nizam Uddin Choudhury, Assistant Veterinary Surgeon, Sheikh Kamal Wildlife Center, Gazipur - Dipannita Bhattacharjee, Wildlife & Biodiversity Conservation Officer, Wildlife Management & Nature Conservation Division, Chattogram - Md. Khairul Alam, Forester, Chattogram North Forest Division - Md. Abdur Razzak, Forester, Range Officer, Joldi Range, Chattogram South Forest Division - Anisuzzaman Sheikh, Forester, Wildlife Management & Nature Conservation Division, Chattogram - Md. Farid Uddin Talukdar, Forester, Wildlife Management & Nature Conservation Division, Chattogram - Gazi Sazzad Hossain, Forester, Coastal Division Noakhali - Mamunur Rashid, Forester, Guptachara Beat, Sandwip Range, Coastal Division Chattogram K. M. Ata Elahi, Forester, Cox's Bazar North Forest Division - Muhammed Ismail Hossain, Wildlife Ranger, Wildlife Management & Nature Conservation Division, Chattogram		11
Department of Fisheries (DoF)		
Director General's Office, Dhaka	Shoukat Kabir Chowdhury, Assistant Director	1
Marine Fisheries Office, Chattogram	- Md. Abdur Rouf, Deputy Director S. M. Sajjad Uddin, Inspector - Syed Humayun Murshed, Inspector	3
Marine Fisheries Survey Management Unit, Chattogram	Md. Farhan Tazim, Scientific Officer	1
Upazilla Fisheries Office, Kutubdia, Cox's Bazar	Md. Imran Hossain, Fisheries Extension Officer	1
Upazilla Fisheries Office, Moheskhal, Cox's Bazar	Bimal Jyoti Chakma, Fisheries Extension Officer	1
Upazilla Fisheries Office, Lakshmipur Sadar, Lakshmipur	Abul Kashem, Assistance Fisheries Officer	1
District Fisheries Office, Chattogram	Md. Mahbubur Rahman, Fisheries Survey Officer,	1
Upazilla Fisheries Office, Subarnachar, Noakhali	Md. Khorshed Alam, Upazilla Fisheries Officer	1
Bangladesh Fisheries Development Corporation (BFDC)	- Md. Siddiquir Rahman, Marketing Officer, BFDC Fish Landing and Wholesale Fish Market, Cox's Bazar - Md. Ashraful Alam, Foreman, Fish Processing and Distribution Centre, Cox's Bazar - Md. Masud Alam, Marketing Officer, BFDC Kaptai Lake Fisheries Development and Marketing Centre, Rangamati	3
Bangladesh Fisheries Research Institute (BFRI)	Md. Golam Mostofa, Scientific Officers, Marine Fisheries and Technology Station, Cox's Bazar	1
Citizen Scientists		
- Md Akhtaruzzaman, WCS fish landing site data collector, Cox's Bazar - Md. Taher, WCS fish landing site data collector, Cox's Bazar - Md. Abdul Kaiyum, WCS fish landing site data collector, Cox's Bazar - Abdur Shukur Ali, WCS fish landing site data collector, St. Martin		4
Total Participants		29

31 October - 1 November 2021, CSS AVA Center, Khulna (Mid-level officers and guests)

Agency/ Organization	Designation	No.
Forest Department (BFD)		
- Mollah Rezaul Karim, Conservator of Forests, Wildlife and Nature Conservation Circle - Md. Tariqul Islam, Assistant Conservator of Forests (ACF), Patuakhali - Md. Abu Saleh, ACF, Sundarbans West Division, Khulna Range, Khulna - A Z M Hasanur Rahman, ACF, Sundarbans West Division, Khulna - Enamul Haque, ACF, Chandpai Range, Sundarbans East Forest Division - Md. Mofizur Rahaman Chowdury, Fisheries Expert, Wildlife Management and Nature Conservation Division, Khulna - Md. Aminul Islam, Wildlife and Biodiversity Conservation Officer, Coastal Forest Division Bhola - Dr. Farhana Rahman, Epidemiologist, Sheikh Kamal Wildlife Center, Gazipur		8
Department of Fisheries (DoF)		
Director General's Office, Dhaka	- Dr. Muhammad Tanvir Hossain Chowdhury, Deputy Chief (Marine Wing) - Shoukat Kabir Chowdhury, Assistant Director	2
Upazila Fisheries Office, Pirojpur Sadar, Pirojpur	Zerin Sultana, Senior Upazila Fisheries Officer	1
Upazila Fisheries Office, Kalapara, Patuakhali	Apu Saha, Senior Upazila Fisheries Officer	1
Upazila Fisheries Office, Bagerhat Sadar, Bagerhat	Md. Ferdoush Ansaree, Senior Upazila Fisheries Officer	1
Upazila Fisheries Office, Rupsha, Khulna	Bapi Kumar Das, Senior Upazila Fisheries Officer	1
Deputy Director Office, Khulna	Md. Shafiul Ahsan, Scientific Officer	1
Fish Inspection and Quality Control, Khulna	Pranab Kumar Das, Inspector	1
Bangladesh Fisheries Development Corporation (BFDC)	- Md. Rasel Sikder, Manager, BFDC Fish Landing and Wholesale Fish Market, Khulna - Lieutenant Md. Lutfor Rahman, Manager, BFDC Fish Landing and Wholesale Fish Market, Patharghata, Barguna - Md. Zahidul Islam, Manager, BFDC Fish Landing and Wholesale Fish Market, Mahipur, Patuakhali	3
Bangladesh Fisheries Research Institute (BFRI)	Dr. Md. Amirul Islam, Principle Scientific Officer, Riverine Sub-Station, Khepupara, Patuakhali	1
Total Participants		20

2-3 November 2021, CSS AVA Center, Khulna (Field-level officers, citizen scientists, and guests)

Agency/ Organization	Designation	No.
Forest Department (BFD)		
- A.S.M. Jahir Uddin Akon, Director, Wildlife Crime Control Unit - Nirmal Kumar Paul, Divisional Forest Officer, Wildlife Management & Nature Conservation Division, Khulna - Abdullah-S-Sadique, Wildlife Inspector, Wildlife Crime Control Unit - Mohammad Shahid Uddin, Forester, Patharghata Sadar Beat, Patharghata Range, Patuakhali - Mosharof Hossain, Forester, Wildlife Management & Nature Conservation Division, Khulna - Abul Khair Md Abu Sayead, Forester, Sundarbans West Division, Satkhira - Md. Abdul Hakim, Forester, Sundarbans West Division, Khulna - Md. Zahangir Alam, Forester, Sundarbans East Division, Sarankhola, Bagerhat - Howlader Azad Kabir, Forester, Sundarbans East Division, Chandpai Range S. M. Zahidul Islam, Forester, Coastal Division, Bhola		10
Department of Fisheries (DoF)		
Director General's Office, Dhaka	S. M. Hasan Ali, Assistant Director	1
Deputy Director Office, Khulna	Raj Kumar Biswas, Assistant Director	1
Fish Inspection and Quality Control, Khulna	Mohammad Shakhawat Hossain, Inspector	1
Upazila Fisheries Office, Mongla, Bagerhat	A. Z. M. Touhidur Rahman, Assistant Fisheries Officer	1
Upazila Fisheries Office, Rupsha, Khulna	Md. Liaquat Ali, Assistant Fisheries Officer	1
Upazila Fisheries Office, Bagerhat Sadar, Bagerhat	S.M. Jahangir Kabir, Assistant Fisheries Officer	1
Upazila Fisheries Office, Pirojpur Sadar, Pirojpur	Md. Golam Mostafa, Assistant Fisheries Officer	1
Upazila Fisheries Office, Betagi, Barguna	Md. Kamal Hossain, Assistant Fisheries Officer	1
Upazila Fisheries Office, Patuakhali Sadar, Patuakhali	Md. Nurul Islam, Assistant Fisheries Officer	1
Bangladesh Fisheries Development Corporation (BFDC)	- Md. Zakir Hossain, Sales Inspector, BFDC Fish Landing and Wholesale Fish Market, Khulna K. M. Rokonzaman Khan, Foreman, BFDC Fish Landing and Wholesale Fish Market, Patharghata, Barguna - Md. Jakir Hossen, Accountant, BFDC Fish Landing and Wholesale Fish Market, Mahipur, Patuakhali - Md. Saiful Islam, Sales Inspector, BFDC Fish Landing and Wholesale Fish Market, Alipur, Patuakhali	4
Bangladesh Fisheries Research Institute (BFRI)	Md. Rahamat Ullah, Scientific Officer, Riverine Sub-Station, Khepupara, Patuakhali	1
Citizen Scientists	- Md. Shahjada Emran, WCS fish landing site data collector, Parerhat, Pirojpur - Abdur Rahim, WCS fish landing site data collector, Rupsa, Khulna	2
Total Participants		26

Appendix 4. Lesson plan for technical training on shark and ray data collection and monitoring.

Module 1: What do we know about sharks and rays in Bangladesh? (65 min)

Session 1a: Current knowledge on sharks and rays in Bangladesh and threats to their survival (40 min)

Time (min)	Objective	Content	Activity
10	Learn to tell apart sharks and rays from other marine wildlife, bony fish, and from each other.	- Sharks and rays are aquatic wildlife. - They are fish and like all fish, they move their tails from side to side. - Sharks and rays breathe through gills like most fish. But their gill slits are not covered like in most other fish. They must pump or actively move water across their gills to breathe. - The uncovered gill slits of sharks are on the side of their head. Rays have their gill slits on their underside. Rays are close relatives of sharks with flattened bodies and wide side fins that are fused with their head.	- Give participants a large selection of animals, including terrestrial and aquatic mammals, finfishes, sharks, and rays. - Facilitator reads aloud the characteristics of sharks and rays that distinguish them from other animals and each other. - Following the characteristics, participants eliminate all animals that do not fit with the description. - Participants end up with images of only sharks and rays, and a clear understanding of how to recognize them visually.
20	Understand the basics of shark and ray biology and ecology, including where and how sharks and rays live, eat, and reproduce. Know the names for body parts used in the ID guide for species descriptions and identification Learn to interpret the symbols used in the ID guide	<i>A. Body parts</i> - Sharks have fins on their back and sides that help them turn and stay stable. These fins are stiff and cannot be folded along the body. The tail fin propels the shark forward. - The side fins of rays are fused to the head and body. Many have a thin whip-like tail. - Some species have spiracles that they use to pump water over their gills, allowing them to stay motionless and close to the ground. - Most sharks and rays are powerful predators with strong jaws. Most sharks (except the filter feeders) have many teeth that are frequently replaced. They use sight (eyes) and smell (nostrils) as well as special sensory organs along the side of their body and on the head and snout to locate their prey. - Male sharks and rays have two long extensions called claspers on their underside towards the tail near the cloaca, the opening for the digestive, reproductive, and urinary organs. In mature males, the claspers are hard. Females also have a cloaca, but no claspers. <i>B. Lifecycle and habitat preference</i> - Some sharks and rays give birth to live young (hammerhead and whale sharks), - Some produce young in eggs that hatch inside the mother's body (tiger sharks), - Others deposit eggs on the ocean floor or among mangrove roots in protective leathery egg cases (zebra sharks).	- Divide participants into three intermixed groups. - Rotate groups through three facilitators who explain key content with support of models, images, and body parts. - Facilitators show participants the corresponding pages in the ID guide, explaining the terminology and symbols used therein.

		- Areas where sharks or rays come to give birth and spend time as young are called nursery grounds. The Sundarbans, other mangrove patches, and adjacent nearshore waters, as well as the shallow areas in the Meghna estuary are important shark and ray nursery grounds. <i>C. Ecological importance for a healthy ocean and healthy people.</i> - Sharks and rays are ancient animals that inhabited the earth before the dinosaurs and survived multiple mass extinctions. - Today many are on the verge of extinction. - Sharks and rays help maintain the natural balance in ecosystems. - The collapse of the trophic levels would have devastating effects on ecosystems, their productivity, and the people that depend on them. - With joint efforts to protect the most threatened species and priority habitats, and reduce bycatch and demand for their parts, we can prevent their disappearance and sustain vital fisheries.	
10	Recognize that overfishing driven by international and domestic demand for their parts puts 2/3 of all shark and ray species known or suspected to occur in Bangladesh at risk of extinction.	▪ Overfishing/Unsustainable catches, unregulated trade, and increasing local consumption are the primary threats to sharks and rays in Bangladesh. ▪ Medium-mesh gillnets and set-bag nets by-catch the most sharks. Most rays are caught with longlines. ▪ Bangladesh ranks among the top twenty shark fin exporting countries ▪ High demand for fins and gill plates drives retention and increases domestic availability and consumption of meat.	▪ Facilitator presents key results on priority areas for conservation management, gears responsible for catches, composition of landings, and trade information, from <i>Shark and Ray Assessment Report</i> visualized in graphs and images in a PowerPoint presentation

Session 1b: Legal protection of sharks and rays – National and international laws protecting sharks and rays and regulating their trade (20 min)

Time (min)	Objective	Content	Activity
5	Understand that species need different levels of protection depending on the risks they face. The IUCN Global Red List assesses the risk of extinction as conservation status of species. Not all species have been assessed.	The IUCN Global Red List (RL) assesses species every 10 years to determine their risk of extinction. <u>Critically Endangered (CR)</u> : Taxon is facing extremely high risk of extinction in the wild. <u>Endangered (EN)</u> : Taxon is facing very high risk of extinction in the wild. <u>Vulnerable (VU)</u> : Taxon is facing high risk of extinction in the wild. <u>Near Threatened (NT)</u> : Taxon is close to qualifying for or is likely to qualify for a threatened category in the near future. <u>Least Concern (LC)</u> : Taxon is widespread and abundant. <u>Data Deficient (DD)</u> : There is inadequate information to make a direct, or indirect, assessment of taxon's risk of extinction based on its distribution and/or population status.	- Show IUCN Global RL 'Barometer of life' shortfilm The IUCN Red List - A Barometer of Life - Introduce the symbols and significance of species IUCN RL conservation status in ID Guide - Quiz: Facilitator points to species in ID guide and asks participants to shout out its IUCN RL status.
5	Learn that the WA aims to protect globally threatened species by prohibiting (Schedule I) or regulating (Schedule II) permissible killing, landing, or trading.	The <i>Wildlife (Conservation and Security) Act, 2012</i> (WA) protects threatened wildlife in Bangladesh, including sharks and rays. - Schedule I listed species are strictly protected. - Schedule II listed species may only be caught, landed or traded with permission from the BFD. - Killing, landing, and trading protected species without permission from the FD is a punishable offence.	- Introduce WA Schedule I and II symbols used in ID Guide - Quiz: Facilitator points to species in ID guide and asks participants to shout out its WA status
5	Recognize that as a CITES party we committed to regulate and monitor international trade of threatened wildlife, and integrated CITES requirements for sharks and rays in the amended WA.	- The <i>Convention on International Trade in Endangered Species of Wild Fauna and Flora</i> (CITES) strictly prohibits trade of sawfish or their parts across international borders. The WA strictly protects sawfish. - An official CITES export permit from the BFD (National CITES Management Authority) is required for exporting 12 shark and 13 ray species from BD. - CITES permits can only be issued if trade is permitted in WA, and if catch or trade will not harm wild populations of the species (=positive NFD).	- Introduce CITES Appendix I and II symbols used in ID Guide - Clarify which CITES Appendix II species can be traded in compliance with WA Schedule II (and NDF)
5	Learn about spatial protection measures for sharks and rays through MPAs in BD	- MPAs cover priority shark and ray habitats - Marine Spatial Planning (MSP) defines use and regulations (e.g., access, gear) - MPA management aims to protect threatened marine wildlife, sustain fisheries, and benefit local livelihoods.	Present maps of two existing and third proposed MPA in Bangladesh with objectives and proposed management zones and regulations

Module 2: How can I tell which sharks and rays are legally regulated?

(160 min)

Session 2a: Release or retain? – Practicing use of full carcass section of identification guide

(75 min)

Time (min)	Objective	Content	Activity
10	Learn to recognize strictly protected species (WA Schedule I) by characteristic features.	Strictly protected sharks and rays (no catch, landing, or trade) resemble everyday tools: ▪ <i>CITES Species under WA Schedule I (except Silky shark = WA Schedule II) –</i> ▪ WA Schedule I (non-CITES species) • Cownose rays – snout like a cow • Eagle rays – beak-like snout • Cowtail rays – Flag-like tail ▪ For look-alike SC I sharks (Ganges, broadfin, pigeye, bull sharks) use ID guide	▪ <i>Matching Game</i> - - All resembling objects are layed out on tables in front of participants - Faciliator shows image of species. - Participants select and hold up tool that matches the species features. - Faciliator shows slide with species image alongside tool. ▪ Familiarize participants with orders and families and genera (structure and order) using color codes in ID guide.
10	Protected species that require a permission for landing or trade (Schedule II) can be visually recognized by their characteristic features.	Sharks and rays for which catch, landing and trade requires a permit can be recognized by characteristic features: • Butterfly rays - body wider than long • Patterned stingrays and numbfishes • Silky sharks have smooth silky skin • Tiger sharks have tiger-like stripes • The teeth of snaggletooth sharks stick out • Porcupine rays with thorns like name says • Dark fin tips on requiem sharks	Presentation – plus pointing out corresponding pages in ID guide. Presentation shows photographs at landing of genus on same slide with features highlighted.
15	I can recognize strictly protected species from looking at full specimens.	Participants learn to differentiate strictly regulated species (WA Schedule I, II, CITES) by their characteristic features resembling common tools.	Each table/group is given images of shark/ray species. They are asked to firstly separate strictly protected species. The facilitator reminds them about their characteristics resembling tools. Then they are to identify regulated species by their characteristic features or using the ID Guide or WA/INL poster.

15	I am familiar with the ID guide, including the arrangement of order, genus, families, species, and the symbols representing their conservation and protection status.	Participants practice identifying species from a photograph using the ID guide efficiently.	Participants are given one photograph of a shark or ray species. They use the ID guide to identify the specimen pictured to the species level and check their result using the number against a solution list.
15	I can confidently identify the species I must release/that are protected.	Testing newly acquired knowledge - Trainees are comfortable with using the ID guide, can find the section they need, and find it increasingly easy to locate the species they're looking for.	Teams of 3-4 participants compete against each other: Each group gets 10 species images. When the timer goes off, the team must separate species they release if they don't have a permit (protected), from those that are okay to land. All effort stops when the time is up. The teams check together with an 'inspector. Team that managed to release the most protected species wins!

Session 2b: Safe release of protected sharks and rays at sea (35min)

Time (min)	Objective	Content	Activity
35	Learn how to release sharks and rays keeping yourself and the animal safe.	The killing of sharks, rays and other marine wildlife listed under the Bangladesh Wildlife is a punishable offence. They must be released at sea. Many shark and most ray species, in particular females, have a good chance of survival if handled properly. Due to their soft skeleton these animals are easily injured and need to be handled carefully. Following these simple guidelines to minimize injuries and stress to yourself and the animal. 1. Release sharks and rays in the water, whenever possible. 2. Remove all netting, hooks or lines before releasing them, whenever possible. Cut the line as close to the hook as possible if you cannot remove the hook. 3. Carefully bring the animal on board without a gaff if you cannot remove it in the water. Do not cut any part of the animal. They will die without the snout, fins, or tail. Do not drag, carry, lift or pull animals by the head, horns, tail or gill slits. Do not put your hands or fingers in their mouth, gill slits, eyes, or spiracles. 4. Keep the animal out of the sun. Do not pour freshwater over sharks or rays. 5. Lower the animal back into the water snout first with the head pointing straight down. Small and medium-size sharks and rays should be handled and released by two people, or one person using both hands. Large animals including the devil rays, sawfishes, whale sharks should be moved by several persons. Use a large cloth or net if necessary. Do not drag, carry, lift or pull animals by the head, horns, tail or gill slits. Do not put your hands or fingers in their mouth, gill slits, eyes or spiracles.	▪ Facilitator explains the 5 basic rules using instructional video clips, the illustrated section in the WCS ID Guide, and co-facilitators demonstrating the correct steps on models ▪ Repeat them in short form by counting them with 5 fingers on his hand ▪ Invite participants to handle entangled models and safely release them, with feedback from others

Session 2c: Identifying protected sharks and rays from commonly traded body parts (60 min)

Time (min)	Objective	Content	Activity
5	Learn to recognize mobulid gill plates (dried/fresh)	Mobulid gill plates are long and connected by sheet-like septum, which are not present in bony fish gills. They are easily recognized when freshly extracted or dried. In Bangladesh, all mobulid rays are strictly prohibited (WA Schedule I) and therefore any mobulid gill plates found are illegal.	Facilitator shows samples and images provided in the WCS ID guide section on 'parts in trade'
30	Learn to sort top, side, and tail fins of sharks and to recognize fins from protected species	• Top and tail fins have same coloration on both sides, top and underside of the side fins generally do not. • Emphasize characteristics of top fins of hammerheads (very tall, slender, without dark edges or tip, and extended basal cartilage across entire fin base) as a commonly landed and traded species group under strict protection (WA Schedule I) in Bangladesh. • Emphasize appearance of guitar- and wedgefish fins (glossy sheen with visible denticles and white spots in some species, top fins with long free rear tip and basal cartilage not extending across entire fin base) as commonly landed and traded but strictly protected (WA Schedule I) species groups in Bangladesh. • Highlight that tail fins of strictly protected sawfish, wedgefish and guitarfish are fused.	Facilitator presents key characteristics to identify fins from protected species using the ID guide, photographs projected/enlarged, and samples (if available)
10	Test your skills for identifying fins of CITES listed shark and ray species.	Participants are given large numbers of fins (samples or images), from which they have to separate CITES listed shark and ray species. Facilitators support the group members by showing them how to use the sections on fins in the WCS ID guide, pointing out characteristic features, and complimenting correct identifications. Participants are instructed to first separate side/top/tail fins, then search for characteristics they can match with CITES species pictured in the WCS ID guide	Provide images or samples, assist with sorting process and refer to WCS ID guide
10	Learn to identify skins from protected rays found in trade	Dried ray skins are rough with dermal denticles on it. They can be identified to the genus or species level by the thorns and pearls. A pearl code for commonly traded species in Bangladesh is provided in the WCS ID guide.	Provide samples or photographs, explain pearl code in WCS ID Guide, have participants 'crack the code'.
5	Learn to recognize other shark and ray products found in trade in Bangladesh	Fresh meat from sharks and rays has no hard bones. When dried, shark and ray meat generally turns black. Sharks and rays have large oily livers that give them buoyancy. Their liver oil is valued in beauty products, animal feed, and the derived squalene as a boosting agent in vaccines. Dried cartilage of sharks and rays is believed to have anti-inflammatory and antioxidant properties. Jaws, teeth, and rostra are valued by some as decorative objects. These parts are difficult to identify to a group or species level.	Show images of different products found in trade

Module 3: How to measure and record information on sharks and rays? (95 min)

Session on standard data collection for shark and ray catches or landings

Time (min)	Objective	Content	Activity
40	Learn what equipment is needed to collect data on sharks and rays and how to use it. Learn how to take the necessary pictures needed for verifying species identification. Learn how to identify and record fishing vessel and gear information, and prices at landing.	Participant groups are shown and practice how to measure and weigh shark and ray specimens, take photographs that are useful for species verification, and how to identify fishing gear and record price information according to standard operating procedures for shark and ray data recording and reporting. They also are shown where to find these instructions detailed in the SOP manual developed in Bengali language by WCS under the SUFAL shark and ray assignment in accordance with international standards.	Participant groups rotate between three facilitators who use models, images, and handbooks along with the equipment necessary to teach participants proper procedures for recording and reporting shark and ray data from catches and landings.
15	Learn to recognize priority species and classify sharks and rays landed in large numbers according to three size classes	Facilitators explain the differences in data required to be recorded for priority/non-priority species and how to record information on relative size.	Facilitator leads plenary session to explain details from SOP manual (pg 3-4). Images of the necessary steps are shown to visualize the processes involved.
10	Know how to safely store and transfer the data collected in a timely manner	Facilitators explain the importance of safely storing valuable data and equipment to avoid loss or damage. Participants are shown how to transfer data electronically or via courier with backups safely stored.	Facilitator instructs participants on the correct procedures as detailed in the SOP, and addresses common difficulties faced by WCS citizen science network members in timely submission of collected data (photographs and data sheet)
10	Understand what behavior enables data collection to continue	Participants are presented with the WCS citizen scientist Code of Conduct, and discuss possible impacts of negative or inappropriate behaviour towards fishers, traders, processors, or government officers.	Facilitated discussion based on Code of Conduct provided in SOP manual, aiming to sensitize participants on the importance of respectful interactions
20	Participants are motivated to implement SOP	Open session in which participants revisit the data sheets and reporting requirements, with opportunities to raise questions and have any uncertainties cleared by WCS facilitators.	Facilitator-led Q&A session to ensure participants are enabled and motivated to comply with SOP and collect data on shark and ray landings or catches.

Module 4: Detecting, investigating, and reporting illegal trade in sharks and rays (40 min, for mid-level Government officers)

Time (min)	Objective	Content	Activity
10	Learn where and how to check for legally regulated sharks and rays or their body parts and products	Enhancing Detection: - Gather intelligence, check information sources (e.g., online traders, BFDC landing site officers, market visits) - Where and how to search for shark and ray products (e.g., dry fish and fish maw shipments, processing sites, truck or boat loads). One suspected CITES listed specimen or part thereof suffices for confiscation. - Check documentation/permit/certificate to verify authenticity	PowerPoint presentation with images of real-life situations, confiscations, to show what to look for and where.
15	Learn what to do if you find illegal parts in trade, and how to prepare and submit a wildlife crime report	Correct reporting is an essential part of combating wildlife crime. All investigative work should be reported in an accurate and professional manner to ensure successful prosecution and for monitoring long-term trends and patterns in illegal wildlife trade. - A wildlife crime reporting form should be completed for all reported or detected incidents with copies sent to the BFD WCCU that coordinates efforts to combat illegal wildlife trade. Wildlife crime reports should include: (a) agency information, (b) wildlife crime information- case/offence, detecting official, rescued/seized animal or their parts, offender profile, witness detail (c) Disposal, sample collection and other information (d) other details- detection method, mode of transport, concealment method, source, transit and destination country, reason for seizure. - The Prosecution Offence Report (POR) along with the collected evidence, a forwarding letter, and a challan should be submitted to the court for prosecution. No additional forms are required. - After submitting the POR, you must attend the hearing. Regularly update your supervisor and ensure that all court requirements are met (e.g., witness present).	Present step-by-step instructions for correctly filling out a wildlife crime report and POR, preparing a forwarding letter and challan, collecting and storing evidence
15	Practice preparing and submitting a wildlife crime report	Using a sample case provided from news reports, participants practice collect filling out of wildlife crime report, forwarding letter and a challan	Facilitate a small group exercise (pairs), correct any mistakes, clarify questions.

Appendix 5. Recommendations for the *National Conservation Strategy and Plan of Action for the Conservation of Sharks and Rays in Bangladesh*.

Recommendations to enrich in the *National Conservation Strategy and Plan of Action for the Conservation of Sharks and Rays in Bangladesh*, particularly regarding effective approaches to improve communication, training, and enforcement, agreed on by training participants were to –

Strengthen legal protection and enforcement

- Strengthen monitoring, control, and surveillance to monitor shark and ray catches and landings, and enforce fishing gear and Marine Protected Area regulations by institutionalizing interagency collaborations between the DoF, BFD, Navy, Coast Guard, and the River Police for shark and ray conservation management.

Engage fishing communities in shark and ray protection

- Engage local representatives such as Union Parishad chairs and members to inform fishers, traders, processors, exporters, and consumers about sharks and rays protected under the Wildlife Act and regulated for international trade under CITES.
- Engage with communities for identifying alternative work for shark and ray fishers and traders.
- Inform consumers of shark and ray parts particularly in the hill and coastal regions during the winter months about the ecological vulnerability and legal protection of sharks and rays, propose alternative protein sources, and prosecute perpetrators.
- Incorporate information on the role of sharks and rays for a healthy ocean and healthy people in school textbooks.
- Carry out a public awareness campaign for protected sharks and rays targeting fish landing centers, markets, and processing centers, similar to the efforts made during hilsa prohibition periods, via television, radio, mobile SMS, posters, banners, and brochures to inform fishers, traders, exporters, ice factory owners, boat owners, *arotdars* (money lenders), local representatives, market committee members, fish landing center operators, and law enforcement officers about legally protected sharks and rays and their conservation value.

Improve reporting and monitoring of shark and ray catches, landings, and trade

- Display the gazette notification along with images of shark and ray species listed in Schedules I and II of the Wildlife (Conservation and Security) Act, 2012 at fish landing and processing centers, and in offices of the BFD, DoF, Navy, Coast Guard, and River police.
- Improve export shipment monitoring, customs inspections and document verification for detecting illegal shark fins and other shark and ray body parts.
- Strengthen border controls around the Teknaf peninsula by Coast Guard, Navy, Border Guard Bangladesh and River Police to stop the illegal shark and ray trade with Myanmar.
- Make CITES permits or certificates available online for easy authentication by DoF and Customs inspectors.
- Train officers from Customs, DoF, BFD, Coast Guard, Navy, Border Guard Bangladesh, and River Police in the detection, identification, and reporting of illegally caught, landed, or traded shark and ray species.

Strengthen governance and coordination

- Empower Bangladesh Customs and the DoF to adapt the Wildlife Act.
- Specify shark and ray species restricted for export from Bangladesh in the Export Policy.
- Establish strong collaborations with the countries importing shark and ray products from Bangladesh to monitor and combat transboundary and international trade.
- Investigate trading agencies and online exporters of shark and ray parts in Bangladesh.
- Award trade licenses to fish traders after they are informed about shark and ray species listed in Schedules I and II of the Wildlife Act.

Appendix 6. Impact assessment form for the technical training workshops

হাঙ্গর ও শাপলাপাতা মাছ, এবং সংশ্লিষ্ট প্রজাতিসমূহের সংরক্ষণ কর্মপরিকল্পনা এবং নন-ডেট্রিমেন্ট ফাইন্ডিংস প্রণয়ন

বাংলাদেশে সংরক্ষিত হাঙ্গর ও শাপলাপাতা মাছ সনাক্তকরণ, তথ্য সংগ্রহ এবং সমুদ্রে নিরাপদে অবমুক্তকরণের জন্য আদর্শ পরিচালনা বিষয়ক কারিগরি প্রশিক্ষণ কর্মশালা।

এই ফর্মটি পূরণ করে, আপনি আমাদের প্রশিক্ষণ কর্মশালার কার্যকারিতা মূল্যায়ন করতে সক্ষম করবেন। আমরা এই মূল্যায়ন সম্পন্ন করার জন্য আপনার সহযোগিতা কামনা করছি। আপনার পরিচয় মূল্যায়নের ফলাফলের সাথে সম্পৃক্ত নয়।

নামঃ

তারিখঃ

অনুগ্রহ করে নিচের প্রশ্নগুলো পড়ুন এবং সঠিক উত্তরে টিক দিন। একাধিক উত্তর প্রযোজ্য হলে সেক্ষেত্রে প্রশ্নে নির্দেশনা দেওয়া আছে।

১. কেন হাঙ্গর ও শাপলাপাতা মাছ রক্ষা করা বা এদের ব্যবস্থাপনা প্রয়োজন?

- ☐ এরা খুবই বিপদজনক।
- ☐ অত্যধিক সংখ্যক ধরা বা হত্যা করা হচ্ছে।
- ☐ এরা সমুদ্রে জাহাজ নিঃসৃত তেলের ক্ষতিকর প্রভাব কমায়।

২. কোন আইনের অধীনে বাংলাদেশে হাঙ্গর ও শাপলাপাতা মাছ সংরক্ষিত?

- ☐ সামুদ্রিক মৎস্য আইন, ২০২০
- ☐ মাছের সুরক্ষা এবং সংরক্ষণের নিয়ম, ১৯৮৫
- ☐ বন্যপ্রাণী (সংরক্ষণ ও নিরাপত্তা) আইন, ২০১২
- ☐ সামুদ্রিক মৎস্য অধ্যাদেশ, ১৯৮৩

৩. এই আইন কারা অনুসরণ করবে? একাধিক উত্তর থাকতে পারে।

- ☐ বিদেশি মাছ ধরার নৌকার মাঝি এবং কর্মী যারা বাংলাদেশে প্রবেশ করছে
- ☐ যারা হাঙ্গর ও শাপলাপাতা মাছ ক্রয় ও বিক্রয় করে (মৎস্য ব্যবসায়ী)
- ☐ যারা হাঙ্গর ও শাপলাপাতা মাছ খায় (ভোক্তা)
- ☐ যারা তাদের জীবিকা, খাদ্য অথবা আনন্দের জন্য মাছ ধরে (মৎস্যজীবী)
- ☐ বাংলাদেশের প্রতিটি নাগরিক

৪. কনভেনশন অন ইন্টারন্যাশনাল ট্রেড অফ এনডেনজারড স্পেসিস অব ওয়াইল্ড ফনা অ্যান্ড ফ্লোরা (সাইটিস) হাঙ্গর ও শাপলাপাতা মাছ এবং তাদের দেহাংশ বা এ থেকে তৈরিকৃত পণ্যের আন্তর্জাতিক বাণিজ্য নিয়ন্ত্রণ করে। সকল করাত মাছ সাইটিস পরিশিষ্ট ১ এর অধীনে সংরক্ষিত, এদের আন্তর্জাতিক বাণিজ্য নিষিদ্ধ। আরো ২৫ টি হাঙ্গর ও শাপলাপাতা মাছের প্রজাতির রপ্তানির জন্য বাংলাদেশের দাপ্তরিক অনুমতি প্রয়োজন। এই প্রজাতি বা তাদের দেহাংশের বৈদেশিক বাণিজ্যের জন্য ব্যবসায়ীদের কোন সরকারী বিভাগ থেকে অনুমতি প্রয়োজন?

- ☐ মৎস্য অধিদপ্তর থেকে সাইটিস সনদ নিতে হবে
- ☐ বন অধিদপ্তর থেকে সাইটিস সনদ নিতে হবে
- ☐ বন অধিদপ্তর থেকে নৌকার অনুমতিপত্রের সনদ নিতে হবে
- ☐ মৎস্য অধিদপ্তর থেকে নৌকার নিবন্ধনপত্র নিতে হবে

5. বাংলাদেশ আইন দ্বারা সংরক্ষিত হাঙ্গর ও শাপলাপাতা মাছ দৈনিক ব্যবহার্য যন্ত্রপাতির সাথে মিলিয়ে সহজে চিহ্নিত করা সম্ভব। সংশ্লিষ্ট সংরক্ষিত প্রজাতি গোষ্ঠীর বৈশিষ্ট্যের মিলে এরকম যন্ত্র গুলোকে তীর চিহ্ন দিয়ে মেলান। (উদাহরণস্বরূপ ম্যাকো হাঙ্গর দেখানো হয়েছে)

প্রজাতি	দৈনিক ব্যবহার্য যন্ত্রপাতি
ম্যাকো হাঙ্গর 	হাতুড়ি 
করাত মাছ 	রেঞ্জ 
পিতাম্বর 	প্লাস 
শিং-চোয়াইন 	কাঁচি 
হাতুড়ি হাঙ্গর 	করাত 
কাস্তে হাঙ্গর 	গিটার 

6. মৎস্য অবতরণকেন্দ্রগুলো থেকে হাঙ্গর ও শাপলাপাতা মাছের তথ্য সংগ্রহের জন্য কোন কোন যন্ত্রপাতি অপরিহার্য? নিচের একাধিক যন্ত্রপাতি ব্যবহৃত হতে পারে।

- | | | |
|-----------------------------------|----------------------------------|---|
| ☐ ফিতা | ☐ রেডিও | ☐ কাঁচি |
| ☐ ক্যামেরা | ☐ ডাটাশিট | ☐ ওজন মাপার যন্ত্র |

৭. বেশিরভাগ শাপলাপাতা মাছ ও অনেক হাঙ্গরকে নিরাপদে অবমুক্ত করা হলে বেঁচে থাকার ভালো সম্ভাবনা রয়েছে। নিজেকে নিরাপদ রাখতে ও সঠিকভাবে অবমুক্ত করতে পারার জন্য সঠিক পদ্ধতিগুলো জানা প্রয়োজন। নিরাপদে অবমুক্ত করার ক্ষেত্রে নিচের কোনটি সত্য বা মিথ্যা তা নির্দেশ করুন।

যত দ্রুত সম্ভব হাঙ্গর ও শাপলাপাতা মাছ পানিতে থাকা অবস্থায় সমুদ্রে ছেড়ে দেওয়া	☐ সত্য ☐ মিথ্যা
সমুদ্রে ছেড়ে দেওয়ার পূর্বে অবশ্যই এদের শরীর থেকে সমস্ত জাল বা আটকে থাকা সুতা ছাড়িয়ে বা বড়শি খুলে ফেলা	☐ সত্য ☐ মিথ্যা
প্রাণীটিকে সূর্যের আলো থেকে দূরে রাখা এবং এটিকে শান্ত করার জন্য এর শরীরে মিঠা পানি না ঢালা	☐ সত্য ☐ মিথ্যা
মাথা পানির দিকে রেখে প্রাণীটিকে সমুদ্রে ছাড়া	☐ সত্য ☐ মিথ্যা
টেনে উঠানোর লোহা বা স্টিলের যন্ত্রের ব্যবহার বা তাদের ফুলকা প্লেট বা শিং ধরে টেনে নৌকায় আনা	☐ সত্য ☐ মিথ্যা

প্রশিক্ষণ কর্মশালা সম্পর্কিত মতামত

এই প্রশিক্ষণ কর্মশালাটি সম্পন্ন করার জন্য আপনাকে ধন্যবাদ। আমাদের প্রশিক্ষণ কর্মশালা আরও উন্নত করতে আমরা আপনার মতামত

আশা করছি।

✓ আপনাকে কি অংশগ্রহণের জন্য বেছে নেওয়া হয়েছে নাকি আপনাকে জিজ্ঞাসা না করেই মনোনীত করা হয়েছে?

☐ জিজ্ঞাসা করে মনোনীত
করা হয়েছে।

☐ জিজ্ঞাসা না করেই
মনোনয়ন দেওয়া হয়েছে।

☐ মনোনয়ন
দিয়েছেন.....
.....

✓ আপনি কি কর্মশালার ব্যবস্থাপনা এবং বিষয়বস্তু সম্পর্কে আগাম তথ্য পেয়েছেন?

☐ হ্যাঁ, আমি সময়মত প্রয়োজনীয় সব তথ্য পেয়েছি।

☐ না, আমি পর্যাপ্ত বা সময়মত তথ্য পাইনি।

✓ কোন প্রশিক্ষণ পদ্ধতি আপনি সবচেয়ে বেশি উপভোগ করেছেন? (একাধিক উত্তর থাকতে পারে)

☐ নির্দেশনামূলক উপস্থাপনা
☐ নির্দেশনামূলক ভিডিও
☐ গ্রুপে প্রতিযোগিতামূলক
যে খেলা খেলেছি

☐ প্রশিক্ষকের নেতৃত্বে গ্রুপে
কাজ
☐ প্রদর্শনী
☐ ব্যবহারিক সেশন

☐ মতস্বকেন্দ্র পরিদর্শন
☐ খেলা

যে সেশন/সেশনগুলো আপনার ভালো লেগেছে সেটি/সেগুলো কেন উপভোগ করেছেন?

✓ কোন প্রশিক্ষণ পদ্ধতি আপনি উপভোগ করেন নি?

☐ নির্দেশনামূলক উপস্থাপনা
☐ নির্দেশনামূলক ভিডিও
☐ প্রতিযোগিতামূলক গেম
আমরা গ্রুপে খেলেছি
☐ প্রশিক্ষকের নেতৃত্বে গ্রুপে
কাজ
☐ প্রদর্শনী
☐ ব্যবহারিক সেশন
☐ মতস্বকেন্দ্র পরিদর্শন
☐ খেলা

✓ অন্য কোনো বিষয় আছে যা
আপনি শিখতে পছন্দ করতেন
কিন্তু এই প্রশিক্ষণে অন্তর্ভুক্ত
ছিল না? সেগুলো লিখুন।

✓ আপনি কি আপনার সহকর্মীদের
এই প্রশিক্ষণে আসার জন্য
সুপারিশ করবেন?
যদি হ্যাঁ হয়- তবে কেন হ্যাঁ?

কেন আপনি এই পদ্ধতিগুলি উপভোগ
করেন নি?

যদি না হয়- তবে কেন না?

Appendix 7. List of mentoring calls conducted by WCS along with the topics discussed after the technical workshop on shark and ray data collection and monitoring (up to Dec 2021).

Date	Trainee and Designation	Topic(s) discussed during mentoring call
26 Oct 2021	Aminul Islam, Fish Inspection and Quality Control officer, DoF, Chattogram	Requested confirmation of species identification and protection status of frozen rays presented for export by a trader in Chattogram. WCS confirmed the species as <i>Bengal whiprays</i> , not listed under the Wildlife Act.
12 Nov 2021	S M Zahidul Islam, Forester, BFD, Bhola	Reported the landing of some ray species, including a very large specimen – likely <i>giant freshwater whipray</i> . No photographs sent for species verification.
15 Dec 2021	Aminul Islam, Fish Inspection and Quality Control officer, DoF, Chattogram	Sent more photographs of <i>Bengal whiprays</i> . Requested illustrated list of protected species to facilitate the inspection and export clearance. WCS will send brochures and posters and follow up on quantities of rays exported by this trader to learn about origin and destination.
20 Dec 2021	Bimal Jyoti Chakma, Assistance Fisheries Officer, DoF, Moheskali, Cox's Bazar	Reported fewer landing of sharks and lack of awareness about protected shark and ray species. Suggested communicating applicable species protection and trade regulations to fishers and traders.
20 Dec 2021	Bapi Kumar Das, Senior Upazila Fisheries Officer, DoF, Rupsha, Khulna	Reported landings of sharks and rays at Rupsha. Difficulty with identifying protected and non-protected shark and ray species. Suggested communicating applicable species protection and trade regulations to fishers and traders.
25 Dec 2021	Lieutenant Md. Lutfor Rahman, Manager, BFDC, Pathorghata, Barguna	No major landings, number of landings decreasing. Planning to arrange awareness program on protected sharks and rays among fishers and traders in his BFDC premises with UNO, Coast Guard, and other law enforcement officers.
25 Dec 2021	Turabur Rahman, Scientific Officer, BFRI, Cox's Bazar	Regularly visits landing sites for collecting data on sharks and rays. No major change in shark and ray landings. Suggests awareness programs at landing sites.
25 Dec 2021	Md. Delwar Hossain, Manager, BFDC, Cox's Bazar	Reported landings but no enforcement. Suggests awareness programs at landing sites for fishers and traders.
25 Dec 2021	Zerin Sultana, Senior Upazila Fisheries Officer, Pirojpur Sadar, Pirajpur	Visits landing sites sometimes, notices few landings. Attempts to motivate fishermen and traders to obey government regulations regarding protected sharks and rays.
25 Dec 2021	Md. Tariqul Islam, Assistant Conservator of Forest, BFD, Sharankhola Range, Sundarbans	Visited landing site once. Notices some rays landed. Tried to motivate fishers to release protected rays.
25 Dec 2021	Md. Nurul Islam, Assistant Fisheries Officer, DoF, Patuakhali Sadar, Patuakhali	Reports less shark and ray landings: found only a few ray species that are landed frequently but not protected by law.

