

Ocean Country Partnership Programme



Sri Lanka Marine Protected Area (MPA) Network Mapping

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Executive Summary

The Sri Lanka Marine Protected Area (MPA) Network Mapping Project, implemented under the Ocean Country Partnership Programme (OCPP) and funded by the UK government through the Blue Planet Fund, aims to enhance marine conservation in Sri Lanka by developing a comprehensive MPA network map. This project integrates spatial data on marine habitats, species distribution, and ecological communities to assess the effectiveness of the existing MPA network, identify gaps, and provide strategic recommendations for its improvement. Through extensive stakeholder engagement, GIS-based mapping, and validation workshops, the project identified key governance and ecological challenges, including significant overlaps among MPAs, Fisheries Management Areas (FMAs), and Special Management Areas (SMAs), gaps in data accessibility, and limitations in enforcement mechanisms. To address these challenges, recommendations include establishing a digital data-sharing policy, strengthening interagency collaboration, enhancing fisheries regulations, and integrating advanced monitoring technologies to improve enforcement and conservation outcomes. Additionally, capacity building initiatives are crucial for improving stakeholder engagement and governance efficiency. By fostering institutional cooperation, uplift digital mapping technologies, and strengthening policy frameworks, this project provides a critical foundation for the long-term sustainability of Sri Lanka's marine ecosystems. The final MPA network map and database serve as essential tools for policymakers, conservationists, and researchers, ensuring informed decision-making and the effective management of marine resources. Moving forward, continuous collaboration among government agencies, conservation organisations, and local communities will be vital in achieving national and international biodiversity conservation goals, supporting sustainable fisheries, and protecting marine habitats against emerging threats.

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List of Abbreviations

No.	Acronym	Description
1	CBD	Convention on Biological Diversity
2	CC & CRMD	Department of Coast Conservation and Coastal Resource Management
3	CCF	Central Cultural Fund
4	CEA	Central Environmental Authority
5	CEJ	Centre for Environmental Justice
6	DFAR	Department of Fisheries and Aquatic Resources
7	DS	Divisional Secretariat
8	DWC	Department of Wildlife Conservation
9	EEZ	Exclusive Economic Zone
10	EFL	Environmental Foundation (Guarantee) Limited
11	EPA	Environmental Protection Areas
12	FCDO	Foreign, Commonwealth and Development Office
13	FMA	Fisheries Management Area
14	IUCN	International Union for Conservation of Nature
15	MEPA	Marine Environment Protection Authority
16	MoE	Ministry of Environment
17	MoF	Ministry of Fisheries
18	MoFA	Ministry of Foreign Affairs
19	MoU	Memorandum of Understanding
20	MPA	Marine Protected Areas
21	NAQDA	National Aquaculture Development Authority
22	NARA	National Aquatic Resources Research and Development Agency
23	NGO	Non-Government Organisations
24	NPD	National Planning Department
25	OCP	Ocean Country Partnership Program
26	SDG	Sustainable Development Goals
27	SLCG	Sri Lanka Coast Guard
28	SLN	Sri Lanka Navy
29	SLPA	Sri Lanka Ports Authority
30	SMA	Special Management Area
31	TRCSL	Telecommunications Regulatory Commission of Sri Lanka
32	ToR	Terms of Reference
33	UNDP	United Nations Development Programme

1. Introduction

The Sri Lanka Marine Protected Areas (MPA) Network Mapping Project is a key initiative aimed at strengthening marine conservation and sustainable resource management in Sri Lanka. This project developed a comprehensive map of the country's MPA network by integrating spatial data from critical habitats, species, and ecological communities. Data was sourced from government agencies, non-governmental organisations, and reliable open sources to assess the functionality of the existing MPA network, identify gaps, and provide strategic recommendations for its enhancement.

Sri Lanka's Exclusive Economic Zone (EEZ) and Coastal Management Zone encompass ecologically and economically significant marine ecosystems. A well-structured MPA network is essential for sustainable fisheries, coastal resilience, and climate adaptation, benefiting both local communities and national development objectives. The project aligns with Sri Lanka's commitments to global conservation targets, including the United Nations Sustainable Development Goals (SDGs) and the Convention on Biological Diversity (CBD).

The project is implemented by the Environmental Foundation (Guarantee) Limited (EFL) in collaboration with the Joint Nature Conservation Committee (JNCC) under the Ocean Country Partnership Program (OCP). Funded by the UK government through the Blue Planet Fund, the project is strategically overseen by the Ministry of Environment, ensuring integration into national conservation and management policies. The Department of Wildlife Conservation (DWC), Department of Fisheries and Aquatic Resources (DFAR), and the Department of Coast Conservation and Coastal Resource Management (CC & CRMD) are key stakeholders in this initiative, playing a crucial role in its success.

By combining digital mapping technologies, scientific research, and policy recommendations, the project enhances marine governance, promotes inter-agency collaboration, and strengthens data-sharing mechanisms for informed decision-making. Ultimately, it aims to contribute to the long-term conservation of Sri Lanka's marine resources through identifying the importance of proper management.

1.1. Objectives of the project

Objective 1 - Development of a Comprehensive Sri Lanka MPA Network Map

Create an accurate map of Sri Lanka's existing MPAs by gathering data from available sources, including gazettes and key agencies like DWC, CC & CRMD, and DFAR. The map will include spatial layers and data that are easily accessible to stakeholders, supported by a publicly available platform on EFL's website.

Objective 2 - Expansion of the MPA Network Map with Sensitive Habitats and Species

Enhance the initial MPA network map by incorporating additional data on marine habitats, species distribution, and land use/land cover. This expanded map will provide more detailed insights into sensitive marine ecosystems, aiding in better conservation planning and management.

Objective 3 - Review and Recommendations for the Existing MPA Network

Analyse the existing MPA network to identify overlaps, conflicts, and gaps in management. Based on the findings, recommendations will be made to improve coordination between agencies, create standardised regulations, and develop collaborative management strategies to enhance the ecological coherence of the MPA network.

2. Methodology

The project followed a structured methodology that integrates stakeholder-driven data collection and GIS-based spatial analysis to assess and enhance the current MPA network in Sri Lanka (see Figure 1). This approach ensures that the mapping process is comprehensive, data-driven, and accurate, ensuring reliable outputs.

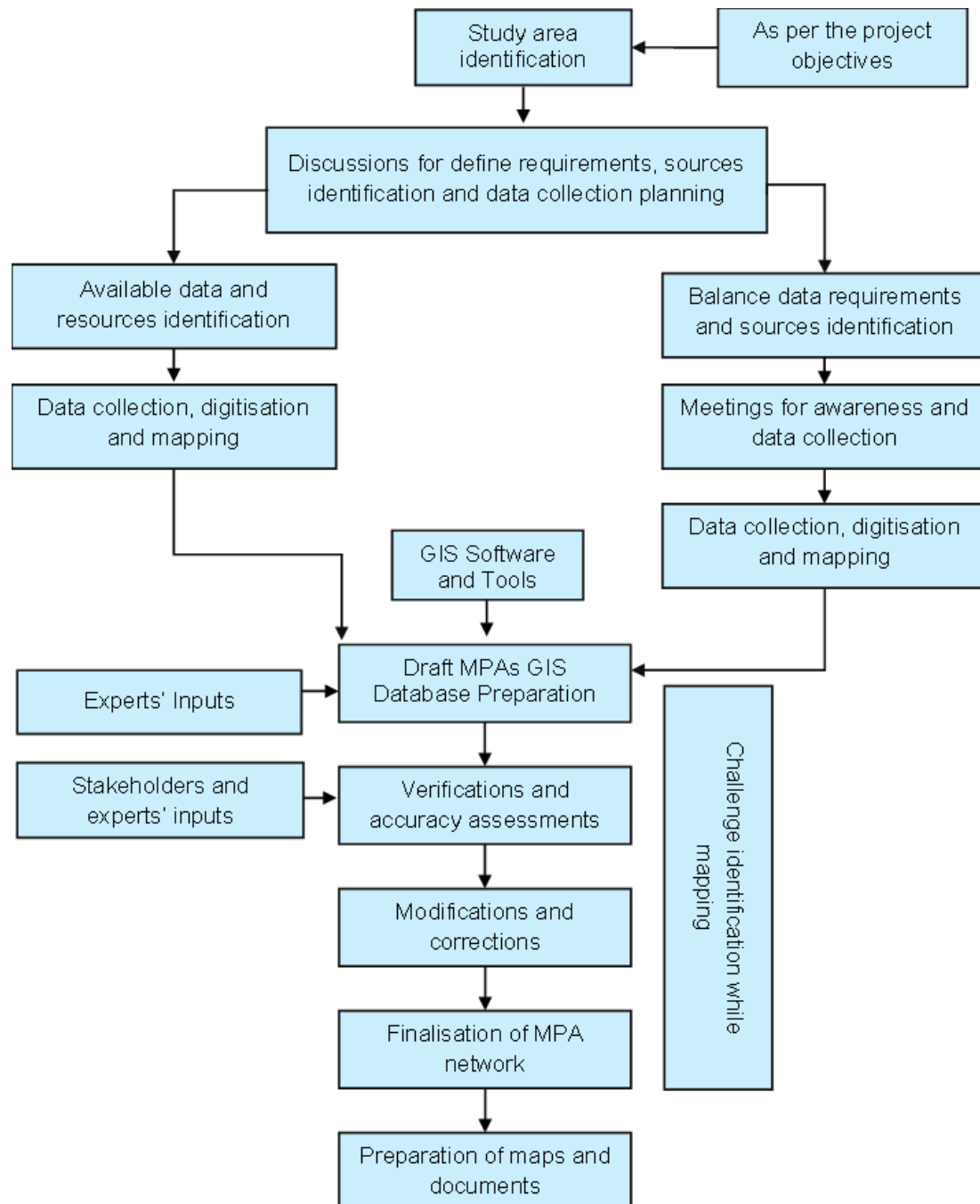


Figure 1. Flow diagram for the data collection, mapping and MPAs spatial database preparation

2.1 Description of the Methodology

2.1.1 Study Area Identification

The study area was identified and aligned with the project objectives and goals.

2.1.2 Discussions about defining requirements, sources identification and data collection planning

EFL held discussions with consultants and experts to identify the required data and data sources. This included local stakeholders, especially the government sector, and Non-Government Organisations (NGOs). Research publications, magazines, and web sources were also studied to support defining the requirements and to identify the suitable stakeholder organisations, individuals etc. to approach for data collection. A wide range of stakeholders were also identified and contacted for data collection.

2.1.3 Available data and resources identification

Openly available sources were identified for data collection through desktop research.

They were:

- Web sources
- Research papers
- Published Gazettes
- Magazines and books

2.1.4 Non-available data and resources identification

Data which was not openly available were requested from the selected stakeholders as listed below (see Table 1).

Table 1. Types of data requested from different institutes.

Institute Name	Types of data requested
Ministry of Fisheries	• Updated current infrastructure facility data - Major fishery harbours - Fishing landing sites - Boat manufacturing yards - Fishing gear factories • Updated Inland and Aquaculture Resources data - Lagoons and Estuaries - Mangrove zones, Mud flats and Salt marshes - Villu wetlands • Updated social information - Fisheries inspector divisions - Fishing Villages - Fishing Households • Updated Operating fishing fleet and fishing boat data • Updated Production of Shells, Corals, and Sponges • Updated Aquaculture areas and production data
Department of Wildlife Conservation	• Coral reef areas • Mangrove areas • Sea turtle nesting and hatchery sites • Locations of endemic species • Coastal wetlands and salt marshes, Whale-watching and high-density marine mammal areas • Large seagrass meadows or key identified sites • Any other habitat or biodiversity data in the coastal and marine areas
Survey Department of Sri Lanka	• Updated Sri Lanka Boundary • Coral Reef locations • Lagoons • Sea depth contours • Mineral sites/locations in the coastal zone • Coastal wetlands and salt marshes • Lighthouses • Monuments protected or to be protected (e.g. survey towers in Delft, Mannar, etc.) • Any other survey-related Protected Areas in the coastal zone. • Important areas in the coastal zone
Department of Coast Conservation and Coastal Resources Management	• Special Management Areas (SMAs) • Coastal setback layer • Coastal setbacks point layer • Sand dune data (Poonapitiya, Panama) • Coastal erosion data

Institute Name	Types of data requested
Department of Fisheries and Aquatic Resources	• Fisheries Management Areas (FMAs) • Spatial coordinate data for coastal management areas, Fish high dense zones, fishing, catchment areas and species-level information
Department of Forest Conservation	• Reserved forest layer • Conservation forest layer • Mangrove forests layer • Layer on identified forests to be declared
National Aquatic Resources Research and Development Agency	• Fisheries catch data and species-level information • Reports and publications on the existence of habitats/ ecosystems within MPAs
Biodiversity Secretariat, Ministry of Environment	• Biodiversity data
Sri Lanka Navy	• Bathymetric data • Any other coastal or maritime area-related sensitive/protected data
Sri Lanka Coast Guard	• Reports and publications on the existence of habitats/ ecosystems within MPA/ SMA/ FMA • MPA/ SMA/ FMA land use data and land cover (where applicable/available) • Digitised data associated with MPA habitats
Marine Environment Protection Authority	• Habitat Data: Coastal ecosystems (e.g. mangroves, seagrasses, coral reefs), Marine ecosystems and species distributions, Mapping of critical habitats and protected marine areas, and Kayankerni data • Pollution Data: Oil spills and hazardous waste records • Field Survey Data: Marine biodiversity assessments, Fish stock assessments and species inventories, and Ecosystem health evaluations (e.g. coral bleaching surveys, habitat degradation studies)
Central Environmental Authority	• EPAs (Environmental Protection Areas) located near to coastal area
The Wildlife & Nature Protection Society	• MPA/ SMA/ FMA land use data and land cover (where applicable/available) • Reports and publications on the existence of habitats/ ecosystems within MPA/ SMA/ FMA
Department of National Planning	• MPA/ SMA/ FMA land use data and land cover (where applicable/available) • Reports and publications on the existence of habitats/ ecosystems within MPA/ SMA/ FMA
National Aquaculture Development Authority	• Locations and extents of aquaculture farms (established/proposed) • Available habitat data related to the coastal and marine environment

Institute Name	Types of data requested
National Physical Planning Department	• Exclusive Economic Zone • Fishery harbours, Protected areas and other coastal related data
Geological Survey and Mines Bureau	• Dense or sensitive mineral areas • Identified special locations for mineral excavations / prohibited / protected areas
Department of Archaeology	• Monuments data • Any other archaeological valuable sensitive data
Sri Lanka Ports Authority	• Port locations including boundaries • Shipping traffic and vessel route data • Identified shipwreck locations • Any other coastal and maritime data
National Hydrographic Office	• Bathymetry and coastal or maritime area-related data • Sensitive or protected locations/areas managed under the National Hydrographic Office
Ministry of Power and Energy	• Proposed petroleum-related excavation locations (including extraction sites, storage facilities, and related infrastructure) • Fuel transmission pipeline locations from fuel vessels • Any other relevant coastal and marine-related data
National Water Supply and Drainage Board	• Sewerage outfall pipeline locations into the sea (e.g. areas like Mattakkuliya and Wellawatta) • Locations and details of sewerage pipelines and treatment plants
Telecommunications Regulatory Commission of Sri Lanka	• Undersea cables/telecommunication network locations
Department of Census and Statistics	• Updated Grama Niladhari Division Boundary
Galle Heritage Foundation	• Shipwreck data
Department of Archaeology	• Monuments data • Any other archaeological valuable sensitive data
Central Cultural Fund	• Archaeologically valuable sensitive/protected areas (including old ports) • Coastal and maritime heritage data
International Union for the Conservation of Nature – Sri Lanka	• Map of Northwestern part of Sri Lanka • Biodiversity data in MPA/ SMA/ FMA
Marine Conservation Institute - USA	• Marine habitat data

Institute Name	Types of data requested
Marine Overseas Agency	• Admiralty charts - sea depth
Oceanswell	• Biodiversity data in MPA/ SMA/ FMA • Reports and publications on the existence of habitats/ ecosystems within MPA/ SMA/ FMA
Blue Resource Trust	• Coral reef data, Seagrass beds data and any other related marine habitat data
Mr. Arjan Rajasuriya	• Coral reef data
Prof. Turney Kumara	• Marine habitat data

2.1.5 Meetings for awareness and data collection

A series of meetings were held with the above stakeholders, and presentations were completed to explain the requirements and to collect data. Additionally, letters were sent and follow ups were done to remind and collect data. Further details on the meetings and workshops can be found in Section 3.

2.1.6 Data collection, digitisation and mapping

The data preparation process involved comprehensive digitisation and extraction techniques to develop spatial data layers aligned with predefined categories and groups. Tools such as Google Earth, QGIS, and ArcGIS were employed for digitising, georeferencing, and mapping spatial data. Microsoft Excel and Access were used for entering GPS data and supporting mapping activities (See Table 2). Data extracted from hardcopy gazettes were systematically entered into spreadsheets, enabling the plotting of locations using the provided GPS coordinates (see Figure 2). To ensure consistency and accuracy, coordinate conversions to the WGS 1984 global standard were performed, along with necessary corrections and georeferencing to validate area identification and demarcation.

Further refinement of the digital data layers included cleaning, attribute table completion, and modifications to ensure the datasets met the required standards. These layers were then overlaid with openly available satellite imagery, such as Google Earth and Esri images, to enhance spatial accuracy. Additionally, OpenStreetMap data was utilised where necessary to support the development of MPAs network maps. This multi-source integration ensured a robust and precise spatial representation of the targeted areas.

2.1.7 Draft MPAs GIS Database Preparation

A draft GIS database was prepared based on the identified layers for the entire project area. EFL and nominated experts helped in giving their ideas to prepare the MPAs Network database using ArcGIS and QGIS software and tools.

2.1.8 Verifications and accuracy assessments

Verification and accuracy assessments were key steps before finalising the spatial data layers. Identifying gaps and overlaps helped improve accuracy. A draft of the MPA network map was shared with stakeholders during a dedicated event to validate the data and confirm sharing consents. This process also revealed data sharing barriers, highlighting the need for clearer policies to support better collaboration.

To streamline feedback, the map was divided into four sections, North-East, South-East, North-West, and South-West, and distributed among stakeholder groups for review. Their comments, consents, and suggestions were successfully collected, contributing to a more accurate and widely accepted final version of the map.

2.1.9 Modifications and corrections

All required modifications and corrections were applied as per the comments given by the stakeholders and experts in the field at the event. This helped to minimise gaps, remove overlaps etc., and prepare the final MPAs network.

Table 2. Number of GPS locations identified from published gazettes.

Area Name	No. GPS locations	Outside GPS	Corrected GPS	Same GPS Errors	Total GPS Errors
Panama Lagoon Fisheries Management Area	389	10	2	-	12
Panakala Lagoon Fisheries Management Area	180	9	-	-	9
Nayaru Lagoon Fisheries Management Area	233	-	-	-	0
Nandikadal Lagoon Fisheries Management Area	2,393	-	20	-	20
Madampa Lagoon Fisheries Management Area	435	24	-	-	24
Lankapatuna Lagoon Fisheries Management Area	1,067	5	-	-	5
Koggala Lagoon Fisheries Management Area	320	2	-	-	2
Garanduwa Lagoon Fisheries Management Area	86	3	-	-	10
Chalai Lagoon Fisheries Management Area	476	9	1	3	13
Fisheries Management Area-East Coast (Ampara District)	11	-	-	-	0
Fisheries Management Area-East Coast (Batticaloa District)	11	-	-	-	0
Thalan Fisheries Management Area	238	2	-	-	2

Area Name	No. GPS locations	Outside GPS	Corrected GPS	Same GPS Errors	Total GPS Errors
Panama Sand Dune Belt	268	-	-	-	0
Sandikadu Sand Dune Belt	245	-	-	-	0
Nasivantivu Lagoon Fisheries Management Area	934	2	-	-	2
Kokilai Lagoon Fisheries Management Area	76	1	-	-	1
Urani Lagoon and Kottal Lagoon Fisheries Management Area	529	2	-	246	248
Holland Canal Fisheries Management Area	114	1	-	-	-
Total	8,005	70	23	249	346



Figure 2. Identified boundary GPS errors from published gazettes and presented on Google Earth.

2.1.10 Finalisation of MPAs network

After applying all modifications, the GIS database was prepared as per the project objectives and requirements. GIS data layers were completed with attribute tables including relevant information and metadata for better understanding and management of spatial data (see Table 3).

Table 3. Details of the data layers with the source of data.

Layer Name	Data Type	Source	Prepared Date	Coordinate System
CC and CRMD Management Boundary	Line	Coast Conservation and Coastal Management Department	Jan-25	WGS 1984
Cold Corals	Point	https://habitats.oceanplus.org , 2017	Feb-25	WGS 1984
Coral Reef	Polygon	Survey Department of Sri Lanka / Research Papers/ Other	Feb-25	WGS 1984
Coral Reef Web Source	Polygon	https://habitats.oceanplus.org , 2018	Jan-25	WGS 1984
Corals and Algae	Polygon	Allen Coral Atlas, allencoralatlas.org , Jan 2025	Feb-25	WGS 1984
Exclusive Economic Zone	Polygon	http://marineregions.org/mrgid/8346 , Jan 2025	Jan-25	WGS 1984
FMA's	Polygon	Department of Fisheries and aquatic Resources Technology	Jan-25	WGS 1984
Forest Reserves	Polygon	Department of Forest Conservation	Feb-25	WGS 1984
Important Marine Mammal Areas	Polygon	https://www.marinemammalhabitat.org , 2024	Jan-25	WGS 1984
Lagoons and Estuaries	Polygon	Survey Department of Sri Lanka /Open Data	Jan-25	WGS 1984
Mangroves	Polygon	Department of Forest Conservation	Feb-25	WGS 1984
Mangroves Web Source	Polygon	https://habitats.oceanplus.org , 2018	Jan-25	WGS 1984
Marine Sanctuaries and National Parks	Polygon	Department of Wildlife Conservation	Jan-25	WGS 1984
Marine Sand	Polygon	Allen Coral Atlas, allencoralatlas.org , Jan 2024	Feb-25	WGS 1984
Proposed Expansion Area	Polygon	National Physical Planning Department	Jan-25	WGS 1984
Proposed Forest Reserve	Polygon	Department of Forest Conservation	Feb-25	WGS 1984

Layer Name	Data Type	Source	Prepared Date	Coordinate System
Saltmarshes	Point	https://habitats.oceanplus.org , 2024	Jan-25	WGS 1984
Saltmarshes_Poly	Polygon	IUCN - Sri Lanka, 2024	Jan-25	WGS 1984
Sea Depth	Line	Marine Overseas Agency - UK	Jan-25	WGS 1984
Seagrass	Point	https://habitats.oceanplus.org , 2024	Jan-25	WGS 1984
Seagrass Poly	Polygon	IUCN and https://habitats.oceanplus.org , 2024	Feb-25	WGS 1984
SMA's	Polygon	Coast Conservation and Coastal Management Department	Jan-25	WGS 1984
Tourist Attraction Places	Point	Tourist Development Authority / Open Data	Feb-25	WGS 1984

2.1.11 Preparation of Maps and documents

As per the objectives and report requirements tabular data analysis, spatial data analysis and mapping works such as PDF layer wise map preparation, insert maps preparation etc. to show the outputs using different visualisation techniques.

3. Activities Conducted

3.1. Inception Meeting

An inception meeting was conducted on September 25, 2024, at Cinnamon Grand Hotel in Colombo, to kick off the project with the main stakeholders and partners (see Figure 3). Over 40 participants attended the meeting. The agenda and the list of institutes participated can be found in the [annex 8.1](#) and [annex 8.2](#) of this report, along with images of key moments from the meeting (see Fig 10).



Figure 3. Group photo of the Inception meeting

3.1.1. Objectives of the inception meeting

1. To identify agency focal points for project activities
2. To create synergies and facilitate discussions with major stakeholders
3. To determine ongoing and past work related to MPAs in Sri Lanka
4. To identify the data needs and interagency requirements with MPA management
5. Gap analysis

3.1.2. Key findings of the inception meeting

Two presentations were delivered; one by the Assistant Director (Marine Unit) of the DWC on the current status and future plans for MPAs under the DWC, and the other by the Deputy Director (Coastal Resource Management) of the CC&CRMD, providing an overview of the legal framework and policies related to coastal conservation in Sri Lanka.

Following the presentations, suggestions were gathered through a comprehensive question and answer session and engaging group discussions.

Identifying Data Gaps and Enhancing Accessibility

The importance of requesting existing data from the Department of External Resources was emphasised to identify any current data gaps. Additional data can be sourced from government institutions and NGOs to mitigate time constraints in data collection. Addressing gaps in marine conservation, management, and decision making requires scientific research, particularly in areas where comprehensive data is currently lacking.

Key Data Sources for Marine Management

Several essential data sources for marine spatial planning and conservation were identified.

- Spatial coordinate data for coastal management areas and fisheries zones is available through the DFAR and the CC & CRMD.
- Fisheries catch data and species level information can be obtained from DFAR and the National Aquatic Resources Research and Development Agency (NARA).
- Coastal heritage and marine species data, including information on coastal forts, fishery harbours, fishing grounds, marine mammals, and sea turtles, is accessible through the Sri Lanka Navy website.
- Biodiversity data is maintained by the Biodiversity Secretariat under the Ministry of Environment and NARA.
- Socio economic data can be sourced from Divisional and District Secretariat profiles.

Data Requirements and Institutional Expertise

- Key data requirements for the project include area demarcations, biodiversity records, sensitive areas, socio-economic information, illegal activities (such as encroachments, constructions, transactions, fishing, and trafficking), fisheries management areas, fisheries operation licenses, vessel registrations, marine incidents (such as oil spills and ship accidents) and pollution.
- Specific expertise is required in GIS, biodiversity, law enforcement, protected area management, sociology, communication (particularly for training and awareness), and database management.

- Several institutions were identified as essential data sources -
 - DWC, DFAR, and CC & CRMD for data on boundary demarcations, biodiversity, law enforcement, and conservation.
 - Sri Lanka Police, Sri Lanka Navy, Sri Lanka Coast Guard, Central Environmental Authority (CEA), and MEPA for law enforcement and pollution control.
 - NARA and the National Zoological Gardens for species identification data.

Data Sharing and Collaboration

The incorporation of a data-sharing component into the project was identified as a key priority. However, concerns were raised regarding the reluctance of some parties to share sensitive data, particularly when it has been obtained through grants or external funding. To address these concerns, it is essential to ensure that all shared data is handled responsibly, with appropriate attribution and strict measures to prevent misuse or unauthorised publication. Establishing clear data governance protocols will foster trust and encourage greater collaboration among stakeholders, ultimately enhancing the effectiveness of marine spatial planning and conservation efforts.

3.2. Workshop One

The first workshop was conducted on January 08, 2025, at Cinnamon Grand Hotel in Colombo, to commence the above project with the main stakeholders and partners (see Figure 4). Over 50 participants attended the meeting. The agenda and the list of institutes participated can be found in the [annex 8.4](#) and [annex 8.5](#) of this report, along with images of key moments from the meeting (see Fig 11).



Figure 4. Group photo of the Workshop One.

3.2.1. Objectives of the workshop one

1. To present the developed MPA map, including digitised maps of MPAs, FMAs, and SMAs, while providing an overview of regional datasets, habitat mapping, and bathymetric information.
2. To improve the effectiveness of MPA networks by refining ecological and habitat data accuracy, assessing ecological integrity and governance frameworks, and identifying gaps in MPAs, FMAs, and SMAs to enhance collaboration, management, and network expansion.
3. To discuss opportunities for optimising the MPA network through improved mapping and decision-making, and formulate actionable strategies to strengthen collaboration, enhance MPA management, and chart a clear path forward.

3.2.2. Key findings of the workshop one

Panel Discussion

The workshop featured a panel discussion with representatives from CC & CRMD, DWC, DFAR, focusing on the role of maps in regional and network planning (see Figure 5). Key discussions centred on improving map presentations, deriving insights, and gathering immediate feedback to enhance their effectiveness.



Figure 5. Panel discussion with representatives from CC & CRMD, DWC, DFAR, focusing on the role of maps in regional and network planning during the MPA Network Mapping Workshop 1.

Map Accessibility and Usage

The finalised map will serve as a publicly available repository. This resource is designed to benefit diverse stakeholders, including marine experts, by facilitating activities such as licensing and regional planning. While the map can be published in an image or PDF format for general visibility, those requiring access to the data layers must submit a formal request and enter into an agreement with EFL and MoE to obtain the data. Data may be accessed by any third party upon submission of a formal request, subject to approval by both the MoE and the EFL. EFL has established a data-sharing agreement framework to facilitate such access, which may be utilised with the MoE and other relevant institutions, contingent upon the intended purpose of the request.

Integration and Applications

The map integrates existing and proposed MPAs, FMAs, SMAs, and critical habitats such as seagrass beds and coral reefs. This comprehensive mapping approach has significant potential to enhance marine area management. By aligning these efforts with terrestrial mapping initiatives, the map is poised to support national planning processes and foster a more cohesive strategy for environmental management.

Collaboration with the National Planning Department

Collaboration with the National Planning Department (NPD) has been identified as a pivotal element of the project. The integration of NPD's terrestrial maps with EFL's marine-focused maps will create a holistic resource for planning and development. This joint effort will strengthen the foundation for future national and regional initiatives.

Future Directions

The second phase of the project will build on the outputs of the current project focusing on management of the MPA network in Sri Lanka as management of the resources in collaboration with government, private and local communities is crucial for the conservation and sustainable development of the country.

Database Management and Security

Maintaining the accuracy and functionality of the database is a key priority. Sensitive data will be securely stored and shared exclusively with authorised parties, ensuring confidentiality. The publicly available map will consolidate scattered existing data into a streamlined and accessible format, enhancing its utility for various users.

Data Security and Confidentiality

The handling of sensitive data in an open source or public platform was a significant focus. While most data utilised in the project is already publicly accessible, highly sensitive or confidential information will not be disclosed. This data will remain under the stewardship of EFL and will only be shared under a joint agreement between MoE, EFL and the data

requesting party. Access will be granted solely for specific purposes and must be formally requested through both MoE and EFL. This approach ensures data security while maximising the accessibility of non-sensitive information.

3.2.3 Group Activity (Network Assessment)

The group activity aimed at strengthening MPA networks by ensuring accurate ecological and habitat data representation, evaluating governance frameworks, and identifying gaps in MPAs, FMAs, and SMAs. Participants, divided into three thematic groups; (1) Ecological & biological data, (2) Non-living resources, and (3) Governance & regulatory frameworks, assessed missing data, validated boundaries, and discussed ways to improve network functionality through better map representation.

Ten MPA Network Assessment Principles (Ecological Representativity, Connectivity, Adequacy, Ecological Integrity, Feasibility and Governance, Social and Cultural Relevance, Climate Resilience, Economic and Ecosystem Service Value, Threat mitigation, and Measurable Objectives and Monitoring were discussed (see Table 4).

Table 4. Definitions of the MPA Network Assessment Principles.

Principle	Definition
Ecological Representativity	Ensuring the MPA network includes a full range of biodiversity (species, habitats, ecosystems) within a given region to reflect its natural variation.
Connectivity	The degree to which different MPAs are ecologically linked, allowing species and ecological processes to move between them (e.g. larval dispersal).
Adequacy	Ensuring each MPA and the overall network are large enough and appropriately managed to maintain ecosystem functions and viable populations.
Ecological Integrity	Maintaining the structure, composition, and functioning of ecosystems so they remain resilient and self-sustaining.
Feasibility and Governance	The practicality of implementing and managing MPAs effectively, considering legal, institutional, and resource frameworks.
Social and Cultural Relevance	Respecting and integrating the needs, knowledge, and values of local communities, including indigenous and cultural connections to marine areas.
Climate Resilience	Designing MPAs to help ecosystems adapt to or withstand the impacts of climate change (e.g. warming, acidification, sea-level rise).
Economic and Ecosystem Service Value	Considering the benefits MPAs provide in terms of fisheries, tourism, coastal protection, and other ecosystem services.

Principle	Definition
Threat Mitigation	Targeting areas where protection will reduce or eliminate significant threats to marine biodiversity and ecosystem health.
Measurable Objectives and Monitoring	Setting clear, measurable conservation goals and establishing monitoring systems to track progress and effectiveness.

Ecological Representativity

- The current ecological representativity of Sri Lanka's MPA network is assumed to be between 0.3% and 0.47% of the total marine area.
- Sri Lanka should aim to expand protection to support the achievement of the global target of conserving 30% of the earth's land and sea by 2030, inclusive of marine ecosystems, under the Convention on Biological Diversity (CBD).
- Incorporating FMAs will contribute to achieving this target.
- Data deficiencies related to marine areas hinder accurate representation and planning.

Connectivity

- Enhanced connectivity is crucial for creating ecologically coherent MPA networks.
- Gaps in connectivity need to be identified and addressed through appropriate legislation.
- Potential solutions include creating a large, protected area or incorporating FMAs to ensure connectivity.
- Data deficiencies remain a significant challenge in achieving connectivity goals.

Adequacy

- Further protection is likely to be required but needs to be scientifically blended with stakeholder consultation and sufficient resources to manage and monitor new areas.
- Large, protected areas (PAs) with strictly protected zones inside are preferable for ecological adequacy.

Ecological Integrity

- Coral reefs, seagrass beds, salt marshes, and spawning grounds are inadequately protected and need to be prioritised in MPA identification.
- A better understanding of ecological integrity is essential to ensure effective conservation.

Feasibility and Governance

- Sri Lanka's marine zones are divided into 12, 24, 200 nautical miles, and beyond, with various laws governing these zones.
- Protected areas should be declared under the strongest legal framework, such as Fauna and Flora Protection Ordinance (FFPO).
- A collaborative approach involving multiple agencies is critical to streamline governance and ensure effective MPA declarations.

Social and Cultural Relevance

- Awareness of MPAs is low among local communities, emphasising the need for improved education and outreach on their importance and conservation benefits.

Climate Resilience

- Climate-resilient ecosystems, such as mangroves, should be integrated into MPA planning to address gaps in the current approach.

Threat Mitigation

- Threat levels and biodiversity importance should be factored into MPA declarations.
- Transboundary agreements with regional states (e.g. Sri Lanka and India) are vital to protecting marine areas and addressing issues like plastic pollution.
- Enforcement, monitoring, resources and boundary identification are essential to combat illegal activities, such as dynamite fishing, spearfishing and bottom trawling.
- Integration of advanced technologies with Sri Lanka Coast Guard, Sri Lanka Navy, and DWC can enhance enforcement.
- A centralised and coordinated mechanism involving key stakeholders is needed for effective threat mitigation and sustainable MPA management.

Measurable Objectives and Monitoring

- Establish systems similar to the Personal Information Management System (PIMS) to streamline data collection, monitoring, and reporting.
- Focus on measurable objectives and metrics to track the success of MPAs.

3.2.4 Group Discussion (Roadmap Development)

The session also included a discussion on improving MPA functionality and roadmap development, where participants proposed strategies focused on refining governance structures, strengthening ecological connectivity, integrating climate resilience measures, and improving stakeholder collaboration to ensure effective network expansion.

Tourism Integration

- Tourism areas can be incorporated into the map to support sustainable management and planning, ensuring the coexistence of conservation and recreational activities.

Plastic Pollution Mitigation

- A mechanism can be established requiring plastic producers to contribute financially to conservation efforts, as they are significant contributors to plastic pollution. Funds can be allocated to mitigate the impacts of pollution and support conservation projects.

Shipping Route Management

- International shipping routes can be included on the map for effective management and to identify potential conflict areas.
- Highly sensitive areas can be restricted for shipping activities under domestic law to minimise ecological impact.

Sensitive Area Identification

- Several sensitive areas in the Northeast are currently missing but are documented in the 2018 and 2023 CC&CRMD management plans. These should be incorporated into the map for comprehensive coverage.

Legal and Administrative Approvals

- Input needs to be taken from the government maritime legal officer to ensure compliance with legal frameworks before publication.
- Additionally, permission needs to be obtained from the Digital Ministry to authorise the publication of the map.

Accelerated Declaration of MPAs

- DWC should accelerate the declaration of MPAs in Sri Lanka to enhance marine conservation efforts.

Collaboration with the Navy

- Finalised data from this project, combined with related datasets from other authorised agencies, can be shared with the Sri Lanka Navy.
- Then, the SL Navy can incorporate this data into their hydrographic charts for enhanced maritime navigation and management.

Licensing for MPA Networks

- A licensing process can be incorporated for MPA networks to improve conservation and management, collaborating with relevant agencies for implementation.

Verification and Public Access

- A thorough verification process of the map and associated data is essential before making it publicly accessible.

3.3. Workshop Two

Workshop two was conducted on February 27, 2025, at Cinnamon Grand Hotel in Colombo, with the main stakeholders and partners in the government sector (see Figure 6). Twenty-seven participants attended the workshop. The agenda and the list of institutes can be found in the [annex 8.7](#) and [annex 8.8](#) of this report along with images of key moments from the meeting (see Fig 12).



Figure 6. Group photo of the Workshop Two.

3.3.1. Objectives of the workshop two

1. To review and validate the mapped MPAs and associated spatial layers.
2. To assess current governance structures for MPAs and to identify roles and responsibilities of different institutions.
3. To identify and minimise the conflicts in MPAs, FMAs, and SMAs.
4. To propose harmonisation of policies across institutions.

5. To gather recommendations on collaborative management structures and improved ecological data sharing.

3.3.2. Key Findings of Workshop Two

Round Table Discussion – Institutional collaboration and MPA governance

The roundtable discussion on institutional collaboration and MPA governance brought together key stakeholders to evaluate the current governance framework of MPAs in Sri Lanka. Representatives from all relevant government stakeholder agencies shared insights into their respective roles and responsibilities while exploring opportunities to enhance inter-agency collaboration for more effective marine conservation efforts. The discussion focused on assessing governance structures, addressing conflicts arising from overlapping jurisdictions, and identifying mechanisms for sustainable and integrated management.

Governance and Management of MPAs

The DWC manages 28 MPAs, classified into nine fully protected and 19 partially associated areas. A five-year management plan is mandated following an MPA's declaration, guiding conservation efforts through various divisions. The governance structure is led by the Director General of DWC, with responsibilities divided among directors and assistant directors. Law enforcement falls under the FFPO which supersedes the Fisheries and Aquatic Resources Act within MPAs. While DWC regulates fisheries in overlapping FMAs it does not require fishing licenses within MPAs.

MPAs have varying levels of protection based on permitted activities. Strict Nature Reserves and Nature Reserves prohibit tourism, allowing only authorised scientific research. National and Marine National Parks permit regulated ecotourism but strictly forbid hunting and habitat destruction. Sanctuaries allow limited cultivation and habitation under restrictions, ensuring minimal impact on wildlife. Buffer zones further safeguard these areas. Inter-agency collaboration is vital in MPA management, with stakeholder consultations and public-private partnerships, such as the Accelerated Natural Regeneration of Mangroves project, supporting conservation initiatives.

Governance and Management of FMAs

FMAs are managed under the Fisheries and Aquatic Resources Act, with stakeholder-inclusive management committees established before designation. These committees develop management plans, draft regulations, and oversee enforcement through the Fisheries Department, assisted by the Navy, Coast Guard, and Police. Regulations include restrictions on fishing gear, seasonal closures, and no-take zones for habitat protection. While certain FMAs, like Negombo Lagoon, have structured management plans, others require further development. When FMAs overlap with Wildlife Protected Areas (MPAs), DWC holds authority over fisheries regulations, ensuring conservation priorities align with the DFAR.

Governance and Management of SMAs

The CC & CRMD oversees SMAs under the Coast Conservation and Coastal Resource Management Act, though no areas have been officially gazetted. The 2024-2029 Coastal Resource Management Plan proposes 48 management areas with site-specific regulations. Development is prohibited in designated *Affected* areas and *Conservation Areas*, such as sand dunes in Panama Lagoon and Punapitiya, which are protected from mineral sand mining. Regulatory enforcement is essential to ensure compliance and safeguard coastal ecosystems.

Inter-Agency Collaboration and Conflict Resolution

Overlapping jurisdictions of MPAs, FMAs, and SMAs necessitate coordinated management efforts. Successful co-management initiatives, such as those in Komari Lagoon and Urani Kottukal, demonstrate the effectiveness of integrated governance. Discussions emphasised that overlaps do not inherently create conflicts, as regulatory frameworks are designed to work in harmony. However, improved communication among authorities is necessary for seamless enforcement. Political pressure remains a key challenge, particularly in non-designated areas, requiring stronger governance mechanisms to protect marine ecosystems.

Leveraging Technology for Conservation

The Sri Lanka Navy's Hydrographic Department plays a crucial role in marine spatial planning through its bathymetric data management. The Marine Spatial Data Infrastructure platform was highlighted as a valuable tool for centralising marine conservation data. Integrating MPAs into this system would enhance decision-making, enabling more effective conservation strategies. Overall, the roundtable discussion underlined the importance of institutional collaboration in the governance of MPAs, FMAs, and SMAs. Strengthening inter-agency coordination, refining legal frameworks, and leveraging technology are key priorities for enhancing marine conservation efforts in Sri Lanka.

Group Discussions – Improving MPA management and conservation efforts

Participants were divided into two groups to discuss key aspects of improving MPA management and conservation efforts during the workshop. Group 1, comprising representatives from the FD, CC & CRMD, DS, MoF, MoFA, MoE, and SLN, focused on harmonising policies across institutions and recommending collaborative management structures with improved ecological data sharing. Group 2, including the DWC, DFAR, MoE, MoF, SLPA, SLCG, and MEPA, concentrated on enhancing monitoring and enforcement strategies and updating marine spatial maps (see Figure 7).

Key Findings and Recommendations from Group 1

A Multi-Stakeholder Forum was proposed to bring together all relevant authorities for regular discussions and decision-making. This forum would help ensure accurate and up-

to-date mapping data while addressing conservation challenges such as preventing tourism-related environmental misuse, monitoring mining activities on the East Coast, and regulating fisheries board landing sites. Establishing the forum requires identifying a lead organisation, formalising a Terms of Reference (ToR), and securing commitments through an MoU.

To enhance data security, recommendations included implementing defined access levels for open-source platforms to protect sensitive spatial data. Additionally, integrating marine data with the MoE's proposed 'Digital Dashboard' could facilitate secure data sharing using encrypted transmissions and controlled access levels. Improving fisheries management was also highlighted, emphasising the need for a well-maintained registry of fish landing sites and strategies to prevent illegal fishing activities. Concerns over bottom trawling by Indian fishermen were raised, underscoring the urgency of stronger enforcement measures.

Key Findings and Recommendations from Group 2

Improving SL's radar system was identified as a priority, as existing monitoring capabilities cover only 30 out of a possible 120 nautical miles. The SLN, in coordination with relevant authorities, plays a crucial role in maritime security, while biodiversity monitoring is managed by the MoE and CEA. Environmental Officers at the Divisional Secretariat level support enforcement, with field officers conducting investigations in collaboration with relevant institutions.

MEPA was identified as the lead agency for pollution prevention, with projects focused on protecting mangroves and coral reefs. Key measures discussed included oil spill response protocols, community-based beach cleanups, and strengthening plastic waste prevention at its source. The absence of ballast water discharge regulations was highlighted as a critical gap, with recommendations to update the MEPA Act to establish guidelines.

In the fisheries sector, challenges were noted regarding VMS, which are currently implemented only for large boats, leaving around 25,000 small vessels unmonitored. Strengthening Section 34 of the Fisheries and Aquatic Resources Act was proposed to introduce seasonal protections and establish fisheries reserves to protect key species. The SLCG's role in enforcement was discussed, with a recommendation to grant them prosecution authority and expand their capacity-building programs to improve species identification and law enforcement.

Way Forward

Integrating marine habitat data into the United Kingdom Hydrographic (UKHO) was suggested as a means to enhance global maritime operations while safeguarding ecologically significant areas (see Figure 8). Increased public engagement in data collection could contribute valuable insights, particularly for identifying whale breeding zones and monitoring ecological sensitivity in regions like Mannar. Collaborations with

DFAR and DWC could encourage fishermen and whale-watching operators to contribute data on marine mammal sightings, supporting conservation planning.

Environmental committees at Divisional Secretariat and district levels should play a key role in maintaining the accuracy of marine habitat maps, ensuring real-time data updates through grassroots-level contributions. Strengthened monitoring and enforcement mechanisms, particularly in sensitive areas like Palk Bay and the Gulf of Mannar, were recommended to mitigate the impact of unsustainable fishing practices. By implementing these collaborative measures, SL can enhance marine conservation efforts, promote sustainable fisheries management, and protect its rich marine biodiversity.

4. Results and Outputs

4.1. MPA Network Map of Sri Lanka

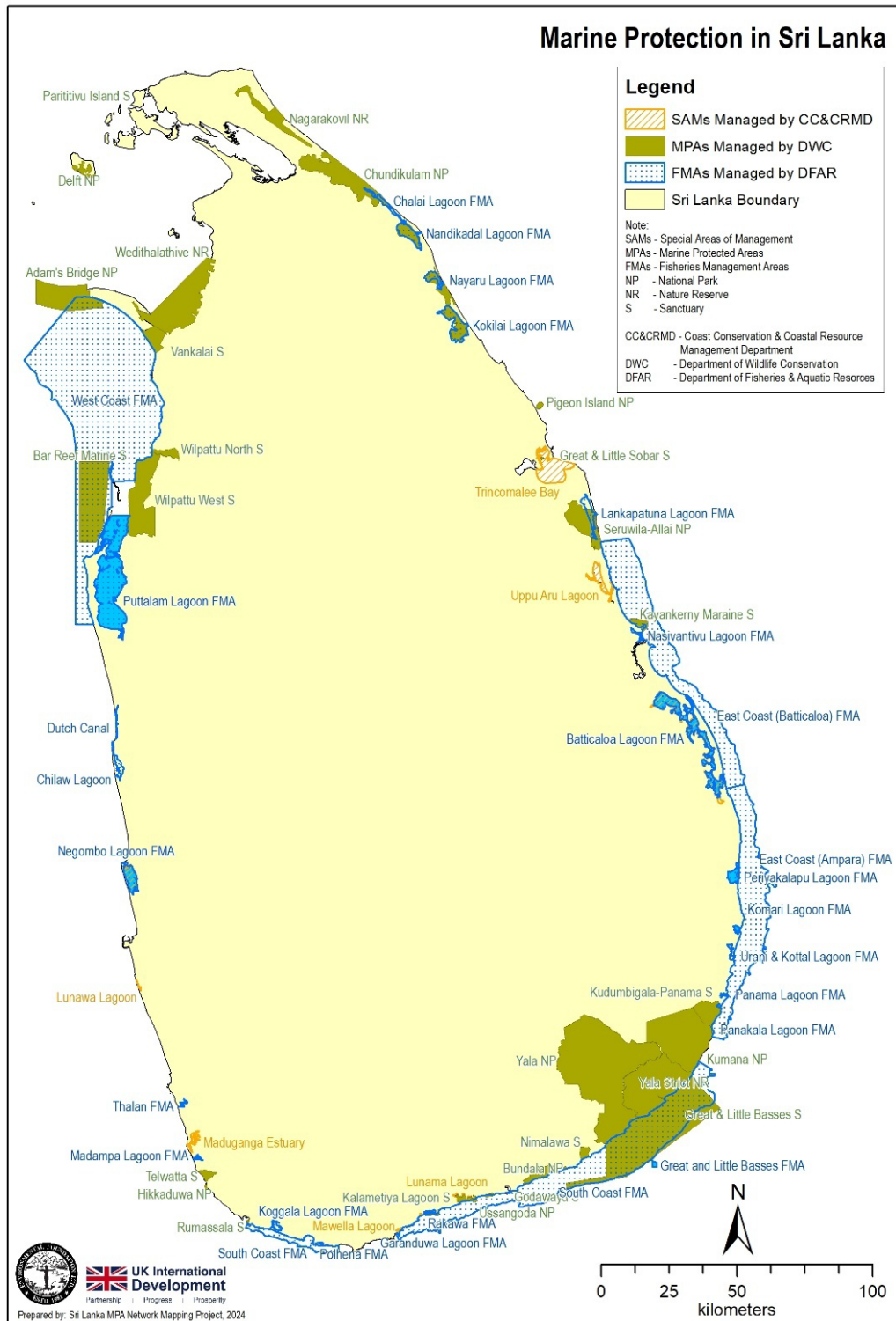


Figure 7. MPAs, FMAs, and SMAs of Sri Lanka.

4.2. Marine and coastal environment of Sri Lanka

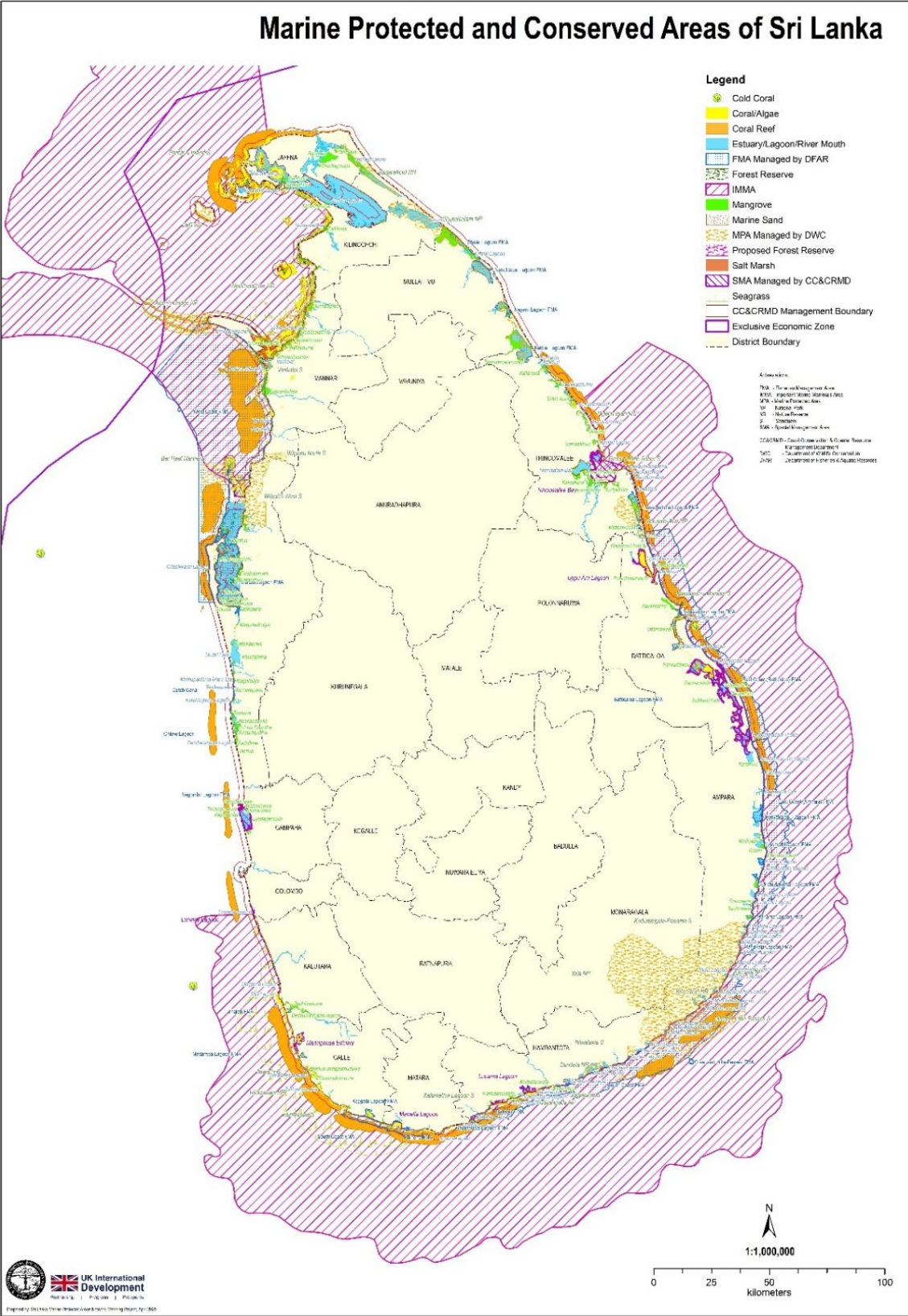


Figure 8. Sri Lanka marine protected areas and habitats.

4.3. Regional Maps

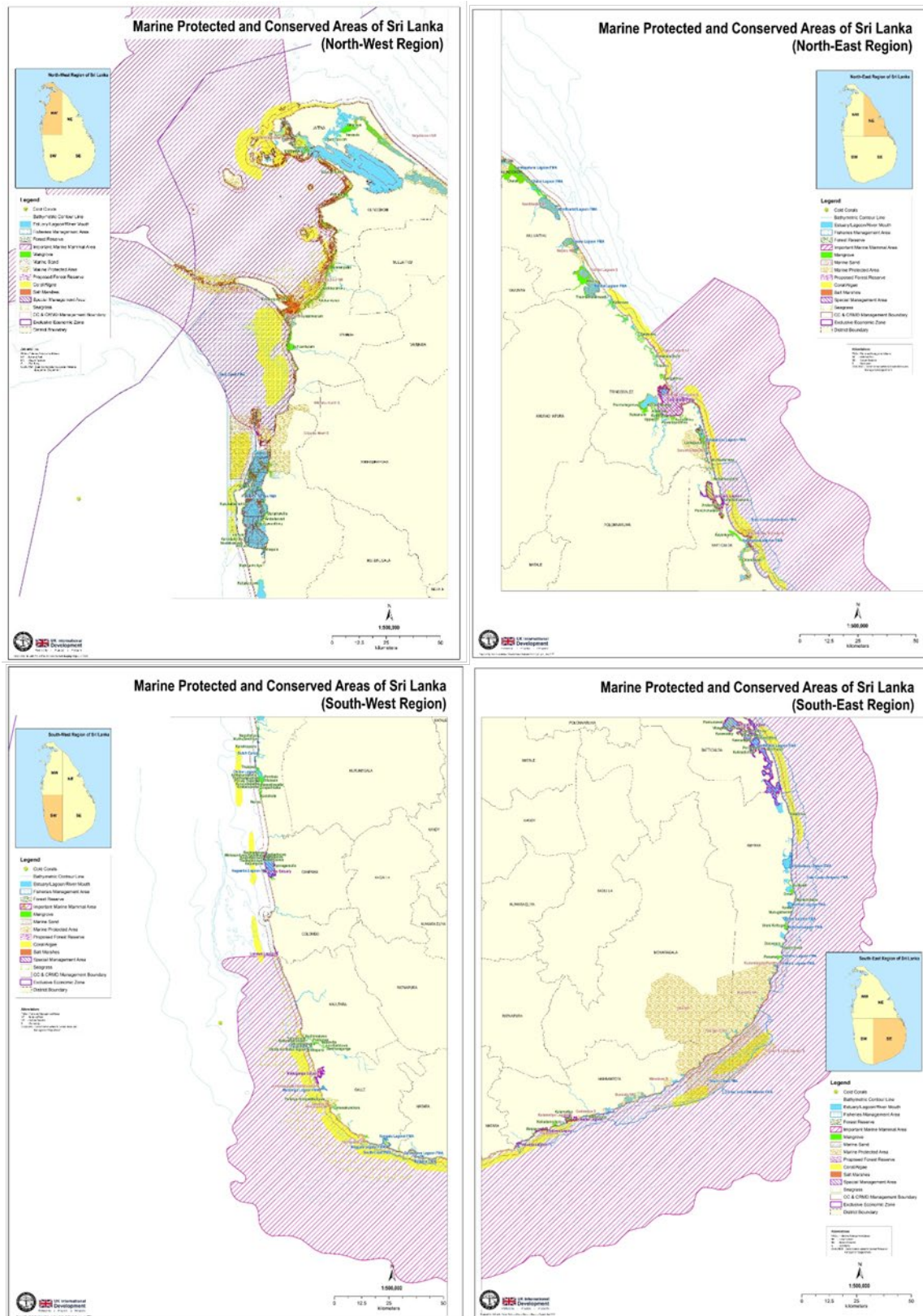


Figure 9. Marine protected and conserved areas in North-West, North-East, South-East, and South-East region of Sri Lanka.

5. Discussion

The development of the MPA, FMA, and SMA network map (see Figure 7), incorporating habitat and other sensitive data (see Figure 8 & 9), has provided valuable insights into the spatial distribution and interactions of these managed areas. Through GIS analysis, we identified significant overlaps between MPAs, FMAs, and SMAs, highlighting both opportunities for integrated management and challenges related to data accuracy, governance, and accessibility.

Several overlaps in MPAs with FMAs and SMAs were identified during the development of the MPA network map, see full list below:

- Adam's Bridge National Park and West Coast (Mannar and Puttalam District) FMA
- Bar Reef Marine Sanctuary and West Coast (Mannar and Puttalam District) FMA
- Chundikulam National Park and Lankapatuna Lagoon FMA
- Chundikulam National Park and Chalai Lagoon FMA
- Nandikadal Nature Reserve and Nandikadal Lagoon FMA
- Nayaru Nature Reserve and Nayaru Lagoon FMA
- Kokilai Lagoon and Kokilai Lagoon FMA
- Great Sobar and Little Sobar Island Sanctuary and Trincomalee Bay SMA
- Seruwila-Allai National Park and Lankapatuna Lagoon FMA (Down-Eastern)
- Kayankerni Marine Sanctuary and East Coast (Batticaloa District) FMA
- Batticaloa Lagoon FMA and Batticaloa Lagoon SMA
- Great Basses and Little Basses Sanctuary and South Coast (Hambantota District) FMA
- Kalametiya Lagoon Sanctuary and Kalametiya Lagoon SMA
- Rakawa Sanctuary and South Coast (Hambantota District) FMA
- Koggala Lagoon FMA and Koggala Lagoon SMA
- Rumassala Sanctuary and South Coast (Galle and Matara) FMA
- Negombo Lagoon FMA and Negombo Estuary SMA

In many cases, MPAs and FMAs share common areas, creating a complex governance landscape where conservation priorities and fishing regulations must be carefully balanced. While MPAs aim to enhance marine biodiversity protection, FMAs are established to regulate fishing activities, leading to potential conflicts when enforcement responsibilities are unclear. Similarly, SMAs, which often encompass ecologically sensitive habitats, were found to overlap with both MPAs and FMAs. This overlap may indicate critical areas that require enhanced protection but also raises concerns about competing

resource use. If not properly managed, these overlapping zones could lead to conflicts between conservation efforts and economic activities such as fisheries and tourism. The duplication of spatial boundaries across different management categories further highlights the need for clear jurisdictional definitions. In some cases, multiple stakeholders have designated the same areas under different management regimes, creating uncertainties in legal enforcement and policy application. These findings emphasise the importance of coordinated governance to ensure that overlapping areas contribute to effective marine conservation and resource management rather than policy conflicts.

Identified Challenges

Several challenges were encountered during the mapping process, particularly related to data availability, accessibility, and accuracy. One of the primary issues was the unavailability of spatial data in digital GIS formats, as many organisations maintained their records in printed documents rather than GIS compatible files. This significantly slowed down data integration and required additional effort to digitise and standardise records. Compounding this issue were restrictive data sharing policies and stakeholder attitudes, where institutional regulations and personal reluctance to share spatial information created major barriers to obtaining necessary datasets. These limitations restricted access to critical spatial data, ultimately hindering collaborative research and decision making. Additionally, modern communication tools, such as email and WhatsApp, proved ineffective in data collection, as many stakeholders were unresponsive, leading to inefficiencies in the process. In cases where data was shared, it was often provided in printed paper formats rather than as digital files, requiring extensive manual digitisation and increasing the risk of errors.

Another significant challenge was the presence of data overlaps and duplications across multiple sources, which made it difficult to determine the most accurate and up to date version, thereby complicating the integration process and raising concerns about data reliability. Accuracy issues also arose due to the use of different map scales by various stakeholders, leading to inconsistencies in boundary delineations and requiring careful cross-validation to ensure precision.

Furthermore, extracting legal boundaries from gazetted documents was particularly challenging due to typing errors and formatting inconsistencies, introducing additional difficulties when converting textual descriptions into spatial data. These challenges emphasise the need for improved data management practices, standardised data sharing protocols, and enhanced collaboration among stakeholders to ensure the accuracy and accessibility of spatial data for effective marine resource management.

6. Recommendations

To address the challenges identified in the development of the MPA, FMA, and SMA network map, several strategic actions are recommended to enhance data accuracy, stakeholder collaboration, and long-term sustainability of marine conservation efforts.

1. Strengthening Data Governance and Sharing Mechanisms

A national-level digital data-sharing policy should be established to standardise the collection, storage, and exchange of spatial data among stakeholders. This policy should promote open data sharing frameworks while ensuring security and administrative controls to protect sensitive information. Additionally, a structured mechanism is needed to mitigate and prevent data overlaps by different stakeholders, ensuring consistency and reliability in spatial datasets.

Regular updating, maintaining, and improving the MPA network is crucial for effective project planning, data management, and operational activities. By enhancing data accessibility and promoting information sharing, the sustainability of MPAs can be better ensured.

2. Capacity Building and Awareness

Stakeholders must be introduced to modern communication technologies to enhance collaboration and efficiency in data collection and management. Conducting capacity building programs will improve stakeholder engagement and ensure better responsiveness to digital communication tools such as email, cloud-based platforms, and instant messaging applications.

Enhanced training programmes for Naval and Coast Guard officers are also necessary, considering the frequent rotation of their duty stations. Development of a reusable training materials which could be easily accessible and self-studied will be relay important for the officers. Strengthening interagency collaboration and ensuring continuous knowledge transfer will improve enforcement and conservation efforts. Special emphasis should be placed on species identification to enhance monitoring and protection capabilities.

3. Establishing a Multi-Stakeholder Forum

A dedicated Multi-Stakeholder Forum should be established to bring together key government agencies, local authorities, and community representatives. This forum will serve as a platform for collaborative decision making, regular data updates, and addressing conservation challenges. Key areas of focus include:

- Preventing the misuse of tourism areas through better zoning and enforcement measures.

- Strengthening monitoring efforts related to mining activities, particularly along the East Coast, to reduce pollution risks.
- Enhancing fisheries management by improving the regulation of fisheries boat landing sites and optimising the number of landing sites to prevent illegal activities.

To successfully operationalise the forum, key steps should include:

- Identifying a focal point responsible for coordination and leadership.
- Developing a ToR outlining objectives, roles, and responsibilities of stakeholders.
- Establishing a MoU among stakeholders to ensure long term commitment and cooperation.

4. Integrating Digital Solutions for Secure Data Management

To enhance the security and accessibility of spatial data, the project should integrate with the 'Digital Dashboard' platform proposed by the MoE. This platform would provide:

- Administrative level access control to regulate data usage.
- Encrypted data transmission to ensure security.
- Layered access to sensitive spatial information, facilitating efficient and secure data management.

5. Addressing Illegal Fishing and Strengthening Marine Surveillance

Illegal fishing practices, particularly bottom trawling by Indian fishermen, remain a critical issue requiring urgent intervention. A comprehensive enforcement mechanism should be developed to address these challenges, ensuring better fisheries management and protecting marine biodiversity.

Maritime security must also be enhanced by improving Sri Lanka Navy's coordination with relevant authorities. Strengthening surveillance, enforcement, and radar coverage will ensure more effective monitoring of territorial waters. Although the total radar monitoring range extends up to 120 nautical miles, effective coverage is currently limited to 30 nautical miles, therefore, further advancements are needed to improve this capability.

6. Strengthening Legal Frameworks for Fisheries Management

Revisions to Section 34 of the Fisheries and Aquatic Resources Act should be considered to enhance the management of breeding areas and critical marine habitats. Additional provisions should be introduced to:

- Establish fisheries reserves in ecologically significant areas.
- Implement seasonal restrictions for sensitive breeding zones.

- Introduce species specific quotas to regulate the collection of high value marine species such as sea cucumbers and rare species.

Currently, closed seasons are established for spiny lobsters and slipper lobsters in February, September, and October to protect breeding cycles. However, many species remain without quota regulations, increasing the risk of overexploitation. Strengthening legal protections and enforcement measures will help mitigate this issue.

7. Identifying Critical Areas for Marine Resource Management

It is essential to identify specific locations within Sri Lanka's EEZ that require enhanced management, protection, and possible expansion of conservation efforts. A systematic marine spatial planning approach should be implemented to assess key threats such as overfishing, illegal fishing, pollution, and habitat degradation and evaluate potential areas for expanding MPAs, FMAs, and SMAs, ensuring effective marine resource management.

8. Expanding Awareness and Community Engagement

Awareness programs in declared FMAs should be expanded and strengthened to promote community participation, stakeholder compliance, and conservation efforts. By improving outreach and engagement, sustainable marine resource management can be better enforced.

7. Conclusion

The Sri Lanka MPA Network Mapping Project represents a significant step towards enhancing marine conservation efforts in Sri Lanka. By integrating spatial data, stakeholder collaboration, and scientific analysis, the project has successfully developed a comprehensive MPA network map that identifies key habitats, species distributions, and governance frameworks. The project has highlighted several critical aspects of MPA management, including the importance of data accessibility, the need for policy harmonisation, and the necessity of multi-agency collaboration. Through extensive stakeholder engagement, key challenges including limitations in data sharing, overlapping governance structures, and enforcement constraints were identified and addressed with strategic recommendations. The final MPA network map and database serve as valuable tools for policymakers, conservationists, and researchers to improve marine spatial planning, optimise conservation strategies, and support sustainable resource management. Moving forward, continued collaboration among government agencies, research institutions, and local communities will be essential to maintaining and expanding the MPA network. By leveraging digital mapping technologies, strengthening enforcement mechanisms, and fostering institutional cooperation, Sri Lanka can enhance its marine conservation efforts and contribute to global biodiversity conservation goals. The project sets the foundation for informed decision making, ensuring that marine ecosystems remain protected while supporting the livelihoods of coastal communities.

8. Annexes

8.1. Inception Meeting Agenda

Time	Activities
9.15 AM - 9.30 AM	Registration
9.30 AM - 9.40 AM	Opening Remarks (Dr. Eric Wickramanayake - Director, EFL)
9.40 AM - 10.00 AM	Project objectives, plan, timeline (Dr. Suleka Madhubashini, Head of Science)
10.00 AM - 10.30 AM	Project Progress
10.30 AM- 10.45 AM	Tea Break
10.45 AM - 11.30 AM	Presentations by DWC, DFAR and CC & CRMD. Open discussion: Stakeholders share insights on current data gaps and management challenges
11.30 AM - 12.30 PM	Presentation on the first draft of the map and gaps followed by a group discussion (baseline map) Missing gazettes/spatial data - way forward Proposed MPAs (not gazetted)
12.30 PM - 01.30 PM	Lunch
01.30 PM - 2.30 PM	Group discussion (MPA gaps) Criteria used for MPA designation by DWC, DFAR, CCD Additional criteria that should be considered Potential sources to support criteria (EFL to collate relevant data from ESA, 6th NR, literature etc prior to this) Presenting the information gathered from the discussion by each representative of the groups
2.30 PM - 3.15 PM	Open discussion (stakeholder collaboration and engagement) Synergies with other activities, potential contributions, opportunities for collaboration Identification of key focal points within agencies to assist in the remaining data collection and mapping efforts
3.15 PM - 3.30 PM	Data collection and mapping strategy by EFL
3.30 PM - 3.45 PM	Closing Remarks (Dr. Chaturangi Wickramaratne, Director)
3.45 PM - 4.00 PM	Feedback Form Completion
4.00 PM onwards	Tea

8.2. Participants of Inception Meeting

No	Institutes / Organisations
1.	Ministry of Environment
2.	Ministry of Fisheries
3.	Department of Wildlife Conservation (DWC)
4.	Coastal Conservation and Coastal Resources Management Department (CC & CRMD)
5.	Department of Fisheries and Aquatic Resources (DFAR)
6.	Forest Department
7.	Sri Lanka Customs
8.	National Physical Planning Department
9.	Central Environmental Authority (CEA)
10.	National Aquaculture Development Authority of Sri Lanka (NAQDA)
11.	Sri Lanka Ports Authority
12.	National Water Supply and Drainage Board
13.	National Aquatic Resources Research and Development Agency (NARA)
14.	Sri Lanka Navy
15.	Sri Lanka Police
16.	Sri Lanka Coast Guard
17.	British High Commission
18.	United Nations Development Programme (UNDP)
19.	Foreign, Commonwealth and Development Office (FCDO)
20.	International Union for Conservation of Nature (IUCN)
21.	The Asia Foundation
22.	Centre for Environmental Justice (CEJ)
23.	Blue Resource Trust
24.	Oceanswell
25.	The Pearl Protectors
26.	Janathakshan Gte Ltd
27.	SLYCAN Trust
28.	Multiday Fishing Boats Owners Association
29.	GIS Specialist
30.	Senior Environmental Lawyer
31.	Environmental Foundation (Guarantee) Limited

8.3. Key Moments Captured - Inception Meeting



Figure 10. A) Participation of representatives from British High Commission and key stakeholders. B) Idea sharing on the MPA Network mapping Project. C) Presentation by the Assistant Director of DWC. D) Participation of Governmental and non-governmental stakeholders.

8.4. Workshop One Agenda

Time	Activities
9.00 AM - 9.20 AM	Registration
9.30 AM - 10.30 AM	Presentation on prepared maps (Mr. Nalaka Kodippili - GIS Specialist)
10.30 AM - 10.55 AM	Group Photo and Tea Break
10.55 AM- 11.55 AM	Panel discussion
11.50 AM - 12.55 PM	Group Activity - Collaborative Map Refinement and Visioning
12.55 PM - 01.25 PM	Discussion on improved functionality of the MPA and future steps
01.25 PM - 1.40 PM	Awareness Speech (Dr. Jagath Gunawardena)

Time	Activities
1.40 PM - 1.50 PM	Wrap-Up Session (Mr. Madhava Botejue – Deputy Head of Science, EFL)
1.50 PM - 1.55 PM	Vote of Thanks (Dr. Suleka - Head of Science, EFL)
1.55 PM - 2.00 PM	Feedback Form Completion
2.00 PM	Lunch

8.5. Participants of Workshop One

No	Institutes/Organisations
1.	Ministry of Environment
2.	Ministry of Fisheries
3.	Department of Wildlife Conservation (DWC)
4.	Coastal Conservation and Coastal Resources Management Department (CC & CRMD)
5.	Department of Fisheries and Aquatic Resources (DFAR)
6.	Forest Department
7.	Sri Lanka Customs
8.	National Physical Planning Department
9.	Department of Survey
10.	Department of Census and Statistics
11.	Central Environmental Authority (CEA)
12.	Marine Environment Protection Authority (MEPA)
13.	National Aquaculture Development Authority of Sri Lanka (NAQDA)
14.	Sri Lanka Ports Authority
15.	National Water Supply and Drainage Board
16.	National Aquatic Resources Research and Development Agency (NARA)

No	Institutes/Organisations
17.	Telecommunications Regulatory Commission of Sri Lanka (TRCSL)
18.	Central Cultural Fund (CCF)
19.	Galle Heritage Fund
20.	Sri Lanka Navy
21.	Sri Lanka Police
22.	Sri Lanka Coast Guard
23.	International Union for Conservation of Nature (IUCN)
24.	Centre for Environmental Justice (CEJ)
25.	Blue Resource Trust
26.	Oceanswell
27.	The Pearl Protectors
28.	Institute of Policy Studies of Sri Lanka
29.	Lanka Environment Fund
30.	GIS Specialist
31.	Legal Consultant
32.	Environmental Foundation (Guarantee) Limited

8.6. Key Moments Captured - Workshop One



Figure 11. A) Director, Biodiversity Secretariat Explaining the support can be given from Ministry of Environment. B) Group discussion on improving MPA functionality and way forward. C) Analysing the present MPA Network map by the stakeholders. D) Group activity aimed at strengthening MPA networks.

8.7. Workshop Two Agenda

Time	Activities
9.15 AM - 9.30 AM	Registration & Welcome tea
9.30 AM - 9.45 AM	Opening Remarks and Overview of MPA Network Mapping Project (Dr. Suleka - Head of Science, EFL)
9.45 AM -10.30 AM	Presentation: Final MPA Network Map & Identified Overlaps (Mr. Nalaka Premanath - GIS Specialist)
10.30 AM- 10.45 AM	Group Photo & Tea Break
10.45 AM - 12.00 PM	Round Table Discussion: Institutional Collaboration & MPA Governance
12.00 PM - 12.45 PM	Breakout Sessions: Developing Actionable Recommendations
12.45 PM - 1.30 PM	Summary of Discussions, Key Takeaways & Concluding Remarks (Dr. Chaturangi Wickramaratne, Director, EFL)
1.30 PM - 1.50 PM	Workshop Evaluation & Closing (Dr. Suleka - Head of Science, EFL)
1.50 PM – 2.00 PM	Feedback Form Completion
2.00 PM Onwards	Lunch

8.8. Participants of Workshop Two

No	Institutes/Organisations
1.	Ministry of Environment
2.	Ministry of Fisheries
3.	Ministry of Foreign Affairs
4.	Department of Wildlife Conservation (DWC)
5	Coastal Conservation and Coastal Resources Management Department (CC & CRMD)
6.	Department of Fisheries and Aquatic Resources (DFAR)
7.	Forest Department
8.	Department of Survey
9.	Marine Environment Protection Authority (MEPA)
10.	Sri Lanka Ports Authority
11.	Sri Lanka Navy
12.	Sri Lanka Coast Guard
13	University of Colombo
14.	GIS Specialist
15.	Legal Consultant
16.	Environmental Foundation (Guarantee) Limited

8.9. Key Moments Captured - Workshop Two



Figure 12. A) GIS specialist explaining the GIS-based methodology used to develop the map in response to participants' questions. B) The Chairperson of EFL delivering a speech. C) Assistant Director, DWC explaining the role and responsibilities of the DWC in MPA management. D) Presenting ideas and comments gathered from stakeholders in Group 2.