

L. Hithadhoo Wetland and Surrounding Marine Protected Area Management Plan



Copyright © 2025, Ministry of Tourism and Environment

5th Floor, Velaanaage, 20096, Ameeru Ahmed Magu, Malé, Maldives

Prepared by the Enhancing National Development through Environmentally Resilient Islands (ENDhERI) Project for the Ministry of Tourism and Environment

Author: Water Solutions Pvt Ltd

(Consultancy Service to Develop Management Plan for Six Protected Areas at Laamu Atoll)

Layout & Cover Design: Ali Nizar

Contents

| | |
|--|----|
| List Of Figures And Tables | 4 |
| Executive Summary | 5 |
| Introduction | 6 |
| Vision..... | 7 |
| Management Objectives..... | 8 |
| Description Of The Site | 9 |
| CURRENT RESOURCE USE..... | 10 |
| Key Values Of The Site | 13 |
| Identification Of Constraints, Opportunities And Threats..... | 14 |
| CONSTRAINTS | 14 |
| THREATS | 14 |
| OPPORTUNITIES | 15 |
| Governance | 17 |
| ROLES AND RESPONSIBILITIES OF THE MINISTRY OF TOURISM AND ENVIRONMENT (MOTE) | 17 |
| ROLES AND RESPONSIBILITIES OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA)..... | 17 |
| ROLES AND RESPONSIBILITIES OF LAAMU HITHADHOO COUNCIL | 18 |
| ROLES AND RESPONSIBILITIES OF THE PA MANAGEMENT UNIT..... | 18 |
| THE PA MANAGEMENT STEERING COMMITTEE..... | 19 |
| KEY REGULATIONS, POLICIES, CODES OF CONDUCT AND GUIDANCE | 20 |
| Boundary And Zonation | 22 |
| Management Strategies / Action Plans | 27 |
| OBJECTIVE 1: GOVERNANCE | 27 |
| OBJECTIVE 2: ECOLOGICAL | 27 |
| OBJECTIVE 3: SOCIAL, CULTURAL AND ECONOMIC | 27 |
| Compliance And Enforcement | 30 |
| Monitoring And Evaluation | 31 |
| Appendices..... | 32 |
| APPENDIX 1: LAAMU HITHADHOO WETLAND AND SURROUNDING MARINE AREA GOVERNANCE STRUCTURE..... | 32 |
| APPENDIX 2: FUNCTIONS OF THE PA MANAGEMENT UNIT AND STAFFING | 33 |
| APPENDIX 3: TRAINING REQUIREMENTS FOR THE PA MANAGEMENT UNIT | 35 |
| APPENDIX 4: ANNUAL PROGRAMME AND WORK PLAN DEVELOPMENT GUIDELINE | 37 |
| APPENDIX 5: SIX-MONTHLY REPORTING TEMPLATE | 40 |
| APPENDIX 6: MONTHLY DATA REPORTING TEMPLATE | 41 |
| APPENDIX 7: VISITOR SURVEY QUESTIONNAIRE DEVELOPMENT GUIDE..... | 47 |
| APPENDIX 8: GUIDELINES TO MONITOR NON-COMPLIANCE INCIDENCES OF PA RULES..... | 49 |
| APPENDIX 9: GRIEVANCE REDRESS MECHANISM..... | 51 |
| APPENDIX 10: PA ECOLOGICAL BASELINE AND PERIODIC MONITORING SCHEDULE..... | 53 |
| APPENDIX 11: ACTIVITIES ALLOWED AND PROHIBITED IN THE PA..... | 55 |
| APPENDIX 12: GUIDELINES FOR ACCESS AND OTHER FEES | 57 |
| APPENDIX 13: GUIDELINES FOR SELLING PRODUCTS WITHIN HITHADHOO WETLAND AND SURROUNDING MARINE AREA PA | 59 |

| | |
|---|----|
| APPENDIX 14: GUIDELINES FOR PHOTOGRAPHY AND VIDEOGRAPHY WITHIN THE HITHADHOO WETLAND AND SURROUNDING MARINE AREA PA | 60 |
| APPENDIX 15: GUIDELINE FOR TRADITIONAL RESOURCE USE IN HITHADHOO WETLAND AND SURROUNDING MARINE AREA PA | 61 |
| APPENDIX 16: GUIDELINE TO CONDUCT RESEARCH IN THE HITHADHOO WETLAND..... | 62 |
| APPENDIX 17: PENALTIES FOR NON-COMPLIANCE IN HITHADHOO WETLAND AND SURROUNDING MARINE AREA PA63 | |
| APPENDIX 18. A 10-YEAR WORK PLAN FOR MANAGEMENT OF HITHADHOO WETLAND AND SURROUNDING MARINE AREA PA | 64 |
| APPENDIX 19. FINANCIAL PLAN REPORT..... | 67 |
| Executive Summary..... | 69 |
| Introduction | 70 |
| Description Of Financial Plan | 71 |
| INITIAL INVESTMENT | 71 |
| OPERATING COSTS..... | 71 |
| REVENUE BREAK-UP | 71 |
| CASH FLOW | 72 |
| RISK MANAGEMENT..... | 72 |
| MONITORING AND EVALUATION | 72 |
| Annex A: Initial Investment..... | 73 |
| Annex B: Operating Costs | 74 |
| Annex C: Revenue Break-Up | 75 |
| Annex D: Cash Flow..... | 77 |

List of Figures and Tables

| | |
|---|----|
| FIGURE 1: LAAMU HITHADHOO WETLAND AND SURROUNDING MARINE AREA..... | 10 |
| FIGURE 2: ZONATION MAP FOR L. HITHADHOO WETLAND AND SURROUNDING MARINE AREA..... | 11 |
| FIGURE 3: EXISTING RESOURCE USE AT HITHADHOO WETLAND AND SURROUNDING MARINE AREA | 12 |
| FIGURE 4: THREAT IDENTIFICATION AND PRIORITIZATION MATRIX FOR L. HITHADHOO WETLAND AND SURROUNDING MARINE AREA..... | 15 |
| FIGURE 5: PROPOSED RESOURCE USE ZONES FOR HITHADHOO WETLAND AND SURROUNDING MARINE AREA | 23 |
| FIGURE 6: MAP FOR PROPOSED TRADITIONAL USE ZONES IN THE TERRESTRIAL AREA | 24 |
| FIGURE 7: MAP FOR PROPOSED TRADITIONAL USE ZONES IN THE MARINE AREA..... | 25 |
| FIGURE 8: PROPOSED PICNIC ZONES | 26 |
| TABLE 1: DESCRIPTION OF PROPOSED RESOURCE USE ZONES | 22 |
| TABLE 2: MANAGEMENT ACTIONS FOR HITHADHOO WETLAND AND SURROUNDING MARINE AREA..... | 28 |

Executive summary

L. Hithadhoo Wetland and Surrounding Marine Area has been declared a Protected Area (PA) on 23rd December 2021 under the Environment Protection and Preservation Act (4/93). The total area of 43.3 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use. The PA is mainly protected for its significant biodiversity and social significance for the local community. This management plan is developed in accordance with Clause 12 of the Protected Areas Regulation (2018/R-78) to ensure sustainable use and management of the PA.

The vision of the Hithadhoo Wetland and Surrounding Marine Areas is “to develop Hithadhoo Wetland and Surrounding Marine Protected Area as an effectively managed protected area through ecological conservation and sustainable ecotourism”. The following 3 objectives are identified for the management plan to achieve this vision:

- Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By 2028, the current levels of flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors has increased.

The L. Hithadhoo Wetland PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Hithadhoo Council (LHC). The LHC will establish a PA Management Unit within the Council to implement the management plan.

The management plan provides guidelines on the governance and management of the PA including establishment of the management unit and infrastructure, visitor management, compliance monitoring and enforcement, research and monitoring and management effectiveness monitoring.

Introduction

This management plan is developed in pursuant to Clause 12 of the Regulation no 2018/R-78 (Protected Areas Regulation) to ensure sustainable use and management of Laamu Hithadhoo Wetland and Surrounding Marine Area. Locally known as *Hithadhoo Kulhi*, this area has been designated a Protected Area (PA) on 23rd December 2021 under the Law no 4/93 (Environment Protection and Preservation Act). The total area of 43.3 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use following the government announcement no (IUL)438-ENV/438/2021/371 (23rd December 2021). The PA is mainly protected for its significant biodiversity and social significance for the local community.

The Hithadhoo Wetland and Surrounding Marine Areas PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Hithadhoo Council (LHC). The LHC will establish a PA Management Unit within the Council to implement the management plan.

The PA management plan was developed through a combination of field visits, surveys, stakeholder consultations and review of PA management resources available from expert sources and other PAs. An initial field visit was conducted to understand the current physical condition of the PA as well as management relevant components. A management concept was developed based on information collected. A second visit was also conducted to share the management concept with the Island Council and other local stakeholders. A market assessment and willingness to pay for improved management was carried out. A Validation workshop with the relevant authorities and stakeholders was conducted to refine the management plan.

Vision

Laamu Hithadhoo Wetland and Surrounding Marine Area is recognized as a PA due to its unique biodiversity and cultural significance. The area is home to many species of mangrove plants. It also includes the lagoon, which has multi-species seagrass meadows, and the adjacent reef environment. Recognizing the ecological significance of this area, the local community refers to the *Hithadhoo Kulhi* area as their duty to care for the natural resources they have inherited. Seeing this as a valuable asset to the community, the Council's hope is to attract visitors to the area and implement an exemplary model of ecotourism. The purpose of this management plan is to effectively manage the area while sustainably using its resources for community benefit.

The Hithadhoo Wetland and Surrounding Marine Area PA is therefore guided by the following vision:

“To develop Hithadhoo Wetland and Surrounding Marine Protected Area as an effectively managed protected area through ecological conservation and sustainable ecotourism.”

Management objectives

The main objectives of this management plan are:

- Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By the end of 2028, the current levels of terrestrial and marine flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by the local community and visitors has increased.

Description of the Site

The Laamu Hithadhoo Wetland and Surrounding Marine Area is a total size of 43.3 ha area as shown in Figure 1. Hithadhoo Kulhi is a Bay mangrove area, and the surrounding marine area includes seagrass meadows and an adjacent reef. It is declared as a Category 7: Protected Area with Sustainable Use under the local PA Regulation and it corresponds to IUCN Category VI which are areas protected for sustainable use of natural resources (see Figure 2).

Physical features: L. Hithadhoo, located at 1.801087, 73.389244, is an inhabited island on the southern side of Laamu Atoll. The closest inhabited islands to Hithadhoo includes Maamendhoo and Kunahandhoo. The Hithadhoo Kulhi area is characterized by a terrestrial area consisting of mangrove vegetation and a water body which is located at the south-west end of Hithadhoo. The area is bounded by the following geographical coordinates given in Figure 1. The wetland contains some areas that are marshy with clumps of mangrove vegetation. The wetland is open at the south-west end to the open sea. Bathymetry data of the mangrove and lagoon is not available and needs to be taken.

Biological features: In the terrestrial area, the species of mangrove trees found include *Rhizophora mucronata* (red mangrove/*randoo*), *Ceriops tagal* (yellow mangrove/*karamana*), and *Avicennia germinans* (Black mangrove/*buveri*). The mangrove areas are also ecologically significant for freshwater retention and mitigating flood impacts as well as sequestering carbon. Around the embayment, three mangrove-associated species are found, including *Hibiscus tiliaceus* (*Dhiggaa*), *Pandanus tectorius* (*Boa kashikeyo*) and *Scaevola taccada* (*magoo*). The Majority of the trees appear to be in good condition. The mangrove is an important habitat for juvenile fish; 28 species of fish are found in the mangrove, with snappers being most abundant. The Majority of species found are juveniles. The seagrass meadows have five species of seagrass - *Thalassia hemprichii*, *Thalassidendron ciliatum*, *Halodule pinofilia*, *Syringodium isoetifolium* and *Cymodocea rotundata*. There were 62 species of fish recorded in this area, comprised mostly of juveniles. The adjacent reef has medium coral cover with high fish biomass and a very low proportion of bleached coral. Many seasonal birds visit the mangrove but their diversity/ population dynamics are not properly understood due to a lack of studies.

Cultural features: The Kulhi area is used by locals to collect fallen palm fronds (*fann*), which is used for coconut thatching (*fangi vinun*), a traditional craft. Locals also gather mature coconut (*kaashi*) and bury coconut husks in the waterbody (*bon'bi faa kurun*). This is part of the process of making coir rope (*roanu veshun*), which is used for coconut thatch. Palm fronds are also buried in this manner in the process of coconut thatching.

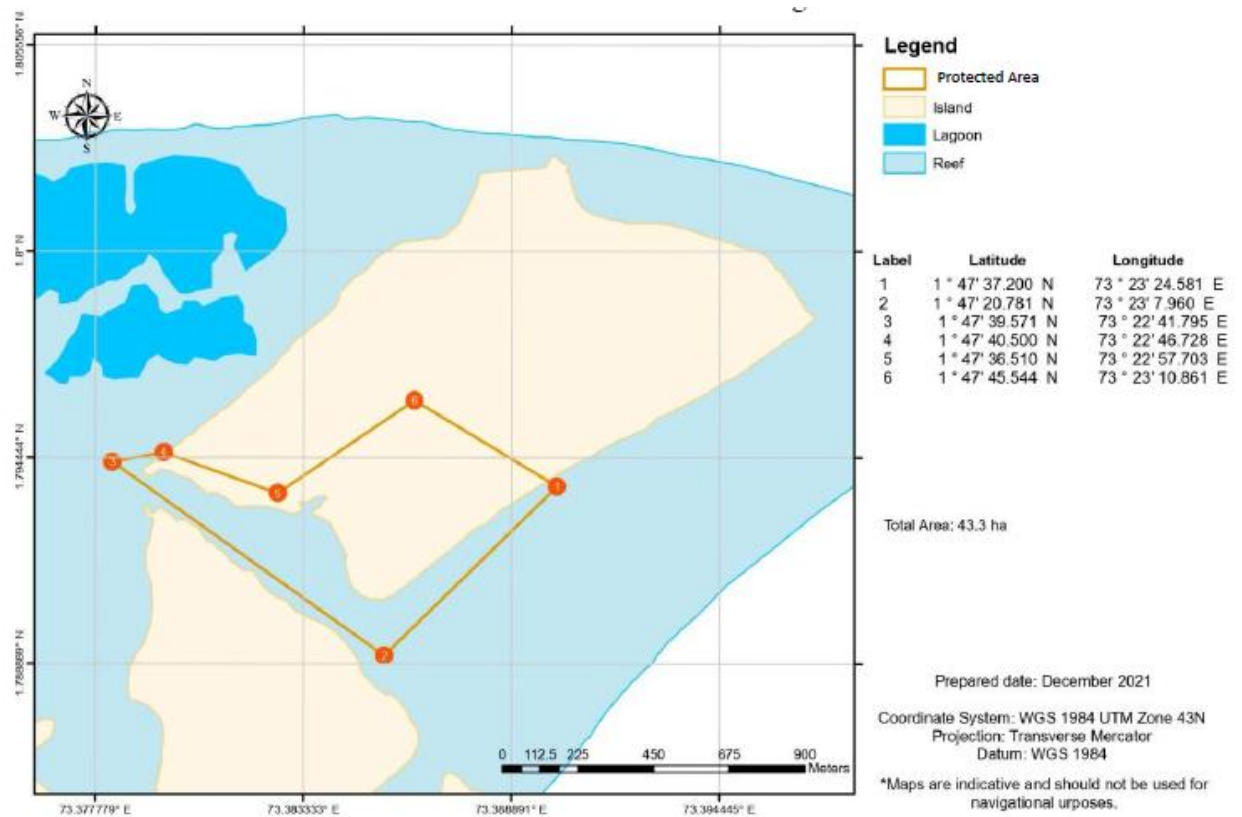


Figure 1: Laamu Hithadhoo Wetland and Surrounding Marine Area

Current resource use

Currently, this area is mainly used recreationally and for traditional uses. The current resource use is described below and in Figure 3.

1. **Recreational use:** An important community area for locals to use for picnics, swimming and canoeing.
2. **Visitor attraction:** The Laamu Hithadhoo Council runs an eco-tour agency, “Hithadhoo Mangrove Adventures”, a service which provides kayaking, photography and guided tours at the PA. Visitors can book visits to the PA through the Council to partake in these activities. With the service also advertised at Six Senses Laamu, tourists at the resort also come to the PA to visit. During weekends and holidays, the *Kulhi* gets busy with visitors, including from Laamu Atoll, as well as from other parts of the Maldives, and tourists.
3. **Traditional use:** Resource collection of fallen palm fronds and mature coconut, as well as burying coconut husks in the waterbody. Locals also harvest mud crabs and prawns from the waterbody.
4. **Fisheries:** The lagoon is also used for octopus, sea cucumber, reef fishing and invertebrate collection on a very small scale.

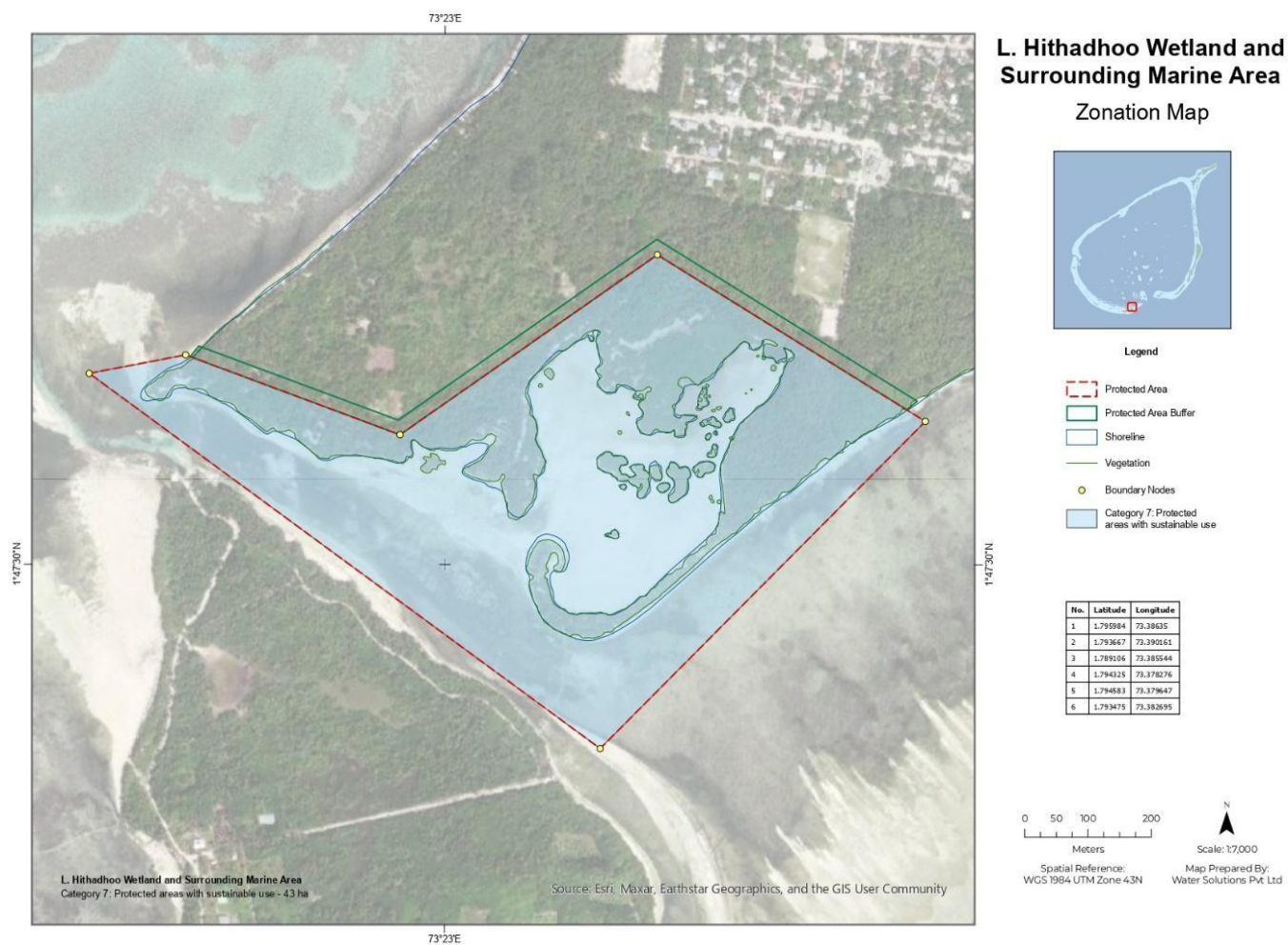


Figure 2: Zonation map for L. Hithadhoo Wetland and Surrounding Marine Area

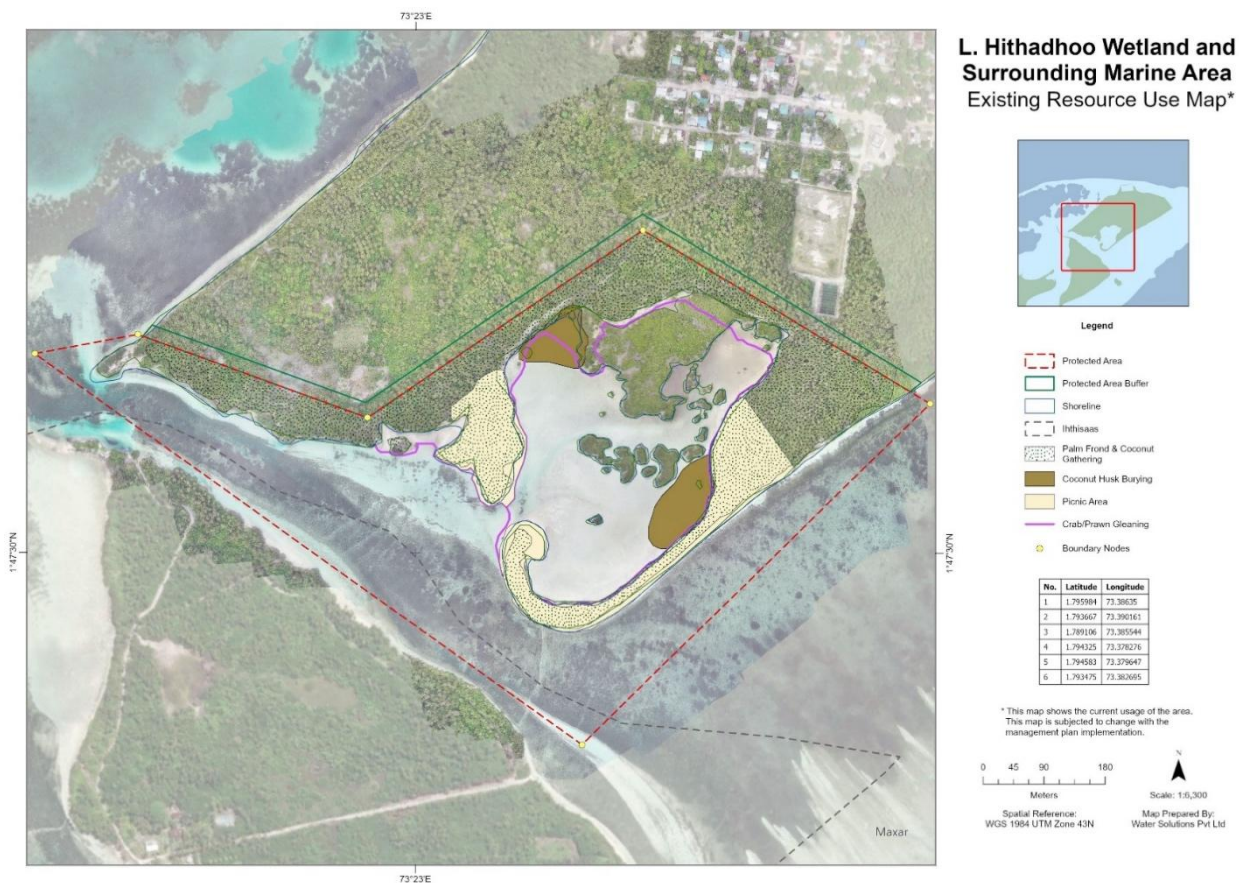


Figure 3: Existing resource use at Hithadhoo Wetland and Surrounding Marine Area

Key values of the site

The key values of the site are its natural and economic and social values and are as follows:

1. Mangrove area with a waterbody, and has key mangrove species including *Rhizophora mucronata* (red mangrove/*randoo*), *Ceriops tagal* (yellow mangrove/*karamana*), and *Lumnitzera racemose* (Black mangrove/*buveri*). Invertebrate species of crabs and prawns are also found in the area, which aerate the soil and facilitate nutrient distribution.
2. Seagrass meadows with five species of seagrass, an important habitat for juvenile fish and plays a role in carbon sequestration.
3. The adjacent reef environment has high fish biomass with low proportion of bleached coral.
4. The *Kulhi* is an important recreational area for locals, as well as visitors and contributes to the economy of the island.
5. The terrestrial area is used to gather fallen palm fronds and fallen mature coconut, which is used for coconut thatch weaving.

Identification of constraints, opportunities and threats

Constraints

The main constraint of this PA is the lack of baseline information about the area. For monitoring the effectiveness of the PA, further information on the numbers, species of plants, fish and invertebrates among others is needed. Identification of the crabs and prawns being harvested from the waterbody by locals for consumption, and systematically monitoring its population is also important to understand its status. Further, information on the number of visitors to the area will also be needed to effectively manage the sustainable use of the area. Collection of such data will need to be incorporated into the initial activities of the management plan.

Currently, there is no specific management unit, resources or trained staff to manage the PA. The management plan should also include capacity building and training for management staff. Other resources like vehicles and equipment will also be required for the management unit. Capacity is also needed to be built for sustainable financing planning.

Threats

Figure 4 gives a threat prioritization matrix showing the likelihood and extent of threat impact.

Human impacts: There is few littering in the area, mainly from picnic goers and the litter include plastic bottles, snack wrappers, empty cans among others. Although the Council takes initiative to ensure the area is litter-free through high efforts in maintaining the cleanliness of the PA, visitors still litter. Education and awareness on personal responsibility to look after the PA along with waste bins and encouraging its use is needed. Visitors to the area often drive cycles over the narrow sand path on the east side, making the area susceptible to erosion.

A project to develop a causeway between L. Hithadhoo and nearby L. Kunahandhoo is currently ongoing, and the causeway falls within the PA. The design consultancy is currently ongoing, and it is critical that the design allows for adequate current flow. If not, there is risk of high impact on the disrupting the habitat of species found in the mangrove, lagoon and reef environment.

Harvesting mud crabs and prawns in the *Kulhi* is a popular practice among locals. The species is not documented, and this practice is not monitored. Elderly residents shared that they have noticed a decline in crab population and size. These uses should be monitored, and it is important to study the populations of these species to understand possible trends. In addition, although all species of birds are protected in the Maldives, there are anecdotal reports that the practice of capturing migratory birds to be kept as pets still occurs in this PA.

Natural impacts: Impact of climate change on mangrove ecosystems should be considered, such as through rising temperatures. With the Maldives islands being very low-lying, the threat of long-term sea-level rise should also be considered in developing and managing the PA.

| Likelihood | | | | | | Constraints |
|------------|----------|---------------------------------------|--|----------------|---------------|-------------|
| Rare | Unlikely | Possible | Likely | Almost certain | | |
| | | | <ul style="list-style-type: none"> - Causeway development - Climate change | | Catastrophic | |
| | | Unsustainable intensities of gleaning | | Littering | Major | |
| | | | Outdoor cooking fires | | Moderate | |
| | | | | | Minor | |
| | | | | | Insignificant | |

- Low risk
- Medium
- High risk
- Very high

Figure 4: Threat identification and prioritization matrix for L. Hithadhoo Wetland and Surrounding Marine Area

Opportunities

While the PA is protected under the Law no 4/93 (Environment Protection and Preservation Act), and the Regulation no 2018/R-78 (Protected Area Regulation) is applicable, recent changes to the Decentralization Act (7/2010, 24/2019) allow Island Councils to use areas within their jurisdiction for economic activities and income earning. Since the PA is within the jurisdiction of Laamu Hithadhoo Council (LHC), the management authority can delegate the management of the PA to LHC through an

agreement/MoU. This ensures that PA management can be a collaborative process with local stakeholders involved.

The Hithadhoo Kulhi is designated as a PA with sustainable use and given the current popularity of the water body among Maldivians, there is a high opportunity for the PA to be an ecotourism attraction for both Maldivians and foreigners. Current initiative by the Council through the Hithadhoo Mangrove Adventures to offer services such as kayaking and photography is going successfully, with efforts to advertise this as an ecotourism experience. Development of a visitor information center and tours along with information on the local biodiversity and traditional use of the area will add to the visitor experience and learning opportunities.

Maldives Underwater Initiative (MUI) is a collaboration between the marine biologists at Six Senses Laamu (a resort at the south of Laamu Atoll), and three NGOs (Olive Ridley Project, The Manta Trust, and Blue Marine Foundation), conducting research, awareness and community empowerment in Laamu Atoll. MUI collects data by participating in dives to the PA from Six Senses Laamu, including recording sightings of megafauna. Blue Marine Foundation (BLUE), in collaboration with national and local partners (including the NGO Maldives Resilient Reefs), is doing work to support effective management of PAs, and has conducted research to understand resource use, coral reef, mangrove and seagrass health and more. This provides a valuable opportunity to monitor the health of the PA through a collaborative effort.

Maldives Resilient Reefs and Blue Marine Foundation have been working with the Laamu Hithadhoo Council to establish a Community Conserved Area in the marine area adjacent to the PA. An Environment Officer has been seconded to the Council, who is involved in community outreach and education and monitoring tourism use of the marine area. Several communities' members have been trained on coral reef and seagrass monitoring citizen science. Support for the management of this area is provided by their team members based at Six Senses Laamu and Laamu Gan island.

Currently, locals continue the traditional resource collection from the *Kulhi*, which includes collecting fallen dried palm fronds and mature coconuts. The palm fronds are used in making thatch and coconuts are used for home consumption. This traditional collection method contributes to clearing the area of fallen palm fronds and coconuts. The making of thatch can be integrated into ecotourism as part of cultural learning.

Providing the opportunity to hire a designated area within the PA for private events would be a good opportunity to generate revenue. An example is Fuvahmulah Nature Park, where interest in venue hire for weddings has been expressed. It is essential to first monitor visitor numbers to the PA and, if such a service is offered at the PA. Waste management and littering must also be strictly monitored.

Governance

The Hithadhoo Wetland and Surrounding Marine Area PA is proposed to be managed under a co-management governance regime with roles and responsibilities distributed among the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA) and Laamu Hithadhoo Council (LHC). The LHC will be assigned management authority through a memorandum of understanding with the EPA. The LHC will establish a PA Management Unit within the Council to implement the management plan. A PA Management Steering Committee on an island-level, comprising of the Island Council as well as local stakeholders, will be established to guide governance and management of the PA on a case-by-case basis. The LHC will engage support from NGOs and research groups such as Maldives Resilient Reefs to support research and monitoring of the PA. A proposed governance structure organogram is given in Appendix 1. The functions of the PA management unit are shown in Appendix 2. The roles and responsibilities of the parties are as follows:

Roles and responsibilities of the Ministry of Tourism and Environment (MoTE)

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and LHC
- Determine all policies related to the establishment and management of the protected area, including review and changes to PA rules and regulations.
- Supporting role for resource mobilization to establish the management unit and any infrastructure and capital costs related to implementing the management plan
- Support the council in establishing a management unit
- Develop and establish a sustainable financing mechanism for PA management
- Annually review the PA financing mechanism and financial plans for the PA
- Provide necessary PA management training for the assigned management authority. A training needs matrix is presented in Appendix 3.
- Monitoring the management effectiveness of the PA
- Review management plans and related implementation plans as appropriate, with a minimum of five years as per the Protected areas management plan guidance framework based on the Management Effectiveness

Roles and responsibilities of the Environmental Protection Agency (EPA)

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and LHC
- Approve and implement the management plan and a sustainable financing plan for the PA
- Develop a Research and Monitoring Plan for the long-term monitoring of the key features and conditions of the Protected Area, under the National PCA Monitoring & Research Plan.
- Enforcement of fines and penalties for non-compliance.
- Monitor management of the PA by the assigned management authority and periodically review the management plan.
- Provide the management authority with a mechanism to report non-compliance or violations of the PA rules.
- Investigate any reported violations of PA rules and take necessary action to enforce penalties.
- Provide and train the management authority with a mechanism to monitor the biodiversity and physical health of the PA
- Provide a mechanism for approval to conduct research in the PA and issue research approvals/permits through the oneGov portal.
- Annual monitoring reports are submitted by the management authority.

- Recommend changes to PA rules and management based on review of monitoring reports.
- Provide trainings to the management authority to carry out monitoring as stated under the Monitoring & Research Plan.
- Provide trainings to the management authority to carry out enforcement activities as per the protocols and SOPs in place.
- Coordinate enforcement activities between the management authority and other institutions involved such as the Maldives Police Services.

Roles and responsibilities of Laamu Hithadhoo Council

- A main regulatory authority for the PA through a tripartite agreement with MoTE, EPA and LHC
- Implement the management plan for the PA through a management unit
- Establish the management unit, PA infrastructure and procure necessary equipment for managing the PA
- Administration of the management plan and office
- To not delegate any power or responsibility to any third party
- Recruit required human resources to manage the PA and ensure staff undergo necessary trainings according to the training requirements provided in Appendix 3.
- Ensure equity including gender equity in site management and include a review of practices during management review
- Oversee and support the functioning of the PA Management Unit
- Establish and maintain a separate financial account for PA management.
- Oversee preparation of the annual program and budget for management of the PA according to guidelines provided in Appendix 4.
- Submit PA management monitoring reports annually to the EPA according to guidelines provided in Appendix 5.
- Collaborate with NGOs and research groups and sign MoUs to support research and ecological monitoring of the PA.

Roles and responsibilities of the PA Management Unit

- PA Management Unit will be responsible for implementing the PA management plan.
- The main functions will include i) maintaining the PA and monitoring visitor activities, ii) education, awareness and outreach and iii) monitoring of the PA health and management effectiveness (Appendix 2).
- In addition to overseeing the overall operations of the PA management unit the administrative role will include programmatic planning, budgeting and monitoring functions. This includes:
 - Developing an annual programme and budget for the management unit.
 - Preparing bi-annual PA management reports to be submitted to the EPA according to the guidelines in Appendix 5.
 - Preparing monthly data on the PA management according to guidelines in Appendix 6.
- Provide secretariat support to the PA Steering Committee and organize the committee meetings
- Maintain infrastructure, equipment and visitor services
- Maintain the PA area and dispose of any waste generated in the area, minimum once a month, according to the Waste Management Regulation (R58/2013).
- Maintain visitor booking and ticketing systems
- Issue access permits, photography and videography permits and collect related fees

- Maintain and monitor a log of visitors and visitor activities within the PA and report these in the PA management monitoring report.
- Conduct and analyze visitor surveys to inform management planning. The visitor survey questionnaire can be developed using the guidelines provided in Appendix 7.
- Monitor the PA for non-compliance or violations of PA rules and report incidences to the EPA. Guidelines for attending to non-compliance incidences are given in Appendix 8.
- Receive and resolve any complaints, disputes or grievances to the governance or management of the PA according to the grievance redress mechanism given in Appendix 9.
- Conduct baseline and periodic monitoring of the PA biodiversity and physical parameters according to the Environmental Monitoring Plan provided in Appendix 10.
- Generate information on the physical assessments of the PA and any changes
- Disseminate information of the health of the PA
- Develop data collection and research needs including citizen science-based data collection to support PA management
- Report any threats or negative impacts to the terrestrial and marine environment of the PA to the EPA.
- Prepare and implement an annual awareness, education and outreach program
- Develop and implement programs to engage with local community to create awareness of the PA and for effective PA management
- Disseminate information on the PA establishment purpose, benefits, and use guidelines to users and local community
- Maintain the L. Hithadhoo page in the [PA website](#) and other social media platforms
- Promote the PA to attract visitors

The PA Management Steering Committee

The Hithadhoo Wetland and Surrounding Marine Area Management Steering Committee (hereafter referred to as Steering Committee) is an island-level body that will advise the PA Management Unit on implementing the PA management plan.

1. The Steering Committee should comprise of members representing the following parties, with the number of representatives from each indicated in the brackets:
 - Laamu Hithadhoo Council (1)
 - Representative from PA Management Unit (1)
 - Representative from a national research/conservation NGO (1)
 - Representative from a Laamu Hithadhoo community NGO (1)
 - Representative from traditional resource users (1)
 - Representative from a women's group (1)
2. The roles and responsibilities of the Steering Committee are:
 - Review and approve annual programs and budgets of the PA management Unit
 - Providing advice on the implementation of the PA management plan
 - Provide advice on any issues relating to management of the PA on a case-by-case basis
 - Provide advice on services and fee structures relating to use of the PA
 - Review and resolve any complaints, disputes or grievances regarding governance or management of the PA
3. Organizations can nominate members for the Committee and other stakeholder groups can be selected from a response to a call for applicants.

4. The Steering Committee members and their contact numbers shall be made publicly available on the PA webpage
5. The Steering Committee will be chaired by LHC and should meet to resolve any complaints or grievances on a case-by-case basis.
6. The meetings of the Steering Committee shall be organized by the LHC with secretariat services provided by the PA management Unit.
7. The Steering Committee will meet a minimum of twice a year.

Key Regulations, Policies, Codes of Conduct and Guidance

The Protected Areas Regulation (2018/R-78) is the main guiding regulation for this management plan. Clause 9 of the PA Regulation allows management authority to be assigned to a state institution or other entity by the EPA by mutual agreement.

The Hithadhoo Wetland and Surrounding Marine Area PA is designated as a Category 7 PA with Sustainable Use. Hence, the main activities allowed in the area are those relating to recreational, eco-tourism and traditional resource gathering. Appendix 11 provides a list of activities that are prohibited and allowed within the PA. Guidelines for access and use of the PA are given below:

1. The PA will be open for use by visitors from 6am to 6pm daily.
2. The following recreational and other services will be available for visitors within the PA
 - Visitor/information center
 - Vendor stands
 - Souvenirs for purchase
 - Guided tours
 - Bicycles for hire
 - Kayaks for hire
 - Picnic area
 - Open outdoor shower
 - Public toilets with lockers
 - Waste disposal points
3. All visitors will need to purchase a ticket from the visitor centre to access the PA. Appendix 12 provides fee guidelines for entry and other services available for visitors.
4. PA opening hours, available services and facilities and their fees and prices of items sold within the PA shall be made available to the public.
5. Any items sold in the vendor stalls or in exhibits in the PA should give emphasis to locally made and environmentally friendly products and follow the guidelines provided in Appendix 13.
6. Use of motorized vehicles will not be permitted inside the PA, with the exception of vehicles operated by the Laamu Hithadhoo Council for the purpose of PA activities. Bicycles can be hired by visitors as per the fees provided in Appendix 12.
7. Open fires are not allowed inside the PA. Visitors can bring their own food for picnics, purchase from the vendor stall or hire barbeque equipment. Fees for equipment hire are given in Appendix 12.
8. Littering is prohibited inside the PA. All visitors should dispose their trash in bins provided near the visitor center.
9. Photography and videography for commercial purposes can be carried out under a special permit. Appendix 14 gives guidelines for commercial photography and videography inside the PA.

10. Traditional resource use to collect fallen coconut fronds, mature coconuts and dry wood is allowed. A guideline for traditional resource use is given in Appendix 15.
11. Removal of soil for home gardening or agricultural purposes is prohibited.
12. A permit is required for conducting research in the PA. Appendix 16 provides guidelines for conducting research inside the PA.
13. The PA houses a research facility for visiting researchers to use. Appendix 16 includes fees for use of the research facility.
14. The following measures are taken within the PA for visitor safety
 - A lifeguard post with a life ring and first aid kits and a megaphone near the water body
 - Surveillance cameras
 - Fire extinguishers

Boundary and Zonation

This section describes the zoning of different activities that are allowed within the PA. The zones are developed based on existing resource uses (Figure 3) and permissible activities in the PA (Appendix 11). There are 3 main use types identified and are shown in Figure 5Figure 6Figure 7 and Figure 8. The 3 zones with the coordinates and descriptions of activities that are permitted are given in Table 1.

Table 1: Description of proposed resource use zones

| Use zone | Allowed uses |
|------------------------------------|--|
| Traditional use zone - Terrestrial | <ul style="list-style-type: none"> Collection of dried palm fronts, mature coconuts, dry wood and sea almonds for traditional use. This can be monitored by rangers and through security cameras Collection of these resources will be weekly at specific days and times determined by the LHC |
| Traditional use zone - Marine | <ul style="list-style-type: none"> Gleaning of crabs and prawns from the water body Burying coconut husks and palm fronds in the water body |
| Picnic zone | <ul style="list-style-type: none"> Recreational use by visitors for sightseeing, bathing in water body and picnicking Visitors can enter the site from 6am to 6pm daily Lighting of fires for picnic cooking or barbeques will now be allowed |

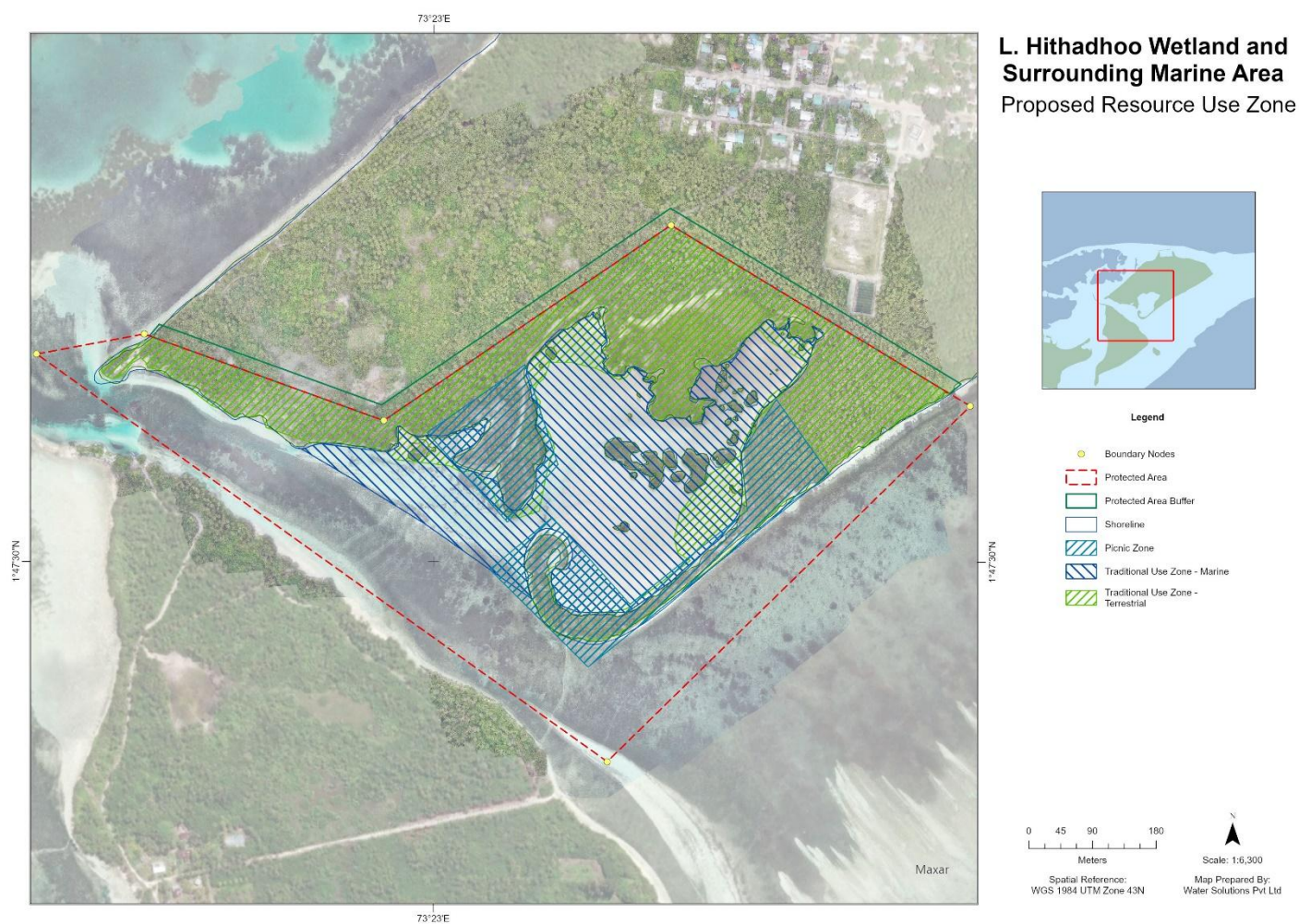


Figure 5: Proposed resource use zones for Hithadhoo Wetland and Surrounding Marine Area

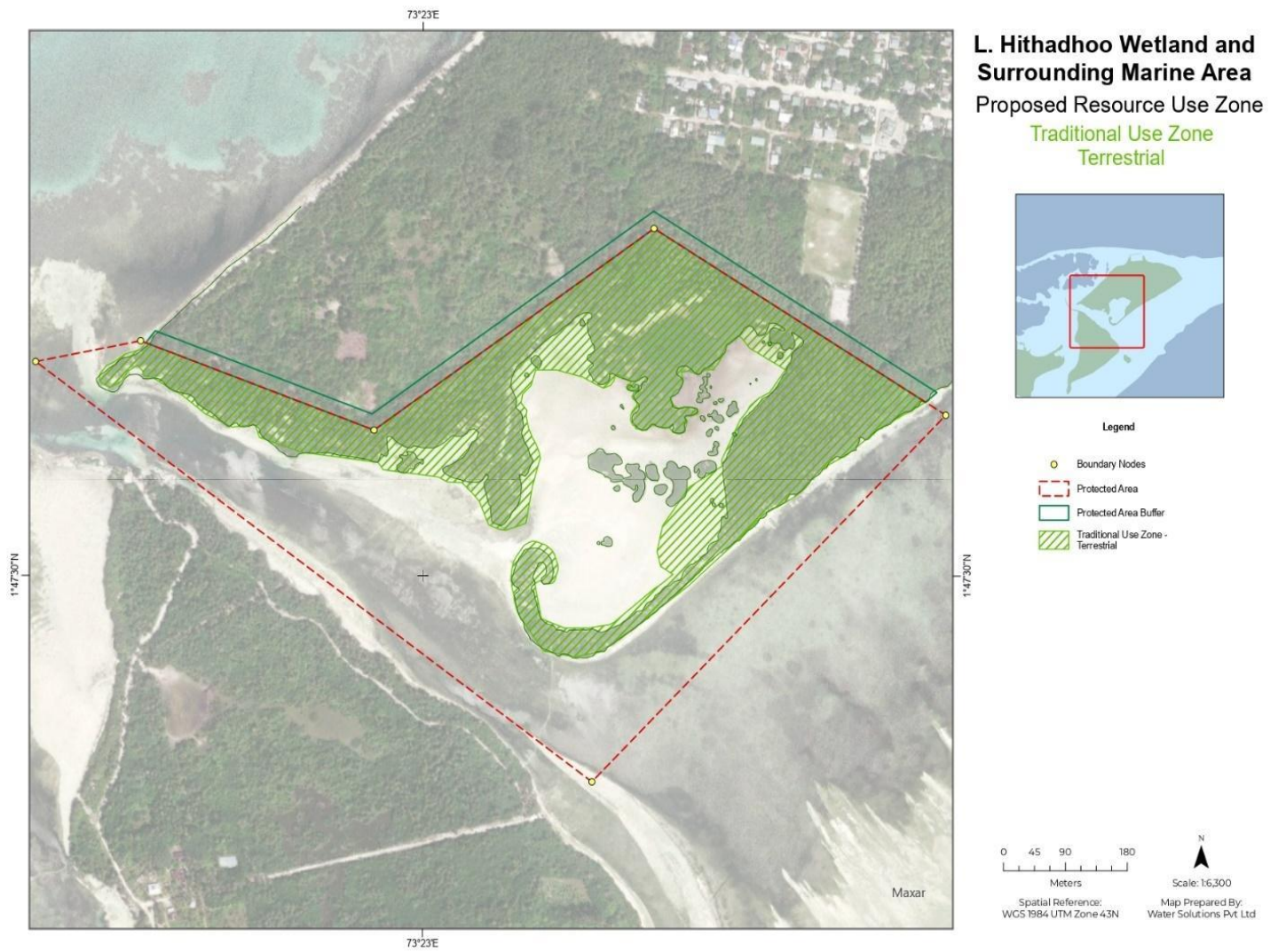


Figure 6: Map for proposed traditional use zones in the terrestrial area

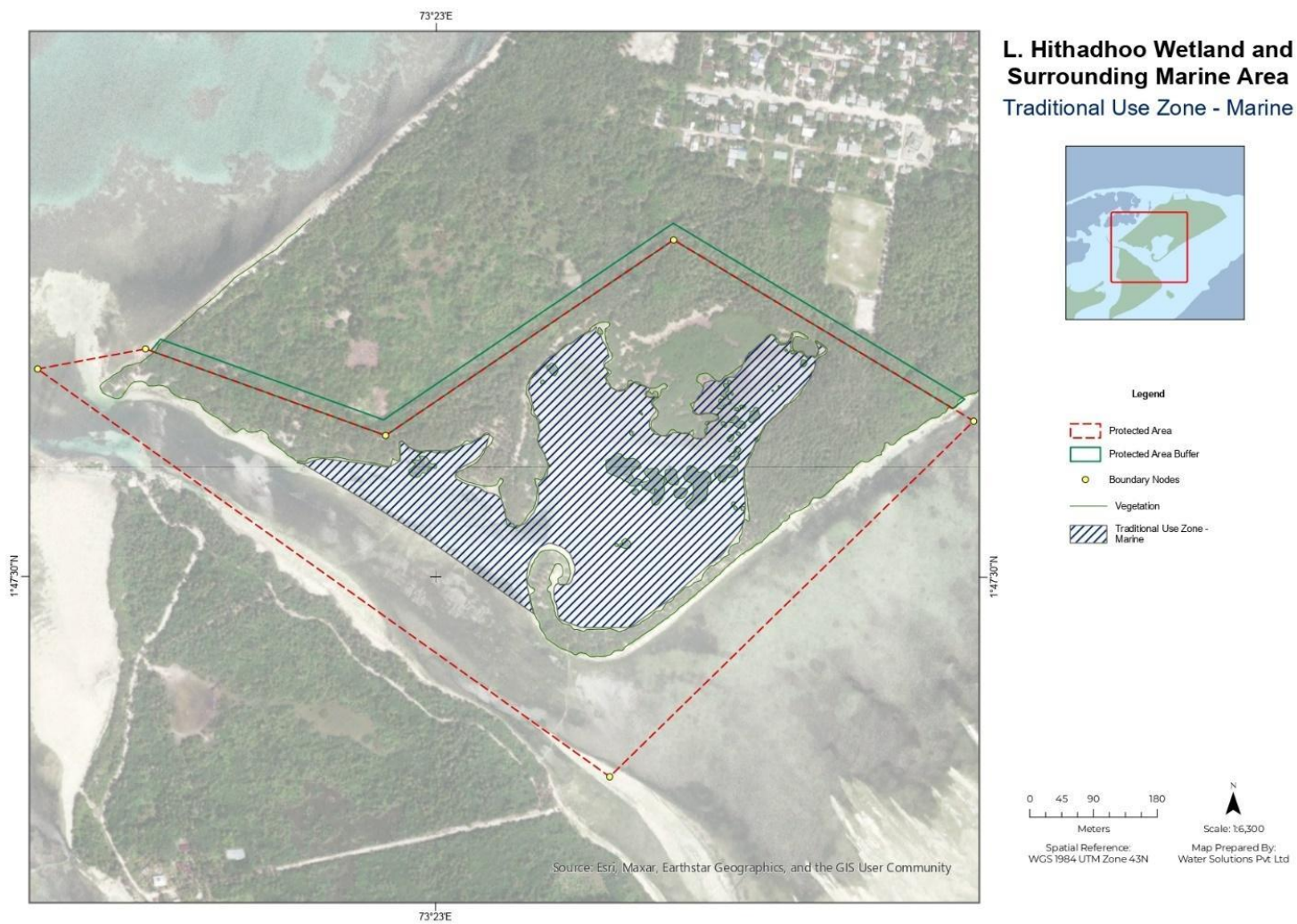


Figure 7: Map for proposed traditional use zones in the marine area

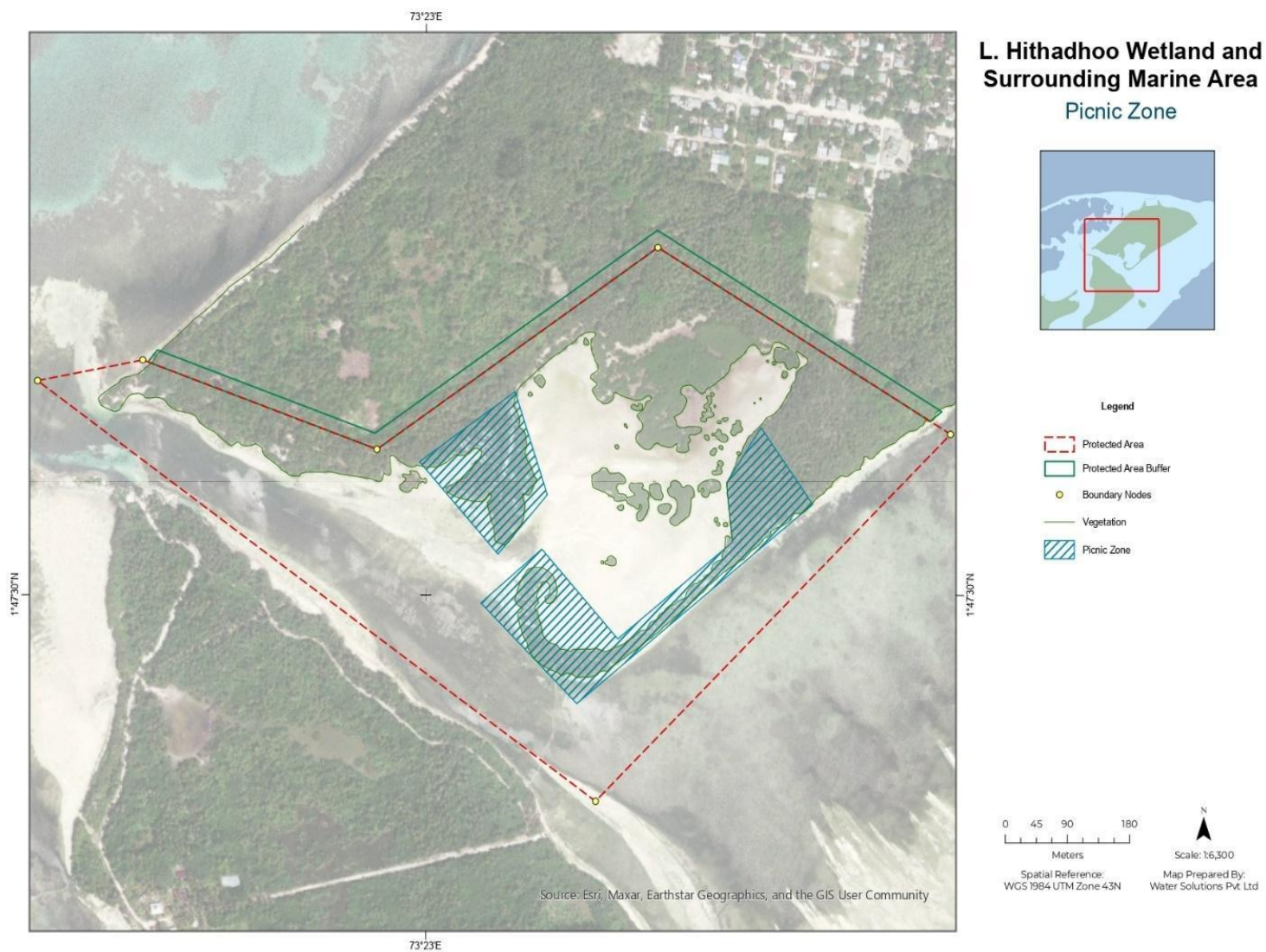


Figure 8: Proposed picnic zones

Management Strategies / Action Plans

Table 2 provides a list of activities that will be implemented under the management plan to achieve the objectives outlined in Section 4.

Objective 1: Governance

The activities under the project focus on first establishing a PA management unit at site. This includes approval of the management plan and assigning the management authority to LHC as well as establishing required human resources, equipment, and infrastructure for management. The first year will also be used to develop management related protocols and standard operating procedures (SOPs). Further, general trainings and ranger trainings will also be included so that effective management can be established. Once the management structure is established ongoing visitor management and monitoring activities will be continued.

Objective 2: Ecological

There is a need for detailed baseline data on the terrestrial and marine flora, fauna and health of the PA. Hence initial activities focus on understanding current levels of biodiversity of the area. Periodic monitoring will be conducted to monitor current levels so that it can be maintained or improved. Activities for this include developing detailed monitoring protocols and trainings for staff.

Objective 3: Social, Cultural and Economic

The *Hithadhoo Kulhi* is a socially significant area for the local community. The area is used for traditional purposes for resource collection to generate income. Further, the LHC recognizes the opportunity to promote the area for ecotourism and maximize the economic benefits for the local community. The PA is already popular with visitors due to its natural beauty and scenic landscapes. Hence, it is important for visitors to understand the ecological significance of the PA and creating outreach. Activities under this objective include creating knowledge products and promoting the PA to increase visitors.

Table 2: Management Actions for Hithadhoo Wetland and Surrounding Marine Area

| Objective | Actions | Indicators |
|---|---|--|
| Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site. | Approve a management plan and sustainable financing plan for the PA | <ul style="list-style-type: none"> Management plan approval by EPA Sustainable financing plan approval by EPA |
| | Delegate management authority to LHC | <ul style="list-style-type: none"> MoU between LHC and EPA |
| | Establish PA management Steering Committee | <ul style="list-style-type: none"> Member appointment documents Minutes of committee meetings |
| | Develop infrastructure inside PA – Phase 1 (visitor center, viewing platforms, basic utilities) | <ul style="list-style-type: none"> Infrastructure design Contract with developer Completion certificates |
| | Develop infrastructure inside PA – Phase 2 (research center, viewing platform) | <ul style="list-style-type: none"> Infrastructure design Contract with developer Completion certificates |
| | Establish management unit and hire staff | <ul style="list-style-type: none"> Office building Staff contracts |
| | Develop Standard Operating Procedures (SOP) for PA | <ul style="list-style-type: none"> Approved SOPs |
| | Conduct general capacity building trainings for staff | <ul style="list-style-type: none"> Training completion certificates |
| | Conduct ranger training | <ul style="list-style-type: none"> Training completion certificates |
| | Develop PA website and social media platforms | <ul style="list-style-type: none"> Website launched Facebook, Instagram and Twitter accounts activated |
| | Implement visitor activities management and monitoring | <ul style="list-style-type: none"> Issued permits Revenue collected Non-compliance and illegal activity reports Monthly monitoring reports |
| | Develop management effectiveness monitoring protocols | <ul style="list-style-type: none"> Approved management effectiveness monitoring protocols |
| | Conduct periodic management effectiveness monitoring | <ul style="list-style-type: none"> Monitoring reports |
| | Review management plan | <ul style="list-style-type: none"> Approved revised management plan |
| Objective 2: By 2028, the current levels of | Develop and implement monitoring plan | <ul style="list-style-type: none"> PA Monitoring Plan |

| | | |
|---|--|--|
| flora and fauna within the PA are maintained or improved. | Procure equipment for ecological monitoring | <ul style="list-style-type: none"> ● Equipment inventory ● Procurement invoices |
| | Conduct a training on ecological monitoring for relevant staff | <ul style="list-style-type: none"> ● Training completion certificates |
| | Conduct a baseline ecological assessment of the PA | <ul style="list-style-type: none"> ● Collected data ● Baseline assessment report |
| | Continue periodic ecological monitoring of the PA | <ul style="list-style-type: none"> ● Collected data ● Baseline assessment report |
| | Disseminate information on health of the PA | <ul style="list-style-type: none"> ● Published monthly reports ● Presentations to public and stakeholders |
| Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors are increased. | Measure baseline level of community understanding of PA values | <ul style="list-style-type: none"> ● KAP survey data ● KAP baseline assessment report |
| | Continue periodic KAP assessment | <ul style="list-style-type: none"> ● KAP survey data ● KAP assessment report |
| | Develop a community engagement and awareness strategy | <ul style="list-style-type: none"> ● Number of knowledge products prepared ● Number of knowledge-sharing events ● Number of people receiving information ● Visitor survey feedback and reports |
| | Prepare and disseminate on the cultural and historical aspects of the PA and Hithadhoo island | |
| | Prepare and disseminate information on social, cultural, ecological and economic benefits of PAs to local community and visitors | |
| | Promote the PA to generate interest to visit the PA | <ul style="list-style-type: none"> ● Number of promotional materials ● Social media statistics ● Visitor numbers |

Compliance and enforcement

- Activities prohibited and allowed in the PA are given in Appendix 11.
- The PA Management Unit should have PA rules available at site and also include this in visitor briefings and tour.
- The PA Management Unit should also have this information available on the PA website and conduct awareness programs to inform public. Local stakeholders such as schools and NGOs can be engaged in awareness programs.
- Monitoring of visitor activities will be carried out by rangers in the PA Management Unit. Rangers will patrol the area and in addition use video surveillance.
- Rangers can consider engagement of local stakeholders such as civil society organizations to assist in compliance monitoring and enforcement activities.
- Individuals or parties in violation of the PA rules, regulations or permit conditions will be penalized under the Environment Protection and Preservation Act (4/93) and according to penalties in Appendix 17.
- The PA Management Unit should record and report non-compliance incidences according to guidelines provided in Appendix 8.
- Littering is seen as a visible threat that will need to be monitored and enforced for compliance. It is initially proposed to have rangers patrol and advise visitors to encourage voluntary compliance and take waste to designated bins, however remote monitoring and surveillance is encouraged. Penalties can be enforced gradually as given in Appendix 17.

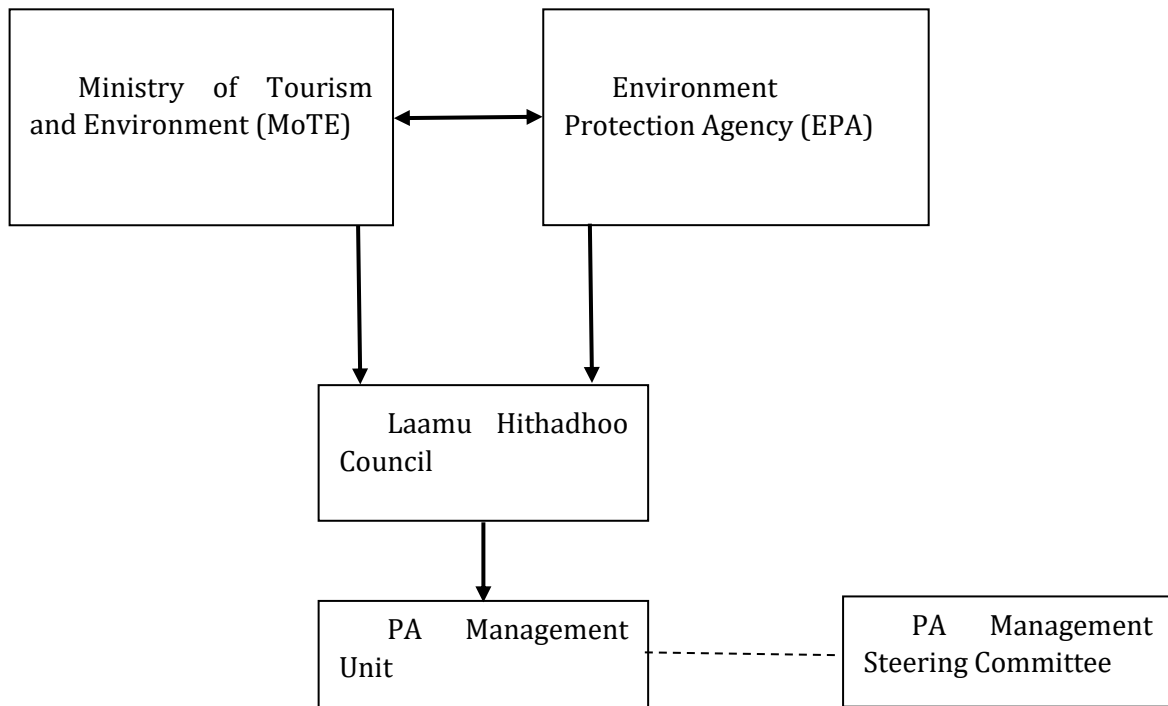
Monitoring and evaluation

A work plan with timeline for implementing the management plan is given in Appendix 18. A periodic review of the implementation plan shall be undertaken, every 2 years, to monitor implementation of the management plan and revise the management plan based on findings of the PA monitoring. One of the key constraints in monitoring the performance of PA management is the lack of baseline ecological as well as visitor data. Therefore, initial activities under the management objectives will focus on conducting baseline assessments followed by periodic monitoring.

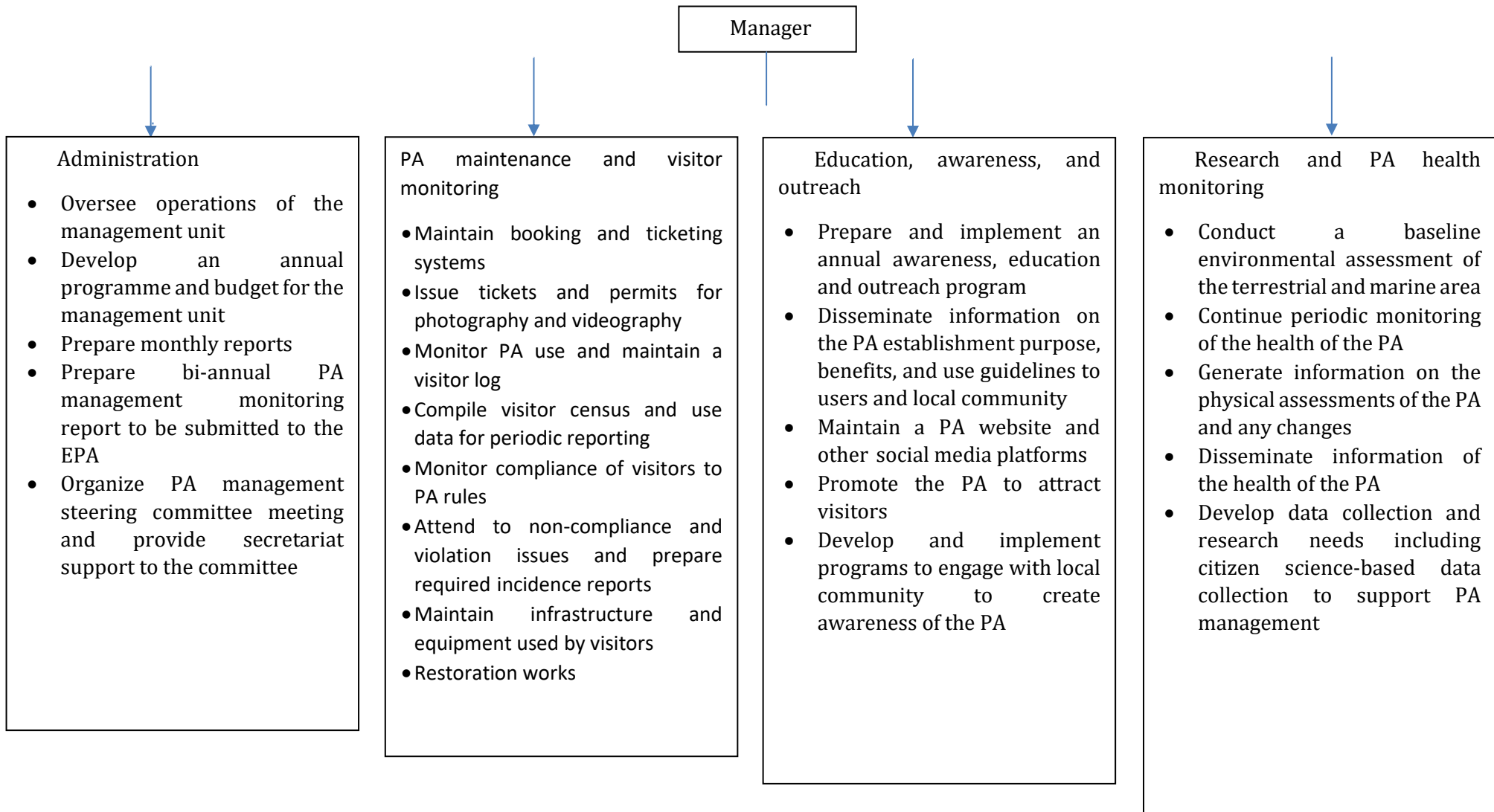
- A baseline ecological assessment with continued periodic monitoring will be used to monitor and evaluate if current ecological conditions are maintained or improved
- Guidelines on ecological monitoring including parameters to be monitored, methods and frequency for continued monitoring are given in Appendix 10.
- The environmental officer and rangers will be undertaking ecological monitoring.
- The environment officer will be responsible for analyzing collected data and preparing reports to be used for management review and planning.
- The communication officer will share information on ecological health of the area with public and stakeholders.
- Information on visitors, use and awareness and education engagements are monitored and reported monthly to guide improving management of the PA as well as increase appreciation of the value of the PA by visitors and other stakeholders.
- Data on visitor numbers and behaviors including non-compliance as well as visitor engagement and education, awareness and outreach are collected monthly according to the template given in Appendix 6.
- Data is collected through permits and fees paid, patrol by rangers, video surveillance, visitor surveys and reports or complaints made to the PA Management Unit.
- The environment officer will be responsible for analyzing collected data and preparing reports to be used for management review and planning.
- The communication officer will share information to public and stakeholders.
- A management effectiveness monitoring protocol will be designed in the second-year implementation. The PA Management Effectiveness Tracking Tool version 4 (METT-4) methodology is recommended to be used.
- Periodic review of the management plan should be undertaken.
- An annual report of the PA management is prepared by the PA Management Unit and submitted to the EPA
- METT-4 assessments should be conducted every 5 years
- Review of the management plan should be done minimum every 2 year

Appendices

Appendix 1: Laamu Hithadhoo Wetland and Surrounding Marine Area Governance Structure



Appendix 2: Functions of the PA Management Unit and Staffing



Proposed Staffing:

| Staff | No. |
|---------|-----|
| Ranger | 2 |
| Laborer | 1 |

During the initial phase of the management plan, two staff members, can be hired to collaborate with council officers in initiating the implementation process. It is crucial to consider the budget constraints and start with a practical approach.

Appendix 3: Training Requirements for the PA Management Unit

| Course/Topics | Staff | | | | | Training delivery method |
|--|---------|----------------------|----------------------|------------------------|---------|--------------------------|
| | Council | Administrative staff | Environment Officers | Communication Officers | Rangers | |
| PA Management | | | | | | |
| Role of PAs in environmental conservation | x | x | x | x | x | short course |
| Legal frameworks and institutional setting for PA governance and management in the Maldives, | x | x | x | x | x | |
| General prescriptions rules for PAs in the Maldives, | x | x | x | x | x | |
| Adaptive management | x | x | x | x | x | |
| Limits of Acceptable Change | x | x | x | x | x | |
| Pa Financing and Accounting | | | | | | |
| Management of PA account | x | x | | | | on the job training |
| Revenue generation and sustainable financing planning | x | x | | | | |
| Education, Awareness and Outreach | | | | | | |
| Participatory and rights-based approaches for PA management | x | | | x | | on the job training |
| Community engagement | x | | | x | | |
| Ecological Monitoring and Research | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---------------------|
| Ecological surveying and data collection | | | x | | x | short training |
| Data Analysis and Scientific Reporting | | | x | | | |
| Pa Management Effectiveness Monitoring | | | | | | |
| Standards (IUCN Green List) and Monitoring tools for PA effectiveness (e.g. METT) | x | x | x | x | x | on the job training |
| Evaluation and Reporting | | x | x | | | |
| Ranger Training | | | | | | |
| PA codes of conduct and rules | | | | | x | short course |
| Visitor engagement and management | | x | x | x | x | |
| Non-compliance monitoring protocols | | | | | x | |
| Conflict engagement | | | | | x | |
| Drone surveillance and operation | | | | | x | |
| First aid | | | | | x | |
| Fire safety training | | | | | x | |
| Swimming skills | | | | | x | |

Appendix 4: Annual programme and work plan development guideline

- The annual programme outlines the activities to be carried out by the PA management unit for the upcoming year and should include resources and budget needed to implement the activities.
- The Annual program should include the following
 - The management objectives to be achieved in the year.
 - A plan of activities including operational and ongoing activities as well as new activities and programs to improve the PA management. The activities should focus on the following areas and must include a timeline.
 - Administration and infrastructure management
 - Visitor and Public Use monitoring
 - Research and monitoring
 - Education, awareness and community engagement
 - Resource needs including human resources, equipment, and trainings
 - A budget estimate for implementing the program
- The template below can be used for each planned activity to identify resource and budget needs.

Name of PA:

Activity
description:

Personnel needs (list all personnel needed, including current and additional staff)

| Job Title | Quantity | Number of working months | Cost per month (MVR) | Total Cost (MVR) |
|-----------|----------|--------------------------|----------------------|------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Supplies, Equipment & vehicles (items that need to be purchased or rented)

| Item | Quantity | Unit Cost (MVR) | Total cost (MVR) |
|------|----------|-----------------|------------------|
| | | | |
| | | | |
| | | | |

Contractual Services (List all work to be done by contract with non-PA staff)

| Services needed | Estimated Cost (MVR) |
|-----------------|----------------------|
| | |
| | |
| | |

Training needs

| Course Title | Cost of course (MVR) | Travel & Other expenses (MVR) | Total Cost (MVR) |
|--------------|----------------------|-------------------------------|------------------|
| | | | |
| | | | |

| | | | |
|--|--|--|--|
| | | | |
| | | | |

Summary of Costs (MVR):

| Item | Total Cost (MVR) |
|-----------------------|------------------|
| Personnel | |
| Supplies and Material | |
| Contractual Services | |
| Training | |
| Total cost | |

Appendix 5: Six-monthly reporting template

The 6-monthly report should include the following areas

1. Introduction
 - Provide a description of the PA and an overview of the PA management objective.
 - Include an outline of the report and its objective
2. Administration and Finance
 - Updates on staffing, and trainings
 - maintenance and waste management with available data
 - Budgeting including income and expenditures
3. Activities and Programmes
 - Visitor activities including numbers and type of activities done in the PA
 - Information and feedback collected through visitor surveys
4. Compliance Monitoring
 - Incidences of non-compliance and illegal activities
 - Action taken - Fines and penalties
 - Recommendations
5. Education, Awareness and Outreach
 - Webpage and social media engagements and stats
 - Activities undertaken at PA for awareness raising and education
 - Activities undertaken in collaboration with community
 - Any publications or reports produced during the reporting period
 - Other outreach activities
6. Research & Monitoring
 - Report on overall physical health of the PA with any data collected during the reporting period.
 - Include trends of health of the area based on previously collected data
 - Any incidences of risks or unusual impacts on the health of the area
 - Any ongoing research during the reporting period
7. Monitoring and Evaluation
 - Report on any monitoring effectiveness assessments undertaken during reporting period (e.g. METT)
8. Conclusions & Recommendations
 - A summary of the overall report
 - Overview of management effectiveness
 - Recommendations to improve management

Appendix 6: Monthly data reporting template

Note: Please fill out the sections of this report that are applicable or have relevant updates for this month. If a section does not apply or there have been no changes, it is not necessary to complete it.

Administration

| | |
|---|--|
| Number of Staff at PA Management office: | |
| Number of Trainings conducted: (List details of each training below) | |

| Name of training | # participants | Duration | Training conducted by | Training mode |
|------------------|----------------|----------|-----------------------|---------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Budget

| | |
|---|--|
| Total revenue (MVR): (List all types of revenue generation in table below) | |
|---|--|

| | |
|---|--|
| Total Expenditure (MVR): (List all types of revenue generation in table below) | |
|---|--|

| Revenue source | Amount (MVR) |
|-----------------------------------|--------------|
| Entry fees | |
| Photography & videography permits | |
| donations | |
| external projects | |
| annual budget | |
| Event hiring | |
| Research facility hiring | |

| Expense | Amount (MVR) |
|-------------|--------------|
| Salaries | |
| Trainings | |
| Equipment | |
| Maintenance | |
| Consumables | |
| Events | |
| Others | |

| | | | |
|--------|--|--|--|
| Others | | | |
|--------|--|--|--|

Infrastructure Maintenance

List with description new structures developed or maintenance carried out on existing structures

| Activity | Start date | End Date | New/Existing |
|----------|------------|----------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |

Waste Management

| Waste from segregated bins | Amount of waste (kg) |
|----------------------------|----------------------|
| Biodegradable waste | |
| Plastic | |
| Glass | |
| Other | |

| | |
|----------------------------------|--|
| waste collected from litter (kg) | |
| types of waste found in litter | |

Report any incidences relating to waste management

| Incident description | Date of occurrence |
|----------------------|--------------------|
| | |

| | |
|--|--|
| | |
| | |

Visitor Engagement

| | |
|-------------------------------------|--|
| Number of Maldivian visitors: | |
| Number of visitors from Laamu Atoll | |
| Number of tourists | |
| Total number of visitors: | |

List any special group bookings (e.g. school field visit)

| Description | No of people | Visit Date |
|-------------|--------------|------------|
| | | |
| | | |

Provide a graph of daily visitor log counts

Non-compliance and illegal activity:
List all incidences

| Incident description | Action taken |
|----------------------|--------------|
| | |
| | |
| | |

Education, Awareness &
Outreach

List activities undertaken during reporting period

| Date(s) | Activity description | Target audience | # people engaged | Link to activity report |
|---------|----------------------|-----------------|------------------|-------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

List any knowledge products produced (e.g. video, publication, report)

| Description of product | Type of product | Link to location |
|------------------------|-----------------|------------------|
| | | |
| | | |
| | | |
| | | |

Research and Monitoring

List and ecological monitoring activities undertaken during reporting period

| Date(s) | Monitoring type (e.g. reef, terrestrial) | Parameters measured | Link to available reports |
|---------|--|---------------------|---------------------------|
| | | | |
| | | | |
| | | | |

For any ecological monitoring conducted report the following parameters
Format can be adapted according to parameters reported

| Type | Attribute | Parameter | Value |
|-------------|--------------------|--|-----------------|
| Terrestrial | Flora & vegetation | Number by type of tree (Mature) | |
| | | Number by type of tree (young) | |
| | | Canopy cover (%) | |
| | | Vegetation distribution composition (%) | Include a graph |
| | Fauna | Numbers for each type | |
| | Human impact | Litter weight (kg) | |
| | | Litter composition | |
| | Natural impact | Any signs of dead trees (area size or individual tree numbers) | |
| | | Any signs of dead fauna (numbers and type) | |
| | | Other impacts | |
| Water body | Water quality | Temperature | |
| | | Ph | |
| | | Dissolved oxygen | |
| | | Nutrients | |
| | | Pollutants | |
| | Fauna | Numbers for each type | |
| | Flora | Numbers for each type | |
| | Human impact | Litter weight (kg) | |

| | | | |
|------------------------------|--------------------|-----------------------------------|--|
| | | Litter composition | |
| | | Invasive species type and numbers | |
| | Other observations | | |
| Marine & Coastal Environment | Beach | Beach length | |
| | | Erosion presence | |
| | Water quality | Temperature | |
| | | Nutrients | |
| | | Pollutants | |
| | Fauna | Fish types and numbers | |
| | | Coral types and numbers | |
| | | Live coral cover | |
| | Flora | Sea grass cover & composition | |
| | Human impact | Observed impacts | |

Research Activities

| Research permit number | Research project description | Research conducted by | Activities carried out | Available reports/data |
|------------------------|------------------------------|-----------------------|------------------------|------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Appendix 7: Visitor Survey questionnaire development guide

- The purpose of the visitor survey is to find out about the experience of the visitors and get their feedback to help improve the PA management as well as the visitor experience
- The visitor survey shall be prepared as an online form and visitors can be requested to fill the form
- Alternatively, for an identified period in-person questionnaires can also be administered
- The form can include the following sections and can be adapted as needed.

| Section | Questions |
|-------------------|--|
| Socio-demographic | Age |
| | Gender |
| | Visiting as individual, family or group |
| | Residential status (Laamu local, Maldivian outside Laamu, Expat with work visa or international tourist) |
| | Education level |
| Visit to Laamu | Which island are you residing in Laamu? (list all islands and tourist resorts) |
| | What kind of accommodation are you staying at? (guesthouse, private residence, rented local house, resort, other) |
| | What modes of travel did you use to get here? (private car, bus, taxi, speedboat, airplane, other) |
| | Why are you visiting Laamu? (work, holiday, visit family, other) |
| | If you are a visitor to Laamu, how long are you staying in Laamu? |
| | Is this your first visit to Laamu? |
| | If not, approximately how many times have you visited Laamu? |
| Visit to the PA | Is this your first visit to <i>Hithadhoo Kulhi</i> ? |
| | If not, approximately how many times have you visited? |
| | What type of experiences are you seeking at the PA? (Select all that apply) <ul style="list-style-type: none"> • Adventure activities (kayaking etc) • Relaxation • Closeness to nature |

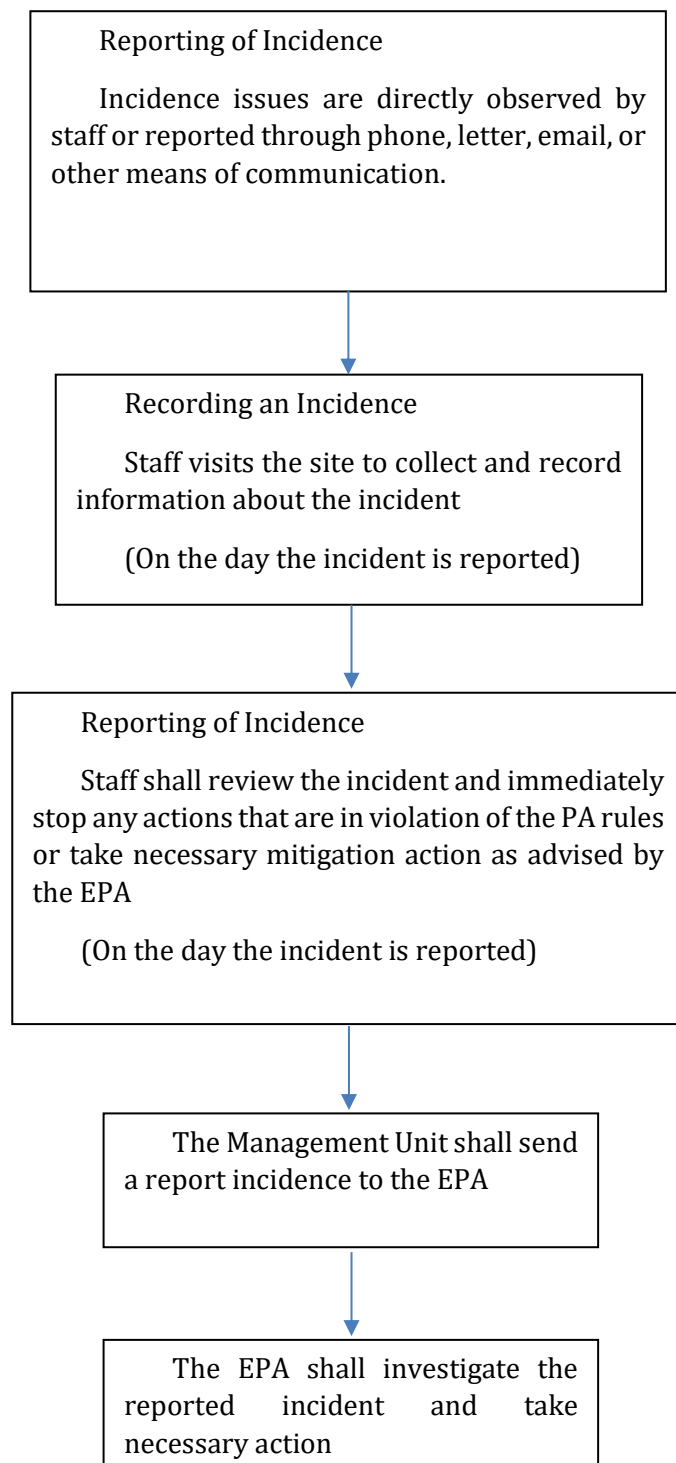
| | | |
|--------------------------|---|---|
| | <ul style="list-style-type: none"> • Wildlife observation • Educational reasons • Other (Specify) | |
| | Do you know this is a Protected Area? | |
| | Do you know why this is a Protected Area? | |
| | <p>Which of the following activities did you undertake at the PA? (Tick all that apply?)</p> <ul style="list-style-type: none"> • Look around the pond and mangrove area • Bathed in the pond • Had a picnic • Surfing • Camping • Bird watching • Other (specify) | |
| Visitor experience | On a scale of 1-5, how satisfied are you with your overall experience at the protected area? (1- very dissatisfied; 2 dissatisfied; 3 neutral; 4 satisfied; very satisfied) | |
| | On a scale of 1-5, did the PA have sufficient information to guide your visit? (1- very insufficient; 2- insufficient; 3- neutral; 4- sufficient; 5- very sufficient) | |
| | On a scale of 1-5, how did you find the cleanliness of the PA? (1- very unclean; 2- unclean; 3-neutral; 4- clean; 5-very clean) On a scale of 1 to 5, how important are amenities (restrooms, food options, etc.) for your overall experience at the PA? (Scale: 1 - Not important, 5 - Very important) | |
| | On a scale of 1 to 5, how important is environmental sustainability and conservation in your decision to visit a nature park (1 being not important, 5 being very important)? | |
| | On a scale of 1 to 5, how interested would you be in participating in educational programs about the local ecosystem/wildlife/conservation efforts? | |
| Feedback recommendations | & | Do you have any recommendations to improve your experience at the PA? |
| | | Do you have any additional feedback on regarding the PA? |

Appendix 8: Guidelines to monitor non-compliance incidences of PA rules

The following provides guidelines for PA management unit to attend to any incidences of non-compliances or violations of the PA rules.

1. The PA Management Unit (Environment Unit) established within the Laamu Hithadhoo Council will be the primary party responsible for attending to reported incidences of non-compliance and violation of PA rules.
2. The Management Unit has the right to attend to such issues and resolve these in a peaceful manner.
3. Reports of the incidence shall be received through direct observation by the Management Unit staff or through reports either by phone, letter, email or other means of communication.
4. Management Unit Staff shall attend the site and gather information on the day an incident is reported. Any violations of PA rules should immediately be stopped or necessary mitigation action should be taken as advised by the EPA.
5. A report of the incidence should be sent to the EPA within 5 days of the incidence being reported.
6. The EPA will investigate the incident and take necessary action after properly reviewing the incident.
7. The Management Unit shall maintain a log of all reported incidences and compile a list of incidences in the monthly PA management report.
8. The EPA shall maintain a register of reported incidences and actions taken.
9. A flow diagram outlining the process for attending to the reports are given below.

Flow diagram of Incidence Attendance Mechanism



Appendix 9: Grievance Redress Mechanism

The PA management Unit shall maintain a registry of grievances and attend to any complaints, disputes or grievances related to the governance or management of the PA. The following provides guidelines for receiving and resolving any complaints, disputes or grievances related to the governance or management of the PA.

1. The PA Management Unit shall have a designated staff member to address all potential complaints, disputes or grievances related to the governance or management of the PA.
2. The PA Management Unit shall maintain a registry of grievances, which will record the details and nature of the complaint, the complainant, the date and actions taken as a result of the investigation. It will also cross-reference any noncompliance report and/or corrective action report or other relevant documentation.
3. The PA Management Unit shall address any grievances in 3 stages, as shown in table below. The PA Management Unit shall make the grievance redress mechanism publicly available.
4. Any individual or parties (affected person) can report a complaint, dispute or grievance regarding the governance or management of the PA to the PA Management Unit via email, phone, in-person or via the Laamu Hithadhoo Council.
5. The PA Management Unit will lodge the complaint in the grievance registry and resolve the matter in consultation with relevant parties within 7 (seven) days of receiving the report.
6. The PA Management Unit should inform the affected person of the outcome within 7 (seven) days of receiving the report.
7. If the matter is not resolved to the satisfaction of the affected party, then the PA Management Unit should submit the grievance to the PA Management Steering Committee.
8. The PA Management Unit should arrange a meeting of the PA Management Steering Committee to review the matter and the Committee shall come to a decision
9. The PA Management Steering Committee should inform the affected person of the decision
10. If the matter is not resolved to the satisfaction of the affected party, the party may take up the matter in the relevant judicial court of the Maldives.

Grievance redress mechanism

| Stage | Process | Duration |
|-----------------------------|---|------------------------------|
| 1 | Reporting: Affected party reports grievance to PA Management Unit | Anytime |
| | PA Management Unit lodges the complaint in a registry and reviews and resolves the incident | Within 7 days from reporting |
| | PA Management Unit informs of outcome to affected party | 7 days from reporting |
| If unresolved go to stage 2 | | |
| 2 | PA Management Unit takes grievance case to the PA Management Steering Committee | 8 days from reporting |
| | PA Management Steering Committee reviews and resolves the grievance | - |
| | PA Management Unit informs of outcome to affected party | - |
| If unresolved go to stage 3 | | |
| 3 | PA Management Unit takes grievance case to the EPA/ MoTE | - |
| | EPA/ MoTE reviews and resolves the grievance | - |
| | PA Management Unit informs of outcome to affected party | - |
| If unresolved go to stage 4 | | |
| 4 | If the affected party is not satisfied then the party can take the matter to appropriate courts | As per the judicial systems |

Appendix 10: PA ecological baseline and periodic monitoring schedule

| Attribute | Parameter | Method | Frequency for periodic monitoring |
|--------------------|--|--|---|
| Terrestrial | | | |
| Vegetation | Vegetation species and composition tree height and girth canopy cover Tree health Invasive species | Transects, plots | Annually (special focus on seasonal changes) |
| Fauna | Species and composition Health | Visual surveys | Annually (special focus on seasonal changes) |
| | Avifauna species and numbers Migratory birds | Observations by rangers (In future can develop citizen science reporting) | Continuously and reported in monthly report (special focus on seasonal changes) |
| Groundwater | Temperature pH Salinity Electrical conductivity Nitrates, Phosphates, Ammonia, Faecal coliform, and Total coliform Other pollutants | Onsite testing and laboratory testing | Bi annually |
| Human Impact | Litter by weight Litter composition | Observations by rangers | Continuously and reported in monthly report |
| Water Body | | | |
| Water Quality | Temperature pH Salinity Electrical conductivity Nitrates, Phosphates, Ammonia, Faecal coliform, and Total coliform Other pollutants | Onsite testing and laboratory testing | Bi annually |
| Flora & Fauna | Flora species and composition Fauna species and composition Invasive species | Visual surveys, fish census | Annually (special focus on seasonal changes) |

| | | | |
|--------------------------------|--|--|--|
| Human Impact | Litter by weight Litter composition | Observations by rangers | Continuously and reported in monthly report |
| Beach & Coastal Environment | | | |
| Erosion and coastal changes | Beach profile Beach line at high tide and low tide Vegetation line | Surveying using level, staff and GPS Aerial imagery | Bi annually |
| Coastal vegetation | Species and composition along beach line | Line transects | Annually |
| Marine Environment | | | |
| Water quality | Temperature pH Salinity Electrical conductivity Nitrates, Phosphates, Ammonia, Faecal coliform, and Total coliform Other pollutants | Onsite testing and laboratory testing | Annually |
| Seagrass health | Seagrass cover Presence of macroalgae and epiphytes Seagrass species composition | Quadrant | Annually |
| Coral reef health | Percentage live coral cover Species and abundance Invasive species | Quadrant | Annually |
| | Coral bleaching | Visual quadrants | <ul style="list-style-type: none"> • Monitor following a MMRI alert in Laamu Atoll. • Continue to monitor every 6 months after a bleaching event to check recovery |
| Fauna | Species abundance and composition | Visual surveys | Annually |
| Pollution | Litter weight and composition Visible oil or another surface contamination Others | Observations by rangers | Continuously and reported in monthly report |

Appendix 11: Activities Allowed and prohibited in the PA

Note: The activities which are allowed within the PA are indicated with a right mark (✓) and the activities that are prohibited are marked with a wrong mark (X). Activities that are not relevant or applicable to an area are indicated with a (NA). Activities indicated by an Asterix (*) can be carried out by special permits.

| Activity | Marine Area | Terrestrial Area |
|--|-------------|------------------|
| Any activities that may cause harm to or alter the PA | X | X |
| Any activities such as remove, kill, injure or remove, that may cause harm to biodiversity within the PA | X | X |
| Harvest eggs or causing destruction to nests of any species | X | X |
| Littering | X | X |
| Using strong lights in the area during night-time | X | X |
| Creating noise disturbances to disrupt behaviours of wildlife in the area | X | X |
| Introduce any new or alien species into the area | X | X |
| Feeding the birds, fish and other species present in the area | X | X |
| Mining or conducting any research to find gas, oil or minerals | X | NA |
| Reclamation and dredging | X | NA |
| Anchoring | X | NA |
| Aquaculture/ mariculture | X | NA |
| Sand and coral mining | X | NA |
| Releasing any pollutants into the reef and placing outfalls | X | NA |
| Use of motor vehicles except those council operated for PA use | NA | X |
| Cutting, removal or causing harm to trees | NA | X |
| Removal of soil | NA | X |
| Plant a seedling or seeds from any type of trees other than that growing in the area | NA | X |
| Lighting fires | NA | X |
| Agriculture | NA | X |
| Infrastructure Development | ? | ? |
| Visiting and viewing the area by locals and tourists* | ? | ? |

| | | |
|--|----|---|
| Eco-tourism related activities* | ? | ? |
| Research* | ? | ? |
| Restoration and rehabilitation activities* | ? | ? |
| Traditional resource gathering (fallen coconut fronds, mature coconut, dry wood and sea almonds) * | NA | ? |
| Picking, cutting and removal of fruits and other edibles from mangrove plants* | NA | ? |
| Cutting wood* | NA | ? |

Appendix 12: Guidelines for Access and Other Fees

The following are guidelines for possible fee structures. These will need to be finalized following guidance from the PA Steering Committee. All fees stated are for Maldives residents or work permit holders unless stated otherwise. Further details can be found in Appendix 19.

| No. | Description | Cost (MVR) |
|-----|---|------------|
| 1 | Entry fee | - |
| 2 | Entry fee (Non-Mv) | 77.10 |
| 3 | Guided tours | 100.00 |
| 4 | Guided tours (Non-Mv) | 771.00 |
| 5 | Bicycle hire per hour | 10.00 |
| 6 | Bicycle hire per day | 50.00 |
| 7 | Bicycle hire (Non-Mv) per hour | 46.26 |
| 8 | Bicycle hire (Non-Mv) per day | 281.30 |
| 9 | Buggy hire per trip | 20.00 |
| 10 | Buggy hire (Non-Mv) per trip | 154.20 |
| 11 | Canoe hire per hour/ includes bicycle use | 150.00 |
| 12 | Canoe hire (Non-Mv) per hour/includes bicycle use | 308.40 |
| 13 | Photography gold package | 500.00 |
| 14 | Photography silver package | 300.00 |
| 15 | Photography bronze package | 200.00 |

| | | |
|----|---|----------|
| 16 | Commercial photography permit per 3 hours | 1,000.00 |
| 17 | Commercial drone photography permit per 3 hours | 1,500.00 |
| 18 | Commercial Research License | 3,000.00 |
| 19 | Mobile Vendor daily fee | 125.00 |

The details of the photography packages are given below

- Gold package (4 aerial videos, 15 aerial photos, 15 portrait photos)
- Silver package (2 aerial videos, 8 aerial photos, 5 portrait photos)
- Bronze package (5 aerial photos, 5 portrait photos)

Fee exemptions will be made for the following parties:

1. Students and teachers visiting the PA for educational purposes
2. Individuals or parties visiting for official purposes under a special permission from the Council
3. Promotional purposes
4. Researchers with a permit
5. Individuals or parties attending trainings or capacity development programs organized by the PA Management Unit.

Appendix 13: Guidelines for selling products within Hithadhoo Wetland and Surrounding Marine Area
PA

Food items sold within the Hithadhoo Wetland:

- Should mainly be Maldivian products
- Should give importance to products produced in Laamu Hithadhoo or within Laamu Atoll
- Should be packaged in plastic free and environmentally friendly packaging

Souvenirs or other exhibit items sold within the Hithadhoo Wetland should:

- Should be only Maldivian products
- At least 50% of products should be made in Laamu Hithadhoo or in Laamu Atoll
- Should not be in plastic packaging

Appendix 14: Guidelines for photography and videography within the Hithadhoo Wetland and Surrounding Marine Area PA

1. Commercial photography and videography inside the PA can be carried out under a permit. Commercial photography and videography permit request forms are available from the PA Management Unit or can be downloaded from their website.
2. Completed permit request forms must be submitted to the PA Management Unit at least 3 (three) days prior to the visit.
3. Completed permit request forms can be submitted to the PA Management Unit between 8:00 and 14:00 hrs on all working days. The form can also be faxed or emailed during these times.
4. The PA Management Unit will review the submitted information and give permission.
5. Forms with false information will be rejected.
6. The maximum duration permitted for a photography or videography session will be 5 (five) hours.
7. All activities carried out in the PA should comply with the PA rules and regulations.
8. Parties conducting commercial photography and videography in the PA should ensure the activities do not cause any negative impact to the ecosystem.
9. A permit fee waiver can be considered for PR related activities and in special cases case by case considerations.
10. Commercial photography and videography permits will require a fee as given below.

| Activity | Duration | Fee (MVR) |
|--|-----------------|-----------|
| Gold package (4 aerial videos, 15 aerial photos, 15 portrait photos) | Maximum 5 hours | MVR 500 |
| Silver package (2 aerial videos, 8 aerial photos, 5 portrait photos) | Maximum 5 hours | MVR 300 |
| Bronze package (5 aerial photos, 5 portrait photos) | Maximum 5 hours | MVR 250 |

Appendix 15: Guideline for Traditional Resource Use in Hithadhoo Wetland and Surrounding Marine Area PA

1. Collection of fallen palm fronds, mature coconut and dry wood for traditional use is permitted in the PA.
2. The PA management unit must maintain a list of registered resource users.
3. All activities carried out in the PA should comply with the PA rules and regulations

Appendix 16: Guideline to conduct research in the Hithadhoo Wetland

1. Research inside the PA can be carried out under a permit from the management unit. Research permit is issued by EPA, and this permit can be requested through the EPA's oneGov portal.
2. EPA will review the submitted information and give permission.
3. All research activities carried out in the PA should comply with the PA rules and regulations.
4. Researchers must consent to sharing research findings and publication with the PA Management Unit
5. Commercial research, which is research being done with the intention of generating revenue for the researching party, will incur a fee of MVR 3,000 (three thousand) payable to the PA Management Unit.

Appendix 17: Penalties for Non-Compliance in Hithadhoo Wetland and Surrounding Marine Area PA

The following penalties will be imposed for violations of the PA rules, regulations and permit conditions at Hithadhoo Wetland and Surrounding Marine Area PA

| No. | Penalty for Violation |
|-----|---|
| 1 | The management authority reserves the right to immediately remove escort out of the premises, anyone in violation of the PA management rules, regulations or permit conditions. |
| 2 | Anyone entering the PA without required permits will be fined MVR 500 (five hundred) in the first instance. For repeat violations, an additional MVR 5,000 (five thousand) will be added to the previous fine. |
| 3 | In instances where a permit has to be revoked due to breach of PA management rules, regulations or permit conditions, the individual or party will be fined MVR 8,000 (eight thousand) |
| 4 | Damages to any infrastructure or ecosystem within the PA will be fined between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand) based on the magnitude of the damages |
| 5 | Touching or harming any fauna within the PA will incur a fine between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand) |
| 6 | Removing any flora or fauna from the PA will incur a fine between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand). Removal of things allowed in Appendix 10 are exempted. |
| 7 | Introduction of any new or invasive species into the PA will incur a fine between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand) |
| 8 | Littering within the PA will incur a fine between MVR 5,000 (five thousand) and MVR 50,000 (fifty thousand) |
| 9 | Any violations or damages to the PA, not mentioned in Nos 1 to 8 of this Appendix, will be penalized under the Regulation on Environmental Liabilities (2011/R-9) |
| 10 | Any violations or damages to the PA, not mentioned in Nos 1 to 8 of this Appendix or the Regulation on Environmental Liabilities (2011/R-9), will be fined between MVR 5,000 (five thousand) to MVR 10,000 (ten thousand) |

Appendix 18. A 10-year work plan for management of Hithadhoo Wetland and Surrounding Marine Area

[illegible]

| | | | | | | | | | | | |
|---|------------------------------|--|--|--|--|--|--|--|--|--|--|
| Activity 1.9 Develop PA website and social media platforms | PA management unit (LHC) | | | | | | | | | | |
| Activity 1.10 Implement visitor activities management and monitoring | PA management unit (LHC) | | | | | | | | | | |
| Activity 1.11 Develop Limits of Acceptable Change for the PA | PA management unit (LHC) | | | | | | | | | | |
| Activity 1.12 Develop management effectiveness monitoring protocols | PA management unit (LHC) | | | | | | | | | | |
| Activity 1.13 Conduct periodic management effectiveness monitoring | MOTE | | | | | | | | | | |
| Activity 1.14 Review management plan | MoTE | | | | | | | | | | |
| Objective 2: By 2028, the current levels of flora and fauna within the PA are maintained or improved. | | | | | | | | | | | |
| Activity 2.1 Develop and implement monitoring plan | PA management unit (council) | | | | | | | | | | |
| Activity 2.2 Procure equipment for ecological monitoring | LHC | | | | | | | | | | |
| Activity 2.3 Conduct a training on ecological monitoring for relevant staff | MoTE/ EPA | | | | | | | | | | |
| Activity 2.4 Conduct a baseline ecological assessment of the PA | PA management unit (LHC) | | | | | | | | | | |
| Activity 2.5 Continue periodic ecological monitoring of the PA | PA management unit (LHC) | | | | | | | | | | |

| | | | | | | | | | | | |
|---|--------------------------|--|--|--|--|--|--|--|--|--|--|
| Activity 2.6 Disseminate information on health of the PA | PA management unit (LHC) | | | | | | | | | | |
| Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by local community and visitors are increased. | | | | | | | | | | | |
| Activity 3.1 Measure baseline level of community understanding of PA values | PA management unit (LHC) | | | | | | | | | | |
| Activity 3.2 Continue periodic KAP assessment | PA management unit (LHC) | | | | | | | | | | |
| Activity 3.3 Develop a community engagement and awareness strategy | PA management unit (LHC) | | | | | | | | | | |
| Activity 3.4 Prepare and disseminate on the cultural and historical aspects of the PA and Hithadhoo island | PA management unit (LHC) | | | | | | | | | | |
| Activity 3.5 Prepare and disseminate information on social, cultural, ecological and economic benefits of PAs to local community and visitors | PA management unit (LHC) | | | | | | | | | | |
| Activity 3.6 Promote the PA to generate interest to visit the PA | PA management unit (LHC) | | | | | | | | | | |

Management Plan Annex: Financial Plan

Laamu Hithadhoo Wetland and Surrounding Marine Protected Area Management Plan

28th April 2025

Proposed by

Ministry of Tourism and Environment

Prepared by

Water Solutions Pvt Ltd

Contents

| | |
|---|----|
| Executive Summary | 69 |
| Introduction | 70 |
| Description of Financial Plan | 71 |
| Initial Investment | 71 |
| Operating Costs | 71 |
| Revenue Break-up | 71 |
| Cash Flow | 71 |
| Risk Management | 72 |
| Monitoring and Evaluation | 72 |
| Annex A: Initial investment | 73 |
| Annex B: Operating costs | 74 |
| Annex C: Revenue break-up | 75 |
| Annex D: Cash flow | 77 |

Executive Summary

L. Hithadhoo Wetland and Surrounding Marine Area has been declared a Protected Area (PA) on 23rd December 2021 under the Environment Protection and Preservation Act (4/93). The total area of 43.3 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use. The PA is mainly protected for its significant biodiversity and social significance for the local community. In alignment with Clause 12 of the Protected Areas Regulation (2018/R-78), this financial plan is a key component of the management plan, developed to support sustainable use and effective management of the PA.

The management framework proposes a co-management governance regime involving the Ministry of Tourism and Environment (MoTE), the Environmental Protection Agency (EPA), and the Laamu Hithadhoo Council (LHC). The LHC will establish a PA Management Unit within the Council to implement the management plan.

Through careful allocation of financial resources and the establishment of a comprehensive governance framework, this plan aims to protect the L. Hithadhoo Wetland's ecological and social values while providing long-term benefits to the local community and promoting sustainable use of this PA.

Introduction

In alignment with Clause 12 of the Protected Areas Regulation (2018/R-78), this financial plan is a key component of the management plan, developed to ensure sustainable use and effective management of Laamu Hithadhoo Wetland and Surrounding Marine Area. Locally known as Hithadhoo Kulhi, this area has been designated a Protected Area (PA) on 23rd December 2021 under the Environment Protection and Preservation Act (4/93). The total area of 43.3 hectares was declared as a PA under the Category 7: Protected Area with Sustainable Use, following the government announcement no: (IUL)438-ENV/438/2021/371. The PA is mainly protected for its significant biodiversity and social significance for the local community.

The vision of the Hithadhoo Wetland and Surrounding Marine Areas is “to develop Hithadhoo Wetland and Surrounding Marine Protected Area as an effectively managed protected area through ecological conservation and sustainable ecotourism”. The financial plan supports this vision by providing necessary funding to achieve the following objectives.

- Objective 1: By the end of 2025, an effective management plan will be implemented with a functioning management unit on-site.
- Objective 2: By 2028, the current levels of flora and fauna within the PA are maintained or improved.
- Objective 3: By the end of 2028, appreciation of the cultural, social and economic value of the PA by the local community and visitors has increased.

This report presents a financial plan to sustainably implement the proposed management plan for Laamu Hithadhoo Wetland and Surrounding Marine Area. The objective of this financial plan is to address the resources required to establish effective management, support infrastructure, and ensure ongoing conservation and sustainable use practices. Key areas of focus include funding for management unit establishment, infrastructure development, ecological monitoring and visitor management. Additionally, the plan is designed with the goal of developing revenue-generating services within the PA, thereby supporting ongoing operations and potentially yielding profits that can be reinvested into further conservation and management efforts. This report provides a detailed breakdown of the initial investment, operating costs, revenue break-up, and cash flow for the PA.

Description of Financial Plan

Initial Investment

Investment in the development and maintenance of infrastructure, especially the visitor centre, is essential. There is a need to improve the accessibility and infrastructure within the mangrove area to accommodate visitors, including well-maintained paths and facilities, such as rest areas and restrooms. A small grant from ENDHERI has been awarded to Hithadhoo Island Council to assist in the implementation of the PA management plan, which can potentially cover the initial investments. The initial cost sheet includes fixed assets (physical structures), vessels, vehicles, management office, and miscellaneous items. Preliminary expenses cover bank accounts, stationery, and compliance. Construction costs for the visitor/research center are estimated using the **rate MVR 700**. The rate also applies for both masonry and wooden structures as they both incur similar costs during construction. This rate can be used to come up with the costs for viewing platforms, watchtowers, parking areas, and waste collection. A comprehensive breakdown of the initial investment is provided in Annex A: Initial investment

Operating Costs

To effectively achieve the objectives of this management plan, the financial plan identifies the essential resources, staffing, and assets required. Operating costs for the PA incorporate office cost, staff cost and activities cost. Office expenses include internet, phone, electricity, water, conveyance, meeting costs, and office supplies, totaling around 58,200 MVR. Staff costs are estimated for 3 staff members; 2 rangers and a laborer. The combined monthly staffing costs for these roles are estimated to be around 33,000 MVR, which includes salaries, benefits, and any associated allowances. Activity costs include staff training, educational initiatives to raise community and visitor awareness, and marketing efforts to promote sustainable tourism. The details of operating costs are outlined in Annex B: Operating costs

Revenue Break-up

The current product offerings at L. Hithadhoo Wetland Area already provide a valuable experience by offering nature walks, picnic areas, canoeing and photography. Visitors can participate in these activities to explore the mangrove area, see a variety of species, and learn more about the crucial function mangroves provide in environmental preservation. Potential products and services provided from the PA includes establishing recreational areas, vendor stands to offer refreshments and local handicrafts and provides a venue for scientific research as well.

Revenue streams for the next 10 years include entry fees, guided tours, bicycle hire, buggy hire, kayak hire, photography and research fees. Revenue is expected to grow by 10% every two years. Photography is identified as a major revenue source, and the council is advised to focus on this stream. A comprehensive breakdown of revenue sources for this PA is presented in Annex C: Revenue break-up.

Cash Flow

The cash flow sheet shows a consistently positive net cash flow throughout the year, as the initial investment will be covered by a small grant provided to the island council. This positive cash flow indicates that, after covering operating expenses and management costs, the revenue streams of the PA, including visitor fees and services, are sufficient to sustain ongoing operations. A detailed cash flow table for the PA is provided in Annex D: Cash flow.

Risk Management

This financial plan also incorporates a comprehensive risk management strategy to address potential financial and operational challenges that could impact the effective management of this PA. Key risks include fluctuations in funding sources, unexpected maintenance costs, environmental degradation, and changes in visitor numbers. To mitigate these risks, it is important to have multiple funding sources and regularly review financial performance to adapt to changing circumstances. Additionally, periodic ecological assessments and visitor impact studies will be conducted to address any environmental or operational concerns.

Monitoring and Evaluation

The financial plan should be monitored and evaluated along with the management plan. Refer to Section 12 of the Laamu Hithadhoo Wetland and Surrounding Marine Protected Area Management Plan.

Annex A: Initial investment

| Initial Investment | | |
|-----------------------------------|--------------|---------------------|
| | | Total Cost |
| Fixed assets | | |
| PA infrastructure | | 2,736,230.00 |
| Visitor/research centre | 2,078,125.00 | |
| Watch tower x2 | 63,262.50 | |
| Public Toilets | 190,773.75 | |
| Waste collection point (Bins) x3 | 1,200.00 | |
| Bicycle stand x3 | 114,675.00 | |
| Parking area | 7,500.00 | |
| Canoe storage | 168,613.75 | |
| Access gate | 16,750.00 | |
| Information board stand x4 | 18,000.00 | |
| Life guard equipment x2 | 5,000.00 | |
| Security camera x10 | 36,000.00 | |
| Open shower x2 | 21,330.00 | |
| Seating x5 | 15,000.00 | |
| Viewing platform | - | |
| Picnic area x2 | - | |
| | | |
| Vessels and vehicles | | 241,700.00 |
| Bicycle x10 | 87,500 | |
| Buggy x2 | 154,200 | |
| | | |
| | | |
| PA Management Office | | 185,000.00 |
| Office setup/renovation | 50,000.00 | |
| Furniture | 55,000.00 | |
| Equipment (PC, printers, etc) | 80,000.00 | |
| Equipment (Ecological survey) | - | |
| | | |
| Miscellaneous Fixed Assets | | 5,000.00 |
| Network connections | 5,000.00 | |
| | | |
| Total Fixed Assests | | 3,167,930.00 |
| | | |
| Preliminary expenses | | 7,000.00 |
| Bank accounts | 5,000.00 | |
| Statutory compliance | 2,000.00 | |
| Insurance | - | |
| | | |
| Total initial investment | MVR | 3,174,930.00 |

Annex B: Operating costs

| Operating Cost | | | | | | | | | | | | | | | |
|-----------------|--------------------------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| No. | Description | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YR 2024 |
| 1 | Office Cost | - | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 58,200 |
| 2 | Staff Cost | - | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 396,000 |
| 3 | Activities Cost | - | 1,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 14,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 55,000 |
| | Total Operating Costs | | 38,850 | 41,850 | 41,850 | 41,850 | 41,850 | 41,850 | 51,850 | 41,850 | 41,850 | 41,850 | 41,850 | 41,850 | 509,200 |
| Office Cost | | | | | | | | | | | | | | | |
| No. | Description | Rate | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YR 2024 |
| 1 | Rent | | | | | | | | | | | | | | - |
| 2 | Communication (internet, phone, etc) | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 1,650 | 19,800 |
| 3 | Utilities (electricity, water, etc) | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 24,000 |
| 4 | Conveyance (local transport) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 6,000 |
| 5 | Meeting Cost (petty cash) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 6,000 |
| 6 | Office Supplies (stationary, etc) | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 2,400 |
| 7 | Compliance | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 2,400 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | Total Office Cost | | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 4,850 | 58,200 |
| Staff Cost | | | | | | | | | | | | | | | |
| No. | Description | Rate | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YR 2024 |
| 1 | Ranger | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 144,000 |
| 2 | Ranger | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 144,000 |
| 3 | Labor | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 9,000 | 108,000 |
| | | | | | | | | | | | | | | | - |
| | | | | | | | | | | | | | | | - |
| | Total annual salary | | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 33,000 | 396,000 |
| Activities Cost | | | | | | | | | | | | | | | |
| No. | Description | Rate | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YR 2024 |
| 1 | Training | 10,000 | 10,000 | | | | | | 10,000 | | | | | | 20,000 |
| 2 | Education, Awareness and Outreach | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 24,000 |
| 3 | Marketing | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 24,000 |
| | Total Activities Cost | | 14,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 14,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 68,000 |

Annex C: Revenue break-up

| Revenue | | | | | | |
|---------|---|------------|------------------------------------|-------------|------------|-------------|
| No. | Description | Cost (MVR) | Overhead (fixed and variable)(MVR) | Total (MVR) | Margin 25% | Price (MVR) |
| | Revenue | | | | | |
| 1 | Entry fee | - | - | - | - | - |
| 2 | Entry fee (Non-Mv) | 77.10 | - | 77.10 | - | 77.10 |
| 3 | Guided tours | 100.00 | - | 100.00 | - | 100.00 |
| 4 | Guided tours (Non-Mv) | 771.00 | - | 771.00 | - | 771.00 |
| 5 | Bicycle hire per hour | 10.00 | - | 10.00 | - | 10.00 |
| 6 | Bicycle hire per day | 50.00 | - | 50.00 | - | 50.00 |
| 7 | Bicycle hire (Non-Mv) per hour | 46.26 | - | 46.26 | - | 46.26 |
| 8 | Bicycle hire (Non-Mv) per day | 281.30 | - | 281.30 | - | 281.30 |
| 9 | Buggy hire per trip | 20.00 | 10.00 | 30.00 | - | 30.00 |
| 10 | Buggy hire (Non-Mv) per trip | 154.20 | 10.00 | 164.20 | - | 164.20 |
| 11 | Canoe hire per hour/ includes bicycle use | 150.00 | - | 150.00 | - | 150.00 |
| 12 | Canoe hire (Non-Mv) per hour/includes bicycle use | 308.40 | - | 308.40 | - | 308.40 |
| 13 | Photography gold package | 500.00 | - | 500.00 | - | 500.00 |
| 14 | Photography silver package | 300.00 | - | 300.00 | - | 300.00 |
| 15 | Photography bronze package | 200.00 | - | 200.00 | - | 200.00 |
| 16 | Commercial photography permit per 3 hours | 1,000.00 | - | 1,000.00 | - | 1,000.00 |
| 17 | Commercial drone photography permit per 3 hours | 1,500.00 | - | 1,500.00 | - | 1,500.00 |
| 18 | Commercial Research License | 3,000.00 | - | 3,000.00 | - | 3,000.00 |
| 19 | Mobile Vendor daily fee | 125.00 | - | 125.00 | - | 125.00 |

Estimated revenue from the fees above are shown below in MVR.

| Assumptions | Nos | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
|---------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1,280 | - | - | - | - | - | - | - | - | - | - |
| | 728 | 56,128.80 | 56,128.80 | 61,741.68 | 61,741.68 | 67,915.85 | 67,915.85 | 74,707.43 | 93,384.29 | 102,722.72 | 102,722.72 |
| 1 per week | 52 | 5,200.00 | 5,200.00 | 5,720.00 | 5,720.00 | 6,292.00 | 6,292.00 | 6,921.20 | 6,292.00 | 6,921.20 | 6,921.20 |
| 1 per week | 52 | 40,092.00 | 40,092.00 | 44,101.20 | 44,101.20 | 48,511.32 | 48,511.32 | 53,362.45 | 48,511.32 | 53,362.45 | 53,362.45 |
| 1 in every 10 | 128 | 1,280.00 | 1,280.00 | 1,408.00 | 1,408.00 | 1,548.80 | 1,548.80 | 1,703.68 | 1,548.80 | 1,703.68 | 1,703.68 |
| 1 in every 10 | 128 | 6,400.00 | 6,400.00 | 7,040.00 | 7,040.00 | 7,744.00 | 7,744.00 | 8,518.40 | 7,744.00 | 8,518.40 | 8,518.40 |
| 1 in every 10 | 73 | 3,367.73 | 3,367.73 | 3,704.50 | 3,704.50 | 4,074.95 | 4,074.95 | 4,482.45 | 4,074.95 | 4,482.45 | 4,482.45 |
| 1 in every 10 | 73 | 20,534.90 | 20,534.90 | 22,588.39 | 22,588.39 | 24,847.23 | 24,847.23 | 27,331.95 | 24,847.23 | 27,331.95 | 27,331.95 |
| 1 in every 20 | 64 | 1,920.00 | 1,920.00 | 2,112.00 | 2,112.00 | 2,323.20 | 2,323.20 | 2,555.52 | 2,323.20 | 2,555.52 | 2,555.52 |
| 1 in every 20 | 36 | 5,976.88 | 5,976.88 | 6,574.57 | 6,574.57 | 7,232.02 | 7,232.02 | 7,955.23 | 7,232.02 | 7,955.23 | 7,955.23 |
| 14 every week | 728 | 109,200.00 | 109,200.00 | 120,120.00 | 120,120.00 | 132,132.00 | 132,132.00 | 145,345.20 | 132,132.00 | 145,345.20 | 145,345.20 |
| 14 every week | 728 | 224,515.20 | 224,515.20 | 246,966.72 | 246,966.72 | 271,663.39 | 271,663.39 | 298,829.73 | 271,663.39 | 298,829.73 | 298,829.73 |
| 1 every week | 52 | 26,000.00 | 26,000.00 | 28,600.00 | 28,600.00 | 31,460.00 | 31,460.00 | 34,606.00 | 31,460.00 | 34,606.00 | 34,606.00 |
| 1 every week | 52 | 15,600.00 | 15,600.00 | 17,160.00 | 17,160.00 | 18,876.00 | 18,876.00 | 20,763.60 | 18,876.00 | 20,763.60 | 20,763.60 |
| 1 every week | 52 | 10,400.00 | 10,400.00 | 11,440.00 | 11,440.00 | 12,584.00 | 12,584.00 | 13,842.40 | 12,584.00 | 13,842.40 | 13,842.40 |
| | 5 | 5,000.00 | 5,000.00 | 5,500.00 | 5,500.00 | 6,050.00 | 6,050.00 | 6,655.00 | 6,050.00 | 6,655.00 | 6,655.00 |
| | 5 | 7,500.00 | 7,500.00 | 8,250.00 | 8,250.00 | 9,075.00 | 9,075.00 | 9,982.50 | 9,075.00 | 9,982.50 | 9,982.50 |
| | 4 | 12,000.00 | 12,000.00 | 13,200.00 | 13,200.00 | 14,520.00 | 14,520.00 | 15,972.00 | 14,520.00 | 15,972.00 | 15,972.00 |
| 1 in every 5 | 640 | 80,000.00 | 80,000.00 | 88,000.00 | 88,000.00 | 96,800.00 | 96,800.00 | 106,480.00 | 96,800.00 | 106,480.00 | 106,480.00 |
| | | | | | | | | | | | |
| | 4,226 | 631,115.51 | 631,115.51 | 694,227.06 | 694,227.06 | 763,649.76 | 763,649.76 | 840,014.74 | 789,118.21 | 868,030.03 | 868,030.03 |

Annex D: Cash flow

| Cash Flow | | | | | | | | | | |
|---------------------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Details | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| Income | | | | | | | | | | |
| Revenue | 631,116 | 631,116 | 694,227 | 694,227 | 763,650 | 763,650 | 840,015 | 789,118 | 868,030 | 868,030 |
| Bal from Previous Quarter | - | 121,916 | 218,371 | 351,205 | 455,969 | 600,683 | 714,451 | 872,089 | 944,711 | 1,060,421 |
| Total Income | 631,116 | 753,031 | 912,598 | 1,045,432 | 1,219,619 | 1,364,333 | 1,554,465 | 1,661,207 | 1,812,741 | 1,928,451 |
| | | | | | | | | | | |
| Expenses | | | | | | | | | | |
| Initial Investment | - | | | | | | | | | |
| Office Cost | 58,200 | 61,110 | 64,166 | 67,374 | 70,742 | 74,280 | 77,994 | 81,893 | 85,988 | 90,287 |
| Staff Cost | 396,000 | 415,800 | 436,590 | 458,420 | 481,340 | 505,407 | 530,678 | 557,212 | 585,072 | 614,326 |
| Activity Cost | 55,000 | 57,750 | 60,638 | 63,669 | 66,853 | 70,195 | 73,705 | 77,391 | 81,260 | 85,323 |
| Total Expenses | 509,200 | 534,660 | 561,393 | 589,463 | 618,936 | 649,883 | 682,377 | 716,496 | 752,320 | 789,936 |
| | | | | | | | | | | |
| Net Cash | 121,916 | 218,371 | 351,205 | 455,969 | 600,683 | 714,451 | 872,089 | 944,711 | 1,060,421 | 1,138,515 |