Huraa Mangrove Area
Conservation Action Plan 2026-2036



Ministry of Tourism and Environment

UK International Development
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1. Introduction

K. Huraa Mangrove Area (hereafter, HMA) was established as a Protected Area (PA) under the Environmental Protection and Preservation Act (Law no. 4/93) on the 14th June 2006 and covers an area of 5.32 hectares/ 0.05km². It is the only mangrove area close to Malé, providing an important site for education, research, and tourism. It supports a variety of trees and species associated with mangrove habitats, including species of conservation significance to the Maldives.

This Conservation Action Plan (CAP) supports Announcement 174-AB1/2006/13[1]. Together these documents set out how Huraa Council and partners will manage Huraa Mangrove Area (HMA), as stipulated under Article 12 of the Protected Areas Regulation (Regulation no. 2018/R-78). The CAP describes the vision and management objectives for HMA, and how these will be achieved over the next ten years from 2026 to 2036.

The CAP has been developed by the UK's Ocean Country Partnership Programme (OCPP)[2], with assistance from the Ministry of Tourism and Environment (MoTE), Huraa Council and input from key stakeholders including Maldives National University and the Environmental Regulatory Authority (ERA). It has been developed following a workshop to complete a Protected Area Management Effectiveness (PAME) assessment for HMA in February 2025[3].

2. Description of Huraa Mangrove Area

HMA is designated as a Category 7 Protected Area with Sustainable Use under the national Maldives Protected Area categories. This is the equivalent of the IUCN Protected Area Category VI.

The HMA is located within the island of Huraa. The site encompasses the full extent of the mangrove habitat present on the island, including both mangrove forest and an area of open water in the centre. It covers an open mangrove, with an inlet from the sea bringing fresh water into the ecosystem and is easily accessible by land. It is enclosed by residential and a traditional fish processing settlement on the periphery of the designated area. A survey undertaken in 2014/15 by Shadiya et al, 2015[4] reviewed the species found in the mangrove. This included a review of the species of trees, crabs, birds and fish species present within the site.

[1] Huraa Mangrove Area Announcement - https://protectedareas.environment.gov.mv/storage/uploads/pDqKeLwO/scpdhi39.pdf

[2] The Ocean Country Partnership Programme (OCPP) is a bilateral technical assistance and capacity building programme that provides tailored support to countries to manage the marine environment more sustainably, including by strengthening marine science expertise, developing science-based policy and management tools and creating educational resources for coastal communities. The OCPP delivers work under three thematic areas: biodiversity, marine pollution, and sustainable seafood. Funding is provided through the overarching Blue Planet Fund (BPF) by the UK Department for the Environment, Food and Rural Affairs (Defra). The authors would like to thank and acknowledge Defra on behalf of the UK Government for the funding: project number GB-GOV-7-BPFOCPP in funding this work.

[3] OCPP Maldives Protected Area Management Effectiveness Practical Training Workshop Report 2025 https://hub.jncc.gov.uk/assets/7c321a75-c91f-48cc-9151-2ac4b07a1f61

[4] Environmental valuation of K. Huraa mangrove : a case study of ecological, social and economic perspectives https://saruna.mnu.edu.mv/items/878be4c3-0851-4c71-94a6-b7d4b5254922/full

3. Key Values of Huraa Mangrove Area

- **Mangrove habitat and associated species**: Huraa Mangrove Area is one of the few mangrove areas in the Malé atoll. Four species of true mangroves have been recorded in the area, namely *Bruguiera cylindrica* (Kandoo), *Bruguiera gymnorrhiza* (Bodavaki), *Rhizophora apiculata* (Thakafathi), and *Rhizophora mucronata* (Randoo). A large number of migratory and protected bird species find food and shelter in this area. Fiddler and mangrove crabs that inhabit wetlands have also been recorded in the lagoon and mangrove area. Furthermore, the waterbody serves as an important habitat where many species of fish including sharks and rays spawn, breed, and seek protection.
- **Research and education**: The Huraa Mangrove area is an important site for education and research based on the mangrove ecosystem due to its proximity to Malé, and the fact that it is the only mangrove habitat in the area. HMA is a crucial site, unparalleled in the Malé region, where a large number of students visit to learn about this environment and the wildlife it contains. The site is visited for field trips by schools from across the Greater Malé area, as well as students from Maldives National University to learn about the importance of mangrove habitats.
- **Socio-economic value from tourism**: Huraa is a popular tourist destination for both local and international visitors, bringing income to the local economy. The island is home to a number of guesthouses[5], which attract visitors from across Maldives, who visit the island to see the mangrove area. Canoes are available for hire for visitors to be able to experience the mangrove.
- **Wider ecosystem services**: Wetlands, marshes, and swampy environments provide numerous ecological services. In this regard, these areas facilitate the absorption of rainwater that falls on the island, thereby reducing the likelihood of flooding and replenishing the island's freshwater habitat. They also protect the island from erosion, tidal surges, and natural disasters. These environments, which help to shield the island from climate change impacts, are also significant "carbon sinks" that store large amounts of carbon. Such carbon sinks are crucial habitats for mitigating global warming.

4. Threats

The key threats to the marine environment and associated biodiversity of HMA were identified by stakeholders during the PAME workshop in February 2025 and stakeholder meetings and workshops in October 2025. They have been summarised below.

- Harvesting of mangrove species for ornamental use
- Removal of mangroves for habitat clearance, which also damages root systems and has contributed to mangrove die off
- Removal of crabs from mangroves at night by tourists visiting Huraa and nearby islands
- Risk of residential and industrial areas encroaching on the site

[5] List of registered Guesthouses available at: https://www.tourism.gov.mv/en/registered/facilities/filter-t3-i153

- Reclamation and dredging have eroded the mangrove area, changed the water flow, reduced water clarity, deepened the lagoon, and disrupted natural tide patterns. The lagoon no longer dries at low tide.
- Disturbance to wildlife from recreational use of mangrove wetland by foot or kayak
- Activities associated with research and education accessing areas within the mangrove which could cause direct damage
- Increased sedimentation levels within water column reducing clarity of water and increasing deposition of sediments
- Pollution, including discharge of wastewater and rihaakuru cooking waste from industrial sites, litter from land and sea including plastic bottles, and oil spills from nearby boat yard which enters the mangrove area during high tide
- Climate change
- Natural disasters e.g., the 2004 tsunami brought sand into the area, permanently altering the mangrove environment and causing a significant loss of mud.

5. Governance

Huraa Council is ultimately responsible for the management of the HMA with support from the Ministry of Tourism and Environment and the Environmental Regulatory Authority. These organisations would be responsible for the delivery of the actions set out in table 1.

Key stakeholders of the site:

- Local communities
- Local NGOs
- Guesthouses
- Local resorts
- Tourists and visitors
- Educational institutions

6. Boundary, Permitted Activities and Compliance

Huraa Mangrove Area covers an area of 5.32 hectares/ 0.05km², as shown in figure 1.

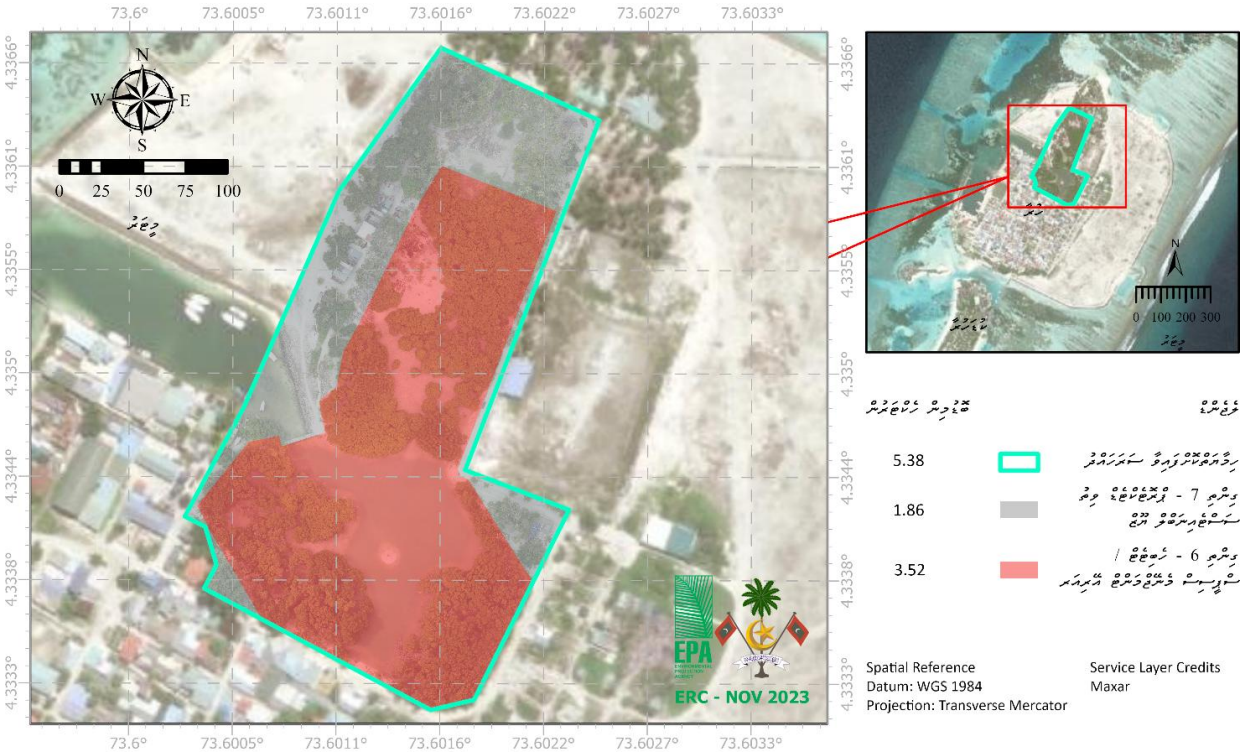


Figure 1: Map of Huraa Mangrove Area

HMA is a multi-use PA meaning some human activities that do not negatively impact the objectives of the PA are allowed. The following list outlines activities that are prohibited in the PA under Article 12 of the Protected Areas Regulation (Regulation no. 2018/R-78).

Actions prohibited in HMA:

- Taking, killing, harming, or capturing any organism/living being
- Taking eggs of any living being and/or damaging nests
- Introducing any type of organism
- Planting any species of plant/seed other than those already present in this area naturally
- Making loud noises that disrupt the natural behaviour of organisms in this area
- Feeding or providing food to any living creature, including fish, birds, and other animals
- Engaging in any type of fishing
- Disposing of any type of waste
- Releasing any "pollutants" and/or installing outfalls that discharge them into the area
- Exploring or mining for oil, gas, or any type of mineral
- Land reclamation and dredging
- Conducting aquaculture or mariculture activities
- Extraction of rock, sand, coral, or gravel
- Removal of black soil or white soil
- Conducting any type of agricultural activities

An intelligence-led risk-based enforcement approach will be adopted to ensure that the available resource is used as efficiently and as effectively as possible. Enforcement tools that are available include:

- Education and outreach
- Verbal and written warnings
- Fines (including a transparent, proportionate and consistent approach to the issue of fines)

Fines can be issued as per the regulation on compensation for environmental damages (2011/R-9). However, if fines are required to focus on a specific activity within HMA, a comprehensive regulation would need to be developed.

7. Vision

The vision for HMA is for:

A thriving mangrove ecosystem that fosters ecological health, encourages community enjoyment and promotes environmental education.

8. Management Objectives and Actions

The management objectives and the actions described in this section provide an overview of the activities that will be undertaken over the next ten years to achieve the long-term vision of HMA.

The following tables outline management actions that are required to deliver each management objective and mitigate threats to the PA. Actions are based on the outputs of a management effectiveness evaluation using the METT-4, and stakeholder input from workshops held in February and October 2025.

Table 1: Management actions to achieve Huraa Mangrove Area objectives

Objective 1. By 2036, understanding of the status of the site is improved through research and monitoring			
Management Action	**Priority**	**Responsible Organisation (s)**	**Year**
1.1 Compile all completed surveys, including citizen science data and MNU research, and identify gaps in knowledge to support management	High	Ministry	2026 - 2028
1.2 Undertake annual monitoring of key indicator species present within the site	Medium	MNU/ERA	2026-2036
1.3 Ensure all research undertaken in the PA supports the objectives of the site and that it is conducted in collaboration with local individuals/organisations	Medium	ERA	2026-2036
1.4 Develop a central data repository for the site, to ensure that all research is shared with site managers to inform management	Medium	Ministry/ERA	2028-2031
1.5 Undertake a baseline assessment of the carbon capture potential of the mangrove area	Medium	Ministry	2031-2036
Indicators for Measures of success • Data is available regarding the condition of the site, and regular monitoring is undertaken to inform adaptive management. • Research undertaken within the site aligns with research priorities, and results are shared with managers. • The ecosystem services of the site are understood e.g. carbon capture potential of mangrove habitat.			

Objective 2. By 2036, the status of the mangrove area (habitat and species) is maintained through management and mitigation of the key threats			
Management Action	**Priority**	**Responsible Organisation(s)**	**Year**
2.1 Install physical markers to enhance awareness of the PA's boundary. Ensure the demarcation doesn't negatively impact wildlife.	High	Ministry/Council	2026-2027
2.2 Raise awareness within local community and visitors that fishing, harvesting of crabs and removal of mangrove trees and saplings is prohibited in the Mangrove Area	High	Ministry/ERA/ Council	2026-2028
2.3 Undertake research to understand the lifecycle of mangrove crab species to inform evidence-based decision making	High	ERA/MNU	2026-2029
2.4 Undertake regular monitoring of the illegal harvesting and sale of mangrove species	High	ERA/Council	2026-2036
2.5 Develop an adaptive approach to manage the declining crab population to ensure sustainable harvest for recreational and tourist visitor experience.	High	Ministry/ERA/ Council	2026-2036
2.6 Develop a comprehensive regulation to support the enforcement of the PA	High	Ministry/ERA	2026-2027
2.7 Develop a zonation plan to ensure sustainable use of Huraa Mangrove Area	Medium	Ministry	2028-2031

2.8 Update the Huraa Mangrove Area Announcement to outline permit requirements and conditions for research	Medium	Ministry	2027-2028
2.9 Establish a study to assess sediment accumulation patterns, identify sources and use outputs to develop a proposal on how to mitigate the issue.	Medium	Ministry/ERA	2030 - 2036
2.10 Undertake a review of traditional uses and management practices of the mangrove habitat, to feed into active management of mangroves through ecological maintenance of older trees and restoration of degraded areas to support regeneration and improve forest health.	High	Ministry/ERA	2026-2036
2.11 Explore options to realise the planned movement of industries under the Huraa Council Land Use Plan 2022	High	Ministry/ Council	2026-2031
2.12 Develop oil spill response protocols and train local response teams in containment and cleanup techniques	High	ERA	2026-2031
2.13 Conduct awareness campaign targeting industries, vessel operators and the public about the environmental impact of improper waste disposal	Medium	Ministry/ERA/ Council	2026-2031

Indicators for Measures of Success

- Monitoring data shows the population size of mangrove trees and crab species is stable or increasing
- Enforcement data shows that compliance with the prohibition of mangrove crab species is increasing
- Evidence shows the area of the mangrove habitat is stable

Objective 3. By 2036, the socio-economic impacts (positive and negative) on the local community are understood			
Management Action	**Priority**	**Responsible Organisation(s)**	**Year**
3.1 Undertake a socio-economic study to assess community benefits from the PA and identify opportunities to further benefits.	Medium	Ministry/MNU	2026-2028
3.2 Develop and enforce regulations for recreational activities to improve safety and support sustainable levels of operation.	High	ERA/Council	2026-2028
3.3 Conduct a community-focused study to understand local knowledge, awareness, and perceptions of the mangroves	High	Ministry	2026-2028
3.4 Assess visitor satisfaction through surveys with visitors to identify gaps in visitor needs and ensure services that are provided are high quality.	Medium	Ministry/Council	2028-2031
3.5 Explore options for income diversification based on the results of the socio-economic study	Medium	Ministry/Council	2028-2031
Indicators for Measures of success • Data providing information on the socio-economic impacts of the PA is available, and are being considered in site management			

Objective 4. By 2031, resource requirements to support management needs are identified and steps are taken to implement			
Management Action	**Priority**	**Responsible Organisation(s)**	**Year**
4.1 Undertake a needs assessment of resource requirements to support management of the site	High	Ministry/ Council	2026-2028
4.2 Undertake analysis to consider sustainable financing mechanisms to support site management	Medium	Ministry / Council	2028-2031
4.3 Undertake steps to implement preferred sustainable financing mechanism routes	Medium	Ministry/Council	2031-2036
4.4 Deliver training to Huraa Council on the Conservation Action Plan, roles and responsibilities	High	Ministry/ERA	2026-2028
4.5 Run campaign to identify champions in the Council and local community to support site management	Medium	Ministry/ERA	2028-2031

Indicators for Measures of success

- Resource requirements to support management are understood and can feed into sustainable finance discussions
- Management of the PA is progressed in the wider context of the sustainable land use management of Huraa Island.
- Sustainable financing mechanism priorities are identified, and steps are being taken to implement preferred routes.

Objective 5. By 2031, deliver awareness raising activities to build understanding of the PA amongst the local community and visitors			
Management Action	**Priority**	**Responsible Organisation(s)**	**Year**
5.1 Run a campaign within the Huraa local community to raise awareness of the PA, its boundary, permitted activities and the ecosystem services it provides e.g., flood mitigation. Campaign to include awareness sessions and community activities such as monthly clean-ups.	High	Ministry/ERA/ Council	2026-2028
5.2 Develop materials to support awareness of PA and permitted/restricted activities with both local communities and visitors, including leaflets and social media content.	Medium	Ministry	2026-2031
5.3 Install information billboard about the PA	Medium	Ministry/Council	2030-2031
5.4 Continue school-led monthly tree planting programme, focusing on replanting trees in degraded areas and encourage tourist participation sessions	Medium	Ministry/ERA	2026-2036
5.5 Create a visual catalogue of species found in the PA, including photos and identification details	Medium	Ministry/ERA/ MNU	2029-2031
5.6 Provide training for young people to become knowledgeable guides for visitors	Medium	Ministry/ERA/ MNU	2030-2036
5.7 Explore feasibility of establishing a visitor information point to share outputs of research with stakeholders and the local community	Low	Ministry/ERA	2031-2036

Indicators for Measures of success

- Awareness of the PA and activity management increases, and as a result compliance with the regulation increases**.**

9. Monitoring and Evaluation

9.1. Evaluation

Evaluation of the Huraa Mangrove Area CAP will determine whether management actions are achieving the desired outcomes, addressing priority management needs, and meeting the objectives of the PA. It is recommended that a Protected Area Management Effectiveness (PAME) review is undertaken every five years using the Management Effectiveness Tracking Tool (METT) to evaluate management effectiveness and inform adaptive management. A METT-4 PAME Assessment for Huraa Mangrove Area was completed in 2025.

9.2. Regular monitoring

Regular monitoring of the PA will be required to ensure the site is meeting its objectives. Monitoring should include community participation and engagement. This will include a need for ecological monitoring to assess the condition of the mangrove habitat and associated species. Socio-economic monitoring will also be required to assess community awareness and support for the site, as well as wider understanding around the economic benefits of the PA from tourism. Actions to address monitoring have been identified in the Management Action table 1.

9.3. Research

A number of research gaps have been identified through the development of the CAP Management Actions. Addressing these gaps, particularly by building on the existing work of MNU would strongly contribute to the progression of management actions, and support broader mangrove conservation efforts.