



Biodiversity Action Plan for the CROSSROADS MALDIVES.



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1. Assessment Background information for the CROSSROADS MALDIVES project

Location and Facilities:

Singha Estate Public Company Limited originally developed the CROSSROADS MALDIVES project. Since then, its subsidiary, S Hotels & Resorts, has operated the project.

The CROSSROADS MALDIVES project is in the Republic of Maldives, Emboodhoo Lagoon of Kaafu Atoll. It comprises nine artificial islands constructed on the atoll rim, with clearly defined land and marine boundaries. Phase 1 covers three islands hosting diverse activities: three hotels (SAii Lagoon Maldives, Hard Rock Hotel Maldives, and SO/Maldives), a yacht marina (The Marina @ CROSSROADS), shops, restaurants, and a water-sports activity centre. The remaining six islands await development.

Area: 9.98 square kilometres

Topography:

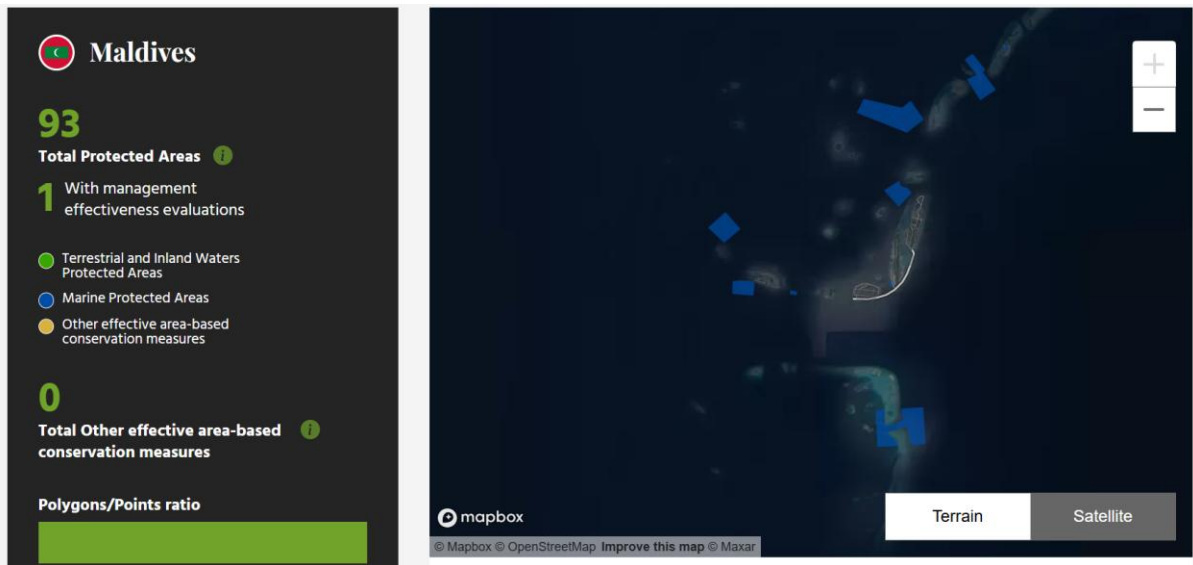
The Maldives is an island nation formed entirely of coral, arranged in ring-shaped atolls. The CROSSROADS project comprises nine artificial islands designed to resemble natural islets, aligned east–west, with demarcated marine boundaries and surrounding coral reefs.

Visitor numbers: 327,565 in 2024

Staff: 1,200 (60% local)

Significance of the area:

UNEP-WCMC (2025). The Protected Area Profile for the Maldives from the World Database on Protected Areas, April 2025, available at www.protectedplanet.net, reported that the Maldives has designated protected areas for as many as 93 sites by the government under IUCN Management Categories and also has UNESCO Biosphere Reserves.



The CROSSROADS MALDIVES project is located 2 kilometres from the nearest marine protected area, Emboodhoo Kandulhi. Therefore, numerous ecosystems that house rare species can be found there.

Overall ecosystem CROSSROADS MALDIVES (CROSSROADS MALDIVES's Coral Reef Ecology):

Since the sea surrounds CROSSROADS MALDIVES, its key ecosystems are coral reefs, sandy beaches, and marine waters.

Coral-reef ecosystem of CROSSROADS MALDIVES (CROSSROADS MALDIVES's Coral Reef Ecology)

- North of the project: a continuous 7-kilometre coral-reef fringe, comprising reef flat (sand interspersed with shallow coral patches) at depths from approximately 0.5 m to about 5 m where coral begins to form the reef; followed by the reef edge (wave-exposed rim); then a short, steep reef slope descending from 2 m to over 40 m, featuring cave-like overhangs with soft corals; beyond this the steep underwater wall drops to over 100 m.
- South of the project: a lagoon with sandy bottom and 128 large coral bommies scattered as individual patches at depths of 5–16 m.
- The northeast monsoon (January–March) and the southwest monsoon (May–November) influence the project's coral reefs.

Beach ecosystem:

CROSSROADS MALDIVES consists of nine artificial sand islands, averaging 1.5 m above sea level, with a total land area of 507,800 m². Tides, waves, and seasonal monsoon winds

shape the beaches. Observable fauna include hermit crabs, ghost crabs, seabirds, and various intertidal marine organisms.

Marine Ecosystem:

The marine area within the boundaries of the CROSSROADS MALDIVES project covers approximately 7,476,000 m² of the project, both outer and inner the atoll. The waters outside the atoll are classified as deep-water zones where rare marine species listed on the IUCN Red List can be encountered, such as hammerhead shark (Hammerhead shark), whitetip reef shark (Whitetip reef shark), bottlenose dolphin (Bottlenose dolphin), spinner dolphin (Spinner dolphin), and pilot whale (Pilot whale). The waters inside the atoll are connected to the outer sea via reef flats and deep channels, where grey reef shark (Grey reef shark), bottlenose dolphin (Bottlenose dolphin), spinner dolphin (Spinner dolphin) and critically endangered rare marine species, such as ornate eagle ray (Ornate Eagle Ray), can be found.

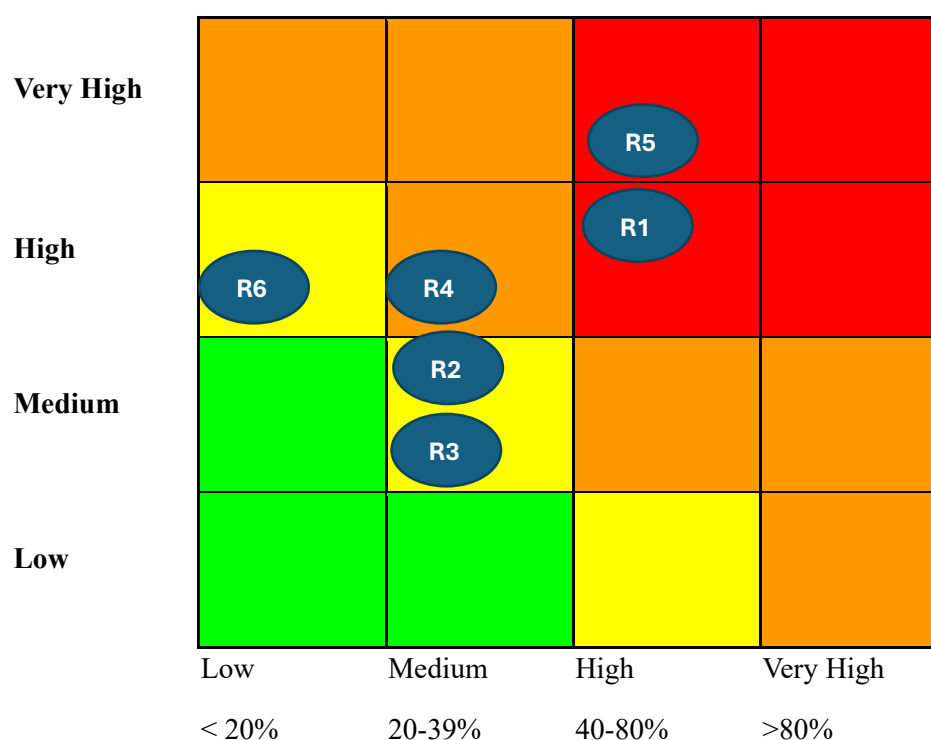
Value Chain and Impacts of Project Activities on Biodiversity



2. Priority Setting

Based on the 2025 Sustainability Materiality Matrix, which reflects the perspectives of all stakeholders, the Company has identified biodiversity, energy, and waste management as highly prioritised issues. After assessing the sub-issues influencing these areas and applying the organisation's 2025 risk criteria, the priority risk issues have been determined accordingly.

CROSSROADS MALDIVES Biodiversity Risk Map 2025



3. Vision and Goals

Vision: Committed to creating value and sustainable growth (Entrusted and Value Enricher)

Goals:

3.1 Reduce Impacts on Local Ecosystems

| Risk issue | Likelihood | Impact |
|---|---------------------|--|
| R1. Project greenhouse gas emissions | Level 3 (40 – 80 %) | Level 3: Severe environmental impact; cost > 50 – 75 % of contingency budget |
| R2. Waste, other waste and wastewater discharge into the environment | Level 2 (20 – 40 %) | Level 2: Moderate impact; requires 7 – < 15 days and considerable resources to resolve |
| R3. Increased water resource use | Level 2 (20 – 40 %) | Level 2: Moderate impact; requires 7 – < 15 days and considerable resources to resolve |
| R4. Decline in coral and biodiversity due to tourism | Level 2 (20 – 40 %) | Level 3: Severe impact; restoration requires 1 – 6 months |
| R5. Impacts from coral bleaching events | Level 3 (40 – 80 %) | Level 4: Very severe impact; restoration requires > 6 months |
| R6. Complaints from the local community | Level 1 (< 20 %) | Level 3: Legal actions or complaints via social media within and external of the company |

- Reduce greenhouse gas emissions by **1% in 2025** and **5% in 2030**, relative to the baseline year 2024.
- Increase waste-recycling rate by **5% in 2025** and **25% in 2030**.
- Reduce food-waste generation by **1% per year** from the baseline year 2024 and by **5% in 2030**.
- Lower water withdraw per guest room by **1% in 2025** and **5% in 2030**.

3.2 Promote Biodiversity Conservation and Restoration

- Designate **30% of Emboodhoo Lagoon** as protected areas under OECMS by 2030.
- Increase coral propagation in designated conservation areas by **10% in 2025** and **50% in 2030**, relative to the baseline year 2023.
- Raise the Fish Biodiversity Index (Shannon–Weiner) to **2.6–2.7 in 2025** and to **>3 by 2030**.

3.3 Enhance Biodiversity Resilience to Climate Change

- Expand bleaching-resistant coral areas (Coral Shading Project) by **30% in 2025** (baseline 2024) and **90% in 2030** (unit: m²).
- Install underwater temperature loggers in coral-reef zones to monitor bleaching events.

3.4 Raise Conservation Awareness

- Establish **three stakeholder collaboration projects by 2025** and **6 by 2030**.
- Achieve **70–79% visitor satisfaction scores in 2025** and **90–100% by 2030** at the Marine Discovery Centre.
- Provide conservation and sustainable-development training to **100% of employees by 2025**.
- Host monthly marine-conservation learning sessions for at least **one nearby-island school**.
- Establish a marine-turtle rescue centre for debris-injured turtles by 2027.

4. Biodiversity Action Plan 2024–2030

| Action Area | Implementation period | | | | | | |
|---|-----------------------|------|------|------|------|------|------|
| | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| 4.1 Reduce Local Ecosystem Impacts | | | | | | | |
| 4.1.1 Reduce greenhouse gas emissions by 1% in 2025 and 5 % in 2030 (baseline 2024) | | | | | | | |
| • Develop SOPs | ● | | | | | | |
| • Collect data & analyse | | ● | ● | ● | ● | ● | ● |
| • Improve and upgrade systems | | | ● | ● | ● | ● | ● |
| 4.1.2 Increase waste-recycling rate by 5% in 2025 and 25 % in 2030 | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| • Provide recycling-management training to relevant staff | ● | ● | ● | ● | ● | ● | ● |
| • Collect and report waste-separation/recycling data | ● | ● | ● | ● | ● | ● | ● |
| • Collaborate with NGOs/local authorities | ● | ● | ● | ● | ● | ● | ● |
| 4.1.3 Reduce food waste by 1% per year (baseline 2024) and 5% by 2030 | | | | | | | |
| • Establish food-waste reduction policy | ● | | | | | | |
| • Form dedicated waste-reduction team | ● | | | | | | |
| • Campaign on waste reduction for all employees | ● | ● | ● | ● | ● | ● | ● |
| 4.1.4 Reduce water withdraw by 1% in 2025 and 5% in 2030 | | | | | | | |
| • Inspect and maintain equipment | ● | ● | ● | ● | ● | ● | ● |
| • Promote water-saving practices | ● | ● | ● | ● | ● | ● | ● |

| | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 4.2 Conservation and Restoration | | | | | | | |
| 4.2.1 Register 30% of Emboodhoo Lagoon as OECMs by 2030 | | | | | | | |
| Biodiversity Protection Plan | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| • Submit protected-area registration to Ministry of Environment | ● | | | | | | |
| • Prepare ecological study report and management plan | ● | ● | | | | | |
| • Conduct reef-status surveys | | ● | ● | ● | ● | ● | ● |
| • Implement smart patrols | | ● | ● | ● | ● | ● | ● |
| • Deploy fish-habitat structures with local communities & MNU | | | ● | | ● | | ● |
| 4.2.2 Increase coral coverage by 10% in 2025; 50% in 2030 (base 2023) | | | | | | | |
| • Obtain EPA permits | | ● | | | | | |
| • Monitor coral propagation rates | ● | ● | ● | ● | ● | ● | ● |
| • Define carrying capacity for coral sites | | ● | | | | | |
| 4.2.3 Raise Fish Biodiversity Index (Shannon–Weiner) to 2.6–2.7 in 2025 and >3 in 2030 | | | | | | | |
| • Conduct species-richness and abundance surveys | ● | ● | ● | ● | ● | ● | ● |
| • Patrol against illegal fishing | ● | ● | ● | ● | ● | ● | ● |
| 4.3 Promote Biodiversity Resilience to Climate Change | | | | | | | |
| 4.3.1 Expand bleaching-resistant coral (“Coral shading project”) by 30 % in 2025 (baseline 2024) and 90 % in 2030 (unit: m²) | | | | | | | |
| • Obtain EPA permits | | ● | | | | | |

| | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| • Monitor and record project outcomes | | • | • | • | • | • | • |
| 4.3.2 Plant and restore coastal forest using native species | | | | | | | |
| • Design SOP for landscape restoration | | • | • | • | • | • | • |
| • Eradicate invasive non-native plants | • | • | • | • | • | • | • |
| 4.4 Raise Conservation Awareness | | | | | | | |
| 4.4.1 Establish 3 stakeholder collaboration projects by 2025 and 6 by 2030 | | | | | | | |
| Biodiversity Protection Plan | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| • Coordinate with government agencies, academia, NGOs and local communities | • | • | • | | • | | • |
| 4.4.2 Increase visitor satisfaction at Marine Discovery Centre to 70–79 % in 2025 and 90–100 % in 2030 | | | | | | | |
| • Develop interpretive-guiding skills for marine-nature communication | • | • | | • | | | • |
| 4.4.3 Provide conservation and sustainability training to 100 % of employees by 2025 | | | | | | | |
| • Onboard training for new employees within first month | • | • | • | • | • | • | • |
| • Monthly sustainability workshops for all staff | • | • | • | • | • | • | • |
| 4.4.4 Host at least one marine-conservation school outreach per month | | | | | | | |
| • Liaise with nearby schools to cover all local institutions | • | • | • | • | • | • | • |
| 4.4.5 Establish marine turtle rescue centre by 2029 | | | | | | | |
| • Prepare permit documentation | | • | • | | | | |
| • Prepare facility infrastructure | | | | • | • | | |
| • Open rescue centre for service | | | | | | • | |
| 4.4.6 Develop marine-nature trails covering all resorts by 2026 | | | | | | | |
| • Conduct biodiversity surveys for trail design | • | • | | | | | |
| • Design and install interpretive signage | | • | • | | | | |

Table legend: • Indicates completed • Indicates planned

5. Monitoring: Monitoring and Evaluation of Biodiversity

• IUCN Red List: Survey and record the number of IUCN Red List species in the area every month, using findings from 2024 (B.E. 2567) as a baseline of 23 species. Surveys employ a 45-minute roaming protocol via scuba diving and snorkelling, supplemented by incidental sightings from divers and resort guests.

• Coral-area change: Survey and monitor the restoration of coral-conservation areas annually. Indicator: ≥ 10 % area increase per year compared to 2023.

- Sea-temperature monitoring in reef zones: Deploy data loggers to record daily sea temperatures at a minimum of six stations covering representative sites in each zone, and monitor for bleaching events, especially during summer.
- Coral planting and restoration: Outplant at least 100 monthly colonies and document survival rates.
- Fish Biodiversity Index: Measure the Fish Biodiversity (Shannon–Weiner) Index via visual-census surveys—targeting an increase to 2.6–2.7 by 2025 and >3 by 2030, recording species composition and abundance.
- Monthly water-quality monitoring around the resort: Measure dissolved oxygen (DO), pH, phosphate, nitrite, and nitrate.
- Annual greenhouse-gas reporting: Calculate and report the resort’s total yearly emissions.
- Food-waste reduction monitoring: Track a 1% annual reduction through daily log sheets and staff awareness programmes.
- Visitor satisfaction: Evaluate guest satisfaction with the resort’s environmental initiatives via online questionnaires and interviews.
- Community engagement: Establish MOUS with at least three local communities, expanding to six communities by 2030.
- Annual reporting: Produce and present an annual action-plan performance report to executive management and stakeholders.
- Plan review and workshops: Conduct an annual review of the action plan and hold stakeholder workshops involving all relevant parties.