

# BLUE & GREEN LAAMU

*The Marine Conservation & Sustainability  
Newsletter by the Maldives Underwater Initiative*  
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Credit: Miriam Staiger









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## THE BIG STUFF

- 
**539** megafauna surveys were conducted by the MUI and DBD teams
- 
**1615** sharks were sighted
- 
**230** rays were sighted
- 
**248** turtles were sighted

## OUR EDUCATION

- 
**1386** moments of education were shared with guests
- 
**136** moments of education were shared with hosts
- 
**75** moments of education were shared with the community



# SIX SENSES CONSERVATION SHELL-TASTIC JMB


With school half term, February can be a busy month, especially with the little VIPs on island. As such, the team pre-planned an extensive JMB program. Over the course of two weeks the MUI team held 11 JMB sessions, welcoming five new, and one returning, JMB members. In addition to the sessions they did on island, four of our junior MUI members have taken the initiative to continue their marine biology journey and have invited the MUI team to speak online to their school!

The wonderful part of having a busy JMB month is being able to put our new SHELL facilities to use. There are so many educational tools around the center to enhance the lessons that are given and many opportunities to create tangible aspects to our theoretical content. For example, using the sandbox in the interactive room for the 'How We Got Here' session really helps to showcase the volcanic formation of the Maldives and their process of becoming atolls. The team were graced with wonderful weather during the course, enabling us to do lots of snorkeling on the house reef, in the seagrass and out on the boat, which is a vital part of the Junior Marine Biology program, to get children in the water and actually experiencing the life we have here in Laamu with their own eyes.

The team can't wait to continue learning how to best use our SHELL to design more creative and interactive JMB sessions, and look forward to welcoming more new and returning junior marine biologists soon!



 **11** JMB sessions this month

 **5** new, one returning JMB

 **22** hours

## CORAL SPAWNING TANKS

Earlier in the year, MUI had two visitors from the Coral Spawning Lab in the UK, to set up the new coral rearing and coral spawning systems within the SHELL Lab. One of the first in the Maldives! The newly installed coral spawning and rearing facilities will allow the team to gain a deeper understanding of the spawning, fertilization, and settlement phases of coral sexual reproduction.

The project will collect damaged, broken, or colonies that are loose and would otherwise die from the house reef at Olhuveli Island. The team will select species of which we know their spawning timings and they will be transferred to the coral spawning tank. During the months where spawning has previously been seen, the team hope to observe ex-situ spawning in the spawning tank and collect the gametes from the in-tank spawning event for use in ex-situ fertilization. This project will also collect released gametes from Six Senses Laamu House Reef to be transferred into the Spawning and Rearing facility in order to protect the corals in their earliest and most vulnerable stage of life. The process and success of fertilization will be tracked under a microscope with the final stage being the settlement of coral larvae onto both artificial and natural substrates placed inside the tanks. Some of these colonies may be retained within the facility for further observation or growth and maturation, whilst others will be returned to and secured onto the reef. This first year of the facilities' operation will focus on refining the method of ensuring successful fertilization, settlement, and survival of new corals.



This project will also offer unique educational opportunities for the resort guests and visiting community members to understand the need for and challenges of coral reef re-population firsthand.

 **34** colonies being monitored in the tank

 **5** different species of coral







**OLIVE RIDLEY  
PROJECT**

# THE OLIVE RIDLEY PROJECT

## OH HONEY HONEY

We had a very adrenaline pumping month!

Meet Maamui, a juvenile Olive Ridley turtle named after the word 'Honey' in the local language Dhivehi.

On Valentine's day, our turtle biologists from ORP received a call from one of the dive boats about an Olive Ridley turtle that was seen floating on the surface of the water near the resort unable to dive. After taking a boat out to check on them, the team could see that the turtle was suffering from buoyancy syndrome, a condition where a buildup of air in the body prevents the turtle from diving down, making it impossible to forage for food and rest. Maamui was promptly rescued along with the help of the resort boat staff and taken back to the resort dive centre, where they could be properly assessed for injuries. Transport for her to travel to the rescue centre in Coco Palm Dhuni Kolhu, Baa atoll was arranged as soon as possible through the coordinated effort of ORP and Six Senses staff.

However, Maamui had a long day of traveling ahead of them, first by domestic plane and then by sea plane. The Olive Ridley



Project has an agreement with Trans Maldivian Airways (TMA) to transfer injured sea turtles to the rescue center. What a first class treatment for Maamui! Upon arrival at the rescue center Maamui was quite stressed and needed mild sedation to help her calm down. Her bloodwork showed signs of infection and her x ray revealed a severe accumulation of air outside her lungs which was pressuring all her internal organs. Maamui underwent an emergency procedure to alleviate it and has been on supportive therapy since.



### 837 turtles in Laamu

🕒 142 hours of nest watch

🐢 84 turtle ID submissions

## RANGER ON BOARD!

Meet Inaan, our first Sea Turtle Ranger and Community Officer in the Maldives!

Ibrahim Inaan is a Laamu Atoll resident. As a child he was always spending his time by the sea with his family. When he was only 8 years old he encountered a tangled turtle in a ghost net whilst out on a fishing trip with his father. This was what sparked his interest in sea turtles. This interest in sea turtles and the marine environment increased as he discovered that turtles are a globally endangered species. With this new interest he started to contribute to different conservation projects as a dedicated citizen scientist.

In January 2023, Inaan joined our team as part of the Gaadhoo Ranger Program, a community-led conservation project that is co-supervised by the Olive Ridley Project and the Environmental Protection Agency of the Maldives (EPA), funded by Six Senses Laamu, and supported by AgroNat, L. Fonadhoo Council, and the Laamu Atoll Council. In his role, he will be working to monitor the most significant nesting site in the country on L. Gaadhoo, while also conducting outreach and education sessions in Gan and Fonadhoo, and work closely with island stakeholders to ensure community integration into the project.

This project is the first of its kind in the country, and we are very excited to welcome Inaan to our team!



## TURTLE IN THE SPOTLIGHT

Say hello to Capone (HK3612)!

This juvenile hawksbill has been a resident at Hithadhoo corner since they were first encountered way back in 2014, making them one of the earliest turtles identified in Laamu! Capone is one of the few hawksbills that we regularly see on dives at Hithadhoo corner, a site that is well known for its abundance of large green turtles. Capone has definitely made a home for themselves amongst the larger crowd!

When Capone was first spotted 9 years ago, they were only 35cm in carapace (shell) length. However, recent estimates show that Capone has grown to about 50cm in carapace length now. Not too far off from reaching adulthood! Hawksbill turtles typically reach sexual maturity at about a carapace length of 60cm or more, so up until that point there is no way to tell the sex of an individual. Like many other turtle species, how quickly



they grow is also entirely dependent on the productivity of their foraging grounds! That's why it's impossible to tell a turtles age simply from its size. We look forward to seeing Capone continue growing, and finding out whether this juvenile hawksbill is actually a male or a female!



# BLUE MARINE FOUNDATION



## FISHER OF THE MONTH ALI SHAREEF

Ali Shareef, from the island of Fonadhoo, is one of the oldest members of our Laamaseelu Masveriyaa Family. He has been supplying freshly caught Giant trevally, Wahoo and Emperors to the resort for more than seven years. He enjoys spending time alone on the sea and spends most of his mornings patiently cruising along the outer reefs of the atoll in his small dinghy. Much of this time is spent locating and catching live bait which he uses to catch bigger fish, one fish at a time, using single line trolling. Ali is one of the few full time fishers in the programme who can be relied upon for fresh fish at any time of the month. "Fishing full-time has been one of the best decisions of my life. There is just nothing like spending time on the sea fishing" says Ali Shareef. Ali is the fisher of the month with 14 landings and accrued 14 sustainability points.



14 fish landings

14 Sustainability points accrued

## FISH OF THE MONTH TWO-SPOT RED SNAPPER

Famed throughout the Maldives for its tender flesh and beautiful red coloration, Red snappers are one of the most commonly landed fish in the "Laamaseelu Masveriyaa" programme at Six Senses Laamu. Red snappers spend their juvenile phases in the seagrass meadows and move to the coral reefs when they get older. They are a type of fish that aggregate in channel areas at certain times of the year when it's time to spawn and produce their next generation. The minimum landing size limit of red snappers in the Laamaseelu Masveriyaa programme is 45cm to ensure that their population remains stable and healthy. Red snappers are also called Two-spot red snappers because of the visible two white spots on their sides in their juvenile stage.

Fun fact: Maldivian soccer team players are also referred as red snappers because these fish are so famous in the Maldives.

25 two-spot red snapper landed



# GUEST RECREATIONAL FISHING

Guest recreational fishing among the tourism industry is unregulated and therefore the impact of the fishery is not properly understood. At Six Senses Laamu Blue Marine Foundation and Maldives Resilient Reefs hope to get a baseline understanding of the guest recreational fishing activity by collecting data on guest fishing trips. Data collected on the fishing trips include the species of fish, total length, catch location, fishing effort and number of fish released. This data is collected with the help of the guest citizen scientists and resort boat crew. In February 2023, data was collected from 21 fishing trips with more than 100



fish measured. Blue Marine and MRR hopes to create a resort recreational fishing code of conduct which could be replicated across other resorts in the Maldives.

21 guest fishing trips surveyed

55 guests engaged

100 fish measured

6 fish released safely

## KNOWLEDGEABLE FISHERS

One of the biggest challenges in carrying out marine conservation in the Maldives is the lack of scientific data, especially those going back more than a few decades. In the absence of such data, Local Ecological Knowledge (LEK) is used to determine change over time.

In February, Blue Marine's Shaha Hashim embarked on a fieldtrip through the atolls of Haa Alif and Haa Dhaal to document LEK from these northern islands. Shaha conducted interviews in five islands, interviewing both elderly and young tuna fishers, reef fishers, invertebrate fishers and other citizens. Shaha has conducted these interviews in Laamu Atoll islands and are repeating them in the northern atolls to evaluate differences and similarities.

These interviews will help us understand how the marine ecosystems and marine life has changed over the past 50-100 years. This research will also show how fishing has changed, as well as how much sightings of megafauna, birds and marine ecosystems like coral reefs, seagrass and mangroves have changed in living memory.



51 interviews conducted in five islands



# THE MANTA TRUST



## GET TO KNOW OUR MANTA MODELS IN THE SHELL

We are so excited that the SHELL exhibits four models of individual Laamu mantas that the team has identified over the years of manta ray research at Six Senses Laamu! Let us introduce you to our three life sized mantas:

Leading on the chain of mantas is Diddy Dots (MV-MA-3878), the central manta greeting you into the SHELL is called Reggae (MV-MA-2414) and last but certainly not least comes Michele (MV-MA-2551). Diddy Dots is one of our local mantas that has been suffering from fishing line entanglement and also received a predatory bite. But don't worry she has recovered well from her injuries. Manta rays have incredible healing capacities. Reggae is shown pregnant, like she was seen in 2018. Manta rays give birth to live young and only have one pup every two to seven years. Their pups are already 1,5m at birth, so they fold their "little" wings behind their back (we like to compare this to a burrito). Newborn manta rays are independent from the moment of their birth, they will start filter feeding for tiny plankton in the water column using their gills. Then we have Michele, our most sighted manta ray in Laamu Atoll and true performer. He loves playing with divers and has also recovered well from some minor fishing line wounds. He has a wingspan of 3m!



10 surveys with manta ray sighting  
19 manta ray sightings  
4 individual manta rays identified

3 new life-sized manta models

## OUR MANTA OF THE MONTH

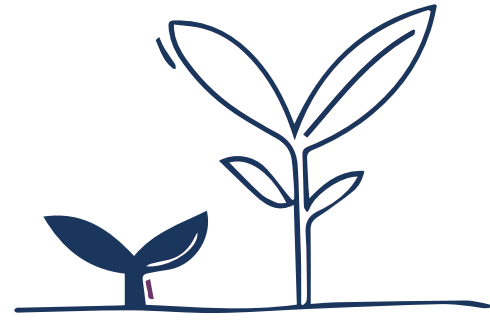
This month, across 10 surveys the team had 19 manta ray sightings over a total of 56 surveys. The team have obtained photo-IDs of four of the mantas sighted, being able to identify them by their belly spot patterns. One of our local manta rays called "Jas" put on a little "special" show for some of our lucky guests who went diving with Manta Trust and Deep Blue Divers at our manta ray hotspot and research site Hithadhoo Corner a.k.a. Manta point. Characterized by several large cleaning stations the dive site offers a beautiful variety of fish, sharks, turtles, and rays. Diving at Hithadhoo Corner, you never know what you might encounter. This month, the team even had a beautiful close encounter with some silvertip sharks near one of the cleaning stations – a rarer sighting here. On the dive with Jas the manta, our divers were lucky to be greeted by her approaching from behind. At first, she swam away but then returned towards the divers and closely observed the divers. She stayed at the cleaning station, swimming slowly back and forth getting herself cleaned by the cleaner wrasse, looking and observing the divers as they were staying close to the bottom, like the team had briefed them before according to the Manta Trust Code of Conduct. It is important to give mantas, and any other animal, their own personal space to move around so their natural behavior is not impacted in any negative way. Before every dive the Manta Trust joins, they will make sure all divers on board will know how to behave in the presence of a manta ray. After getting cleaned for so long on the cleaning station, she suddenly vomited right on top of the cleaning station. Manta rays sometimes have clogged-up gills from all their filter-feeding – they can feed on 6kg of plankton in a single day! Luckily, they can remove this trapped food through vomiting or sometimes called "coughing". And before you think "gross" – this is a great behavior to observe as the vomit turns out to be a nice treat for all the fish living on the cleaning station and nearby! PS: As a diver you can vomit through your regulator



1 manta ray observed "coughing"



# OUR HOME



## NATIVE PLANT NURSERY

We are delighted to announce the opening of our native plant nursery! Here, we offer 7 different types of plants that are native to the area. This includes beach hibiscus, beach lettuce, Noni, and other species of native plants.

Native plants are vitally important for preserving the local ecology and biodiversity. These plants have adapted to the local climate and soil conditions and provide a habitat for local wildlife. By preserving these plants, we are helping to maintain the local environment so that it remains healthy.

The Native Plant Nursery is a new edition for the daily Sustainability Tour, which is a great way for people to learn about how to care for and protect the environment. Visitors can learn about the importance of preserving native plants and how they can help the local environment. We hope that our nursery can be a place of education and inspiration for people, and that they leave with a better understanding of the importance of preserving native plants.



## HERB GARDEN HERO

Meet Hussain, a passionate and hardworking gardener who has been working at the organic garden for 12 years! He believes that organic farming would make the Maldives farming industry more sustainable and benefit the wellbeing of our community. He mainly oversees the garden beds and preparing the soil. His favorite in-house green is Mizuna. Here's a gardening tip from Hussain: always keep your plants well-watered and fertilized to ensure they have the best chance of growing. #OrganicFarming #Gardening #Mizuna #Sustainability #Wellbeing



 **20** native plant boards

 **332** chicken eggs

 **1,547** kg of compost produced

 **184** Earth Lab participation

 **7** different plants

 **475** kg organic garden production

 **2** kg of paper recycled

 **16** liters of coconut oil produced

 **12** kg of soap produced

 **134** liters of coconut oil produced



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