

BLUE & GREEN LAAMU

The Marine Conservation & Sustainability
Newsletter by the Maldives Underwater Initiative
DECEMBER 2022



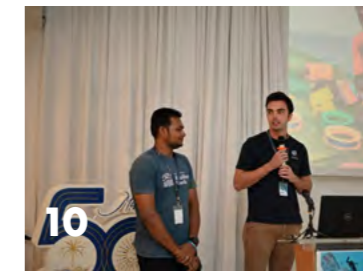
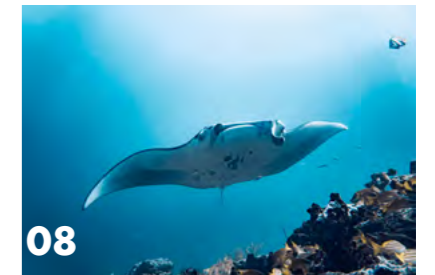
A group of Oriental Sweetlips giving color to the reefs of Laamu.





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THE BIG STUFF



523 megafauna surveys were conducted by the MUI and DBD teams



642 sharks were sighted



231 rays were sighted



366 turtles were sighted

OUR EDUCATION



1720 moments of education were shared with guests



269 moments of education were shared with hosts



1280 moments of education were shared with the community

THE SEA HUB OF ENVIRONMENTAL LEARNING IN LAAMU (SHELL) WELCOMES ITS FIRST GUESTS

The most exciting development for MUI and for the whole of Six Senses this year, is the opening of the new pioneering marine biology and conservation center, named the SHELL, standing for Sea Hub of Environmental Learning in Laamu.

The SHELL has multiple spaces designed for guest education and for offering curated and immersive marine conservation experiences. Its 2,336 square foot (217 square meter) central exhibition space allows guests to explore the colorful and vibrant local marine life and their homes, in an out-of-the-ordinary encounter. The MUI team will be offering hands-on guest activities and presentations, parallel to their research, conservation efforts and initiatives. The SHELL also features designated facilities for hosting world-class researchers to further expand MUI's ambitious goal to see sustainable resource management in Laamu. Within the open-air exhibition area, there are six tables, each focusing on a specific area of the MUI team's work. Starting with the Maldivian table, guests can find information on the demographic and geographical history of the Maldives, followed by marine habitats such as seagrass, mangroves, and coral reefs. Each providing vital and unique contributions to both marine and terrestrial ecosystems. These displays provide important information on aspects such as physical biology, life cycles and species' diversity. These tables provide an opportunity to start discussions with guests surrounding all the unique work the MUI team are doing in Laamu.



2,336 square foot (217 square meter) central exhibition space



1 high-resolution LED display floor



3 interactive, hands-on marine-themed game areas



1 cinema-grade theatre room for presentations and workshops

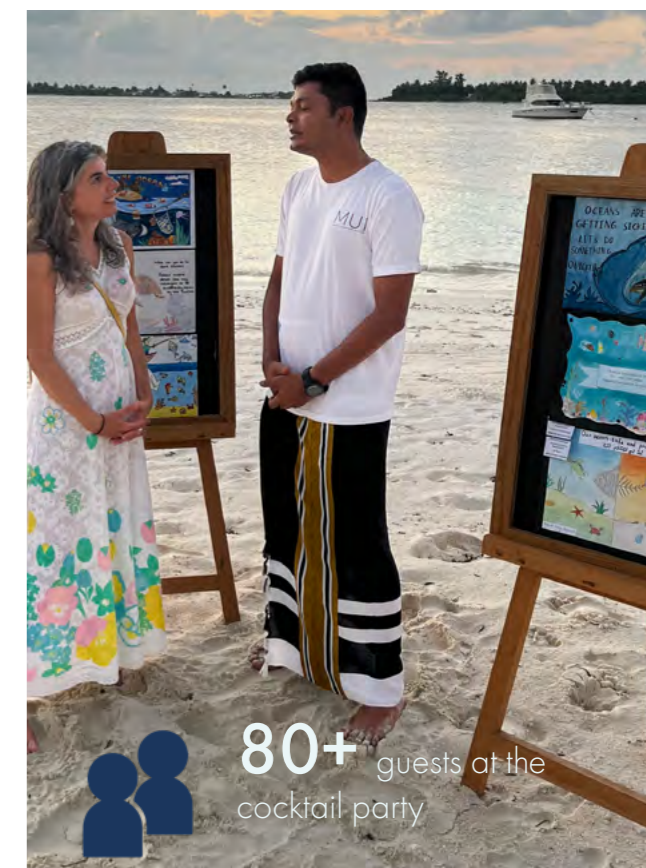


Credit: Lora Hoare

SIX SENSES CONSERVATION UNDER THE SEA COCKTAIL FUN

One of the highlights of this month was the annual Under the Sea Cocktail Party. This event allowed the MUI team to combine the yearly festive cocktail party with an introduction to the exciting new facility, the SHELL. The team were so excited to finally get everyone involved with all the amazing activities, displays and learning opportunities that this incredible center provides.

All dressed in traditional Maldivian sarongs, the MUI team welcomed guests with a selection of ocean-themed cocktails and beach games. Each game represented one of the partnering NGOs. Blue Marine led a 'go fish' game to educate guests on Six Senses Laamu's catch policy. Laamaseelu Masveriyaa, is the resorts sustainable fishing program lead by Blue Marine. Its aim is to protect certain species and enforcing a specific catch size to ensure juvenile fish have the opportunity to reach maturity and sustain fish stocks. Next, 'tilt a turtle table' with Olive Ridley Project challenged guests to get hatchlings (in the form of ping pong balls) through various obstacles out to the open ocean. This highlighted some of the challenges that hatchlings must face in order to survive in the early stages of their life. Finally, Manta Trust had guests competing to find specific manta related information from the display table inside the SHELL in the fastest time possible. This game was great for engaging everybody's competitive spirits while also being valuable for learning, as they had to memorize the information in order to win the game and get a chance of winning some Manta Trust goodies. This annual party is always a special opportunity to engage with guests in a new way and highlight and celebrate MUI's biggest achievements and successes of the year.



80+ guests at the cocktail party





Credit: Miriam Staiger

MUI IS KEEPING CURRENT!

It is important to understand how environmental variables affect marine organisms. These environmental variables can include temperature, light, current, turbidity, dissolved oxygen and many more. By understanding how they influence marine organisms we can deepen our understanding of the ecology, behavior and sensitivity to environmental change or human impacts.

Through a Tempcon Sponsorship Program we were able to place current meters at some of our regular dive sites, Hithadhoo corner and Fushi Kanduu. These sites are known manta ray cleaning spots, grouper spawning site and sites that we regularly see megafauna such as sharks. These current meters will measure current direction, strength, and temperature. Current is known to have a large influence on sharks and rays, and by measuring the current we can start to understand if current plays an important part in predicting shark or ray aggregations and encounters. This is great for guest experiences as we may be able to plan dive timings around our predictions, but more importantly it gives us an insight into how we may be able to protect these species. Through understanding their distributions in relation to environmental conditions, we can protect areas that are most valuable for these species, and where they are likely to aggregate. Aggregation sites are sometimes known by local fishers and may be targeted during peak times. This can lead to overexploitation and population decline of the species. Through locally managed MPAs it may be possible to sustainably manage these areas of particular importance.

Creating a long-term dataset is also of great importance to monitor the environmental changes that are associated with climate change.



2 current meters placed



100% of dives at Fushi encountered sharks and rays



93% of dives at Hithadhoo Corner encountered sharks and rays

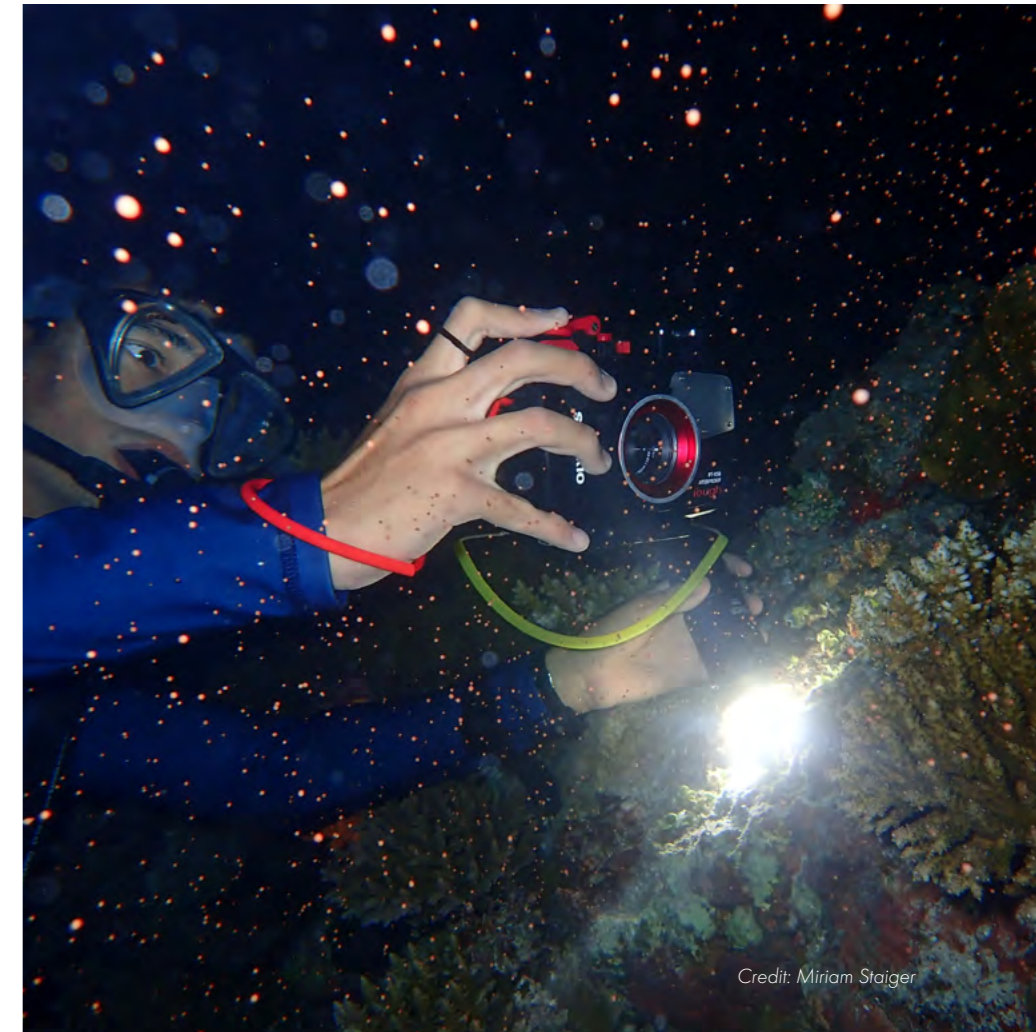


Credit: Miriam Staiger

Predicting how climate change may influence ocean currents is very challenging, but the collection of long-term datasets aids in this process. To understand how currents change through time and how this may impact the species that live around Laamu, is vital for their protection into the future.

SNOWING IN THE MALDIVES

Another month of successful coral spawning! In December, with the help of Deep Blue Divers, the MUI team carried out eight night dives within four days, to monitor for possible coral spawning events. A coral spawning event is when coral species synchronize and reproduce sexually. Synchronization is thought to be influenced by lunar cycles, but could also be influenced by temperature. Before spawning, the corals will start to "set", this is when the polyps actually hold the egg and sperm bundle in their mouth ready for release. In this stage, the team will keep an eye on different species of corals and check every individual to see if they see the gametes in the mouth of each coral polyp. Once they are setting, it can take 45 minutes to an hour for them to start spawning. Throughout this process, the team takes photos of each coral colony, that are either setting or spawning. The MUI team later uses this data to identify the setting/spawned corals to a species level so that they have a better understanding of coral spawning events.



Credit: Miriam Staiger



Credit: Miriam Staiger

Photographed by Andy Bell

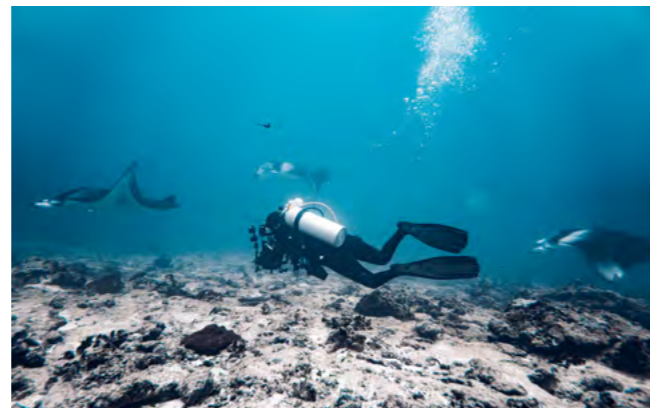
THE MANTA TRUST

MAGICAL MANTA CHRISTMAS



Oh, what a holly jolly Christmas our team had this year! Manta rays were out and about during festive season, giving some of our guests a very magical Christmas gift. And without doubt, this Christmas there was something in the air, or shall we say – in the water?

After a 10-minute boat ride from the resort to the dive site, Hithadhoo Corner, the divers were trained in manta code of conduct and then geared up, ready to jump in for the Christmas Day dive. Our General Manager Marteyne, joined Elisa, one of our dive instructors, and Miri, the Manta Trust Laamu Project Manager to find mantas for the special Christmas Day dive. The team ascended slowly and went from one cleaning station on the reef to the next. Cleaning stations are parts of the reef where many small cleaner fish feed on the parasites, dead skin, and wounds of larger animals such as manta rays. Mantas often seek out these cleaning stations early in the morning, as the cleaner fish are only active during the day – and after a long night the mantas are keen to get cleaned. After the divers had reached the third cleaning station, it finally happened – a beautiful female manta ray, known to the team as ‘Pina Colada’, came out of nowhere to visit the cleaning station and greet the divers.



Manta rays are intelligent creatures and often investigate divers. Pina Colada hovered right on top of the lucky guests, swam off and then turned around to play a little more. A few moments later, two more mantas showed up and very quickly the mood changed. Cleaning stations are not only where megafauna gets cleaned, but they also serve as great meeting points for manta rays. So, on Christmas Day three of our local manta rays came together to celebrate the day, with a bit of courtship behavior. A curious male called ‘Rangalo’, which is also December’s manta of the month, and another big female manta called ‘Monster’ started to do quick turns, somersaults and showed quick changes of direction and speed. These are signs of courtship behavior and sometimes results in a mating train where a female is followed by multiple males before any mating will occur. On this day however, it was only the one male, Rangalo, interacting with the two females. Whether he impressed any of the females we will never know, but we know that Pina Colada has only recently mated due to the mating scars visible on her pectoral fin. The turns and tricks went on for the rest of the dive and before the divers could see whether the courtship behavior resulted in any mating, they had to return to the surface. Whether any of the females have mated we will only know when they are next sighted – either the team will be able to see fresh mating scars, or possibly even a pregnant belly.



Credit: Miriam Staiger



3 mantas observed in courtship behavior

MANTASTIC KIDS GAMES

This year’s Under The Sea Cocktail party was something very special – the MUI team celebrated a year full of new beginnings in the facilities of their new home, the SHELL. Manta Trust ran a new quiz game, incorporating the new manta educational table which is packed with interesting facts about manta ray biology, conservation and the specific manta research the team is conducting on island. As quick as possible, kids had to find the correct answers to tailored manta questions, memorize the facts and beat each other’s times. Many kids played the game in the hope of winning a Manta Trust prize. The top four candidates won a Manta Trust mask strap and our winner, Plum, even won the beloved manta plushie ‘Mrs Flappy’. Mrs Flappy is an actual manta ray that got entangled in a fishing line a few years ago but was luckily saved by divers. Guests can buy Mrs Flappy toys in the resort boutique, supporting the efforts of manta ray research and conservation.

Our winner, Plum, is one of our Junior Marine Biology alumna and the team was happy to see her return and still be so interested in the underwater world. Only a few days after receiving her prize, she went on one of her first boat dives using her new mask strap. The team can’t wait to show her some manta rays one day!





BLUE MARINE FOUNDATION

LAUNCH OF THE FISH AND SEAFOOD SOURCING SURVEY

This month, the Blue Marine Foundation and Maldives Resilient Reefs (MRR) team attended the IMTM Sustainable Tourism Forum in Male. The Sustainable Tourism Forum is an opportunity for tourism operators and industry stakeholders to come together to share ideas on how to create a sustainable Maldivian tourism sector. The team presented their work, ensuring sustainable coral reef fisheries in the Maldives and outlined their aim of expanding the innovative Laamaseelu Masveriyaa fisheries program across the country. The Laamaseelu Masveriyaa program is a fisheries initiative developed by Blue Marine in partnership with Six Senses Laamu, which is working alongside local fishing communities to create a sustainable market for local seafood in Laamu atoll.

However, before the Laamaseelu Masveriyaa program can be rolled-out across the country, the team firstly needed to understand how different resorts source their seafood. This is now being determined through a fish and seafood sourcing survey, which is being conducted in partnership with the Ministry of Tourism and the Ministry of Fisheries, Marine Resources and Agriculture. Survey results will not only inform the Laamaseelu Masveriyaa roll-out but will also be shared with partnering government ministries to be used to inform national policymaking.

The fish and seafood survey was officially launched at the IMTM sustainable tourism forum, where attending tourism ministries were able to scan a QR code to directly access the survey.

The Blue Marine/MRR team are encouraged by the high-level of excitement and engagement around the survey. On the day of the forum, the team had 34 people scan the survey QR code. In December, 15 tourism operators completed the survey, with a further 30 operators registering an interest in completing the survey before the January 30 deadline. The Blue Marine/MRR team are aiming to expand the program across the Maldives to create a national tourism market interested in traceable and transparent seafood sourcing for the benefit of businesses, people, and the environment.



Photograph of IMTM Sustainable Tourism Forum 2022 participants.



15 tourism operators completed the survey so far

FISH OF THE MONTH – HUMPBACK RED SNAPPER



Jake Edmiston (Maldives Fisheries Project Manager) and Afaaz (Resort Fisheries and Research Officer) presenting at the IMTM Sustainable Tourism Forum 2022.



Humpback Red Snapper (credit: Shaha Hashim)

This month, the Blue Marine/ MRR team noticed many Humpback Red Snapper ('Gini mas' in Dhivehi) being landed through the Laamaseelu Masveriyaa program. Humpback Red Snapper are a species of smaller predatory reef fish which feed upon fish and invertebrates (i.e. crabs, cephalopods, echinoderms). These species have a migratory life history, growing up in the seagrass before moving to the coral reef in their adult life stage, where they can form large aggregations. These aggregations mean that it is common to catch multiple individuals in a short time period. Thought to live for up to 18 years, Humpback Red Snapper can be caught all year round in Laamu atoll.



53 Humpback Red Snapper landed



School of Humpback Red Snapper
(credit: Shaha Hashim)

MALDIVES RESILIENT REEFS' FIRST AWARD



1 award received

This month, Maldives Resilient Reefs (MRR) won a MV+ Community Impact Award for being a Maldivian NGO which is leading the fight against climate change. MRR were recognized for their education, research and community outreach activities, which are carried out across Laamu atoll in partnership with Blue Marine. In particular, the Laamaseelu Masveriyaa sustainable reef fishery program was highlighted as one of the most important projects being carried out.



Resort Research and Fisheries Officer Afaaz Zahid, collecting the award on behalf of Maldives Resilient Reefs.



Winners of the MV+ Community Impact Awards 2022.



THE OLIVE RIDLEY PROJECT

FINISHING THE YEAR STRONG!

What better way to finish off the year than by breaking our all-time record for monthly turtle ID submissions!

December 2022 was the month that saw the most photo ID submissions ever since the Olive Ridley Project joined Six Senses Laamu in April, 2018. With the collective help and dedication of the MUI team and the staff at Deep Blue Divers, we received close to 270 submissions, bringing our yearly total to over 1,500 turtle encounters in Laamu atoll! This represents a 30% increase from our submissions in 2021, which totaled 1,180.

Photo ID is an accessible form of citizen science and provides an opportunity for the public and non-specialists to contribute to sea turtle conservation and research. By simply getting a clear photo of a turtle's facial scales, we are able to identify the individual and monitor its growth and movements. This ease of use allows our partners at Deep Blue Divers, and potentially other dive operators in the atoll, to contribute ID photos to our database from sites all across Laamu, that our team might not have the opportunity to go to. This data will play a crucial role in improving our understanding of the distribution, movement, and population trends of both green and hawksbill turtles in Laamu.

We hope to carry this momentum into the new year and continue building our database of green and hawksbill turtles in Laamu atoll.

Credit: Miriam Staiger



TURTLE IN THE SPOTLIGHT – MEET ROXXEL (GR1217)

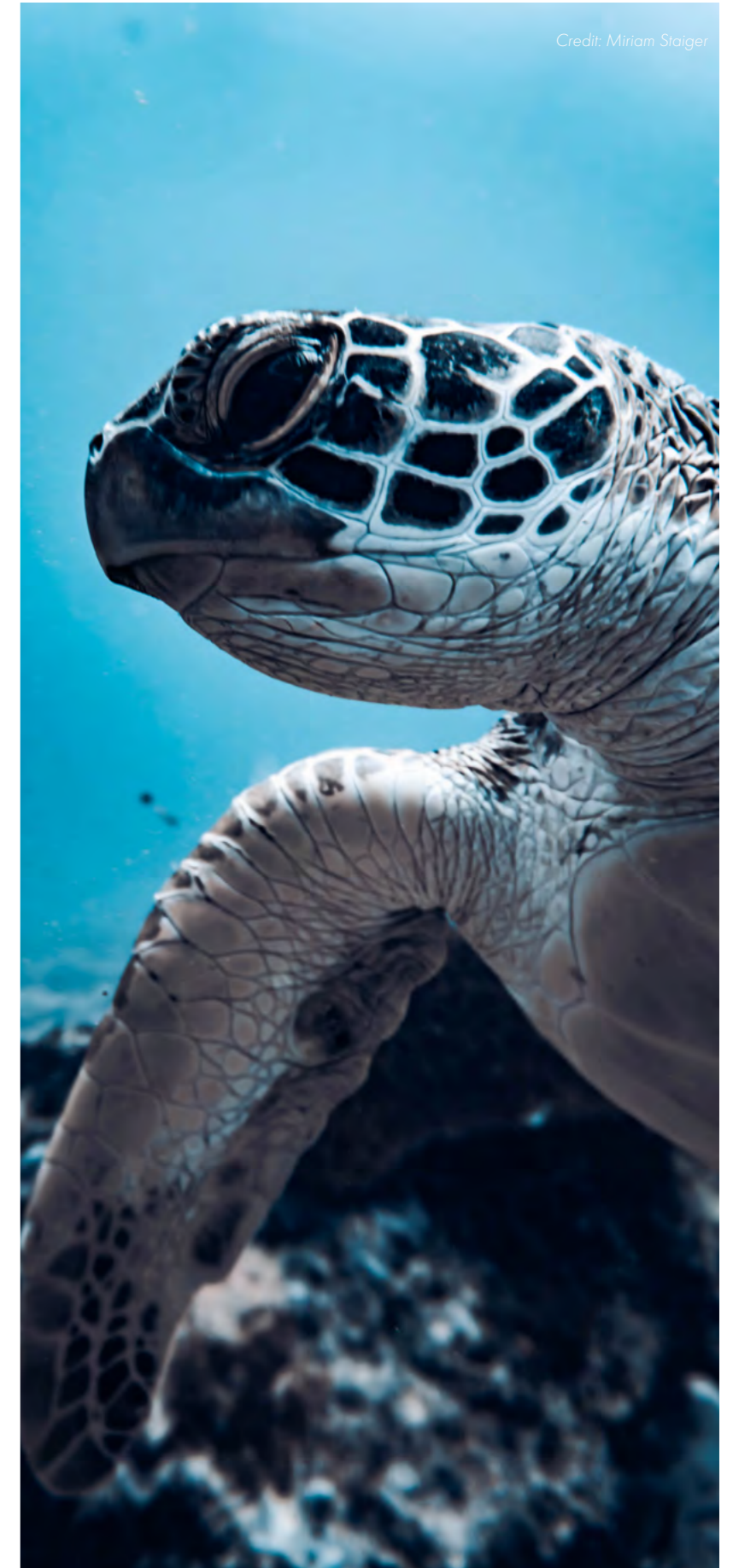
Hithadhoo Corner (otherwise known as Manta Point) is one of the most popular dive sites near Six Senses Laamu. This channel corner has one of the largest aggregations of green sea turtles in the atoll - so it can be hard to fit in especially when you're new and small.

Green turtle, Roxxel (GR1217) first came to Hithadhoo Corner as a juvenile in 2020, measuring no more than 50 cm in carapace length! She was often picked on and chased off by the adult greens from the cleaning stations. She made a home for herself under the shelter of a ridge covered with soft corals and seemed not to venture out to the other parts of the reef. Initially, Roxxel was very skittish and shy - quick to swim away from approaching divers, which is not uncommon for sea turtles that are not used to seeing divers regularly.

However, as 2021 came to a close she became more confident, bolder, and started exploring the site more. Through the use of photo ID, we have also been able to track her growth, with recent estimates put her at 80 cm! In 2022 we have observed Roxxel approaching divers completely unafraid and swimming within arm's length along them.

She can now be found resting out in the open, among some of the other big adults. The team is proud of Roxxel for making a home for herself there, despite the challenges, and is keen to see her grow up even more for more years to come.

Credit: Miriam Staiger



265 turtle ID submissions



31 new turtles identified

OUR COMMUNITY

THE 6TH ANNUAL LAAMAFARU FESTIVAL

Laamafaru Festival was celebrated again in Laamu with vibrant Maldivian colors. The 6th annual 'Laamafaru festival' was celebrated in eight locations across the Laamu atoll on December 17-19, reaching over 2,600 students across eight communities in five islands.

Activities such as poster-making, debates, info-exhibit, documentary stations, marine creature origami, coastal clean-up, swim race, sand sculpture making, and Maldivian cultural dances and crafts filled the morning festivities of the day with lots of positive messages from the students for environmental conservation. The festivals ended with sea creature parades around communities, with students showcasing what they had learned in the festival, wearing their favorite marine creature costume. Since its initiation in 2016, the festival has transformed over time into a community festival, expanding its reach, fun, and learning. Through this annual festival, Six Senses Laamu hopes to ignite passion in the community, to foster a generation of marine stewards who would take positive action for the vulnerable coastal environment of Laamu and beyond.

Working with supportive schools across the atoll is an advantage, to make the festival inclusive to all students and have greater reach. Congratulations to all schools and communities for celebrating Laamafaru Festival 2022.



8 festivals



2,600 students reached across the atoll



CELEBRATING MALDIVES CULTURAL PERFORMANCES

The history of Maldives dates back thousands of years, and its rich culture is unique to the country's 1,200 islands. Among several other Maldivian cultural art forms, authentic traditional music and dances are a celebrated heritage of this idyllic nation. At Six Senses Laamu, the Boduberu group from Kunahandhoo island visits the resort to perform the Maldives traditional Boduberu music at every management cocktail party and pop-up Maldives cultural dinner. For special occasions, Six Senses Laamu invites the women of Kunahandhoo to perform a cultural dance called Landiri Jehun, one of the oldest forms of expression in the Maldives culture.

Group of women or men in parallel rows, singing rich words of poetry to the beats of Boduberu, and dancing to the jingling percussions of sticks called 'Langiri Dhandi.' Each dancer strikes the stick of the dancers in front of them in a synchronized, rhythmic way. The pace of the music and dance increases progressively and builds up to a crescendo. The various other cultures have influenced these art forms, fused through the long history of travelers that reach the shores of the Maldives islands in the long-forgotten history. By working with the community of Kunahandhoo, Six Senses Laamu aims to incentivize the revival of some of the traditional art forms and celebrate the cultural heritage of the Maldives.



YOUNG VIP'S LOCAL ISLAND ADVENTURE

On December 28, the Six Senses Laamu Sustainability team joined forces with the Den (resort kids club) to deliver a Local Island Adventure experience for the young VIPs of Six Senses Laamu. The event aimed to offer a unique experience for the kids to visit the playground in Kunahandhoo, one of the neighboring community islands, and play fun interactive games with local kids. Six Senses Laamu's Den team organized fun interactive games such as the shack race rally, big foot race, virtual reality manta rays, henna tattoos, and face painting for kids to have a memorable time. The event ended with an evening tea with Maldivian short eats for all the kids who participated. The kids from the resort joined 60 kids from Kunahandhoo and participated in the games and fun. Six Senses believes that offering kids a unique transformative travel experience will help them connect with themselves, others, and the world around them.



OUR HOME

CELEBRATING WORLD SOIL DAY

 **50** herbs and greens

 **5,456** kg annual harvest

On December 5, as part of celebrating World Soil Day, the Organic Garden team conducted a gardening workshop for hosts. The aim of the workshop was to educate hosts about varieties of herbs and greens available in the garden, preparing beds and transplanting. During the workshop, the Gardening team highlighted the importance of organic composting.

The Organic Garden at Six Senses Laamu plays an impactful role in minimizing imported products and plastic packaging, by providing 50 different types of herbs and greens. By the end of 2022, the team harvested 5,456 kg of 50 different herbs and greens from the garden.



ANNUAL EARTH LAB PRODUCTIONS AND EXPERIENCES

Earth Lab team is delighted to end the year with some very fulfilling productions and for introducing new waste to wealth educational experiences for the guests. In regards to the production of Earth Lab in 2022, a total of 39,062 kg of organic composts were produced from kitchen waste and used in the Organic Garden. From the Kukulhu Village, a total of 3,613 fresh eggs were delivered to the weekly Asian Street Market. From the waste citrus peels, the team has produced a total 1,110 liters of Effective Microorganisms, which were used to clean the kitchen sinks and drainage. The team adds the EM solution in compost piles to boost up the compost process. In 2022, the team has introduced four new activities to the Earth Lab, including Glass Cutting workshop, Paper Recycling and Candle Making out of leftover surf board wax. By the end of the year, a total of 2,034 guests joined for Earth Lab's educational experiences, where the guests learn about self-sufficiency and open their hearts and mind to sustainable living practices.



 **89** liters of coconut oil produced

 **70** chickens

 **104** kg of paper recycled

 **80** kg of soap produced



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