



MALDIVES UNDERWATER INITIATIVE by Six Senses Laamu

ANNUAL REPORT

2022

# TABLE OF CONTENTS

- 03 OUR STORY
- 13 OUR RESEARCH
- 39 OUR EDUCATION
- 47 OUR COMMUNITY
- 61 OUR VOICE
- 71 OUR HOME

## OUR VISION

A local and global community of marine stewards that will create a culture of positive action for our oceans in Laamu and beyond.

## OUR MISSION

To lead the tourism industry in the Maldives through meaningful marine conservation efforts based on research, education and community outreach.



The MUI team with Six Senses Laamu's General Manager, Marteyne van Well, in May 2022.

# OUR STORY

As we all know, our oceans are, sadly, facing unprecedented threats. To protect our marine ecosystems, we need to understand our oceans and the life within them. Six Senses Laamu recognizes its responsibility to the local community, the nation, and the world, to pioneer and share solutions to drive sustainability and conservation within the tourism industry. Over the last 12 years since the resort's opening in 2011, we have strived to be a leader not only in minimizing negative impacts on the environment, but also in establishing a standard for tourist resorts to make a positive impact and give back. During this time, the MUI team has

consistently proven they are serious about this goal and have worked hard to establish Laamu as a hub for marine research and become an example for sustainable marine resource management in the Maldives.

In August this year, the MUI team participated in the Fourth Maldives Marine Science Symposium (MMSS) hosted by the Maldives Marine Research Institute (MMRI). Between the team and partner NGOs, a total of 12 oral and poster presentations were given, covering various research projects that are running on the island. Giving a voice to all the researchers and scientists in the Maldives is crucial in understanding more about our oceans, and we are very proud to be able to present the team's work and research and also learn more from other teams in different atolls about their research and initiatives.

In 2022, MUI's first ever scientific paper was published. It is an open-access article based on a study by Six Senses Laamu, Blue Marine Foundation and Maldives Resilient Reefs on Napoleon Wrasse population densities, published in the peer reviewed

journal *Endangered Species Research*. The Napoleon Wrasse has been a protected species in the Maldives since 1995 and the numbers in this study show that it can be considered as an undisturbed population in Laamu Atoll.

With all of this in mind, the resort continues to seek innovative ways to educate guests, hosts and the community, through immersive experiences and hands-on activities. In 2022, the vision of creating a marine conservation center for environmental learning became reality. On May 6, the cornerstone of the Sea Hub of Environmental Learning in Laamu (SHELL) was placed and by the end of the year, it already housed the MUI team, along with a gallery exhibition space, offices, marine laboratory, cinema room, and an interactive zone. The team understands that conservation does not happen overnight, and that to be truly successful, a combination of scientific research, community support, and international understanding is needed. The SHELL, officially open in 2023, aims to bring together all these elements in an innovative and exciting way to safeguard the environment and people of Laamu.

We owe a debt of gratitude to our owners, HPL Hotels & Resorts, who have supported and inspired us from day one. We are equally grateful to the Six Senses group, to our guests who have wholeheartedly embraced our efforts, to the leaders of the local community who continue to support us, and to our incredible international network of collaborators who so kindly donate their time, expertise, passion and talent to make Laamu more sustainable for generations to come.

Thank you for following us on our journey and I hope our MUI 2022 annual report will inspire you to continue to learn how best protect our oceans and the life within them.

*#WithLoveFromLaamu*

**Marteyne van Well**  
Regional General Manager,  
Six Senses Maldives

# WHO IS MUI?

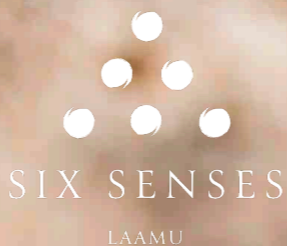
The Maldives Underwater Initiative (MUI) is a multiple award-winning marine conservation initiative based at Six Senses Laamu. Situated in a Mission Blue Hope Spot, Six Senses Laamu is a five-star resort in the southern Laamu Atoll who created MUI to unite the partnerships it has with various marine conservation organizations.

## Six Senses Laamu

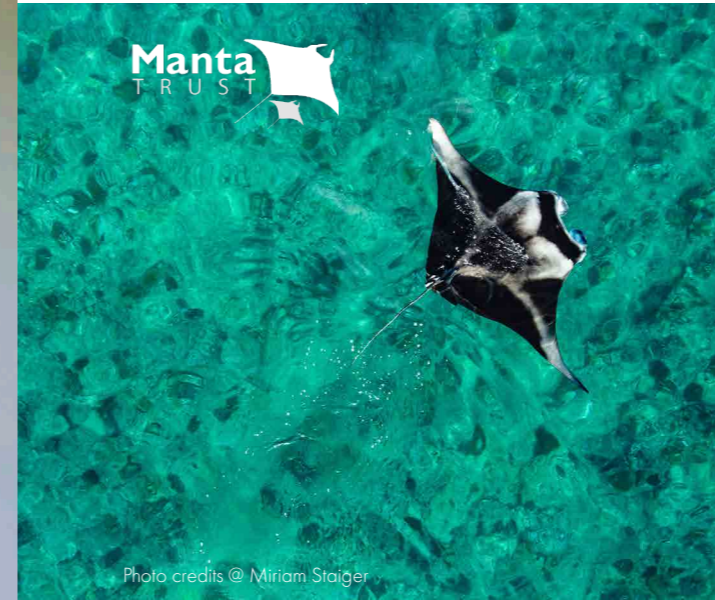
The home base of the Maldives Underwater Initiative, Six Senses Laamu sets itself apart from the 200+ other resorts in the Maldives with its dedication to sustainability and marine conservation. MUI is an initiative by Six Senses Laamu, providing the team with a base, funding and the resources required to achieve research, education and community goals.

Six Senses Laamu has been a Fellow Member of the Long Run since 2017. This is a certified membership organization of nature-based tourism businesses committed to driving sustainability through Conservation, Community, Culture and Commerce (4Cs). Six Senses Laamu is also a partner of The Reef-World Foundation, and abide by their Green Fins sustainable dive and snorkel code of conduct.

 12 years of sustainable tourism



# PARTNERS WITHIN MUI



## The Manta Trust

The Manta Trust is a UK-registered charity that coordinates global mobulid research and conservation efforts. Their mission is to conserve mobulid rays and their habitats, through research, education and collaboration. Since 2014, the Manta Trust have been working in Laamu to study the local manta ray population and to educate guests, hosts and the local community about the importance and vulnerability of manta rays in the Maldives.



8 years of partnership with Six Senses Laamu



## Blue Marine Foundation

Blue Marine Foundation (Blue Marine) exists to combat overfishing by delivering practical conservation solutions, including the creation of large-scale marine reserves. Since 2016, the Blue Marine team at Six Senses Laamu has been working closely with the local community on Laamu Atoll to improve local fisheries management and create functional marine reserves. Blue Marine believes this is best achieved if efforts are locally led. A key aspect of their work focuses on building local capacity for marine resource management.



6 years of partnership with Six Senses Laamu



## The Olive Ridley Project

The Olive Ridley Project (ORP) works to protect sea turtles and their habitats through research, rescue and rehabilitation, education, and outreach. Since 2018, ORP has worked to increase scientific understanding of foraging and nesting sea turtle populations in Laamu, and has actively removed ghost nets found in and around the atoll. Guest education and community outreach - communicating the importance of sea turtles and the threats that they face - are key aspects of their work in Laamu.



4 years of partnership with Six Senses Laamu



Photo credits @ Lora Hoare

## WITH LOVE FROM LAAMU

The conservation efforts of the Maldives Underwater Initiative are made possible by the generous contributions and donations of our supporters.

We would like to say a special thanks to Six Senses, our owners, the HPL Group, and our dedicated guests who visit us year after year, always curious to learn more, and our general manager, Marteyne, who's passion for marine conservation drives and empowers us.

Six Senses Laamu's partners, the Manta Trust, Blue Marine Foundation and the Olive Ridley Project;

through our collaboration we will continue to achieve incredible things for Laamu.

We are also very thankful for Laamu's community, especially the Atoll Council, who have welcomed us into their home, continuously inspiring and facilitating change. And finally, we would like to thank our international network of renowned scientists, storytellers, research institutions and other organizations who have dedicated their expertise towards making MUI's goals a reality.

## THE SUSTAINABILITY FUND

All Six Senses properties worldwide have Sustainability Funds, which are allocated towards projects that benefit local communities and ecosystems. The fund consists of 0.5% of total resort revenues, 50% of water sales, 100% of soft toy sales, and any guest donations. We are also incredibly grateful for external donations made to our partner NGOs, which make specific research, education and community projects in Laamu Atoll possible.

In 2022, Six Senses Laamu spent USD 152,692 of the resort's sustainability fund on projects that positively impacted numerous people, wildlife, and habitats. The majority of this expenditure was invested in furthering MUI's research, education and community projects. By visiting us at Six Senses, not only can you learn more about our initiatives and the wonderful marine life of Laamu, your stay will also financially contribute to our successes through the sustainability Fund.

# INTERNATIONAL NETWORK OF COLLABORATORS



In 2022, MUI worked with the BBC and Steve Simpson from the UK to show the public an exciting new way to understand coral reefs.

MUI, at its core, is based around collaboration. The initiative was formed in 2018 as a result of the partnerships Six Senses Laamu had formed with three Non-Governmental Organisations specialising in marine conservation. But, our collaboration efforts do not stop there. In an effort to ensure our research, education and community outreach projects achieve the best results possible, we are constantly reaching out to experts in a range of fields across the world for advice and guidance.

Over the years we have invited some of the world's leading marine conservationists to Laamu. In 2022 we worked with a range of researchers and storytellers, entrepreneurs and lecturers, as shown on this map, all of whom played a vital role in helping us achieve our goals this year.



# EVENTS OF 2022



**JAN**

With the support of the security team, the ORP biologist was able to catch a nest hatching early in the morning, where guests witnessed the miraculous start of life for 99 hatchlings.



**FEB**

Blue Marine Foundation led the most comprehensive atoll-level research of reef fish in the Maldives by conducting a fisheries biomass survey with over 450 fish landings recorded.



**MAR**

The ORP team in Laamu deployed the first temperature loggers next to some of our green turtle nests to study the effect of sand temperature and humidity on hatchling development during the incubation period. This data is critical to understand the potential changes in the structure and growth of regional turtle populations in the face.



**APR**

The first ever Local Ecological Knowledge (LEK) study with Laamu's fishermen focusing on manta ray conservation was conducted by the Manta Trust team and a Masters student from the University of Exeter. The results revealed new possible manta ray hotspots and fishermen stated their positive attitudes towards manta ray conservation work.



**MAY**

MUI started working with Blue Carbon Lab in order to assess whether the blue carbon opportunities in Laamu were suitable for carbon insetting of guest activities at the resort.



**JUN**

The Megafauna citizen science app launch! This allows the MUI team and Deep Blue Divers to easily document megafauna encounters to enhance our knowledge of Laamu's big stuff.



**JUL**

Athif, joined MUI as our first BSc student from Maldives National University, to conduct data collection for his project on seagrass.



**AUG**

MUI and partners presented 12 oral and poster presentations at the 4th Maldives Marine Science Symposium representing the research and efforts in understanding Laamu's marine environment. This was the largest number from any one area, a testament to MUI's collaborative ethos, uniting expertise to have the farthest reaching impact.



**SEP**

ORP appealed to the government and met with his excellency President Solih for support in establishing a consistent monitoring program to tackle egg poaching on L. Gaadhoo. The EPA, ORP and AgroNat, alongside the government, have now created a work plan on the next steps to establish monitoring on the island in the near future.



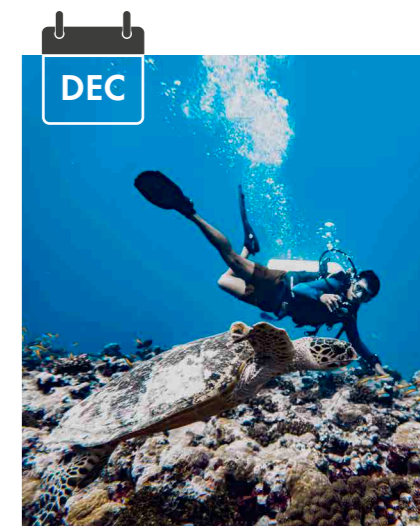
**OCT**

Fonadhoo Outside was identified as a critical cleaning station for reef manta rays. The Manta Trust analysed data from their remote cameras, revealing that manta rays utilize a single cleaning station for over three hours at a time.



**NOV**

The first collaborative publication by MUI and Blue Marine Foundation found that after 15 years of protection, the density of Napoleon wrasse in Laamu is comparable to an area where this species has never been exploited - great news!



**DEC**

ORP's database of identified green and hawksbill turtles in Laamu reached 800 individuals, representing an important milestone in establishing a significant presence of sea turtles in the region.

# OUR RESEARCH



# MEGAFAUNA SIGHTINGS



**4,666** sightings  
of turtles



**1,838** hours  
of megafauna  
surveys



**8,877**  
sightings of sharks



**2,708**  
megafauna surveys



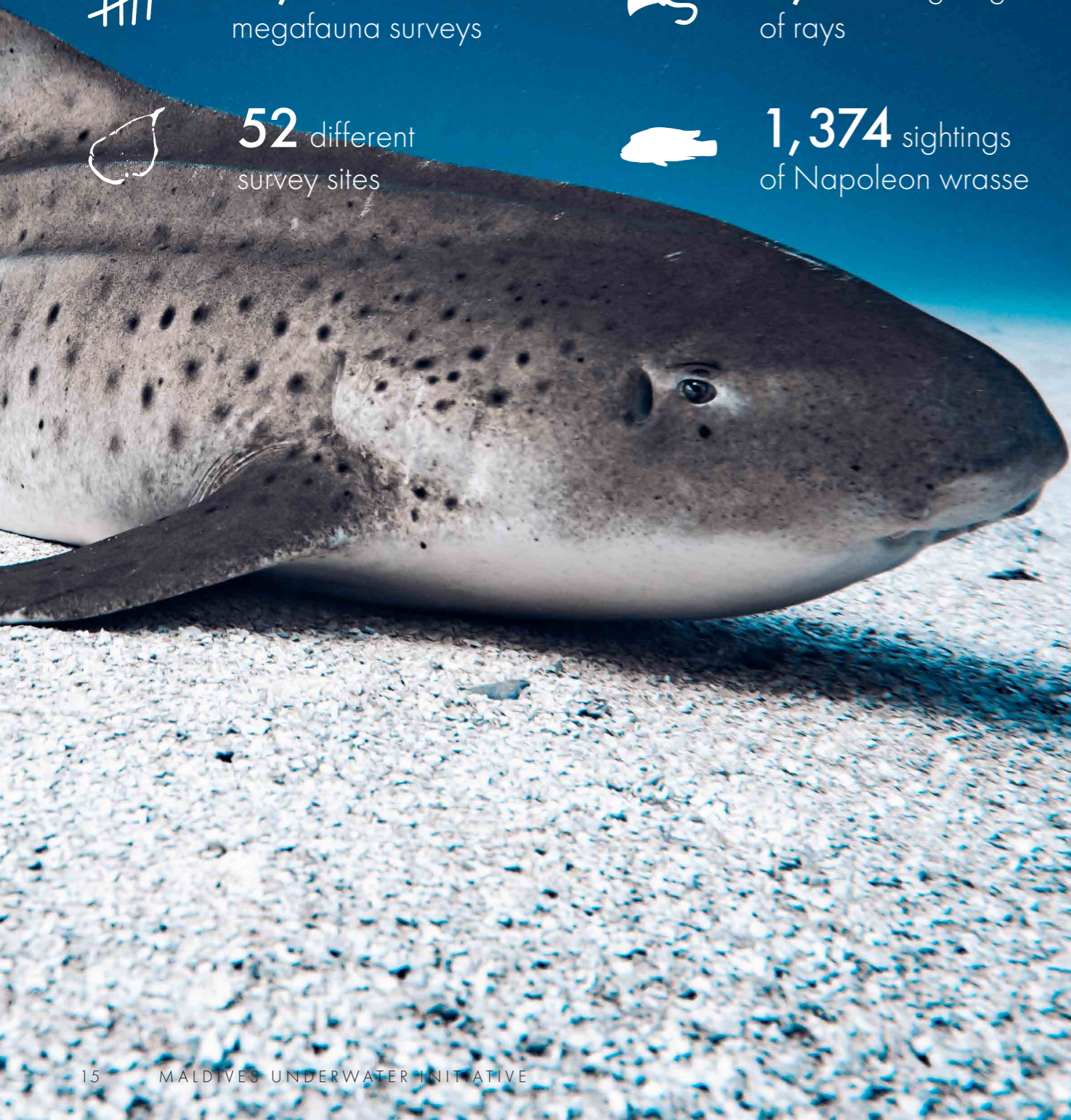
**3,812** sightings  
of rays



**52** different  
survey sites



**1,374** sightings  
of Napoleon wrasse



We are so lucky here in the Maldives, especially in Laamu, to have such diverse marine life and so many incredible megafauna (big animal) sightings. Just on our house reef, you can regularly see both green and hawksbill turtles, five different kinds of ray, three reef shark species and napoleon wrasse! Given the number of hours we are spending in the water, not just for research but also our guest activities, we want to take every snorkel or dive as an opportunity to collect data. So after every dive or snorkel the MUI team will input data on their megafauna sightings into our megafauna app, developed with Oliver Burdekin. In addition to the MUI effort, Deep Blue Divers (DBD) have teamed up with MUI to further enhance our data collection by inputting their sightings from guest dives. Throughout the year of 2022, MUI and DBD have conducted an incredible 1,838 hours of megafauna surveys which is equal to just over two months of time in the water surveying! These surveys were conducted at 52 different sites, ensuring that we are collecting a diverse range of data and obtaining a more complete understanding of the atoll diversity. Over time, it will allow us to compare our annual numbers and conclude if there are any changes in population density or diversity which can help us to plan better conservation efforts if negative changes are seen.

Not only does this information allow us to track Maldivian megafauna over time, but also provides valuable information on changes in population density and distribution. This has led to the first MUI publication titled Status of Napoleon wrasse in Laamu Atoll, Maldives, after three decades of protection. See Fisheries Research to learn more about this paper. Several possible spawning aggregation sites were also identified, giving us a clue about which sites are of particular importance to this species so we can work towards their protection.

## Sea-sational statistics

A total of 4,666 sea turtle sightings were reported in 2022 including both green and hawksbill turtles. Both species are classified as critically endangered on the International Union for the Conservation of Nature (IUCN) red list, so it is encouraging that Laamu has a large population of both species and we are lucky to be able to share regular encounters with our guests!

Over 2022, there were 8,877 sharks sighted, including over seven different species, with Black Tip Reef Sharks, White Tip Reef Sharks and Grey Reef Sharks, being the most frequently observed. Sharks are incredibly important for marine ecosystem health, controlling population density, diversity and spread of disease. Sharks are also considered an 'indicator' species, this means that their abundance indicates that the rest of the ecosystem is doing well, as it is able to support these top predators. Along with sharks, 3,812 rays were spotted including nine different species, with two sightings of the very rare ornate eagle ray at the end of 2022!

All of this data on marine megafauna not only showcases the incredible underwater experiences we are able to have here in Laamu, but reinforces just how important it is to protect our marine environment and justifies our recognition as a Mission Blue Hope Spot.

We thank the whole DBD team who have been assisting with our data collection and have made our research possible.



Photo credits (turtle on reef) @ Alex Mustard  
Photo credits (Zebra shark - left page) @ Miriam Staiger

# CORAL REEF RECOVERY

## Coral Spawning

It has been an exciting year of coral spawning research for the MUI team with seven months of spawning events observed! This is now the second year of data collection for coral spawning and slowly the patterns of this beautiful phase of coral reproduction in the Maldives are being illuminated. With the help of international collaborators the team can confirm that, unlike historical assumptions which were based on observations from Australia, there are definitely more than two months of spawning in the Maldives!

A coral spawning event is when coral synchronize their gamete (eggs and sperm) release for external sexual reproduction. Individual colonies of the same species will use the lunar cycle to synchronize this with other colonies of the same species to increase

the chance of fertilization and the formation of coral larvae.

Right before the corals spawn, they enter a phase called "setting". This is when the coral holds the egg and sperm



**85** coral spawning surveys



**70** colonies observed spawning



Photo credits @ Alex Mustard



**49** hours of coral cracking and spawning surveys



**22** colonies surveyed for the study



**12** colonies in the study recorded spawning



**58** additional colonies recorded spawning

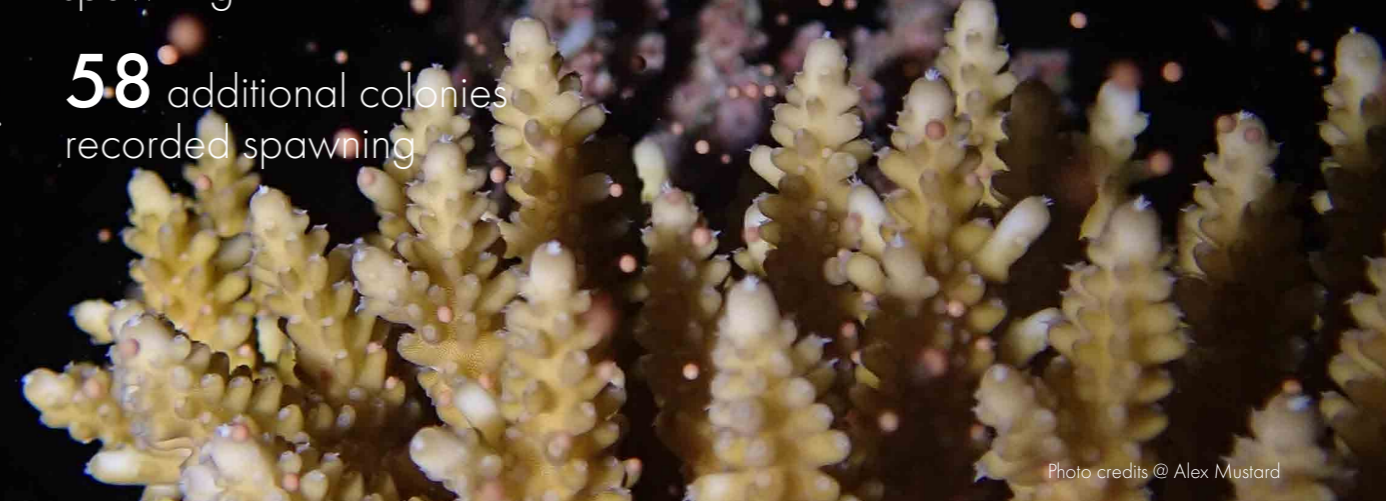


Photo credits @ Alex Mustard

bundle in their mouth ready to release. The MUI team, with the help of Deep Blue Divers (DBD) and other members of the Six Senses team, dive between the 2nd night after full moon and the 6th night after full moon to monitor the corals on our house reef for signs of setting and spawning. In December, five days after the full moon, our community outreach coordinator Ali was fortunate enough to have witnessed a mass spawning event where he saw over 17 different colonies spawning simultaneously in the same area! As well as being an amazing natural wonder to witness, these dives allow us to collect valuable data to contribute to our understanding of the coral populations around Laamu, and their capacity to recover.

For a more in depth understanding of these spawning events the MUI researchers track the developmental cycles of eggs within 22 colonies of interest which are particularly vulnerable to increasing temperatures caused by climate change. By inspecting the gametes inside the coral colonies every month they can assess how likely it is that colony will spawn. This is done based on the pigmentation of the eggs. If white eggs are observed, they have high potential to spawn in the next few lunar cycles, whereas if the eggs are red or pinkish they have the potential to spawn after the full moon that month. This gives the team a clue on which species to look out for on their spawning dives!

Between the two years of data collection that the MUI team has done, there are different spawning patterns observed. This highlights the need to continue this project for multiple years so the influencing factors can be investigated. Understanding the patterns of coral sexual reproduction is vital as it holds the key to coral reef replenishment. By understanding when corals release their gametes, there is potential to use this information to enhance coral reef recovery through larval replenishment. The MUI team will be utilizing this information for an exciting project starting in 2023.



**75** hours of spawning surveys



**22** colonies tracked long-term

# REEF MONITORING

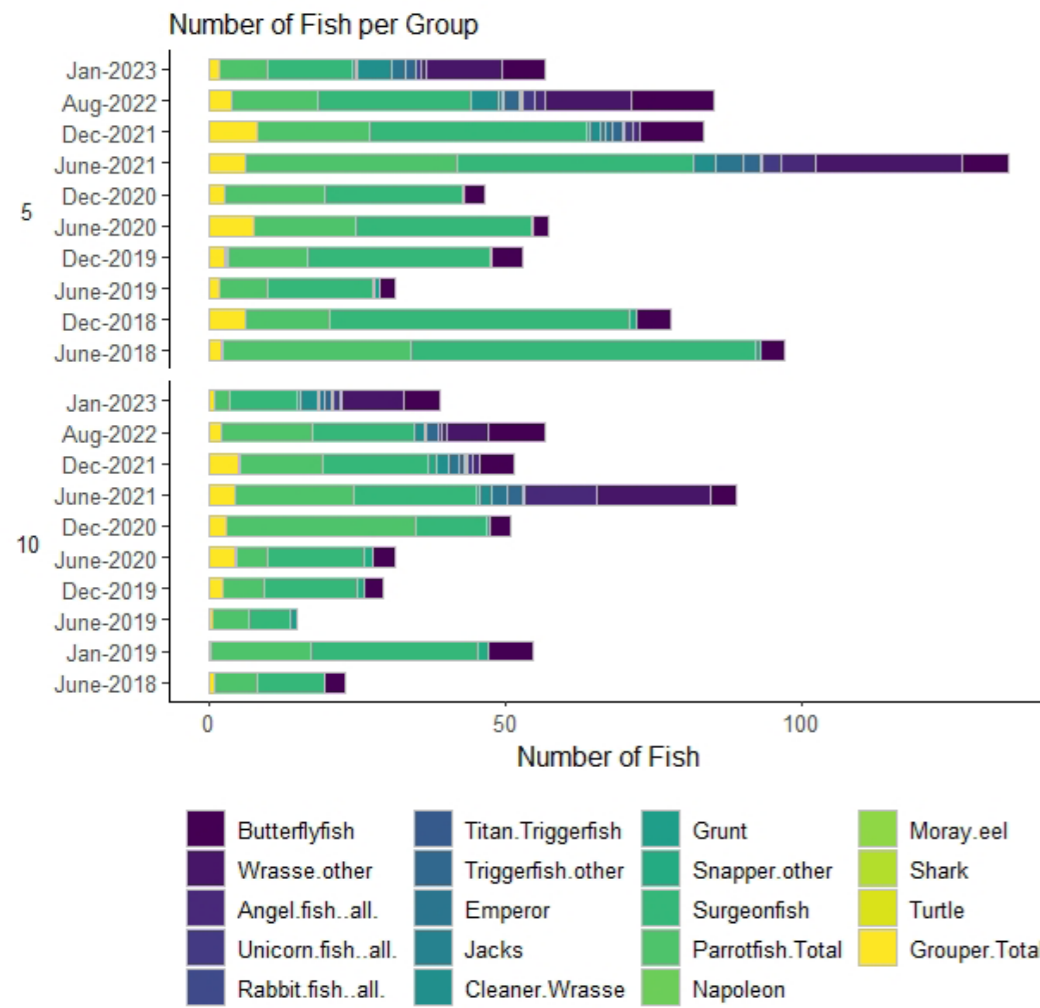
Every six months the MUI team takes part in the reef monitoring framework Climate Change Adaptation Programme (CCAP), this involves the MUI team donning their dive gear and diving a two-set transects on our beautiful house reef, one at 5m and one at 10m. By surveying the same location over multiple years it allows us to assess the temporal (over time) changes in the reef ecosystem and monitor the overall health and recovery of our reef. Assessing the recovery of coral reefs is of particular interest as it deepens our understanding of the coral communities ability to recover after bleaching events. In 1998 and 2016 there were large

bleaching events that impacted coral reefs worldwide. Some reefs around the world never recovered from this and others are recovering, such as our house reef!

CCAP surveys include monitoring fish, invertebrates and substrate to get a holistic view of ecosystem health. It specifically targets species of economic or ecological importance and is designed so that it is applicable throughout the Maldives. This allows for comparisons between different sites within the Maldives through the Maldives Marine Research Institute. Changes in the composition of the ecosystem can be used to highlight if there is an imbalance, for example seeing an increase

in algae cover and a decrease in coral cover may be indicative of decreasing herbivorous fish, this could then be investigated by looking at the results of the fish surveys.

Our substrate results suggest that the house reef has had an overall increase in the percentage of coral cover on the house in the past 5 years. This recovery was slowed by a bleaching event in 2020 after which the coral cover dropped to ~17% and has slowly been increasing up to 42.5% at 5m and 38.6% at 10m. This is a relatively rapid recovery and will be due to the increase in size of existing colonies



No major patterns seen in fish abundance and diversity, more fish species were added to the survey in 2021.

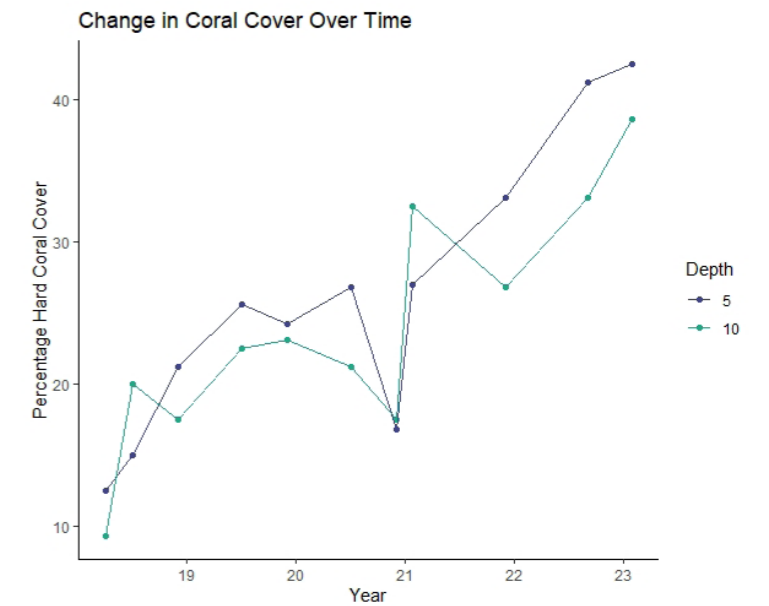


and potential recruitment of new corals. This is really encouraging and shows that our house reef is resilient and able to recover post-bleaching! To investigate this capacity for recovery, we also conduct research on the reproductive cycles and natural recruitment levels of the coral reefs around Laamu. This helps us to highlight areas of particular interest, such as areas of the reef where natural recruitment is low and would benefit from intervention.

There are no major trends in the number of fish or invertebrates observed in the past five years. In the past two years there is a slight downward trend in overall fish quantity, however as schools of fish are very dynamic in the reef, it may not be a significant change.

Unfortunately, fish can move around much more than corals which makes them harder to study! However, as the coral cover increases in 2021 & 2022, there is a slight increase in the number of corallivorous fish such as butterflyfish. Although this is just a slight trend, it makes sense, as now they have more food and

The hard coral cover at both 5m and 10m on the house reef has increased gradually since 2019, after the 2016 bleaching event killed many of the corals.



space to live in! We will continue to track the changes on our reef and ensure that we make conservation decisions based on our data.

# SEAGRASS ECOLOGY

Since 2017, Six Senses Laamu has been protecting its seagrass meadows and conducting research to understand more about these vital ecosystems and the role they play in Laamu Atoll. Having seen the amazing experiences that guests have had in the meadows and the abundance of life that they hold, in 2019 MUI launched the #ProtectMaldivesSeagrass campaign in collaboration with Blue Marine Foundation. The aim of this campaign was to encourage other resorts to stop removing seagrass for aesthetic reasons and pledge to protect their meadows. With 37 partner resorts pledging to protect their meadows and the seagrass at Six Senses Laamu flourishing, it is evidence that seagrass and tourism can coexist in beautiful harmony!

In 2022 MUI completed their 4th annual survey of the seagrass meadows in which MUI researchers collected data on the species, length, and algae cover of the meadows, alongside fish biodiversity surveys. This research was led by Athif, a visiting student from Maldives National University, who has rejoined MUI as an intern after completion of his studies to pursue his love of seagrass and other marine ecosystems.

The MUI team is working with our collaborators, Mike, Mike and Paul, in Australia to use the findings of four years of study to tell the story of how allowing

the seagrass to grow has brought benefits for both the resort, as well as the wider ecosystems around Olhuveli Island. Through the continued growth of the seagrass meadows it provides food and shelter to an abundance and diversity of fish species, some of which may move out onto the reef or into the ocean where they can support commercial fish stocks.

This essential ecosystem also has a super-power... seagrass meadows are highly effective at a process called carbon sequestration. Carbon sequestration is the process of removing carbon dioxide from the atmosphere, and seagrass is an estimated 35x more effective at this process than even a tropical rainforest! As human activities increase, the amount of carbon dioxide in the atmosphere also increases and an estimated 25% of this is absorbed by the ocean. Seagrass can then take this in during photosynthesis and use it for its growth, and due to its root structure it can then lock the carbon deep into the sediment where it can stay for thousands of years. The MUI team is working with Blue Carbon Lab in Australia to help quantify this carbon capture, and use this information in a feasibility assessment for a carbon insetting scheme. This could allow guests to offset resort activities by contributing to the protection of blue carbon habitats.



**200,591 m<sup>2</sup>**  
of protected seagrass  
meadows at Six  
Senses Laamu



**500+**  
quadrats analysed  
in the seagrass



**42.87%**  
increase in  
meadow size from  
2020 to 2022



**70+** species  
of fish and  
invertebrates found

# MANTA RAY RESEARCH

## Photo Identification

Each individual manta ray has a unique spot pattern on its belly allowing manta ray researchers to identify individuals, study population dynamics and track their movements in a non-invasive manner. Since the start of the partnership between Manta Trust and Six Senses Laamu in 2014, the team have identified 142 individual manta rays in Laamu Atoll. Across 2022, the Manta Trust team conducted 367 in-water surveys, and mantas were sighted on 192 dives or snorkels.

This year, the team is extremely excited to see that the number of confirmed manta ray sightings (meaning the team has obtained a usable photo-ID of these mantas) has significantly increased compared to the last two years. With 657 confirmed manta ray sightings - this is an increase of over 209 sightings compared to 2021 - these numbers come close to the regular high sighting numbers recorded in 2015-2018. This increase directly links to the increased survey effort of Remote Underwater Sensing and the team is incredibly happy to see that the usage of these cameras gives them the necessary information to confirm that manta rays are there, still utilizing the same areas as they have for years and years.

Of the 142 individual Laamu mantas that the team have so far identified, the team encountered 76 individual manta rays throughout the year, with the vast majority of them being well known individuals. Our most sighted individual, with 39 sightings across the year, was none other than MV-MA-2551 a.k.a. Michele - our poster star of Laamu and one of the three manta rays who even received a life sized model of himself in the SHELL. Like last year, the team identified four new mantas in their database that have never been seen anywhere else before and are new juveniles that have found a home in beautiful Laamu atoll.



**448** confirmed  
manta sightings through  
photo identification



**367** in water  
surveys conducted by  
the Manta Trust team



**25** remote  
underwater  
videography  
surveys



**397** remote  
underwater  
photography  
surveys

# MANTA RAY RESEARCH



## Remote Underwater Sensing

As research divers, there is only a certain amount of time the team can stay underwater to observe manta ray behavior and to allow continuous monitoring of Laamu's manta rays. Because of this, the Manta Trust deploy Remote Underwater Video and Photography cameras (RUVs and RUPs) at manta aggregation sites, to better understand what is happening on the reef when no divers are around. The team uses 'Eyes on the Reef' (EOTR) systems, which they program to take continuous time-lapse photographs for up to 10 days at depth, from sunrise until sunset. These cameras have allowed the team to significantly increase their survey effort and provide essential insights into manta behavior and habitat preference on cleaning stations. From 343 hours of data in 2020, to 1,974 hours of data (118,468 photographs) in 2021 to 4,130 hours (248,299 photographs) in 2022, the team is very excited about the potential new insights into manta ray behavior and ecology in the absence of divers.

A Marine Environmental Management Master's student from Exeter University in the U.K. came to Six Senses Laamu to conduct field research for his thesis on the usage of these EOTR systems on a particular cleaning station at Hiithadhoo Corner, our best studied manta ray site. He analysed data from 12 months of EOTR footage, with the aim of better understanding the environmental factors that determine manta presence or absence at the site. The data showed that manta ray presence decreased as temperatures neared threshold values of 30°C. Generally, mantas visited cleaning stations at higher rates during the first quarter of the moon phase. Often, more mantas were seen

during low tide and the highest abundance of manta rays was recorded at the beginning or turn of monsoons, suggesting that these months provide favorable cleaning and courtship conditions. Human presence did not affect manta abundance, despite consistent dives operating within the area. The specific cleaning station was visited by 57 individual manta rays throughout the year, of which 40 individuals revisited, showing that our Laamu mantas are very loyal to their favorite cleaning stations. If you are interested in learning more about this research project, the Master's thesis "Using remote cameras at cleaning stations to understand the seasonality and behavior of the reef manta rays (*Mobula alfredi*) of Laamu Atoll, Maldives" by Christopher Wenham from University of Exeter, College of Life and Environmental Sciences, is accessible online.

The team did not stop here though, since the first data analysis from EOTR deployments was such a success, the Manta Trust have started deploying a total of three EOTRs at various manta ray cleaning stations around the atoll. This will help the team to better understand which sites and cleaning stations are utilized during which season and why. The team has already obtained valuable data from these other cleaning stations. One of the deployments, which was the first ever at this site, was extremely exciting and surprised the team with the most successful deployment of the year where mantas utilized a single small cleaning station of ~3m diameter for over four hours at a time. The team is so excited to officially classify Fonadhoo Outside as a cleaning station habitat for manta rays



**1,895** manta ray sightings



**657** confirmed manta sightings through photo identification



Photo credits @ Marteyne van Well



Photo credits @ Yameen Ibrahim

### Manta Ray Reproduction

Also this year, the mystery of manta ray births continues, with not a single natural manta ray birth having ever been recorded in the wild. In Laamu, the team recorded no pregnant mantas in 2022, however witnessed 15 individuals displaying courtship behavior and observing five individual females with clear mating scars on their pectoral fins. This means that some of the Laamu mantas have definitely been mating and the team is hoping to observe some pregnancies in the upcoming months. There have also been two new juvenile mantas identified in Laamu, which both have been immediately named and adopted by two of our Junior Marine Biology students.

The team is using the world's first contactless underwater ultrasound scanner, created in collaboration with Vetsonic, IMV Imaging, Cambridge University and Six Senses Laamu. The scanner allows the researchers to receive an insight into the internal structure of manta rays and their pups, without having to touch or harm them in any way, as the saltwater acts as the medium for the scanner. In 2022, the whole MUI team took part in an ultrasound workshop with Ray Rochester, the founder of Vetsonic, who has brought this ultrasound project to the next level and Professor Marie-Aude Genain from the Department of Veterinary Medicine at University of Cambridge. The workshop gave the team a better understanding of the workings of the ultrasound scanner and started conversations about new ideas as to how to use the scanner for other projects in the future. Now the team is patiently waiting for some female mantas to become pregnant so that the study can continue to develop.



### Manta Ray Aggregation Sites and Drone Surveys

Laamu mantas are most commonly seen on cleaning stations, which are areas on the reef with a high amount of cleaner fish, such as Lyretail wrasse and the Bluestreak Cleaner wrasse. These fish act both as doctors and a spa - by feeding on the manta ray's parasites, dead skin and mucus as well as cleaning wounds of the mantas, meaning these cleaning stations are vital to the health of these gentle giants. The cleaning stations are also an occasional meeting point for mantas, where the team has observed the start of mating behavior. Cleaning stations in Laamu usually need to be surveyed on scuba due to their depth, however feeding mantas can be encountered on the water surface. By using drone technology, the Manta Trust team is able to expand their view of manta rays and their habitats in non-invasive ways, and gain a unique perspective of their behavior. In 2022, four surface feeding events were recorded just outside of the atoll and nearby Six Senses' dive sites.



**2** masters research projects completed

### Manta Ray Growth Rates

The Manta Trust team has been collecting data on the growth rate and reproduction of Laamu's manta ray population since 2018. The data is being used in a Cambridge University PhD study. It is still unknown how fast manta rays grow but the team is getting closer to the answers by using a Stereo Video Photogrammetry (SVP) system to measure the manta's wingspan. The SVP system consists of a pair of cameras mounted on a bar a set distance apart, the cameras are then calibrated to take accurate 3D measurements of the manta rays. In 2022, 24 measurements of 15 individual Laamu resident manta rays were accurately measured, adding to our understanding of Laamu mantas' growth rates over time.



**4** new mantas to Laamu, bringing the total number to 142 mantas



**24** manta rays measured

# SEA TURTLE RESEARCH



## Sea Turtle Population Research

The Olive Ridley Project studies the population of turtles using photo-ID, a non-invasive method used to identify animals and track them over time from the natural markings on the body. For sea turtles, it relies on capturing photographs of the unique scale patterns on their face. In 2022, ORP in Laamu analyzed 1219 different photo-ID encounters of turtles to learn more about their migration patterns and habitat use. Laamu continues to be the fourth largest database of turtles by atoll in the country, and the second largest database of green turtles with a whopping 290 greens recorded - most of which are adults. Laamu also boasts a large population of identified hawksbill turtles with 498 individuals recorded, but unlike the green population, the majority of hawksbills here are comprised of juveniles. Data was also analyzed from 2,057 snorkels and scuba dives totaling 1,671 hours of surveys to better understand the habitat use and distribution of turtles by species and depth, providing key insights into the behavior of these animals and the ecosystems they rely on.



**50** new green turtles identified



**64** new hawksbill turtles identified

## Ghost Gear and Entangled Turtles

Ghost gear refers to fishing gear that has been lost, abandoned or discarded at sea. Ghost gear is one of the most harmful forms of marine debris and is responsible for killing countless numbers of marine animals - including sea turtles. ORP was initially established to help rescue and rehabilitate sea turtles found entangled in ghost gear. 2022 marked the first year since the project joined where no sea turtles were found in Laamu in need of rescue from entanglement or injury. However, ORP did recover five ghost nets in Laamu. Data on the net material, mesh size, and other items entangled in it was collected from each of the nets for input into ORP's ghost net database. This database enables ORP to determine the origin of ghost nets and identify the specific net types most likely to entangle turtles, which contributes to developing target initiatives to tackle the issue of turtle entanglement in the Indian Ocean region.



**0** turtles found entangled



**5** ghost nets recovered





### Nesting Research at Six Senses Laamu


Since 2018, ORP has conducted nesting research on Olhuveli island, where Six Senses Laamu is located. Similar to recent years, no true nesting season was observed, with an apparent peak in nesting activity in June-July and sporadic nesting recorded at the start and end of the year. These findings differ to those observed in 2018 and 2019, where a loose nesting period was observed between March-August. With only five years' worth of nesting data, further research needs to be done to better define the pattern of nesting on the island.

In 2022, a total of 21 nests were laid on Olhuveli, which is a decrease from the 26 recorded the year before, but consistent with data from previous years. After recording the first cases of nesting remigration in two females last year, one of them decided to return again in 2022. After a mere 18 months, Cookie (GR941) returned to nest again. Unfortunately, the four nests she laid in 2022 showed a dramatically lower hatching success rate

than her nests from 2018 and 2021. This year also saw four nests fail due to flood damage from severe storm surges, which, coupled with the outcomes of Cookie's nests, led to a 37.5% decrease in hatching success from 2021. This highlights the increasing threat of climate-associated sea-level rise to nesting beaches and populations of turtles, not only in the Maldives, but around the world.

ORP conducts nest excavations 48 hours after a nest hatches, where they dig the nest up and collect data on the clutch size, incubation periods, number of successfully hatched eggs, number of undeveloped eggs or dead hatchlings, and external conditions (i.e. roots, flooding, predation etc.) that may have affected the nest. In 2022, the ORP team excavated 16 nests and only recorded one case of an abnormal hatchling with kyphosis (bent carapace) and supernumerary scutes (abnormal number of scutes).


 **21** nests were laid at Six Senses Laamu  
 **43,2%** hatching success for nests laid at Six Senses Laamu

 **711** hatchlings began their journey at Six Senses Laamu



The average incubation period was 62.2 days, the highest recorded since monitoring began in 2018, which coincided with the lowest air temperatures recorded in the country over the same period. ORP also began collecting temperature logger data from nests in 2022, which also exhibited higher incubation times with lower temperatures. Continued monitoring of how sand temperature influences incubation periods will be vital in understanding the impact of climate change on future turtle nests.

 **69** suspected nests and 1 false crawl recorded over 19 surveys on Gaadhoo

 **60.9%** of suspected nests recorded in Gaadhoo were poached

### Nesting at Gaadhoo Island

Gaadhoo, an uninhabited island 4.5 km east of Six Senses Laamu, has long been identified as one of the most significant green sea turtle nesting hotspots in the Maldives, and was leased to AgroNational Corporation (AgroNat) for agriculture in 2021. ORP has conducted ad-hoc surveys on Gaadhoo since 2018. With the end of COVID-19 travel restrictions, ORP were able to conduct 19 surveys in 2022,



recording 69 suspected nests and 16 false crawls. Although prohibited under Maldivian law, egg poaching unfortunately remains a prevalent issue on Gaadhoo with 60.9% of the nests surveyed this year showing signs of poaching activity. ORP are in the process of setting up a community-led Ranger and Beach Guardian program in collaboration with the government and local stakeholders to address the issue of poaching on L. Gaadhoo and around Laamu.



Guests witnessing a turtle hatching @ Miriam Staiger

# FISHERIES RESEARCH

## Grouper Spawning

In 2018, Blue Marine and Maldives Resilient Reefs (MRR), Blue Marine's local NGO, identified the peak months for grouper spawning in Hithadhoo Corner to be between September and January. In 2022, MRR and Blue Marine replicated the grouper spawning surveys conducted in 2016-17 to investigate the anecdotal reports of a decline in grouper abundance. Surveys were carried out in the months of October, November and December during the new moon period. A total of 24 dives were done at Hithadhoo Corner which is approximately 24 hours of surveys. Preliminary results show that the total grouper numbers have declined from 2016/17 estimations, however further surveys are needed to better understand trends. MRR and Blue Marine will continue these surveys in 2023 and aim to publish grouper research findings in a scientific journal by 2024.

## Seafood Sourcing

In partnership with the Ministry of Tourism and Ministry of Fisheries Marine Resources and Agriculture, MRR and Blue Marine have launched a fish and seafood sourcing survey of Maldivian tourism operators. This will continue into early 2023. The aim of the survey is to gain an understanding of how local fish and seafood are being sourced by different types of tourism operators across the country. The survey also includes a section dedicated to understanding the willingness of the tourism operators to embrace sustainable fishing practices. The outcome of this survey will inform the country-wide roll-out of the Laamaseelu Masveriyaa program and provide crucial information to inform effective policymaking by partnered government bodies.

## Understanding the impact of nitrogen on seagrass

MRR and Blue Marine have partnered with University of Edinburgh to understand the impact of nitrogen on the coral reefs and seagrass meadows of Laamu Atoll. From January to June 2022, MRR and Blue Marine worked with a PhD student to conduct nitrogen enrichment experiments on a coral reef in the atoll and the marine areas around Laamu Gan. The research was funded by the South Asian Nitrogen Hub (SANH) who are working with Blue Marine and MRR to continue further research in Laamu Atoll on nitrogen pollution in 2023.

## Napoleon wrasse research publication

In recognition of suspected declines and its importance for ecotourism, the Maldives was one of the first countries to ban the capture, sale and export of the globally threatened coral reef fish, Napoleon wrasse, in 1995. The only study to evaluate the abundance of Napoleon wrasse populations in the Maldives was conducted in Laamu Atoll in 1997, shortly after the ban. Using the megafauna data collected by MUI and Deep Blue Divers, and technical support from Napoleon wrasse expert, Professor Yvonne Sadovy, MRR, Blue Marine, and Six Senses Laamu collaborated on a research publication to document the status of Laamu Atoll's Napoleon wrasse population after almost three decades of protection. The research was published in the *Endangered Species Research*, a peer reviewed scientific journal, as an open access article ([see here](#)). The study found that Napoleon wrasse population densities in the atoll are within the range of what can be considered an undisturbed population, channel reef habitats are particularly important for this species as important megafauna and the need for management to conserve both species and channel habitats. It also highlighted the value of non-specialist observers for conducting labour-intensive surveys on large, wide-ranging species.

 24 hours of dive surveys

 851 groupers observed

# PROGRAM REFORM

# LAAMASEELU

# MASVERIYAA



In 2022, MRR's "Laamaseelu Masveriyaa" (sustainable reef fishery program) went through some major changes. The Blue Marine and MRR staff collect data from the fish landings, including the species of reef fish, their total length, catch location along with the fishing effort. With two years' worth of valuable data from the fish landings, an analysis of the Laamaseelu Masveriyaa program was done by utilizing both quantitative and qualitative survey methods to assess the extent to which the program had achieved its goals over the past two years. The program was found to be successful in preventing the purchase of nationally protected parrotfish and Napoleon wrasse, as well as the biologically vulnerable families of grouper and blue marlin. However, findings identified a major breakdown in the traceability and transparency of fish sourced. This led to significant revisions in the program, combined with training of involved parties, highlighting the benefit of the adaptive management framework of the program in achieving improved sustainability going forward.

Since the program reform, the key improvements reported were 9% of fish that landed through the program were biologically immature, compared to 41% in the first two years. Species identification improved in the second half of the year with all fish landed identified to species level enabling more accurate analysis of landing trends.

The fish landings data sheets have been re-structured so that it is easier for fishers to report their landing. Additionally, species identification trainings were conducted with both fishers and relevant resort staff. The introduction of the premium bonus scheme also proved effective at increasing the completion rate of landing sheets. Fishers are only able to receive a sustainability point if they complete all criteria on the landing sheets (i.e., catch location, species identification, gear used and size). Furthermore, fisher meetings were increased from bi-annual to

a quarterly basis, with these two extra meetings ensuring that the program remains flexible and aligned to feedback from fishers.

As of June 2022, the fish purchasing price was increased from MVR 35/Kg to MVR 39/Kg with an extra MVR 6/Kg monthly bonus available for fishers who achieve a threshold of 15 or more sustainability points. To ensure supply to the resort was met, recruitment of 15 new local fishers into the program occurred in September 2022. The pool of local fishers involved in the program is now 26, which is the highest in the Laamaseelu Masveriyaa program history. To streamline data collection and analysis with the help of all relevant departments, data metrics are amalgamated into one platform. Using this new data collection method Blue Marine and MRR have now created a one-page reporting document which is shared with the relevant resort staff on a monthly basis. The report highlights both the successes of the program and areas for further improvement.

Analysis of Laamaseelu Masveriyaa landings across the year indicate that the program changes had been successful in improving its efficacy.

Report findings indicated a need to develop a fisher educational program to ensure fishers understand the biological principles behind sustainable fishing practices. Over the past six months, MRR and Blue Marine have been developing the 'MasMahaVeshi' portal ([see here](#)) The educational program has been expanded in scope to not only target Laamaseelu Masveriyaa program fishers, but all Maldivians. Furthermore, one of the largest impediments to the success of the Laamaseelu Masveriyaa program was the lack of sufficient host capacity and understanding of the importance of the program. To address this, MRR and Blue Marine team conducted multiple education sessions with resort staff critical in the Laamaseelu Masveriyaa processes. This included a presentation of report findings to resort management, two specific all-host training sessions, and the sourcing of fish identification guides to assist staff in program operations.



**26** fishers  
currently registered  
in the program



**2** reports on program  
progress complete



**4** fisher meetings  
conducted

### MPA surveys

Following on from baseline ecological surveys conducted in 2019, the MUI team, revisited all previously surveyed sites and an additional nine sites, to quantify changes in fish and benthic health over time. The team worked with two masters' students from the University of Exeter. Analysis of 28 reefs around Laamu Atoll showed that hard coral cover has increased from 17.1% in 2019 to 26.9% in 2022. The most interesting trend was that hard coral recovery was the greatest on reefs which had lower coral cover in 2019. In particular, Maavah Inside and Olhuveli Reef indicated a coral cover increase of over 400% and 200% respectively since 2019. Hard coral cover increases were matched by increasing abundance of butterflyfish (which are corallivores, therefore highly dependent on healthy reefs) at Maavah Inside. An increase in non-coral groups could also have implications on the ecological functioning of Laamu's coral reef going forward. Further temporal monitoring of all study sites is planned annually and will enable us to gain an understanding of long-term coral reef ecological trends and responses to climate change. The full report is available [here](#).

The surveys also found that commercially important fish abundance had increased at Hithadhoo Corner and Maavah Inside. Increases were driven by parrotfish and snapper species. However, species richness of fish assemblages generally declined between 2019 and 2022, with Olhuveli Reef indicating a decline of between 46%-50%. Fish biomass of ecologically important species was greatest on Laamu's southern reefs (i.e., Laamufaruhaa), yet commercial species biomass was greatest at high energy sites such as Maavah, Fushi Kandu, and Fonadhoo Outside

 **28** reefs surveyed



Photo credits (MUI in action) @ Afaaz Zahid



Photo credit (Transect tape rolled out by a survey diver during MPA reef surveys) @ Afaaz Zahid

# OUR EDUCATION



# OUR GUESTS

## MUI's Activities at Six Senses Laamu

When it comes to conservation; research, education and community outreach are not separate things but are inextricably intertwined. That is why MUI provides an insight into all three of these concepts through the activities we host at Six Senses Laamu. Our hope is, that as a consequence of the interaction we have with guests here in Laamu, they will head home with more passion and knowledge about our blue planet, and why and how we can protect it. Activities we host for guests include daily guided snorkels on our house reef, reefs around the atoll and our seagrass meadows, the junior marine biology program, sustainability camp, daily evening talks, kids club activities, reef cleans and the opportunity to meet a marine biologist in an informal Q&A. A member of the MUI team also joins on all dolphin cruises and most dives to sites where manta rays are often sighted to add an educational component to the guest experience and conduct research.

## Under The Sea Cocktail Party at the SHELL

MUI's annual Under The Sea themed cocktail party got to be the very first event hosted in the newly built SHELL, The Sea Hub of Environmental Learning in Laamu. Although the grand opening is in 2023, the team were lucky enough to host the exciting and inspiring cocktail party within the SHELL soon after its soft opening on December 22. Activities included some classics that have been loved in previous years such as tilt-a-turtle table and pin the tail on the manta, but with the new facilities in the SHELL the MUI team could expand and create new and exciting games for guests during the evening, the Manta Trust ran a competition to find certain information around the SHELL and return to their table to answer questions. During the evening guests could explore the new facilities including the Interactive room which houses three activities, allowing children and adults to have some fun and interact with the marine world while learning about it and staying dry.



**989** guests learnt about responsible diving

## Special Guest Presentations

In May, Cape Verde's Project Biodiversity's Albert Taxonera visited Six Senses and conducted presentations on the use of drones to deter poaching of nesting turtles. ORP's lead veterinarian, Claire Petros, also visited and gave a presentation about her experience being a turtle vet in the Maldives and running the country's first turtle clinic and rescue center. Guests also got treated to a special presentation by Chloe King, Holly East, Lucy Carruthers, Oliver Burdekin and Matthew Drysdale. Each sharing their expert knowledge with the guests.

## NGO Guest Education and Awareness

Manta Trust, Blue Marine and Olive Ridley Project used every opportunity to educate guests and hosts at Six Senses Laamu through weekly guest presentations, snorkels, dives and dolphin excursions. Each week, all the partner NGO's present their projects and the importance of their work to the guests during their evening presentation. Each NGO also had a chance to engage guests each week in our Meet A Marine Biologist hours which are an informal opportunity to interact with guests at ICE, the ice cream parlor at the resort.



**3,554** guests joined MUI for a house reef snorkel



**1975** guests listened to MUI's presentations



**543** guests witnessed turtle hatchings or nest excavations



Photo credits guests joining a seagrass snorkel with the MUI team @ Leanna Crowley



Photo credits (guests and hosts celebrating Earth Day) @ Leanna Crowley

## Assessing guest recreational fishing

Across the Maldives, many tourism operators conduct sunrise and sunset recreational fishing trips targeting both oceanic (i.e., billfish, tuna) and reef fish (i.e., snappers, emperors). However, with the lack of available data, there is little to no understanding of the impact of these fisheries on the marine environment, making the development of effective fisheries management impossible. Since commencing surveys of Six Senses Laamu recreational fishing trips in January 2022, 106 trips have been surveyed, where 437 fish have been caught. The MRR and Blue Marine team tried to join as many guest fishing trips as possible and collected valuable data and information on the fish population within Laamu Atoll. Data collection has allowed the MRR and Blue Marine to document Six Senses Laamu's recreational fishing trip landings, as well as begin to pick out meaningful trends which can inform effective fisheries management.

MRR and Blue Marine will be using this data to develop a code of conduct in 2023 which will have relevance for Six Senses Laamu, as well, as all resort recreational fishing activity conducted across the country. A scientific report of findings will be written in early 2023. MRR and Blue Marine team have also commenced a citizen science initiative titled the 'Guest Fishing Observer' program which has already directly engaged 62 guests in fisheries sustainability. This program gets guests involved in making their trip more sustainable and encouraging marine stewardship, as well as providing an opportunity for guests to learn more about MRR and Blue Marine and sustainable fishing.



**62** guests participated



**106** trips surveyed



**106** fish measured

# JUNIOR MARINE BIOLOGY

MUI's Junior Marine Biology program is all about getting children involved and immersed in the underwater world and the study of it. Ever since its beginning in 2019, the program has been inspiring children to care for, study and generally be passionate about our beautiful blue planet. Each year with developments and progress, the program built on the previous years lessons. Now in 2022, not only did this year have a record of 100 new passionate young wildlife enthusiasts join the Junior Marine Biology program, but we also had 13 students come back to join the Junior Marine Biology program for a second, or even a third time! Junior Marine Biology continues to be a very popular program for children that come to the resort and has without doubt influenced many children to talk about conservation more and take action to protect our oceans.

 **113** JMB sessions in 2022

 **130** students enrol in 2022

 **260** hours of education provided



# LAAMU STORY

One of our most committed Junior Marine Biologists in 2022 was Julia. Not only did Julia get to join the team on two separate visits to Laamu, but when Julia was on island everything revolved around Junior Marine Biology and the MUI team. Julia's passion and excitement over anything Marine Biology was infectious and often captured the hearts of other students during JMB, creating an atmosphere of excitement, passion and kindness. We look forward to welcoming Julia back in 2023, and we are sure, it won't be too long before we welcome her back into the team, but with a full time contract! Well done Julia and keep up the hard work!



# OUR HOSTS



Photo credits @ Lora Hoore  
45 MALDIVES UNDERWATER INITIATIVE

## Mission Wellness

Each year many hosts participate in activities as part of Six Senses mission wellness program and in 2022. Many of these activities are hosted by the MUI team. There were 2,705 moments of education with hosts on different activities with the MUI team. From different types of snorkels, fishing trips to dolphin cruises, each had an educational component, while everyone shared a laugh on each of the activities as well. On the snorkels, hosts enjoyed unique experiences seeing turtles and learned the importance of seagrass and how to be a responsible snorkeler. On the dolphin cruise, hosts were lucky to see some active spinner dolphins. Athif, one of the MUI interns, explained the different types of dolphins seen in Laamu Atoll and the importance of the Code of Conduct. Hosts also joined on clean-ups on local islands, collecting approximately 990 kg of trash as a way of spreading awareness of climate change. Many hosts also participate in nest watch with the MUI team, for which they were trained by our Turtle Biologist from the Olive Ridley Project. The host fishing trip is led by the Blue Marine Foundation to ensure that hosts understand the principles of sustainable fishing, knowing the species to avoid and also the size limits that should be adhered to when catching each fish, raising awareness for sustainable fishing practices. 2022 has been a good year for host education and for spreading awareness!

## World Sea Turtle Day

To celebrate World Sea Turtle Day, ORP organized a special snorkel boat to Laama Faru Haa, one of our turtle hot spots. The 15 host snorkelers that joined, were given a crash course on sea turtle biology, swimming with turtles code of conduct, and how we study turtle populations with photo-ID.



Photo credits @ Alea Lairdlaw



## Laisha

Coming from the local island of Kunahandhoo, Laisha grew up in the beautiful Laamu Atoll. Her interest in sustainable tourism was first sparked when she participated in 'Hello Hallu' the marine education program by MUI in 2018. Laisha also participated in Laamafaru festivals when in school and visited Six Senses Laamu to learn more about its sustainable practices.

With her strong passion and enthusiasm, Laisha joined us as an Earth Lab intern in 2022. Using the opportunity as her first step into the field of sustainable tourism, she learned as much as she could. Laisha has now been promoted to a permanent position at the Earth Lab as sustainability coordinator.

In her new role, she continues to enhance the operations of the Earth Lab. Laisha hosts tours and workshops for both guests and hosts and other tasks such as soap, paper, and coconut oil making.

Laisha believes we must learn more about our planet to know how to use its resources sustainably. She wants to inspire the community and bring them together to work towards preserving the planet for generations to come.





# OUR COMMUNITY

# EKU

# EKY

The foundation of the Eku Eky program is "Together Everyone Achieves More (TEAM)." The program encompasses Six Senses Laamu's community outreach initiatives focused on the wider Laamu atoll, enabling participatory planning of projects with valuable feedback and input from the community leaders. The Eku Eky program, meaning 'together' in Dhivehi, was launched in 2016 and aims to unite community leaders from all 11 inhabited islands in Laamu Atoll. Representatives from island councils, women development committees, schools, other education institutes, active non-profit organizations (NGOs), police, and the Maldives Defense Force attend the meeting, representing the voices of Laamu's 19,000 residents. Eku Eky's primary objective is to assist community leaders in taking ownership of sustainable development projects and align efforts across the atoll. This is facilitated by providing access to financial support through Six Senses Laamu's sustainability fund and offering assistance in community-led initiatives to strengthen marine conservation and build climate-resilient islands. The Eku Eky meeting provides a forum for discussion and sharing plans for sustainable development projects that Laamu Atoll wishes to achieve together.

 **68** members of the community participated in Eku Eky meetings

The first Eku Eky meeting of 2022 was held on May 11 in Fonadhoo, the administrative capital of Laamu Atoll and 35 attendees from all 11 inhabited islands participated. The agenda included discussions on, ongoing sustainability fund projects, updates from Six Senses Laamu's partner NGOs, and plans for the annual 'Laamafaru festival.' The meeting ended successfully with an educational tour of the Gan mangroves, locally known as 'Boda Fengada,' a recently designated protected area in Laamu.

In August, the resort was delighted to invite local stakeholders for the next Eku Eky forum. The meeting was attended by 33 members representing 33 Laamu community organizations. A series of presentations, followed by discussions covering all areas of work carried out by the team were presented, providing a crucial opportunity to gain community feedback on MUI and Six Senses Laamu's projects and helping identify ways to work together. In the afternoon, the meeting attendees joined a sustainability tour at the resort with Six Senses Laamu's Sustainability and Community Outreach Manager, including lemongrass soap making, recycled paper making, and the organic garden tour.

 **19,000** Laamu residents represented

 **2** Eku Eky meetings held



# SUSTAINABILITY FUND

## The Sustainability Fund Proposal

The Sustainability fund of Six Senses Laamu offers micro-grants to community groups in Laamu to lead projects that benefit the local communities. The sustainability fund covers projects that focus on marine conservation, waste management, single-use plastic reduction, health care and sanitation improvement, education aid, and sustainable community development. In 2022, 18 proposals were submitted by different community groups to address specific issues in their respective island communities. Eleven proposals were approved and nine projects were completed successfully in the year 2022.

## Single-Use Plastic (SUP) Free Fonadhoo

The Laamu Fonadhoo Women Development Committee (WDC) launched a project funded by Six Senses Laamu, under the sustainability fund, to eradicate single-use plastic shopping bags in Laamu's administrative capital, Fonadhoo. The project involved distributing locally made cloth bags to each household in Fonadhoo and carrying out door-to-door educational visits.

## Installation of waste bins in Hithadhoo island

In early 2022, a collaboration between Six Senses Laamu and Hithadhoo Fenaka Corporation Limited, a utility company that provides electricity, water, and sewage services, along with the Hithadhoo Island Council, resulted in the installation of 28 waste bins in communal areas, including the nationally protected Hithadhoo mangrove area.

## I-STAT blood analyzer donation to Hithadhoo Health Center

Six Senses Laamu has donated an I-STAT machine and cartridges to the Hithadhoo health center, which also serves the islands of Maamendhoo, and Kunahandhoo. This donation has greatly improved medical care for the 3,465 residents of these islands



## Solar light installation in Fonadhoo Waste Management Facility

In September 2022, Six Senses Laamu collaborated with Fonadhoo Women Enhancement, a local NGO, to install seven solar lights in the vicinity of Waste Management center, which enables the residents of Fonadhoo to utilize the waste management center for extended periods efficiently.

## Reading Corners in Maamendhoo School

In March, Six Senses Laamu granted funding to enhance students learning experience by transforming classrooms into an exciting creative spaces where students have access to informative books and fun reading materials. This Initiative was aimed at encouraging students to read more to and help improve their reading and writing skills.

## Educational Wall murals in Dhanbidhoo School

In August 2022, Six Senses Laamu signed a Memorandum of Understanding (MOU) with Isdhoo Council and Bahaaru Private Limited to donate seven water filters to the community of Isdhoo, the northernmost island in Laamu. These seven water filters are installed in Isdhoo Preschool, the Council office, Isdhoo Health Center, the Isdhoo Road Development Corporation office, and three mosques. As a direct result of this donation, 1398 people in Isdhoo now benefit from having easy access to clean drinking water at community institutes and offices. This is part of Six Senses Laamu's plastic-free Laamu project, which aims to provide clean drinking water and reduce single-use plastics in the community. Since 2018, 104 filters have been donated to the community, funded by the Six Senses Laamu's sustainability fund. As a result, a significant number of single-use plastics have been eliminated, and a vast portion of Laamu's community has easy access to clean drinking water. clean the beaches and roads of Gan Island.



# LAAMAFARU FESTIVAL

The Laamafaru Festival has returned to Laamu, showcasing the vibrant coral reefs of the Maldives. This annual marine conservation theme festival aims to ignite passion and love for the ocean and empower the next generation of marine stewards across Laamu Atoll.

The first-ever festival in Laamu was celebrated in 2016 in Maavah. Since then, the festival has transformed and taken different forms to keep the momentum of marine conservation efforts moving forward across the atoll.

Following the success and learnings of the 2021 festival, the focus of the Laamafaru Festival 2022 was to reach more students and further add and develop the activities to be engaging, fun, and hands-on interactive for the participants. With the input and support from all participating schools, the MUI team developed an activity guide to help schools and festival organizers celebrate the festival and achieve the festival's key learning objectives. Activities were designed for different age groups to align with the Maldives' education system. The opening ceremony started the festivities, filled with inspiring keystones, speeches, dance performances, and skits. The festivities that took place during the festival day included turtle posters, marine creature origami, MPA debates, sand sculpture making, coastal clean-up, hatchling run game, information exhibits, Maldivian cultural crafts, swim race, and marine creature parade.

Over the course of three days in December, the Laamafaru Festival 2022 was celebrated in eight different schools across five islands in Laamu, reaching about 70% of the student population. Once again, the teachers, parents, community stakeholders, and students have come together to pledge to preserve and raise awareness for their environment, a testament to the community's commitment and a reason for hope.

 **8** schools participated  
across 5 islands

 **1,835** students  
participated



## MasMahaaVeshi educational portal

Through their reef fisheries research in Laamu Atoll over the past six years, MRR and Blue Marine identified several extremely concerning trends in the status and practices of the local fisheries of Laamu Atoll. To combat this, MRR and Blue Marine are developing an online education platform, titled "MasMahaaVeshi" (translated as Fish, Marine Life and their Habitats) with the objective of educating fishers, and the general public, on marine environments and fishing. The content for the platform, spread through an initial five modules, has been finalized and is being developed. These five modules are: 1) Our precious reefs (Maldives Marine Environments), 2) The secret lives of reef fish (Reef Fish Biology), 3) Fish with care (Sustainable Fisheries), 4) Conservation in action (Fisheries Management) and the specialist module 5) Laamaseelu Masveriyaa program (Sustainable Fishers program). The latter is specifically tailored and mandatory for fishers enrolled in the Laamaseelu Masveriyaa program. It follows a similar style and theme to the successful #FishForTomorrow website. Each module contains a 1-minute video, infographics and ten quiz questions to ensure users understand the concepts covered. The users are required to answer all quiz questions correctly to pass the module. This will help ensure that users are able to understand the concepts explained in each module.

The platform will be hosted on the new MRR website, currently being developed, and is on course to be completed in 2023. The education platform will be used in MRR's outreach activities in Laamu and throughout the Maldives. The website is being developed in a way that additional modules can be added in the future. Blue Marine and MRR have secured funding to develop content for an additional two modules – a general climate change module and a nitrogen pollution module.

## Safety at sea package

"Safety at sea" packages were given to selected dedicated fishers from the Laamaseelu Masveriyaa program. This is not only to incentivize but to celebrate the dedicated fishers. The "safety at sea" packages enable fishers to remain safe when fishing for the resort. The package includes a first aid kit, safety buoy, life jacket, dry bag, snorkel set and a torch in case of emergency while fishing at night.



## Snorkeling camps for Laamu schools

MRR and Blue Marine continued their snorkeling programs for Laamu Atoll schools in 2022 with support from the MUI team. Three snorkeling camps were conducted for students, parents and teachers from five schools on Gan, Fonadhoo, Kunahandhoo and Maavah islands. This included a total of 66 students and 40 adults (parents and teachers). The participants were provided with snorkeling and ocean safety skills before they were taken on a guided snorkeling tour of their backyard reefs. For many students, teachers and parents, this was their first-time snorkeling on a reef. This was an opportunity for students to learn how to use the snorkeling gear provided by the Manta Trust in 2019 and 2020.



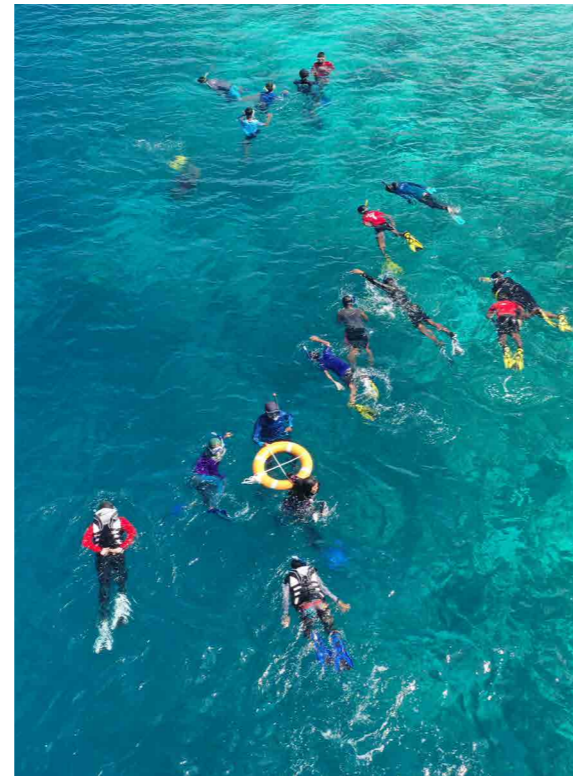
# GIVING FOR GOOD

All InterContinental Hotels Group (IHG) properties celebrate September as a special month dedicated to giving back. Thousands of IHG colleagues worldwide work together, in acts, big and small, to make a positive difference in their local communities. With hotels in over 100 countries, IHG recognizes the opportunity to impact the lives of millions of people through its global reach. The company's Giving for Good month aligns with its goal of improving the lives of 30 million individuals as part of the 'journey of tomorrow' initiative.

In 2022, Six Senses Laamu joined this worldwide movement and dedicated the entire month of September to Giving for Good. Through collaboration with nine local organizations, Six Senses Laamu celebrated the month in the community. The activities organized were a great success, with 50 resort hosts and 239 community members participating. Approximately 990 kg of trash from beaches and coastal ecosystems were collected, and 126 donated items from guests were distributed to three neighboring schools.

In addition, we provided snorkeling lessons to 53 students and 13 teachers, while 34 students visited Six Senses Laamu for an educational trip to learn about responsible and sustainable operations. We conducted a total of 11 hours of education and awareness-raising.

In November 2022, Six Senses Laamu was awarded the Giving for Good award in recognition of its efforts to support local communities through various initiatives. The Giving for Good award is part of IHG's commitment to corporate social responsibility. It recognizes hotels that have gone above and beyond to positively impact their local communities. The award recognizes efforts to support local communities, protect the environment, and promote sustainability.



## Boat Snorkel Adventure

Six Senses Laamu focuses on inspiring and empowering the next generation of marine stewards in Laamu Atoll through its various community initiatives. In September, the team took 18 students, aged 7 to 9 years, from Maamendhoo School on a boat snorkel adventure to Laama Faru Haa, a remote reef in the middle of Laamu Atoll known for its rich biodiversity among divers, snorkelers, and fishers. As a part of the snorkel session, students were briefed on responsible snorkeling guidelines, the importance of coral reefs for the country, the threats impacting coral reefs, and how the students take action to protect coral reef ecosystems in the Maldives. When it was time to get into the water, the excitement on the boat was palpable. For many, it was their first boat snorkeling experience. Snorkeling with several megafaunas, such as the critically endangered Hawksbill turtle and near-threatened Blacktip reef sharks, was the experience's highlight for most students.

Maamendhoo snorkel: photo credits @ Leanna Crowley  
Giving for Good @ Alea Laidlaw

## Mangrove Clean-up

To kick off Giving for Good month, 15 Six Senses Laamu hosts and 13 community members cleared approximately 80 kg of waste from the ecologically significant Hithadhoo mangrove, one of the six protected areas in Laamu Atoll. The community's participation and commitment to preserving their natural environment were truly inspirational.

## Guest Donation Distribution

At Six Senses Laamu, guests are encouraged to donate items of their choice to local schools to support the effort to make Laamu plastic-free. In the second Giving for Good activity, a team of 10 hosts visited three nearby schools in Hithadhoo, Maamendhoo, and Kunahandhoo to distribute 126 donated items gathered over the past three months. The team was pleased to provide snorkel sets, reusable bags, reusable bottles, and stationery donated by the guests to the students. A big thank you goes to the guests who generously donated these items during their stay at Six Senses Laamu.

## School Field Trip

Six Senses Laamu hosted the first resort field trip for 35 students and four teachers from Mohamed Jamaluddin School in Fuvahmulah island, Gnaviyani atoll, the nearest atoll to the equator and the first atoll in the Southern Hemisphere of the Maldives. With tourism studies integrated into the school system and curriculum, Six Senses Laamu offers field trips for students to immerse and get first-hand experience in resort operations. The school field trips focus on helping participants discover the world of opportunities that awaits them in the tourism industry and show them how tourism can be sustainable and responsible.

## Island Clean-up and Climate Change Awareness

As a part of the Giving for Good month activity, an island-wide clean-up and climate action awareness session was successfully conducted in Kunhandhoo. A total of 30 community members joined nine Six Senses Laamu hosts for the clean-up, intercepting roughly 176 kg of trash from the island's coasts, which is reported to undergo seasonal erosion, flooding, and storm surges during south-west (rainy) monsoon. The clean-up was paired with a Climate Action Awareness session. Laisha, our Earth Lab I

intern from Kunahandhoo, shared what climate change means for small island communities like Kunahandhoo and insights into climate action and adaptation activities that are locally relevant to build climate-resilient communities.

Hithadhoo Mangrove clean-up and Kunahandhoo School visit: photo credits @ Alea Laidlaw





# SCHOOL VISITS

## School Visits

Six Senses Laamu organized educational field trips for students studying Travel & Tourism from five neighboring schools to come and experience the resort first-hand. The primary goal was to provide students insights into the tourism industry as a possible profession, while educating them about eco-friendly practices, conservation, sustainability, and responsible tourism.

Maldives is ranked as one of the top travel destinations in the world. Since the start of tourism in the Maldives in 1972, the industry has grown exponentially. The idyllic islands of the Maldives draw millions of visitors annually. Tourism is the main industry in the Maldives, directly contributing over 21% to the country's Gross Domestic Product and around 60% of foreign exchange. Over 27,000 Maldivians work in this ever-expanding industry. There are opportunities and career prospects in the tourism industry for locals and a need for recruitment from the neighboring islands to ensure tourism operation benefits the local communities by reducing the unemployment rate and aiding economic growth in rural island communities.

123 students, teachers, and parents participated in the program, learning from various team members from different departments during the visits. The team completed 31 hours of teaching and knowledge sharing,

encapsulating how different departments work cohesively to provide guests an #OutOfOrdinary experience, in addition to sustainability and conservation practices of Six Senses Laamu.



 **5** schools visited the resort

 **123** students participated in the school visits



Phot credits (Maavah School visit) @Alea Laidlaw, and (Isdthoo School visit) @Ali Shareef



### World Manta Day

This year, World Manta Day turned into a whole manta celebration week, in which the team hosted several events for guests, hosts and the local community to celebrate manta rays and to raise awareness of the threats that these gentle giants face. From manta themed pancakes at breakfast, a managers cocktail party with a life-sized sand manta and manta naming competitions, to a celebratory manta ray dive trip to the local manta cleaning stations and a special manta ray presentation in the evening - guests and hosts learned so much about manta rays in Laamu Atoll. The MUI team also visited the local island of Maabaidhoo and organized an island clean-up and snorkel sessions, as well as manta themed games, VR headset experiences and presentations.

The day started with an island-wide clean-up joined by the Island Council and Women Development Committee, the school, and various other stakeholders. The focus area of the clean-up was a recent nationally protected wetland called Maabaidhoo Kaoru, an open mangrove well known for its lush scenic beauty and a wide array of fauna sighted around the area. With the combined effort of 12 hosts and 70 community members representing different organizations, an estimated 734 kg of waste was collected and sent to the island management center for proper segregation and disposal.

Following the successful clean-up, our partner NGO, Manta Trust, held an educational session on Manta Rays for the clean-up event participants. After the morning cleaning up and enjoying the Manta Ray activities in the tropical sun, it was time to cool off with some snorkeling. Using the snorkeling gear generously donated by our partners by Blue You and Manta Trust, our team took 35 students on a snorkeling session to explore the vivid coral reef and lush seagrass meadows of Maabaidhoo. Participants were delighted to encounter various marine life, including critically endangered hawksbill turtles, species of rays, and other marine creatures. For many younger participants, it was their first time snorkeling and discovering what lay beneath the surface. All the participants left with gratitude, big smiles, and an eagerness for the MUI team to return soon for a second session.

Overall, the day was a great success, with a huge number of guests, staff and community members engaging in the educational activities and developing a passion for mantas. The team is excited for this to be celebrated again next year and would like to express their gratitude to everyone involved in making this day so successful and fun!



## LAAMU STORY

PADI Women's Dive Day is celebrated globally on the third Saturday of July, this day brings together female divers from all over the world as one voice, supporting marine conservation, diversity and inclusion. This year's focus was on supporting "local action for global impact". Our Deep Blue Divers and MUI hosts could not be missing from the event, and they set out for a morning dive in Thingandu Faru to celebrate and make bubbles of change towards protected and healthy oceans.

In the afternoon, women from the surrounding local islands of the atoll joined Adam, our Sustainability & Community Outreach Manager, for a sustainability tour, to learn more about the conservation initiatives and practices on the island, such as waste management, organic garden practices and energy conservation, the Earth Lab and also about the current marine conservation projects. We were very excited to welcome a total of 19 ladies from the local community including members of the Women Development Committee (WDC) of

several islands, Fathimath Ali, WDC Gan President, local council administratives, school students and teachers from Ihadhoo, Fonadhoo, Mukurimagu, Maavah, Maamendhoo and Maabaidhoo, among others. The resort organized a "Discover Scuba Dive" session, an introductory dive for everyone on our house reef, for most their first ever dive. We hope that this is the beginning of a new adventure, of discovery and conservation, for everyone involved and that we see Laamu's dive community grow.

Marteyne van Well, Regional General Manager says: "We are very excited to host PADI Women's Dive Day in Six Senses Laamu again. This year we aim to expand the opportunity within Laamu Atoll for both teenagers and adult women to try diving, build their confidence and form the new generation of marine conservation champions. As the ocean is a diverse ecosystem, so is the global diving community, which is striving to protect it. By coming together, we can join forces to protect our ocean resources and shape a promising future for marine life!"



# LEARNING FROM THE COMMUNITY

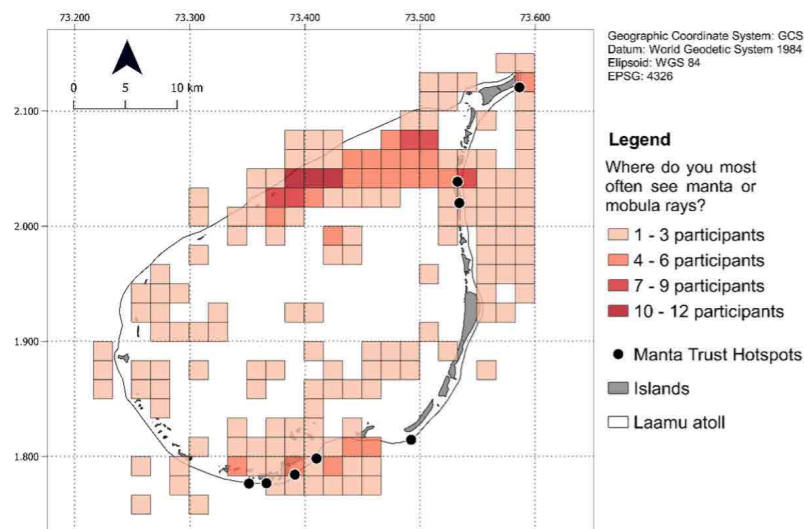
## Local Ecological Knowledge Surveys

In 2022, the first Local Ecological Knowledge survey focused on manta rays in Laamu Atoll was launched by the Manta Trust team. The project aimed to explore whether the ecological knowledge obtained through interviews with local fishermen can be useful information for implementing manta ray conservation management in Laamu atoll and whether this could be replicated on a national scale. A Marine Environmental Management Master's student from Exeter University in the U.K. came to visit Laamu Atoll in 2022 to conduct these interviews as part of her thesis research together with Laamu's Manta Trust Assistant Project Manager.

Between April 2022 and May 2022 they visited all 11 inhabited islands of Laamu Atoll to obtain local knowledge about manta rays from the community. During the study, the team was able to hold 12 manta conservation workshops and presentations with 69 people from the community, including the local island councils, and conduct face-to-face interviews with 140 fishermen. The answers from the fishermen's interviews were used to map the distribution of manta

rays in Laamu Atoll according to the fishermen's sightings, to identify potential human threats these animals face and understand local attitudes towards conservation.

The obtained data was incredibly exciting and useful to the Manta Trust team, having found evidence for potential new research sites not previously considered as manta ray hot spots. Overall, the team were very happy with the results of the survey, which highlighted the positive attitudes towards manta ray conservation work and sustainable tourism. The findings help the team to better understand the local ecology and attitudes towards conservation strategies and to identify other possible manta ray aggregations previously unstudied. If you are interested in learning more about this research project, the Master's thesis "The Use of Fishers' Local Ecological Knowledge (LEK) in Mobulid Conservation, Maldives" was published later in the year by Hannah Cocks from University of Exeter, College of Life and Environmental Sciences and is accessible online.



# LAAMU STORY

Saud, hailing from the nearby Laamu Maamendhoo island, is one of the longest-serving members of the Laamaseelu Masveriyaa Programme. Although from the north of Maldives, ever since Saud moved to Laamu atoll he fell in love with the atolls extraordinary environment, its people and culture. He has been fishing since the age of twelve and has become proficient in various fishing techniques such as trolling and handlining, enabling him to catch a variety of reef fish, including emperors, snappers, job-fish, wahoo, and barracuda. The resort can always rely on him to provide freshly caught fish, and he is also skilled in collecting coconuts and tapping toddy. Together with his wife, he spends most of his time making fish products at their island home by the beach.

During 2022 Saud was one of the star fishermen Landing the most number of fish. Moreover, Saud earned the premium fisher bonus awarded by Six senses Laamu for the fishers adhering to the sustainable fishing standards. When asked about the importance of sustainability in fishing, Saud said: "I have seen the decline in reef health over the years and I am confident that the sustainable practices will foster recovery, but only if everyone works together!.





Turtle Nest  
Please Be Careful

# OUR VOICE



# SOCIAL MEDIA

## MUI sharing stories

The MUI team are very excited to see growth on social media channels in terms of following, engagement and impressions. It seems that fans love to meet new team members on social media and the team love to say "hello" back! In 2022, April and July were the most "social" months, with a large

increase in impressions, following and engagement on both Facebook and Instagram. As we continue to share news from the team, our reefs and our research, we would like to thank all our followers for their support and can't wait to hear from you if you have any questions or would like to learn more about what we do!





































 **14,015** followers

 facebook.com/  
MaldivesUnderwaterInitiative

 @maldivesunderwaterinitiative

 **1,131,931** impressions

 **130,520** video views

<p>  MUI by Six Senses Laa... Mon 4/18/2022 1:59 pm BST</p> <p>We are very proud of our newest staff member Jinaad, Manta Trust Laamu's assistant project manager...</p>  <p>Impressions <b>25,081</b></p>	<p>  MUI by Six Senses Laa... Thu 7/7/2022 1:07 pm BST</p> <p>We are thrilled to announce that we have a new member of the team! 🥳🥳 Ever since 7th grade, Athif ha...</p>  <p>Impressions <b>10,178</b></p>	<p>  MUI by Six Senses Laa... Sun 1/2/2022 2:57 pm GMT</p> <p>The last of the 6 newly designated MPA's in Laamu to announce is Hithadhoo wetland and the...</p>  <p>Impressions <b>5,992</b></p>	<p>  MUI by Six Senses Laa... Tue 5/31/2022 4:44 pm BST</p> <p>We are delighted to welcome Afrah, our new intern 🥳🥳 Afrah's passion for the marine environment started...</p>  <p>Impressions <b>4,676</b></p>	<p>  MUI by Six Senses Laa... Thu 8/4/2022 10:14 am BST</p> <p>Mufliha and Athif have officially finished the seagrass surveys! 🥳🥳 Seagrass offers a wide variety of...</p>  <p>Impressions <b>4,158</b></p>	<p>  MUI by Six Senses Laa... Thu 4/21/2022 6:08 am BST</p> <p>Meet the latest member on our team, Mufliha who has joined as a MUI intern for Six Senses Laamu! Mufliha...</p>  <p>Impressions <b>3,807</b></p>
<p>  maldivesunderwaterini... Sat 11/26/2022 12:47 pm GMT</p> <p>Our beautiful seagrass meadows support an abundant ecosystem that is vital as a nursery habitat for young...</p>  <p>Impressions <b>19,553</b></p>	<p>  maldivesunderwaterini... Wed 6/8/2022 12:40 pm BST</p> <p>Today, we celebrated #WorldOceanDay through a range of activities which encouraged our gues...</p>  <p>Impressions <b>11,016</b></p>	<p>  maldivesunderwaterini... Fri 2/11/2022 5:06 am GMT</p> <p>To celebrate this #InternationalDayofWomenandGirlsInS we reached out to several Maldivian M...</p>  <p>Video Views <b>5,938</b></p>	<p>  maldivesunderwaterini... Sun 7/10/2022 12:10 pm BST</p> <p>Our JMB programme gives kids the perfect opportunity to learn about our incredible oceans but also get a little...</p>  <p>Impressions <b>5,920</b></p>	<p>  maldivesunderwaterini... Thu 10/20/2022 1:04 pm BST</p> <p>Meet Jess, our new research coordinator!! 🌊 Jess grew up in the UK where she has been surrounded ...</p>  <p>Impressions <b>5,282</b></p>	<p>  maldivesunderwaterini... Thu 10/27/2022 7:30 am BST</p> <p>We are thrilled to announce that we have a new member of the team!! 🥳 Julian is MUI's Sea Turtle Biologist...</p>  <p>Impressions <b>4,953</b></p>

# MMSS 2022

## Maldives Marine Science Symposium 2022

In August 2022, the MUI team was excited to attend the fourth Maldives Marine Science Symposium (MMSS) hosted by the Maldives Marine Research Institute. This event is a great opportunity not only to present MUI's work in Laamu atoll, but also learn what other great work is happening around the Maldives and to connect with other teams and scientists on different atolls and also reconnect with many previous staff members too!

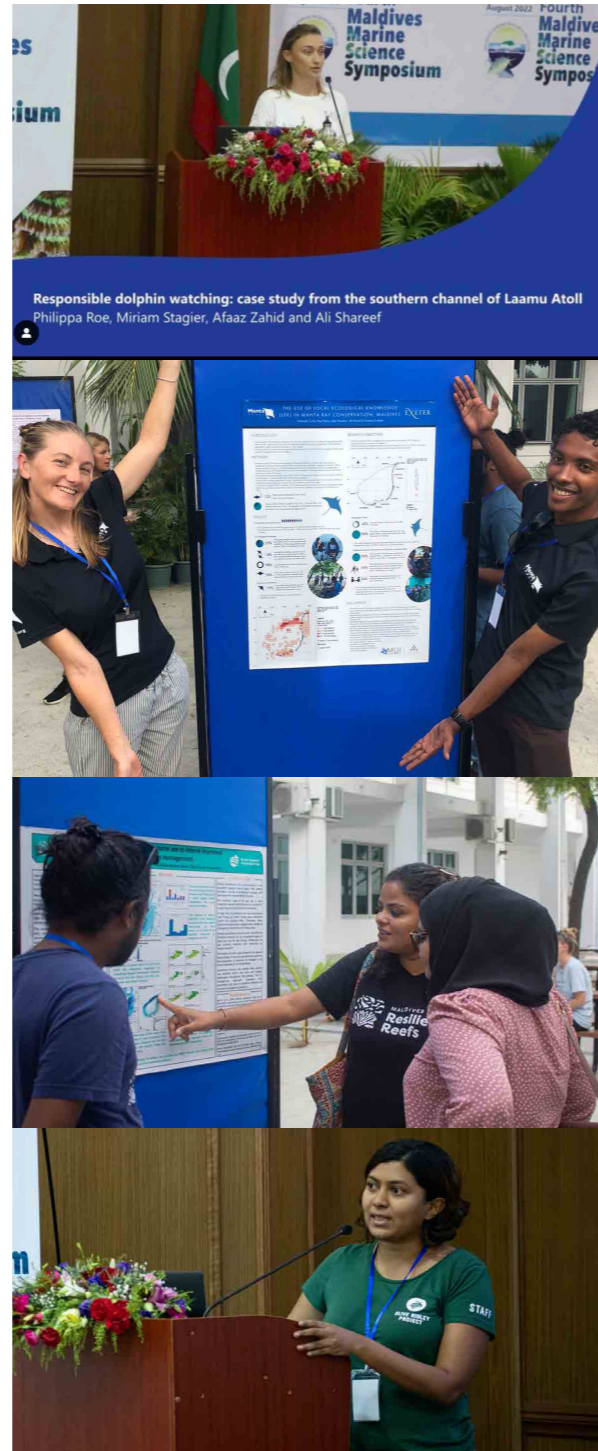
Across the whole team and partners, a total of 12 oral and poster presentations were given over the two-day event covering many different research topics.

The Six Senses team presented on Monitoring Coral Reproductive Cycles and Responsible Dolphin Watching.

Blue Marine Foundation presentations included - Ensuring Sustainable Resort Coral Reef Fisheries in Laamu and also covered a range of topics from MRR and Blue Marine's research in Laamu Atoll, including the coral reef health around Laamu, the atoll-wide resource-use surveys and fisheries biomass surveys and the gleaning fishery of Laamu Atoll.

The Manta Trust team also led a poster presentation on The Use of Local Ecological Knowledge in Manta Ray Conservation, with other Manta Trust teams from around the Maldives.

Overall, this symposium was a huge success for all, and the team is very much looking forward to the next one in 2024. We would like to thank MMRI for organizing and running such a successful and powerful symposium, helping the research around the Maldives become stronger with education and collaboration.



# WORLD OCEANS DAY

## World Oceans Day

On June 8, World Oceans Day was celebrated in Six Senses Laamu with a splash! MUI and Deep Blue Divers, hosted scuba dives to two amazing sites, Fushi Kandu (a channel site known for its sightings of sharks and eagle rays) and Haleema Haa (a beautiful inner reef site with healthy, diverse corals). Guests and hosts enjoyed and appreciated the beautiful reef scenes and sightings of eagle rays, white tip and gray reef sharks, green and hawksbill turtles and Napoleon wrasse. The MUI team also took guests out on a very special snorkel to one of our favorite, but more remote and less visited reefs. All guests were delighted to learn more about our oceans. In the afternoon, 15 hosts gathered in strong spirit to clean up reefs around Six Senses Laamu. A large amount of trash was collected and segregated and the team would like to express their gratitude for everyone's involvement in this effort. Throughout the day, 90 hosts also participated in an ocean-focused Kahoot quiz made by the MUI team, available in both English and Dhivehi languages. One lucky winner from all participants was picked at random and won a prize.

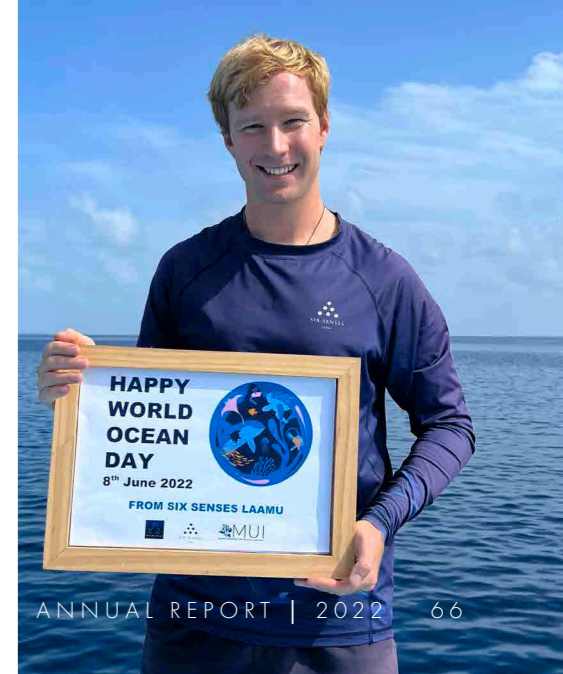
Finally, this year's celebrations were not only on island. MUI went global! Greg, MUI's Guest Education Coordinator, hosted a talk on the topic 'Protecting Blue Spaces in the Maldives' to schools around the world, as part of the 'World Oceans Day for Schools' event. A whopping 5,000 students were estimated to have been reached and inspired!



**5000+** students reached globally



**60+** kg trash collected




# THE POWER OF WEBINARS

## International Women and Girls in Science Day

In February 2022, we helped tell the stories of amazing Maldivian women and girls who we have worked with over the years. These local women represent marine science and conservation work across the country. We reached out with a series of questions for them to record themselves answering. The final product was a video we shared to inspire women and girls in the community to get involved in marine science and conservation. The video was shared with the schools, Women Development Committees, and across all social media channels to ensure maximum reach. You can click on the Instagram post on page 63 to watch or click [here](#).

## Earth Day; Blue Carbon to Ocean Geographic

On April 22, whilst the rest of the team were celebrating Earth Day with guests, Six Senses Laamu's Research Coordinator, Miriam, was invited to speak at Ocean Geographic's live webinar about the importance of Blue Carbon habitats in the Maldives. The event connected viewers with many experts from across the world, including whale specialist Dr. Olaf Meynecke in Australia, her deepness Dr. Sylvia Earle in San Francisco and the team from Ocean Geographic: Alex Rose in Chicago, Janel Kok in Singapore and Michael Aw in Manado. The aim of the webinar was to inspire listeners about the important connection of life above and below the water. Dr. Olaf taught the audience what role whales play in the carbon cycle and what their protection means for carbon emissions, while Miriam focused on the importance of seagrass meadows and mangroves here in the Maldives, including Six Senses Laamu's vital role in protecting our seagrass meadows.

 **6,888** people watched the video on International Women & Girls in Science Day

## Turtle Day Webinar

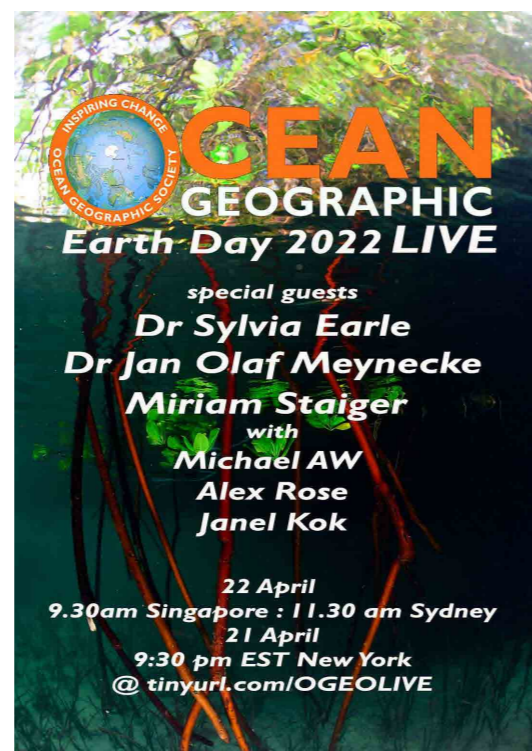
On May 23, ORP co-hosted the third annual World Turtle Day's webinar for Maldivian nationals, with the Ministry of Environment, Climate Change and Technology, and the Environmental Protection Agency of the Maldives (EPA).

The event, 'Maldivian Youth in Sea Turtle Conservation', aimed to educate students around the country about the career opportunities in sea turtle conservation, and provide career guidance for those interested. On behalf of ORP's team in Laamu, our Sea Turtle Biologist Aminath Angeela and our intern Afrah Abdul Sathar attended, to share their different career paths in sea turtle conservation.

The event highlighted the importance of collaboration, looking out for different opportunities, using different skills in the field, and also addressed the challenges for sea turtle conservation in the country.

## World Sea Turtle Day Webinar

On June 16, 2022, ORP, the Ministry of Environment, Climate Change and Technology, and the Environmental Protection Agency co-hosted the 2nd annual World Sea Turtle Day webinar. This webinar was hosted in collaboration with Marine Savers and Atoll Marine Center titled "Sea Turtle Science in the Maldives". It aimed to celebrate the key milestones of sea turtle protection in the Maldives in 2021, where the NGOs and government organizations highlighted their ongoing research and rehabilitation projects. Laamu Sea Turtle Biologist & Guest Educator, Angeela, presented at the webinar, focusing on Sea Turtle Biology and Conservation.



# MUI IN HIGH DEFINITION

## Content Creators

In 2022, our library of high-quality content increased dramatically thanks to the support of professional photographers and videographers who donated their time, images and videos to the team. We are extremely grateful to Erin Quigley of GoAskErin, Joel and Jen Penner of Newmediasoup for their support!

## CNN film "The Journey Matters" at Six Senses Laamu

In August 2022, CNN came to Six Senses Laamu to film MUI for one of their brand-new 30-minute specials called 'The Journey Matters'. In this series, CNN explores how Maldives' luxury tourism sector is heading into a greener direction, looking at a number of different resorts in the Maldives that are leading the charge on sustainability. CNN learned from Aminath Angeela, ORP's sea turtle biologist, about the work the NGO is carrying out on the island. Angeela took them on a house reef snorkel to find sea turtles and showed them how they monitor sea turtle nesting activities. MUI's research coordinator Miriam Staiger talked about the meaning of Blue Carbon and the importance of protecting habitats such as seagrass and mangroves. Miri took them on a seagrass snorkel between the villas and was able to show them a number of different green sea turtles feeding on our yummy seagrass meadows. CNN International reaches over 475 million households around the world, and the team was incredibly grateful for the opportunity to present their research projects to so many viewers and promote the resort's conservation efforts.



## BBC visit Six Senses Laamu for Our Changing Planet

In November 2021, a film crew from the BBC Studios' Natural History Unit arrived at the resort, with renowned presenter Steve Backshall. Steve sat with Ali, MUI's Community Outreach Coordinator, to discuss the state of coral reefs and the research the Six Senses Laamu team is doing, to better understand how we can help. After talking about the background of the project, the boys jumped into the water for a dive along Six Senses' beautiful house reef. The crew filmed as Ali checked on the status of egg development in coral colonies that the MUI team had been monitoring.

The footage was featured in Our Changing Planet, the first installment of the most ambitious environmental series the BBC has ever commissioned and was watched by 2.7 million viewers in the U.K. when it aired on April 24, 2022. The episode also featured Shaha, Blue Marine Foundation's Maldives Project Manager, conducting a snorkeling camp session with school children in Laamu Gan, which provided a beautiful ending to the first installment of the series. In addition to Six Senses Laamu and Blue Marine Foundation's work, it was great to see a huge part of the episode also dedicated to the Manta Trust's research in Baa Atoll.

Following the release of this episode, later in 2022, the BBC crew returned to film the next installment of BBC's Our Changing Planet, this time with a bigger crew and for a longer shoot. During the four-day long shoot in December, the crew filmed Steve Backshall working with visiting researcher Dr. Steve Simpson and MUI's Research Coordinator, Jess, on recording the soundscapes of the reefs of Laamu, something that, to our knowledge, has never been done before in the Maldives. During this visit they also interviewed Olive Ridley Project's Project Manager, Julian, and intern, Sarah, on their work to better understand the sea turtle populations in Laamu.

# AWARDS

## “Protecting the Planet” Virtuoso Award

Six Senses Laamu is proud to have won the “Protecting the Planet” award during the 2022 Virtuoso Travel Week, announced during the Gala event on Thursday, August 18, 2022.

Virtuoso Travel Week, held annually in Las Vegas, brings the world’s top luxury travel professionals together in series of engaging appointments and events. The week closes with the gala celebration and the award ceremony. Virtuoso recognizes and honors the network’s most acclaimed Preferred Partners and Members as leaders in the travel industry. The “Protecting the Planet” award is part of the Recognition Awards and the winners are voted by the Global and Regional Member Advisory Boards.

Marteyne van Well, Regional General Manager, Maldives says: “We are deeply honored and proud to be recognized as a leader in environmental conservation in the industry. Six Senses Laamu puts tireless effort in raising awareness about the protection and conservation of our natural and marine environment and strives to constantly make its operations more sustainable and minimize its impact, while offering a seamless and excellent experience to our guests. Our sustainability projects, experiences and activities aim to provide ideas and skills for our guests to take back home, on their own journey towards a more sustainable way of life. I would like to thank Virtuoso and its esteemed Global Travel Advisors who voted for us and for recognizing our efforts and putting Six Senses Laamu on the top of the pedestal.”

## Taking Home Gold

Six Senses Laamu has won the Marine & Coastal category of the 2022 Skål Sustainable Tourism Awards for the third time since 2018. The winners were announced on October 14 during the Opening Ceremony of the 81st Skål World Congress held in Kvarner, Croatia. Founded in 1934, Skål International is one of the world’s largest international networks of tourism professionals and an Affiliated Member of the World Tourism Organization (UNWTO), whose mission is to promote reliable, sustainable, and universally accessible tourism. Following the United Nations’ declaration in 2002 to highlight best practices globally, the Sustainable Tourism Awards were created to enhance visibility and recognize businesses for their efforts and initiatives within the sector globally. This year, the independent sustainability experts judged 50 entries from 23 countries. Marteyne van Well, Regional General Manager, Maldives, says: “Being recognized for the third time by Skål International since 2018, is a big honor and achievement for our teams at Six Senses Laamu and the Maldives Underwater Initiative (MUI). It is rewarding to know that, although a small island in the middle of the Indian Ocean, our research, community outreach, and efforts have given us a voice and influential space in the global community.” Through innovation and continuous research, Six Senses Laamu has implemented projects on energy and water conservation, climate change, greenhouse gas emissions, carbon footprint reduction, waste management, and recycling or repurposing materials. Since winning its first Skål award in 2018, Six Senses Laamu and MUI have conducted 47,882 educational sessions with guests and certified 205 children through their Junior Marine Biology Program.



**4** awards won and finalists for 3 additional awards



**37** articles were written featuring MUI and Sustainability at Six Senses Laamu

# OUR HOME

# SUSTAINABLE LIVING

## Permaculture

At Six Senses Laamu, we are proud to announce that our permaculture efforts have grown significantly from 2021 to 2022. We have seen a 43% increase in our organic garden production, from 3,772 kg in 2021 to 5,456 kg in 2022. Similarly, our compost production from kitchen waste has grown by a staggering 85.7%, from 27,146 kg in 2021 to 39,062 kg in 2022.

Our chickens in Kukulhu village have increased from 65 chickens in 2021, to 85 chickens in 2022, which was made possible by the help of the local community and our volunteers. We have also seen an increase in the number of items available from our organic garden, with 50 different items available, up from 40 in 2021. This includes new plants such as jasmine, peppermint, spearmint, moringa and lemongrass basil.

At Six Senses Laamu, we believe that our efforts in permaculture can help our guests to learn about self-sufficiency and share new innovative ideas with the local community members. This also incorporates our Eat With Six Senses philosophy, as we strive to source local ingredients. We hope that our permaculture efforts will continue to grow in the years to come, and that we can continue to share our progress with our guests and the wider community.

## Renewable Energy

We at Six Senses Laamu are looking forward to 2022 and beyond, as we continue our focus on sustainability and protecting the environment. The installation of renewable energy has been a testament to our commitment to reducing our carbon footprint. In 2022, our renewable energy has reached a 350 KW capacity of solar, producing 406,040 kWh of clean energy through solar panels. This is a 300% increase from 2021, and the estimated total diesel saving in 2022 is 190,088 litres - equivalent to 37 return flights from London to Maldives. We are proud of the progress we have made in renewable energy, and remain committed to our goal of having as minimal impact on the environment as possible.



**5456 kg** of organic greens harvested at Six Senses Laamu



**39,062 kg** of compost generated at Six Senses Laamu



**406,040 kWh** of power generated from solar panels at Six Senses Laamu



**3613** eggs collected from Kukulhu Village



**89 litres** of coconut oil produced at the Earth Lab



**76 kg** soap made in the Earth Lab



# EARTH LAB

## Coconut Oil Production

Earth Lab's coconut oil making workshop provides a unique experience for guests, allowing them to learn about the coconut, the national fruit of the Maldives, and its connection to the Maldivian culture. In addition, the workshop educates guests on the production of coconut oil, which is used in-house for soap making. This experience highlights the use of coconut products in Earth Lab's operations, while also encouraging guests to purchase and use coconut products, thus helping to support the local communities and their economies. Through this workshop, guests are able to gain a better understanding of the importance of coconut oil and its role in the Maldivian culture and environment, while also learning how to make it themselves.

## Soap Making Workshop

Earth Lab's Soap Making Workshop is one of the workshops that highlights the importance of self-sufficiency and zero waste. This workshop is designed to educate and empower guests to make their own soap at home, while promoting sustainable and environmentally-friendly choices. At the end of the workshop, the guests are given a soap pack as a souvenir to take home.

## Zero Waste & Earth lab

Six Senses Laamu's Earth Lab is a place dedicated to engagement and innovation. It is a place for in-house production and practises the philosophy of Waste to Wealth. In 2022, 1,269 guests joined Earth Lab's educational activities which involve workshops such as soap-making, candle upcycling and permaculture, and aims to inspire guests to develop a self-sustaining mindset and open their hearts and minds to a better future of the planet.



## Other Effective Area-based Conservation Measures (OECMs)

For the past 11 years, Six Senses Laamu has been operating responsible and sustainable tourism on beautiful Olhuveli island, in Laamu Atoll. Through collaborations with partner NGOs, Manta Trust, Olive Ridley Project (ORP), and Blue Marine Foundation, the team has been studying the coastal ecosystems of Laamu and working with the Laamu community to set baselines, raise awareness, and inform policymakers. This year-on-year work has led to the designation of Laamu Atoll as one of the planet's Hope Spots by the international non-profit organization Mission Blue. Moreover, the research findings were instrumental in declaring the six marine protected areas eco-rich and naturally unique sites in Laamu Atoll by the Ministry of Environment, Climate Change and Technology in December 2021.

The reef system of Six Senses Laamu is among the most extensively and routinely researched reef systems in the atoll. The MUI team conducts monthly and annual research to assess health and plan conservation measures and management.

For several years the Six Senses Laamu house reef has been a voluntary protected site to act as a highly biodiverse area that benefits the environment, communities, and businesses across the atoll. On September 13, 2022, the reef system of Six Senses Laamu received official recognition as a candidate for Other Effective Area-based Conservation Measures (OECMs) by the Ministry of Environment, Climate Change, and Technology. OECMs are a new conservation approach adopted at the 14th Conference of Parties of the Convention on Biological Diversity in 2018.

OECMs are recognized to achieve conservation objectives through other management measures. The work of the MUI team in Laamu Atoll is an excellent example of an OECM. Currently, the MUI team is developing a management plan and ecological survey reports to become an officially recognized OECM.



# SUSTAINABILITY CAMP

In September 2022 Six Senses Laamu was excited to launch a brand new guest experience called Sustainability Camp. Sustainability Camp takes place over three days, with two 90-minute sessions per day. Four sessions are available for each topic, allowing guests to choose two for each day's activities. Each session is led by a designated guide, a team member specializing in the topic, who assists with crafts and workshops while sharing their knowledge and experience in the area.

"Zero Waste" introduces guests to a coconut oil or soap-making workshop, making crafts out of coconuts and other recycled materials, or a sustainable Alchemy Bar spa workshop to make their own beauty products. "Zero Waste" focuses on being creative with used items, identifying reusable materials, reducing single-use plastics, and encouraging teamwork.

"Home Grown" invites participants on a seed-to-farm journey, where they can learn how to plant and grow their own microgreens using compost and watch them grow over the duration of their stay. Another option is Conscious Cooking, where Chefs guide guests through easy-to-make, plant-based recipes with ingredients they can grow themselves, or Garden Mixology, where they select fresh ingredients for juices and mocktails. These sessions focus on sourcing fresh and sustainable ingredients and the impacts of food waste.

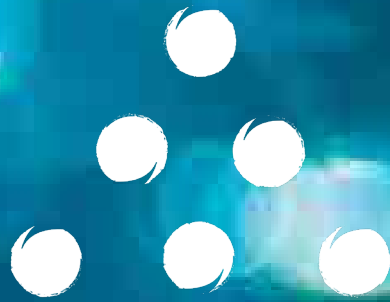
"Nature Conservation" dives into the marine conservation and sustainability initiatives already in place in the resort. Participants can get hands-on with citizen science sessions, including an introduction to the local megafauna and seagrass meadows, an adventure on a neighboring island to discover the local Maldivian way of life or Carbon Caring, an introduction to blue carbon habitats, and the importance of underappreciated wonderlands such as mangroves and seagrass meadows. These sessions help guests understand how carbon is stored in these habitats and what they can do to protect them. They focus on encouraging curiosity for marine species and conservation and creating awareness of how everyone can get involved.

Greg Holder, Guest Education Coordinator of the Maldives Underwater Initiative, says: "Over time, we found that many teenagers were very interested in learning more about sustainability and marine conservation, but we didn't have activities attractive for their age group. Our Sustainability Camp is a chance to share our insights, skills and, above all, our passion for nature and conservation to help shape the next generation of conservation heroes."





AN INITIATIVE BY



# SIX SENSES

LAAMU



IN PARTNERSHIP WITH



**BLUE MARINE  
FOUNDATION**



**OLIVE RIDLEY  
PROJECT**