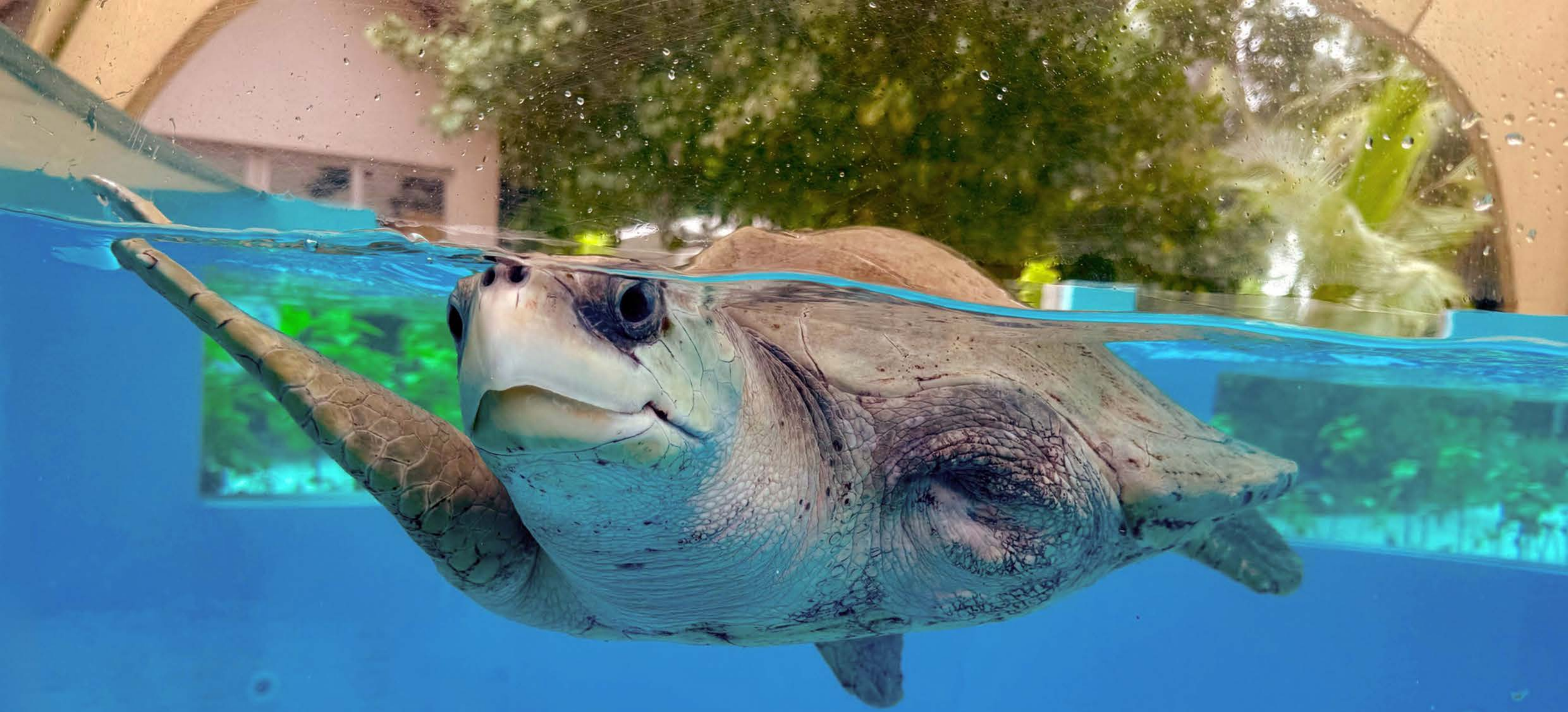


News From The Field

July - September 2024 Vol 3

OLIVE RIDLEY PROJECT

Our Mission

Sea turtles have existed on Earth for over 120 million years and there are currently seven species left in the world. These incredible animals grace the waters of all the world's oceans except the Arctic.

Oceans play a critical role in sustaining human life by providing essential resources such as food, freshwater and oxygen. Therefore, preserving and protecting our oceans is crucial for the survival of our species.

As "keystone" species, sea turtles play a vital role in maintaining the health of the ocean, including protecting fish stocks, keeping coral reefs healthy, and preventing sea grass meadows from overgrowing and dying.

However, sea turtles face many threats to their survival.

ORP is on a mission to protect sea turtles and their habitats through rescue and rehabilitation, scientific research, and education and outreach.

Olive Ridley Project is a registered charity:
1165905 England & Wales
CR/04/2022 Maldives
NGO-EPFPJ6 Kenya

Contents

Our Work

Sea Turtle Rescue & Rehabilitation

We treat injured sea turtles rescued in the Maldives at our Marine Turtle Rescue Centre, which has a fully equipped veterinary clinic and a resident veterinary team. We also operate a Sea Turtle Rehabilitation Centre. Both are located in the Maldives.

Scientific Research

We conduct research on sea turtle populations, distribution, health and threats to improve scientific knowledge and inform sea turtle conservation policy.

Environmental Education

Education is a powerful tool to increase awareness, engage people and stimulate action. We educate school children, communities, divers, fishermen, tourists, resort staff, biologists, and the general public, in person and online. We also offer volunteer and internship programs.

Collaboration & Community Outreach

To create long lasting change, we ensure that our conservation initiatives are practised from ground-up. We therefore collaborate with affected industries, communities, governments, local and International NGOs, in order to apply research to practice.

By the Numbers

Rescue, rehabilitation and scientific research

7,942
Sea turtles identified

>46,9K
Sea turtle sightings recorded in the Indian Ocean

839
Sites w/sea turtles sighted

1,711
Nests recorded

>54,8K
Hatchings counted

246
Turtle patients admitted

93
Turtle patients deceased

6
Rehabilitated olive ridley turtles satellite tagged

Environmental education, collaboration and community outreach

14.34K
Kgs of ghost gear removed

58.4K
Square metres of ghost net repurposed

265
Volunteers hosted at the Rescue Centre

30
Sea Turtle Guardian Programme Graduates

43.55K
Individuals educated

2.4M
YouTube views

30
Publications

1.4K
Podcast Downloads

Highlights from the field

Second Sea Turtle Expedition in the Maldives completed in August.

• **Read more on page 11**

Third Sea Turtle Rehabilitation Centre opens the Maldives.

• **Read more on page 12**

New paper highlights sea turtle nesting activity on Félicité.

• **Read more on page 17**

As we reflect on a successful third quarter of 2024, we're proud to highlight key achievements across all our projects: progress in community initiatives, a successful expedition, the opening of a new rehabilitation facility, new publications, and many other accomplishments that have kept the team engaged across all areas of operation.

Our team in Kenya braved the stormiest time of the year yet still ventured out on Photo-ID surveys, identifying individual hawksbill turtles and expanding our understanding of their home ranges. We also welcomed a new intern to the team and bid farewell to our university students, who successfully completed various projects and actively contributed to our research.

In September, we were proud to see sea turtle ambassadors from four fishing communities, trained through our BMU programme, take the lead in their own conservation events, raising awareness and spreading knowledge about sea turtles.

Most of the team in the Maldives attended the Fifth Maldives Marine Science Symposium – a gathering of researchers and conservationists from across the country – in July to present our work and exchange ideas with like-minded individuals. The symposium was a great success and we even won a prize for best poster presentation!

In August, we were excited to once again join forces with the Environmental Protection Agency for our second Sea Turtle Expedition, gathering information and samples from sea turtles across four atolls in the south-central region of the country. The expedition aimed to build on our work from 2023, expanding data collection efforts on sea turtle habitats, health, and genetics to additional atolls. Read all the details and see photos of our work in a special report on page 11.

Our veterinary team remained busy with patient care and another successful satellite tag deployment. We are also pleased to announce the expansion of our capacity with the opening of the new Noonu Atoll Sea Turtle Rehabilitation Centre at our partner resort, Soneva Jani! The new facility is now home to Nakaiy, an adult female olive ridley turtle originally found in Lhaviyani Atoll.

Furthermore, we are thrilled to share that, at the end of September, we achieved two significant milestones in our Photo-ID project: over 5,000 identified hawksbill turtles registered in the Maldives and an impressive 1,000 hawksbills in North Malé Atoll alone! Read more about these special turtles on page 9.

The last three months have seen extremely high temperatures in Oman, impacting both the environment and working conditions for fishermen in Zighy Bay. During this time, our sea turtle biologist, Jasmine, focused her efforts on Photo-ID at six key sites. In addition to the resident green turtles, an olive ridley turtle was observed. Unfortunately, this turtle was found to be in poor health and later succumbed to an unknown condition.

In Pakistan, our nest monitoring efforts continued despite challenging monsoon conditions. The team identified three more nesting green turtles and was thrilled to record the tracks of a loggerhead turtle on the beach! However, the nesting females were also affected by the monsoon season, as strong winds and high tides led to inundation and a lack of suitable nesting habitat along the beaches.

Our work in the Seychelles is now being overseen by Jack Wiggins, who has replaced Olivia Forster as ORP's sea turtle biologist on Félicité. He arrived just in time to manage the relocation of two green turtle nests affected by beach erosion on the island. As we approach the hawksbill nesting season in the coming months, nest monitoring is set to begin again. We are also delighted to share that a study led by our former sea turtle biologist, Lara Kalisch, summarising sea turtle nesting activity from 2022 to 2023, was published in the Marine Turtle Newsletter in August.

In addition to the progress made in our field locations, we have recently initiated a new collaboration with the Association Kratten du Développement Durable de la Culture et du Loisir (AKDDCL) in Tunisia, focusing on the sea turtle population in the Kerkennah Islands in the Gulf of Gabes. AKDDCL is a local conservation organisation dedicated to environmental monitoring and protection. With technical support and expertise from ORP, they aim to establish a sea turtle Photo-ID database for the region. We are excited about this partnership, which marks our first venture outside the Indian Ocean, and we look forward to sharing further details in the near future.

Read all about these achievements and more in the following pages.

Our Locations

United Kingdom

Established: 2013
Main Activities: Headquarters & educational outreach

Oman

Established: 2015
Base: Musandan
Main Activities: Sea turtle population research, ghost gear recovery, research and mitigation, educational outreach

Pakistan

Established: 2015
Bases: Abdul Rehman Goth & Kakapir, Karachi
Main Activities: Sea turtle population research, Ghost gear recovery and mitigation, ghost gear repurposing through circular economy projects, educational outreach

Kenya

Established: 2018
Base: Diani
Main Activities: Sea turtle population research and habitat connectivity

Seychelles

Established: 2021
Base: Félicité
Main Activities: Sea turtle population research and habitat connectivity

Maldives

Established: 2013
Bases: Baa, Laamu, Noonu, North Malé, Raa & Shaviyani atolls
Main Activities: Sea turtle rescue and rehabilitation, sea turtle ecology research, ghost gear recovery, mitigation and research, educational outreach
Facilities: Martine Turtle Rescue Centre, Baa Atoll and Sea Turtle Rehabilitation Centre, North Malé Atoll

ORP Kenya

Although these past three months coincides with stormiest time of year along the Kenyan coast, our in-water monitoring team recorded surprisingly high numbers of encounters with sea turtles. On multiple occasions, we were able to photograph sea turtles who had not been sighted for years, as well as a few new individuals.

IIn July, a mystery was resolved when our beloved Maya (H006) from Kisima and the rare Leonardo (H032) from Milele were confirmed to be the same hawksbill sea turtle (main photo on the right). A misinterpretation of scale coloration as a scar had led to this error. However, after careful analysis of all available footage for both turtles, we confirmed that they were indeed the same individual. Maya, once thought to be a site-faithful turtle, had secretly been exploring the reef, visiting Milele and Igloo in addition to her home at Kisima—sometimes in a single day! This discovery highlights the importance of photo-identification and the power of technology in understanding sea turtle behaviour.

Sea Turtle Monitoring and Conservation Intern, Kelvin.

Our intern programme continued with the addition of Kelvin, our new sea turtle monitoring and conservation intern. Kelvin has achieved his PADI Open Water and Advanced Open Water certifications and has already completed over 50 dives with us. On land, he has devoted considerable time to assisting with various community outreach activities as part of our BMU programme. Additionally, Kelvin played a key role in developing a pilot education programme scheduled for October, which will involve environmental clubs from two local schools.

Meanwhile, our four university students finished their attachments in early August, having spent most of July working on their individual projects. One of the students focused on our drone surveys, another met with members of four fishing communities to evaluate the successes of our peer-to-peer learning initiative, and the other two worked on a beach trash comparison study. Not only do these students receive mentorship from our team and gain hands-on experience in conservation projects, but they also actively contribute to local research and knowledge creation.

Community Education & Outreach Officer, Juma, conducting awareness workshops for Camps International.

July and August were action-packed months for our education team, who hosted marine and sea turtle awareness workshops for 191 UK students visiting through Camps International. September also marked a milestone for our BMU Programme, as sea turtle ambassadors from four fishing communities took the lead in organising their very own conservation events.

Earlier this year, we tasked each BMU with identifying the most impactful ways to raise conservation awareness among their fellow fishers and community members. The results were inspiring! With our team's support, the ambassadors created four unique conservation outputs: an educational video on disentangling sea turtles from fishing nets, two educational sessions for local schoolchildren, a sea turtle workshop for fellow fishermen, and a skit highlighting laws and policies surrounding fishing and sea turtle conservation. These events were captured on film as part of our Ocean Culture Life storytelling documentary short.

September also saw the conclusion of our first year of support from Msambweni Beach House, whose generous funding helped make our International Coastal Cleanup a success. Over 200 participants came together to clean a 3 km stretch of coastline, collecting more than 500 kg of marine litter.

Identified Sea Turtles Kenya

Green Turtles

683
Since 2018

6
2024 Q3

Hawksbills

85
Since 2018

1
2024 Q3

41
Sites w/sea turtles sighted

768
Total sea turtles identified

ORP Maldives Education & Outreach

Between July and August, we continued our community engagement and conservation activities in the Maldives, aiming to foster a deeper understanding of marine ecosystems in the country. Here are some highlights:

In August, we co-hosted a fun snorkelling event with Six Senses Laamu for 20 students, teachers, and parents from Kunahandhoo Island in Laamu Atoll. Snorkelling at Laama Faru Haa, a popular spot known for vibrant fish and hawksbill sea turtles, the group encountered three resident hawksbills: Ava, Roanna, and Ugg.

Although some participants were initially nervous, this experience helped build their confidence in the water and brought them a little closer to the incredible underwater world of their atoll. It is through in-water community activities such as this, that we are able to inspire community members to be active in local marine conservation.

As part of our educational initiatives in partnership with JOALI BEING, we hosted 20 students from the local island of R. Maduhvari in August. These students, aged 14 to 16, were excited to meet Kurangi, our sea turtle patient at the Raa Atoll Sea Turtle Rehabilitation Centre, which sparked their enthusiasm. They also attended a presentation about sea turtles, and asked many insightful questions.

Several students expressed a keen interest in pursuing a career in sea turtle conservation after finishing their education. This interaction underscored the value of fostering awareness and inspiring future advocates for marine life.

In September, the ORP Laamu team helped launch the 2024 'Hello Hallu' Program, hosted by MUI at the Sea Hub of Environmental Learning (SHELL), Six Senses Laamu. 'Hello Hallu'—meaning "Hello Solution" in Dhivehi—brings students aged 12 to 16 from schools across Laamu Atoll for a day of interactive learning focused on marine ecosystems and conservation. The programme aims to deepen their understanding of local marine life and inspire future environmental stewards.

So far, 56 students and teachers from three schools—Mundoo, Ihadhdhoo, and Dhanbidhoo—have attended Hello Hallu. Each session covers topics like 'Habitats of Laamu, 'Maldivian Megafauna', and 'Sustainable Fisheries,' led by Six Senses Marine Biologists, ORP, Manta Trust, and Blue Marine Foundation. Students got to try sea turtle Photo-ID in a fun interactive game in the SHELL's Glass Bottom Boat room! At the end of each day, a knowledge review with prizes helped gauge what students learned, and many named the sea turtle session as their favourite. The team will continue with eight more schools in the coming month.

L. Guraidhoo Island cleanup participants fom Maavah with the results of their labour.

Plastic pollution has a devastating impact on all wildlife, including sea turtles. While the ideal solution is to reduce or prevent plastic from entering the natural environment, we are still far from reaching that goal. As a result, we regularly organise beach cleanups to combat this issue.

In September, we held a cleanup event at L. Guraidhoo, a popular picnic spot for Maavah residents, in collaboration with L. Maavah Island Council, Parley Maldives, and Six Senses Laamu. Twenty enthusiastic participants from Maavah helped us collect six jumbo bags and 33 cement bags full of plastic waste. Shockingly, over 90% of the waste collected consisted of clear, single-use drinking bottles. Fortunately, all of these bottles can be sent to the waste management facility in L. Maandhoo for proper recycling.

The day concluded with a friendly volleyball match and a delicious traditional Maldivian lunch, strengthening connections between the Maavah community and MUI while reinforcing the importance of collective efforts in environmental conservation.

ORP Maldives Research

The third quarter of the year was packed with many milestones, achievements and new collaborations for our team in the Maldives.

In July, the team attended the Fifth Maldives Marine Science Symposium (MMSS) held at the Maldives National University in Malé. During the symposium, researchers and conservationists from all areas of the Maldives came together to share their most recent projects, studies and findings. The ORP team attended in great numbers and presented on numerous topics from our research and community projects.

Our experience with the first year of community led nesting beach protection in Laamu Atoll, as shared by Sea Turtle Ranger Inaan, was met with great interest and appreciation. Sea Turtle Biologist Julian presented the results from our second socio-economic survey investigating the value of sea turtles for the Maldives tourism industry in 2022, highlighting non-consumptive use of resources.

Posters featuring our work in cooperation with the Environmental Protection Agency on topics of sea turtle health, foraging habitats and epibionts were showcased by representatives from both organisations. A poster on social behaviour of sea turtles in Laamu Atoll resulting from Masters Student Amy Feake's study and presented by Maldives Programme Manager Isha, received a prize as best poster presentation of the symposium.

Our Photo-ID programme reached two very exciting milestones this quarter, thanks to our many dedicated citizen scientists and supporters, as well as team members. We have now identified a total of 6,754 sea turtles in the Maldives, including 1,684 green turtles and 5,070 hawksbills - thus reaching over 5,000 identified hawksbill turtles in the country! The 5,000th individual was part of the cohort sampled during the Sea Turtle Expedition (read more on page 11) and is a juvenile female hawksbill turtle from Vaavu atoll.

Another special milestone was reached in North Malé: the atoll has featured the largest individual hawksbill turtle database for a while and has now reached the staggering number of 1,003 identified individuals! The 1,000th hawksbill (left image) was identified by long term supporter and collaborator KG from One&Only Reethi Rah, who photographed the turtle during a dive near Madivaru.

Prolific collaborators greatly contribute to our consistent Photo-ID efforts and we would like to thank them for their fantastic and continuing support.

August started of with excellent news, including the acceptance of a pilot study on the socio-economic value of sea turtles in the Maldives in 2019 for publication.

In the second half of the month, members of the ORP team embarked on the second Sea Turtle Expedition in collaboration with the Environmental Protection Agency Maldives, which you can read bout on page x.

ORP Team members from Shaviyani, Noonu, Raa, Baa, North Malé and Laamu attending MMSS in Malé.

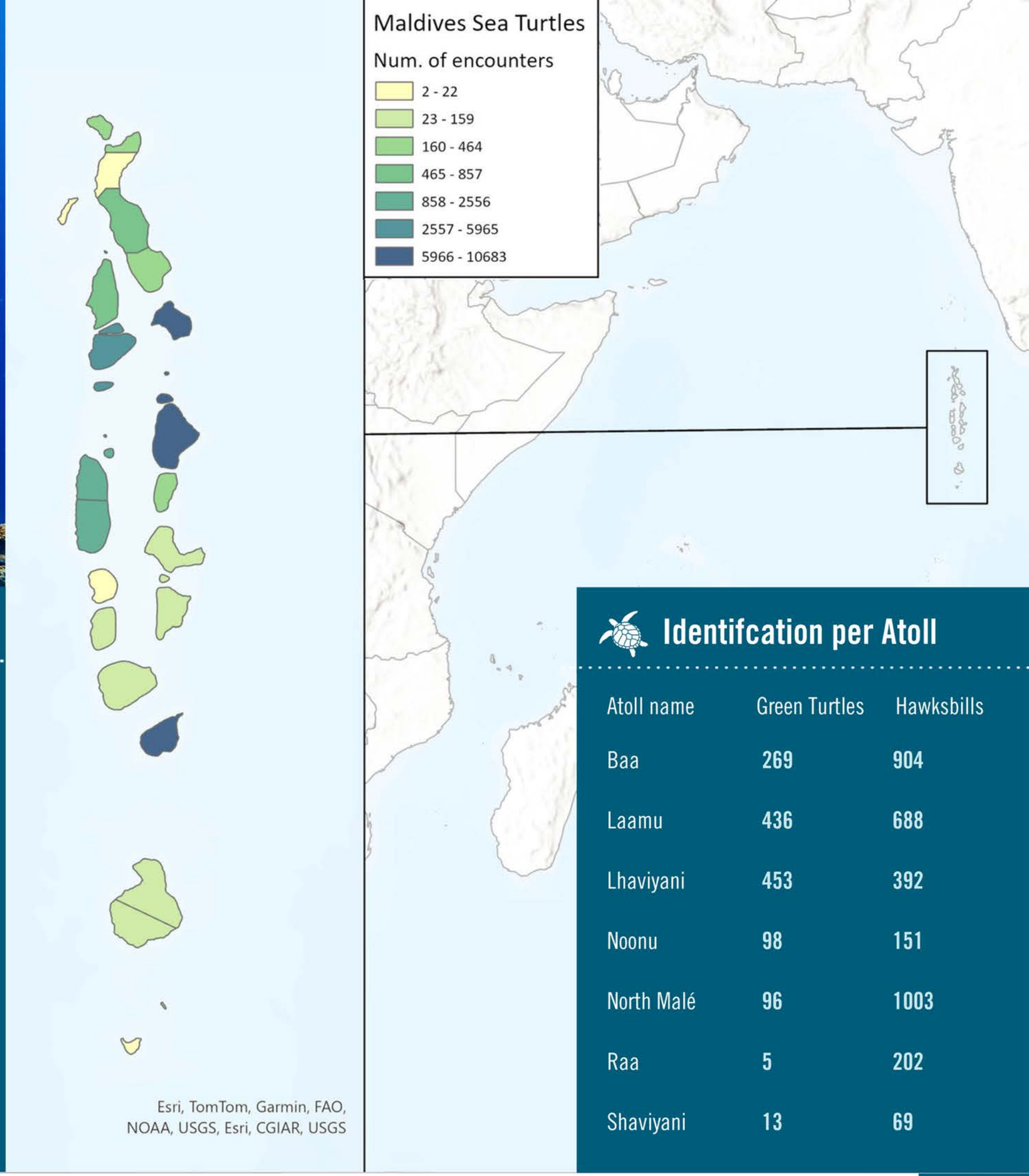
Similar to previous years, sea turtle nesting continued in great numbers throughout the past month, with the largest number of nests laid in Noonu and Laamu Atoll. In total, we recorded 39 new nests in the last quarter, which is just marginally lower than the 43 nests recorded in the same time period last year. We are now eagerly awaiting these nests to hatch - roughly two months after they have been laid.

In the past quarter ORP initiated a new partnership with MEDASSET, the Mediterranean Association to Save the Sea Turtles, to pilot a project investigating microplastics found in the sand of sea turtle nests and their influence on incubation temperature. Our team in Noonu and Laamu will collect sand samples from hatched nests for analysis by MEDASSET expert Dr Nikos Simantiris. Together with samples from the Mediterranean, we are hoping to compare the microplastic load and incubation conditions across different regions and turtle populations.

ORP Maldives Sea Turtle IDs

Identified Sea Turtles

Green Turtles	Hawksbills	New Nests Laid
1,684 Total	**5,070** Total	**39** 2024 Q3
28 2024 Q3	**91** 2024 Q3	Hatchlings counted **1,474**
762 Sites w/sea turtles sighted	**6,754** Total sea turtles identified	



Identifcation per Atoll

Atoll name	Green Turtles	Hawksbills
Baa	269	904
Laamu	436	688
Lhaviyani	453	392
Noonu	98	151
North Malé	96	1003
Raa	5	202
Shaviyani	13	69

ORP Maldives
Sea Turtle Expedition

The second half of August brought on a very exciting and unique opportunity for the ORP team in the Maldives: in collaboration with the Environmental Protection Agency (EPA), we conducted the second Sea Turtle Expedition of the country! Joined by team members from Atoll Marine Centre and Addu Nature Park, as well as two students from the Maldives National University, we explored four atolls and sampled sea turtles across the central south.

This second expedition followed the same goals as our 2023 one, investigating benthic communities at sea turtle hotspots, the health and population genetics of sea turtles, as well as the epibiont communities associated with turtles.

The team of the 2024 Sea Turtle Expedition together with their trusty boat crew.

The expedition was again led by Senior Environmental Analyst, Enas Mohamed Riyaz from the EPA and ORP Senior Project Scientist, Dr Stephanie Köhnk and targeted reefs in South Mále, Vaavu, Meemu and South Ari atolls. While the team could rely on ORPs trusty Photo-ID database to identify areas with known turtle populations in South Malé and South Ari, they conducted more exploratory surveys in Vaavu and Meemu Atoll using the expertise of their trusty boat crew.

Over the course of the eleven-day trip, 35 hawksbill and one green turtle were hand-captured and subsequently sampled for population genetic analysis as well as associated epibionts such as barnacles and encrusting algae.

Afterwards they received a full health assessment from ORP Lead Veterinary Surgeon Dr Max Polyak including collection of blood and gut microbiome samples. Ultrasonic investigations to asses organ health and to identify the sex of each turtle yielded first interesting results on site. Similar to last year, the team caught more female than male turtles at a ratio of 21:11. While the team still observed a female bias, it was not as pronounced as during last years sampling when it was 36:3, indicating that potentially more male turtles are utilising the habitats in these atolls.

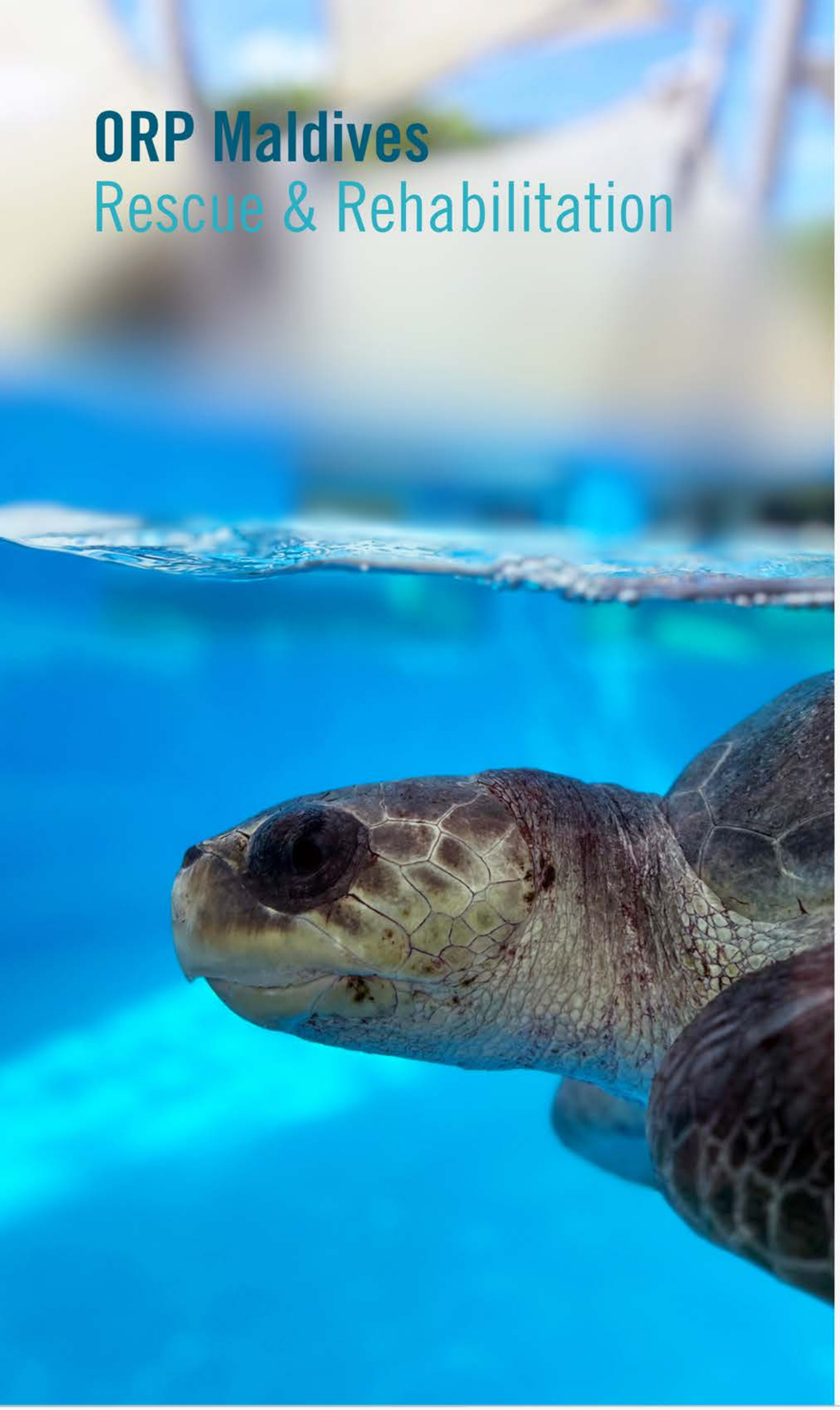
Sea Turtle Expedition Impressions, 2024.

Over the coming months, the team will be very busy processing the collected data and samples, and analysing them for each of the different projects. We will keep our partners, collaborators and followers updated about our progress and aim to share our findings as soon as possible with the scientific community through peer-reviewed publications.

In the future, together with EPA, we are hoping to extend our sampling efforts to all atolls currently not yet represented in the dataset.

This expedition was made possible by the generous support and donation from Friends of Frontiers, with additional funding for analysis from OceanCare and the Morris Animal Foundation.

ORP Maldives
Rescue & Rehabilitation



We are thrilled to announce the opening of the new Noonu Atoll Sea Turtle Rehabilitation Centre, located at our partner resort, Soneva Jani. This new facility significantly increases our capacity to care for injured and ill sea turtles in the Maldives, providing space for patients no longer requiring direct medical attention, thereby freeing up tanks for new critical care patients at the Marine Turtle Rescue Centre. The Noonu Atoll STRC is now our third rehabilitation centre, alongside the North Malé and Raa Atoll Sea Turtle Rehabilitation Centres.

Our first patient transferred to Noonu was Nakaiy (left) , who has settled in well since her recent move. Nakaiy is making full use of her spacious new enclosure and is being cared for by our Sea Turtle Biologist, Neus, and Intern, Nauha, under the direct supervision of the veterinary team.

Veterinary Nurse Tristan and Veterinary Surgeon Mariana releasing Vaarey with a satellite tag in July 2024.

In other news, the third quarter of 2024 finally brought some relief for the veterinary team, as the Rescue Centre released more turtles than it admitted!

Over the past three months, we admitted two olive ridley turtles, Kihaa and Ummedhu Hayaathu, bringing the total number of patients in our care to nine—six housed at the Rescue Centre and three at our rehabilitation centres.

Despite our best efforts, two patients, Avi and Ummedhu, sadly passed away. However, we celebrated the successful recovery and release of Maali, Vaarey, and Paree! Vaarey was fitted with a satellite tag and is the first male sea turtle we have tagged. So far, he has travelled a total of nearly 1,600 km and is swimming near Sri Lanka. Most of his dives have been quite shallow (less than 40 m), with only a few going down to 276–300 m. He also does not appear to be staying in any single place for very long.

Dr Naul from Indonesia was our fourth veterinary trainee this year. Here she is seen with Vaarey, after the satellite tag was placed before his release in July.

Over the past few months, we had the pleasure of hosting and training three veterinarians as part of our Veterinary Training Programme: Dr Naul, Dr Daniela, and Dr Heather.

Dr Naul, from Indonesia, is already working with sea turtles and joined us to deepen her medical expertise and explore various clinical approaches to turtle care. Dr Daniela, from Colombia, works at the Atoll Marine Centre in Naifaru, Lhaviyani Atoll, and became the first veterinary surgeon to be trained under our new partnership with the Atoll Marine Centre (AMC). Dr Heather, from Scotland, has long had a passion for exotic species and joined our programme to gain practical experience in conservation medicine, with a focus on sea turtles.

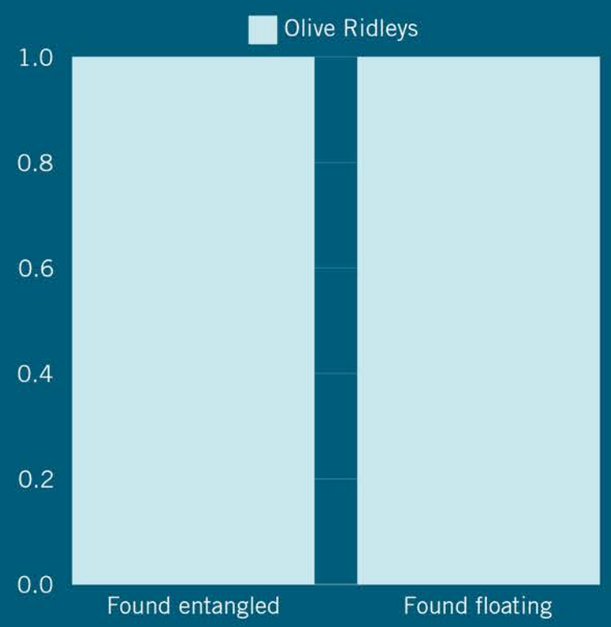
The Veterinary Training Programme is a key part of our mission to share our knowledge with and develop sea turtle conservation medicine capacity in the Indian Ocean region.

In August, we took part in the second joint Sea Turtle Expedition alongside key local stakeholders, including Atoll Marine Centre (AMC), Maldives National University (MNU), and the Environmental Protection Agency of Maldives (EPA). Our Lead Veterinary Surgeon, Dr Max, conducted thorough health assessments on 36 critically endangered hawksbill sea turtles. Combined with the data collected during the 2023 Sea Turtle Expedition, this effort now represents the largest dataset on the health of these species in Maldivian waters. The findings have provided valuable insights into both the population and the ecosystem's health, and several significant publications are expected to follow, which will support ongoing sea turtle conservation efforts in the region. You can read more about the expedition on page 11.

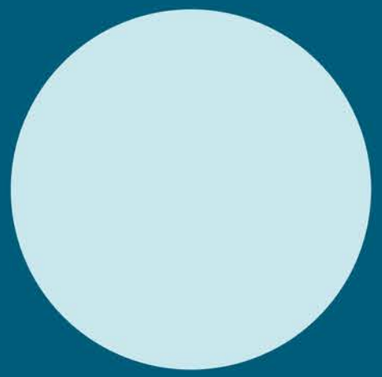
ORP Maldives Our Turtle Patients

	2024 Q3	2024	Since 2017
New patients admitted	2	16	246
Patients released	3	13	144
Patients deceased	2	5	93
Patients treated	19	26	246
Patients still in care	9		

Reason for admittance (New)



Patients by species (New)



New Patients Admitted

Kihaa, Dhivehi for a 'young stage of coconut', is an adult female olive ridley turtle. She was discovered floating in Dhaalu Atoll and showed signs of previous entanglement in ghost gear. She is missing a front flipper, had partial amputations to both hind flippers and injuries to her carapace. We provided critical care to treat her anaemia and blood infection, and conducted a successful amputation surgery. Admitted 21/10/2024

Ummeedhu Hayaathu, Dhivehi for 'Hope for Life', was an adult female olive ridley rescued from a ghost net in Baa Atoll. She had severe injuries, a partial amputation of her right front flipper, and complete necrosis of left front flipper with a fractured humerus. She had abrasions on both hind flippers and carapace, was malnourished and presented with septicaemia (a serious blood infection). Despite our best efforts, Ummeedhu passed away the following morning. Admitted 29/10/2024 Deceased 30/10/2024

Released Patients

Maali - 18th July
Vaarey - 21st July
Paree - 28th August

Deceased Patients

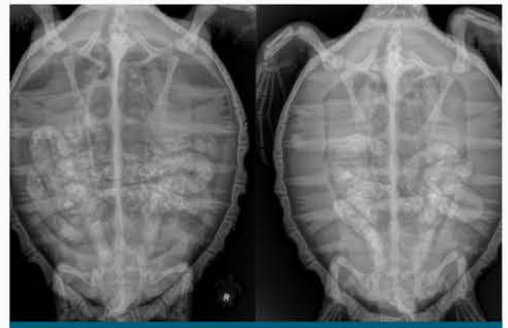
Avi - 20th August
Ummeedhu - 30th September

Rescue Centre Intern: Insha

In July, we welcomed our new Rescue Centre Intern Insha. She grew up in Malé city and did not have much chance to explore the ocean during her childhood. However, she maintained a curious fascination with it, reading and watching documentaries about the ocean. She first visited the Rescue Centre in 2022 on a school trip, where she learnt about our mission.

Case Study: Maali

Maali, a juvenile hawksbill turtle, was found washed ashore in Dhaalu Atoll, weak and lethargic. Following a comprehensive health assessment, it was determined that Maali was suffering from poor gastrointestinal function.



She was immediately started on medical therapy, and over the next few weeks, her progress was remarkable. She successfully passed all her impacted faeces and her appetite improved significantly. Day by day, Maali became more active and inquisitive.

Her final physical examination revealed normal results (the last picture shows her clear gastrointestinal tract), and we were thrilled to return her to the ocean.

ORP Oman

For the last three months at Musadam, fishing activities were notably low, primarily due to extreme temperatures. Water temperatures averaged around 34 degrees Celsius, while land temperatures soared to 50 degrees. Such high temperatures can lead to coral bleaching, leading to loss of biodiversity, even affecting sea turtles who use coral reef habitats as resting and foraging grounds.

GR265 foraging on the reef.

Fortunately, lower levels of coral bleaching were recorded this summer in Zighy Bay, thanks to a plankton layer in the water that reduced heat penetration.

These high temperatures also created challenging conditions for fishermen, making it difficult for them to spend extended periods at the surface. Additionally, the extreme heat affected fish behaviour, often prompting them to migrate to cooler depths in different areas. As a result, local fishing communities significantly reduced their activities during this time. Consequently, we did not receive any reports or incidents of sea turtle bycatch.

In July and part of August, we encountered particularly adverse weather conditions. Stormy weather and rough seas complicated our fieldwork and made our sea turtle Photo-ID efforts challenging. During this period, only five turtles were successfully identified. However, as sea conditions calmed in September, we were able to identify 42 turtles, indicating a significant improvement in visibility for observation.

We also conducted surveys at six key sites using both snorkelling and diving methods: Zighy Bay, Lima Rock North, Sanet Bay, Wonderwall, Ras Marovi, and Ras Lima. Zighy Bay, our primary field site, emerged with the highest number of sea turtle sightings.

Overall we were able to record 82 sightings during this quarter, comprising 80 juvenile green turtles, one adult green turtle, and one adult olive ridley turtle. Olive ridley turtles are rare in Oman. Unfortunately, the olive ridley showed signs of fatigue, with high levels of algae on its carapace indicating poor health and this individual was later found deceased.

The turtles we observed were mostly spotted swimming and foraging, highlighting their search for food and adaptability to changing environmental conditions. Our most frequent sighting was GM269, a juvenile green turtle observed three times in September in Zighy Bay, where it was found swimming over mixed coral on all occasions.

We work with fisher groups in Oman to create awareness on sea turtle bycatch.

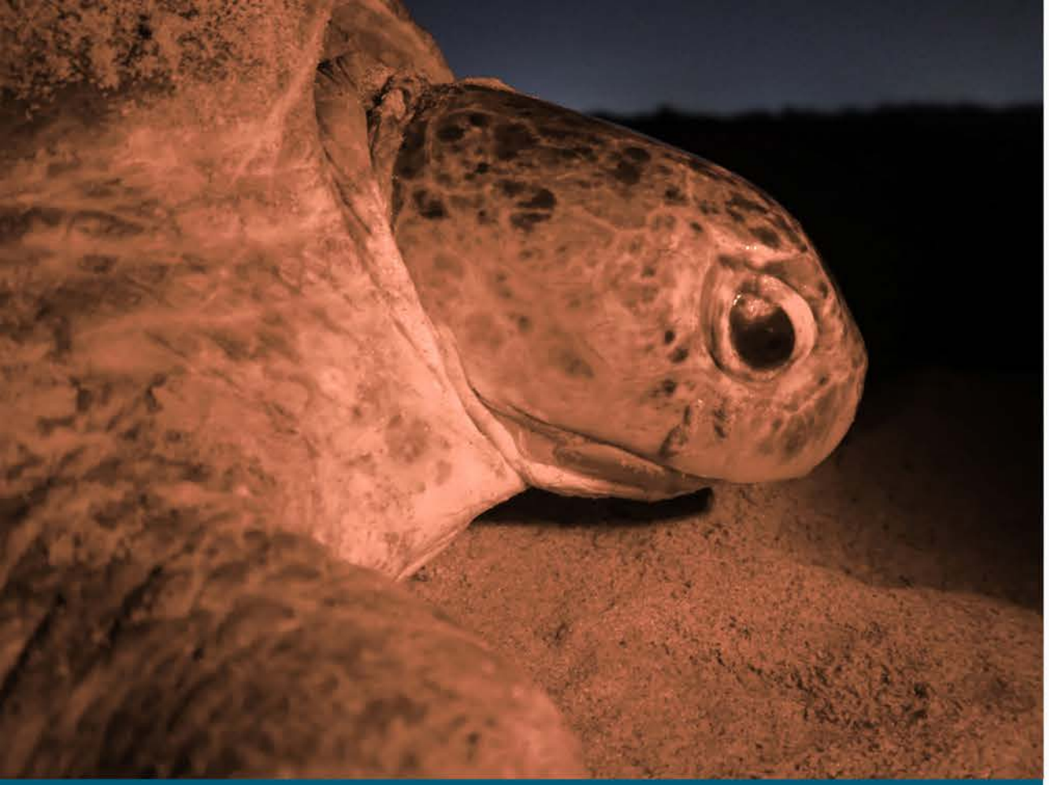
Looking ahead to the end of the year, as temperatures begin to drop, we anticipate a resurgence in fishing activities alongside the resumption of the school term. This change will likely lead to increased community outreach efforts, allowing us to engage more effectively with local fishermen and schools. We aim to raise awareness about the importance of marine conservation and the sustainable management of fishing practices, ensuring that both the local community and marine ecosystems thrive together.

Identified Sea Turtles

Green Turtles	Hawksbills	Total sea turtles identified
183	9	192
Since 2020	Since 2020	
1	0	
2024 Q2	2024 Q2	

Sites w/sea turtles sighted

13



ORP Pakistan By The Numbers

Ghost gear recovered
>6.5K KG
Since 2018

Ghost gear repurposed
>58.4K SQM
Since 2018

Pet leashes made
712

Pet Leashes Sold
646

93KG
2024 Q3

0
2024 Q2

Flase Crawls
127
Since 2023

74
2024 Q3

Nests Laid
244
Since 2023

42
2024 Q3

Income generated
822.6K PKR

Green Turtles Identified
4
Since 2023

ORP Pakistan

Between July and September, our work in Pakistan was impacted by both strong monsoon storms and political unrest in the Balochistan region. Despite this, we still managed to conduct 15 field surveys on Hawkes Bay and Sandspit, and remove 93 kg of ghost gear from Hawkes Bay Beach, though we postponed our planned educational activities at Lasbela University of Agriculture, Water & Marine Sciences (LUAWMS) until the situation improved.

Loggerhead tracks observed at Sandspit.

During our field surveys, we observed 158 nesting events. 60 of these were identified as true nests and 98 as false crawls. Most of the sea turtles nesting on our survey beaches are green turtles, however, we are excited to report what we have identified as a loggerhead track at Sandspit. Loggerhead nesting has never before been reported here. The track is prominent and 91 cm wide, however, it was difficult to determine whether the turtle nested or not as the tracks overlapped several nests.

We also recorded a track we suspect belongs to a three-flippered turtle, possibly from the same sea turtle we observed in 2023. The widest track measured was 122 cm, while the narrowest was 84 cm. All were green tracks except for the before mentioned loggerhead tracks. This size range is typical for green turtles and is the result of females of different sizes coming to nest. Larger animals leaving larger tracks might be foraging in more nutrient rich areas, thus allowing for longer and larger growth. On the other hand, as sea turtles consistently but ever more slowly grow throughout their life, smaller tracks might indicate younger nesting females and larger tracks, older animals.

The strong currents and high tides during this year's monsoon inundated many nesting beaches in the region, with high wave action causing erosion and sand deposition. As a result, many sea turtles were unable to find suitable nesting areas, leading to an unusually high number of false crawls recorded in July and August.

Although sea turtles can hold onto their eggs for a few days, they must eventually deposit a clutch once it's ready, as prolonged delays may reduce hatching success. Unfortunately, we do not know where these turtles went in search of alternative nesting sites, as all local beaches were flooded. In some cases, sea turtles have been known to drop their eggs in the ocean if they can no longer retain them and cannot find a suitable nesting spot.

One of many bundles of ghost gear found on Hawkes Bay.

Although the sea was too rough for any ghost gear removal activities during the monsoon storms, the weather improved a little in September and we were able to collect 93 kg of ghost gear from Hawkes Bay Beach. The ghost nets left on the beach once the high tides resided were small and many – spread over a 500 meter stretch of land. Luckily we did not find any entangled marine life in the nets.

We did however find the body of a juvenile green turtle at Hawkes Bay, along with three nesting female green turtles trapped in the nets that are used to guard village huts. Thankfully, all three were safely released back into the sea.

We hope that with calmer weather and the diving season approaching, we will be able to resume our in-water research and ghost gear removal activities in the last three months of the year. We are also looking forward to welcoming nesting sea turtles back to drier beaches, and, hopefully, many new hatchlings!

ORP Seychelles

We have had a changing of the guards in Seychelles, where Jack Wiggins has taken over as ORP's sea turtle biologist from Olivia Forster. Having worked on projects across the Caribbean, Middle East and Europe, Jack brings extensive experience in sea turtle research and conservation. We are excited to welcome him to the team and continue building on our important work in the Seychelles.

Between May and September, the southeast trade winds bring cooler and drier conditions to the Seychelles, marking the southeast monsoon season. This period is characterised by rougher seas, stronger currents, and reduced underwater visibility, particularly around the inner islands.

As a result of these challenging conditions, in-water sea turtle sightings were relatively low during this quarter, with only 13 turtles recorded and three individual identified.

How beach erosion has affected the Southern section of Grand Anse Beach between July and September.

Additionally, the southeast monsoon brought high swells that caused significant beach erosion along Grand Anse, particularly at the southern end. This erosion impacted two green turtle nests originally laid in the southern section of the beach, necessitating their relocation to the northern section to prevent inundation and destruction by the encroaching tides.

All nest relocations are performed with permission and license from the Seychelles Bureau of Standards.

GS10 returning to the ocean after nesting on Grand Anse.

This time of the year is generally a quieter time for sea turtle nesting on Félicité, as we anticipate the hawksbill nesting season, which spans from October to March. However, in September, one hawksbill nesting attempt was recorded on Grand Anse beach. During this period, 20 green turtle nesting activities were observed, with two nests confirmed on Grand Anse. A highlight of the quarter was the nesting of GS10, a newly identified green turtle—marking the first nesting green turtle observed and identified on Félicité in two years!

Green turtles nest year-round in the Seychelles, often laying multiple clutches in a season and typically returning to nest every 2-4 years. Their fidelity to nesting sites can vary—some turtles consistently return to the same beach, while others spread their nests across multiple beaches or even different islands. These variations in nesting behaviour and remigration intervals can cause annual fluctuations in nesting numbers. This underscores the importance of long-term monitoring to accurately assess the status and trends of nesting populations. Our ongoing efforts on Félicité Island are crucial for tracking these trends.

In the last three months, 268 guests participated in sea turtle snorkelling and nesting experiences on Félicité, learning about our vital conservation work to protect sea turtles and their habitats.

With the hawksbill nesting season on the horizon, we are gearing up to welcome the nesting mothers.

Identified Sea Turtles & Nesting

Green Turtles	Hawksbills	Total sea turtles identified
10 Since 2021	214 Since 2021	224
1 2024 Q3	0 2024 Q3	
New nests laid	Hatchings counted	Sites w/sea turtles sighted
2 2024 Q3	71 2024 Q3	13

ORP Seychelles
Félicité Turtle Nesting

Sea turtle nest monitoring is an integral part of our work in the Seychelles, as the country has one of the largest nesting populations of critically endangered hawksbill turtles. Over 1,000 nesting females are estimated to come ashore annually, depositing several valuable clutches of eggs throughout the nesting season.

A study led by our former sea turtle biologist, now PhD student Lara Kalisch, was published in the Marine Turtle Newsletter in August 2024. This study summarises all nesting activity observed during the first full monitoring period from 2022 to 2023 on Félicité Island

Did you know?

Hawksbill turtles in the Seychelles are famous for their daytime nesting, which is uncommon for this species.

Félicité is part of the granitic inner islands of the Seychelles, which are famous for their stark contrast between rocky shores and sandy beaches. On the island, five sandy beaches of various sizes can be found, all of which are suitable for sea turtle nesting.

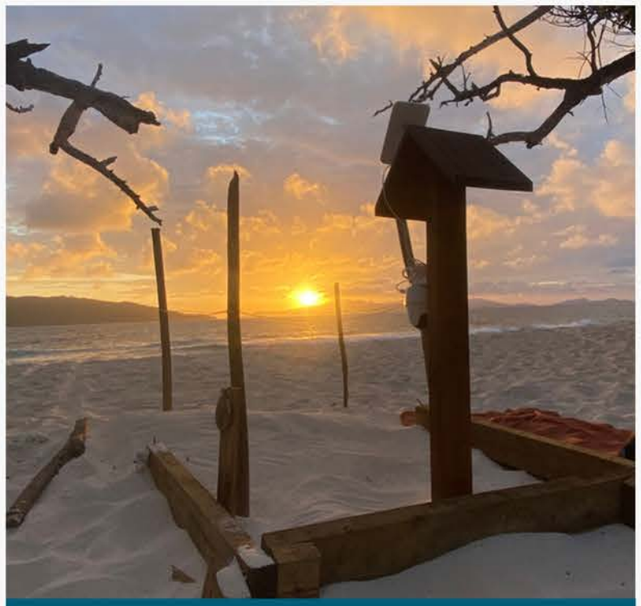
During the nesting season 2022-2023, we observed sea turtle tracks on these beaches a total of 138 times, resulting in 51 true nests. The majority of these nests were found on the longest beach of the island, Grand Anse. Similar to observations from other islands in the Seychelles, hawksbill turtle nesting activity peaks from October to February.

Interestingly, we also observed green turtles nesting from July to September, but in significantly lower numbers. While green turtles are known to use the beaches in the Seychelles for nesting, they are more commonly found in the outer islands and nesting aggregations can reach larger numbers there.

The nests laid on Félicité had an average hatching success of 76.2%, with great variation between individual nests. The highest influence on hatching success was observed by two different threats: beach erosion and flooding, as well as predation. The sandy beaches on the island are prone to significant changes throughout the year. Following the changes of current and wind directions, large amounts of sand is shifted from one end of the beach to the other, a phenomenon known as longshore drift. This shift of sand and erosion of beach areas can lead to severe flooding or the loss of entire nests. To counteract the problem, nest relocations were performed, where the eggs were moved to more stable areas of the beach.

The most common predator of turtle eggs on Félicité is the ghost crab *Ocypode spp.* in natural as well as relocated nests. The crabs can burrow into the egg chamber and decimate the number of eggs or eradicate entice clutches. Protection measures against predation will play a role in our work on the island in the future.

One of the nesting beaches on Félicité is rather inaccessible from land due to its remote location. Nesting activity on this beach has only been monitored sporadically so far, but initial findings point towards potential illegal take of nesting females, which we aim to address in the future.



Nest monitoring and protection at Grand Anse, Félicité.

Our findings are important in the broader context of sea turtle conservation and nest monitoring in Seychelles, as turtles have been recorded to utilise multiple islands for nesting as shown by a long term flipper tagging programme across the country. From the females nesting on Félicité, several have been found with tags from other islands, such as Cousin or even Fregate Island, which is nearly 30km away from Félicité.

For better understanding of nesting cycles and hatchling reproduction in the Seychelles, concise monitoring of all or nearly all nesting beaches is needed. Additionally, for successful protection of species such as the critically endangered hawksbill turtle, all habitats used by the species, such as a variety of nesting beaches need to considered.

ORP Podcast Series

From their ancient origins to their present-day status as conservation icons, sea turtles have traversed oceans, forged connections with diverse ecosystems, and captured human imagination across cultures and generations.

Despite their long and famed history, how much do we truly understand about sea turtles and the conservation culture they inspire?

In an attempt to answer these questions, we launched our debut podcast series, **Sea Turtle Stories**, on June 16th, in celebration of World Sea Turtle Day.

Did you know?

As per market research, podcasting is one of the fastest growing industries with about 460 million podcast listeners worldwide

This engaging series features lively conversations with experts who offer insights into various aspects of sea turtles' life cycle and conservation practices.

Over eight episodes, we explore a wide array of topics, from the lost years of hatchlings, the often-overlooked ecology of male sea turtles, to best practices in hatchery management and even bycatch prevention.

"We are incredibly proud of our Sea Turtle Stories podcast, which has been over a year in the making. This platform enables us to connect with the sea turtle community and anyone interested in these prehistoric creatures, enhancing our understanding of how to protect them and identifying the challenges we face along the way", says ORP Founder and CEO Dr Martin Stelfox.

Meet The Host, Dr Minnie Liddell

Dr Minnie, our spirited podcast host, previously served as our veterinary surgeon in the Maldives, where she cared for more than 61 injured and ill sea turtles between 2020 and 2022.

The series kicks off with an inaugural episode called 'Why Sea Turtles', where Dr Martin Stelfox, ORP's Founder & CEO, and our Host, Dr Minnie Liddell, set the stage. They dive into the fascinating evolutionary history of sea turtles, their complex roles in the marine ecosystem, the threats they face and the challenges that spurred the birth of ORP.

The podcast is available on Spotify, Youtube, Apple Podcasts, and our website.

Episode Summary

Here's a quick rundown of the episodes:

Episode 2, Navigating Nesting With Dr Jeanne Mortimer, delves into nesting as one of the most crucial life stages of sea turtles, and looks into the biology of nesting females, their peculiarities, and the threats they face.

Episode 3, Eggsploring Hatching Failure with Alessia Lavigne, looks into why certain eggs in a sea turtle nest fail to hatch, and if that is a cause for concern for a species as threatened as sea turtles.

Episode 4, Looking Into Hatcheries with Dr Andrea Phillott. explores the practice of hatchery management as a conservation strategy, its efficacy, and its role in a changing environment.

Episode 5, Uncovering Lost Years with De Sean Williamson, reveals the previously unknown journeys of little hatchlings, their navigational skills, and their incredible spirit in traversing large oceans.

Episode 6, Tackling Turtle Bycatch with Dr Joanna Alfaro, addresses the critical issue of sea turtle bycatch, its mitigation in small-scale fisheries in Peru, and the vital role of community engagement in conservation.

Episode 7, Decoding Male Sea Turtle Mysteries with Renato Bruno, unravels the mystery of the little studied and often overlooked lives of male sea turtles including their migrations, behaviour and biology.

Episode 8, The Caribbean Tortuga Story with Renato Bruno, uses the story of the Caribbean green sea turtle to touch upon the messier realities of sea turtle conservation - the history of sea turtle take, and the current dynamics of illegal and legal sea turtle harvest.


Dr Jeanne Mortimer

Alessia Lavigne

Dr Andrea Phillott

Dr Sean Williamson

Dr Joanna Alfaro

Renato Bruno

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Thank you

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Our citizen scientists continue to provide invaluable Photo-ID contributions and ghost net reports – we are immensely grateful for every data submission. We would also like to thank our American donors who have donated via the Chapel & York US Foundation who are accepting US donations for our benefit.

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